

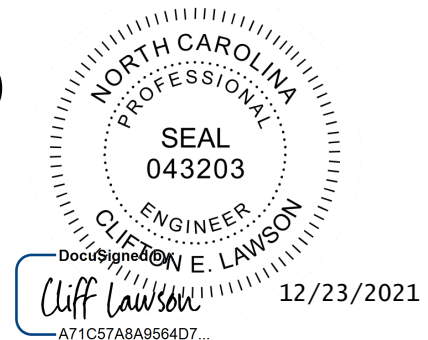
# Miller Farm

## Traffic Impact Analysis

Pineville, North Carolina

December 2021

*Prepared for:*  
**DRB Group**



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## 1 INTRODUCTION

This report presents the findings of the traffic impact analysis for the proposed Miller Farm Development. The proposed development will be located north of NC-51 (Rock Hill – Pineville Road) and east of SR-1126 (Nations Ford Road) in Pineville, NC (see **Figure 1-1**). The development will consist of 205 single-family residential units and 138 townhome units. Construction of the development is proposed to occur over two (2) phases: Phase 1 (2023) and Phase 2 (2025).

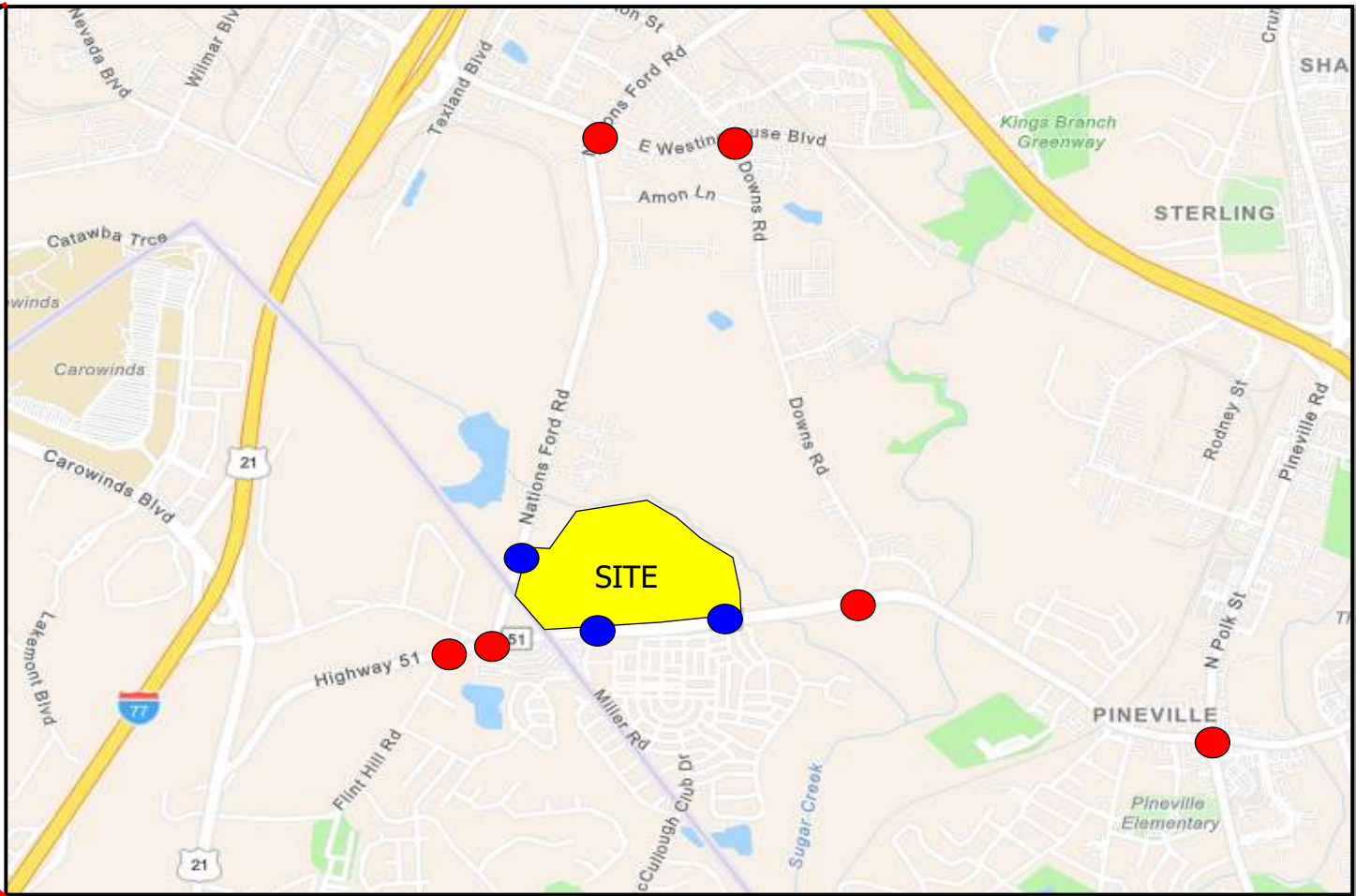
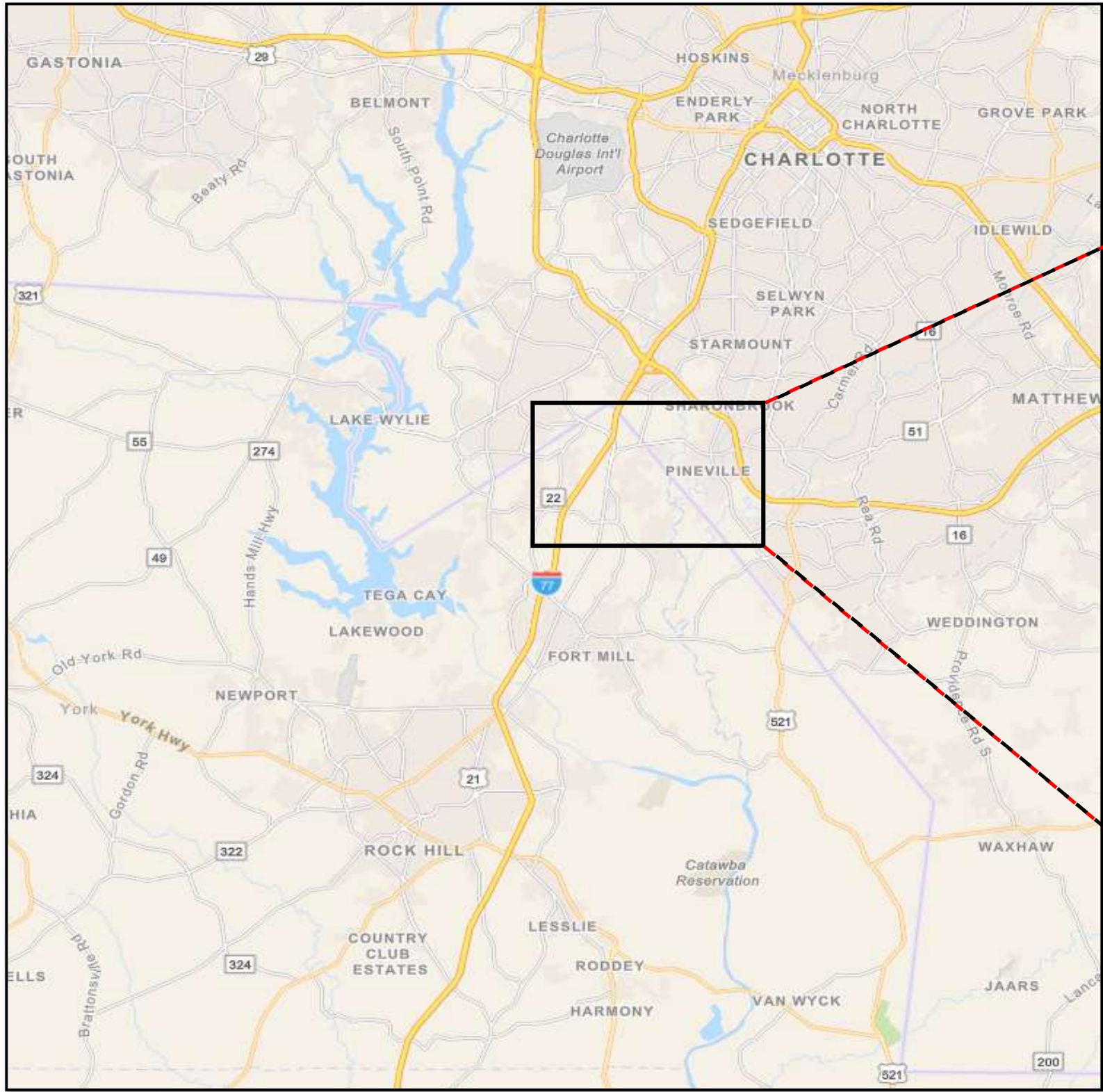
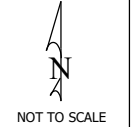
Analyses were completed for the following scenarios:

- 2021 Existing traffic volumes;
- 2023 Background traffic volumes (ambient growth + approved surrounding developments);
- 2025 Background traffic volumes (ambient growth + approved surrounding developments);
- 2023 Phase 1 Build traffic volumes (Background + site trips), and
- 2025 Phase 2 Build traffic volumes (Background + site trips).

The following steps were taken to determine the potential traffic impacts associated with this project:

1. Data Collection – AM (7:00 – 9:00) and PM (4:00 – 6:00) peak hour turning movement counts were collected in September 2021 at the following intersections:
  - SC-51 / S-641 (Flint Hill Road);
  - SC-51 / S-46-48 (Springhill Farm Road) / Business Driveway;
  - SC-51 / S-328 (Andrew L Tucker Road) / Business Driveway;
  - NC-51 (Rock Hill – Pineville Road) / Miller Road;
  - NC-51 (Rock Hill – Pineville Road) / Marfield Lane;
  - NC-51 (Rock Hill – Pineville Road) / SR-1129 (Downs Road);
  - NC-51 (Main Street) / NC-51 (Pineville – Matthews Road) / SR-4982 (Polk Street);
  - SR-1128 (Westinghouse Boulevard) / Downs Road; and
  - SR-1128 (Westinghouse Boulevard) / SR-1126 (Nations Ford Road).
2. Trip Generation/Future Traffic – Traffic generated by the proposed development was estimated using the 10<sup>th</sup> Edition of the Institute of Transportation Engineers' *Trip Generation Manual*. Trip generation was calculated for the development following the NCDOT standards and practices for trip generation. Projected traffic volumes were calculated using an ambient growth rate of 2% (this percentage was approved by the NCDOT, SCDOT, and York County, SC).
3. Trip Distribution and Projections – The distribution of site-generated trips was based on the distribution of existing area traffic and engineering judgement. It was assumed, for purposes of analysis, that projected trips would follow similar patterns as existing traffic.
4. Traffic Capacity Analysis – Level of service analyses were performed using SYNCHRO Version 10.3 for the following intersections:
  - SC-51 / S-641 (Flint Hill Road);
  - SC-51 / S-46-48 (Springhill Farm Road) / Business Driveway;
  - SC-51 / S-328 (Andrew L Tucker Road) / Business Driveway;
  - NC-51 (Rock Hill – Pineville Road) / Miller Road / Site Driveway 2;
  - NC-51 (Rock Hill – Pineville Road) / Marfield Lane / Site Driveway 1;
  - NC-51 (Rock Hill – Pineville Road) / SR-1129 (Downs Road);
  - NC-51 (Main Street) / NC-51 (Pineville – Matthews Road) / SR-4982 (Polk Street);
  - SR-1128 (Westinghouse Boulevard) / Downs Road;

- SR-1128 (Westinghouse Boulevard) / SR-1126 (Nations Ford Road); and
  - SR-1126 (Nations Ford Road) / Site Driveway 3.
5. Review of Proposed Improvements – Roadway improvements proposed to accommodate projected site-generated traffic were evaluated.



**LEGEND:**

- Study Area Intersection
- Driveway Intersection



### Miller Farm Traffic Impact Analysis Site Location Map

Figure 1-1

## 2 EXISTING INFORMATION

The proposed development will be located north of NC-51 (Rock Hill – Pineville Road) and east of SR-1126 (Nations Ford Road) in Pineville, NC as shown on **Figure 1-1**.

### 2.1 STUDY LIMITS

Access to the proposed site will be provided via three (3) driveway connections: one connection to Nations Ford Road and two connections to NC-51. Site Driveway 1 will connect to the existing three-leg intersection of NC-51 / Marfield Lane. Site Driveway 2 will connect to the existing three-leg intersection of NC-51 / Miller Road. The proposed site driveway connection to Nations Ford Road, Site Driveway 3, will be located approximately 1,100-feet (CL to CL) north of the SC-51 / S-328 (Andrew L Tucker Road) / Business Driveway. All driveways are assumed to be constructed during Phase 1.

The entrances are shown graphically on **Figure 1-1** and on the preliminary site layout for the residential development on **Figure 2-1** (all figures are located at the end of their respective chapter).

The study limits include the following ten (10) intersections:

- SC-51 / S-641 (Flint Hill Road);
- SC-51 / S-46-48 (Springhill Farm Road) / Business Driveway;
- SC-51 / S-328 (Andrew L Tucker Road) / Business Driveway;
- NC-51 (Rock Hill – Pineville Road) / Miller Road / Site Driveway 2;
- NC-51 (Rock Hill – Pineville Road) / Marfield Lane / Site Driveway 1;
- NC-51 (Rock Hill – Pineville Road) / SR-1129 (Downs Road);
- NC-51 (Main Street) / NC-51 (Pineville – Matthews Road) / SR-4982 (Polk Street);
- SR-1128 (Westinghouse Boulevard) / Downs Road;
- SR-1128 (Westinghouse Boulevard) / SR-1126 (Nations Ford Road); and
- SR-1126 (Nations Ford Road) / Site Driveway 3.

All study area intersections and project assumptions were based on the approved scoping checklist (see **Appendix A**). The scoping checklist was reviewed and approved by the NCDOT, SCDOT, and York County, SC.

### 2.2 EXISTING ROADWAYS

**SC-51** is a two-lane undivided facility within South Carolina that runs approximately east-west. The facility, which is classified as a minor arterial, has a posted speed limit of 45-MPH and provides connection between Fort Mill, SC and Pineville, NC. Per 2019 SCDOT Traffic Count maps, SC-51 carries 14,300 VPD east of Andrew L Tucker Road. East of the North Carolina state border SC-51 becomes NC-51 (Rock Hill – Pineville Road).

**S-641 (Flint Hill Road)** is a two-lane undivided facility within South Carolina that runs approximately southwest-northeast. The facility, which is classified as a local roadway, has a posted speed limit of 35-MPH and services primarily residential and industrial land uses. No AADT data is currently available for Flint Hill Road.

**S-46-48 (Springhill Farm Road)** is a two-lane undivided facility within South Carolina that runs approximately east-west. The facility, which is classified as a major collector, has a posted speed limit of 40-MPH and services primarily commercial and industrial land uses. Per 2019 SCDOT Traffic Count maps, Springhill Farm Road carries 10,300 VPD.



**S-328 (Andrew L Tucker Road)** is a two-lane undivided facility within South Carolina that runs approximately north-south. The facility, which is classified as a local roadway, has an assumed speed limit of 35-MPH and services primarily industrial land uses. Per 2019 SCDOT Traffic Count maps, Andrew L Tucker Road carries 4,200 VPD North of the North Carolina state border Andrew L Tucker Road becomes SR-1126 (Nations Ford Road).

**NC-51 (Rock Hill – Pineville Road) / (Main Street) / (Pineville-Matthews Road)** is a four-lane facility within North Carolina that runs approximately east-west. West of Downs Road the facility is median divided and has a posted speed limit of 45-MPH. East of Downs Road the facility is undivided and has a varying speed limit of 20-MPH to 35-MPH. NC-51 is classified as a minor arterial and provides connection between Fort Mill, SC and Pineville, NC. Per 2018 NCDOT AADT maps, the facility carries 15,500 VPD east of Andrew L Tucker Road. West of the South Carolina state border NC-51 becomes SC-51.

**Miller Road and Marfield Lane** are both two-lane undivided local facilities within North Carolina that serve residential land uses. Miller Road has a posted speed limit of 25-MPH and Marfield Lane has a posted speed limit of 15-MPH. No AADT data is currently available for either facility.

**SR-1129 (Downs Road)** is a two-lane undivided facility within North Carolina that runs approximately north-south. The facility, which is classified as a local roadway, has a varying posted speed limit of 35-MPH to 45-MPH and services primarily industrial land uses. Per 2016 NCDOT Traffic Count maps, Downs Road carries 5,400 VPD.

**SR-4982 (Polk Street)** is an undivided facility with a varying cross section of three-lanes to four-lanes within North Carolina that runs approximately north-south. The facility, which is classified as a minor arterial, has a posted speed limit of 35-MPH and provides connection between Pineville, NC and Charlotte, NC. Per 2018 NCDOT AADT maps, the facility carries 18,000 VPD north of NC-51.

**SR-1128 (Westinghouse Boulevard)** is an undivided facility with a varying cross section of four-lanes to five-lanes within North Carolina that runs approximately east-west. The facility, which is classified as a minor arterial, has a posted speed limit of 45-MPH and provides connection between Pineville, NC and Steele Creek within Charlotte, NC. Per 2018 NCDOT AADT maps, the facility carries 29,000 VPD west of Nations Ford Road.

**SR-1126 (Nations Ford Road)** is a two-lane undivided facility within North Carolina that runs approximately north-south. The facility, which is classified as a local roadway, has a posted speed limit of 35-MPH and services primarily industrial land uses. Per 2016 NCDOT Traffic Count maps, Nations Ford Road carries 5,900 VPD south of Westinghouse Boulevard.

### **2.3 EXISTING INTERSECTIONS**

Using available aerial imagery and site visits, Timmons Group compiled the existing geometry for the study area intersection. The existing intersection geometry is shown on **Figure 2-2** and used for the existing and future analyses.

SC-51 / Flint Hill Road is a three-phase signalized intersection with permitted left-turn phasing on westbound SC-51 and split phasing on the side streets. The eastbound SC-51 approach consists of a single shared through / right-turn lane. The westbound SC-51 approach consists of a single shared through / left-turn lane. The northbound Flint Hill Road approach consists of a single shared left / right-turn lane. The southbound Flint Hill Road approach is a one-way inbound facility and consists of left-turn lane and a shared through / right-turn lane.

SC-51 / Springhill Farm Road / Business Driveway is an unsignalized intersection with the Springhill Farm Road and Business Driveway approaches encountering the stopped condition. The east and westbound SC-51 and northbound Business Driveway approaches consist of a single shared left / through / right-turn lane. The southbound Springhill Farm Road approach is a one-way inbound facility and consists of one lane.

SC-51 / Andrew L Tucker Road / Business Driveway is an unsignalized intersection with the Andrew L Tucker and Business Driveway approaches encountering the stopped condition. All approaches at this intersection consist of a single shared left / through / right-turn lane.

NC-51 / Miller Road is an unsignalized T-intersection with the Miller Road approach encountering the stopped condition. The northbound Miller Road approach consists of a left-turn lane and a right-turn lane. The eastbound NC-51 approach consists of two through lanes and an exclusive right-turn lane. The westbound NC-51 approach consists of two through lanes and an exclusive left-turn lane. Note that the westbound through lane terminates and merges immediately west of the subject intersection.

NC-51 / Marfield Lane is an unsignalized T-intersection with the Marfield Lane approach encountering the stopped condition. The northbound Marfield Lane approach consists of a left-turn lane and a right-turn lane. The eastbound NC-51 approach consists of two through lanes and an exclusive right-turn lane. The westbound NC-51 approach consists of two through lanes and an exclusive left-turn lane.

NC-51 / Downs Road is a five-phase signalized intersection with protected only left-turn phasing on both NC-51 approaches. The southbound Downs Road consists of a left-turn lane and a right-turn lane. The eastbound NC-51 approach consists of two through lanes and an exclusive left-turn lane. The westbound NC 51 approach consists of an exclusive U-turn lane, two through lanes, and an exclusive right-turn lane.

NC-51 / Polk Street is an eight-phase signalized intersection with protected only left-turn phasing on all approaches. The northbound Polk Street approach consists of two exclusive left-turn lanes and one shared through / right-turn lane. The southbound Polk Street approach consists of an exclusive left-turn lane, one through lane, and an exclusive right-turn lane. The eastbound NC-51 approach consists of an exclusive left-turn lane, one through lane, and a shared through / right-turn lane. The westbound NC-51 approach consists of an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane.

Westinghouse Boulevard / Downs Road is a two-phase signalized intersection with permitted only left-turn phasing on all approaches. The northbound and southbound Downs Road approaches both consist of an exclusive left-turn lane and one shared through / right-turn lane. The eastbound and westbound Westinghouse Boulevard approaches both consist of an exclusive left-turn lane, one through lane, and one shared through / right-turn lane.

Westinghouse Boulevard / Nations Ford Road is a five-phase signalized intersection with protected / permitted left-turn phasing on the eastbound and westbound approaches and permitted only left-turn phasing on the northbound and southbound approaches. The northbound Nations Ford Road approach consist of an exclusive left-turn lane and a shared through / right-turn lane. The southbound Nations Ford Road approach consist of an exclusive left-turn lane, one through lane, and one exclusive right-turn lane. The eastbound and westbound Westinghouse Boulevard approaches both consist of an exclusive left-turn lane, one through lane, and one shared through / right-turn lane.

## **2.4 TRAFFIC VOLUMES**

AM and PM peak hour turning movement counts were collected in September 2021. Following NCDOT guidelines, the AM and PM peak hours are defined as occurring between 7:00 a.m. – 9:00 a.m. and 4:00 p.m. – 6:00 p.m., respectively. Following SCDOT guidelines, the AM and PM peak hours are defined as occurring between 6:30 a.m. – 8:30 a.m. and 4:30 p.m. – 6:30 p.m., respectively. The AM and PM peak hours were dictated for each intersection depending on its geospatial location. The complete traffic count data can be found in **Appendix B**. The 2021 traffic volumes are shown in **Figure 2-3**.

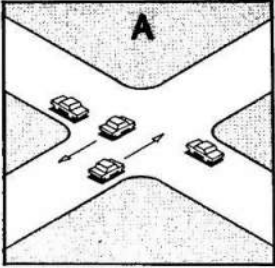
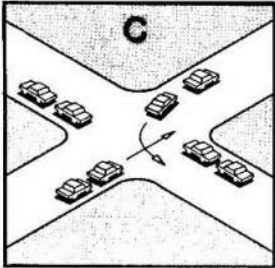
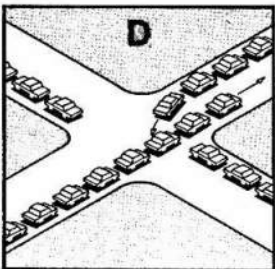
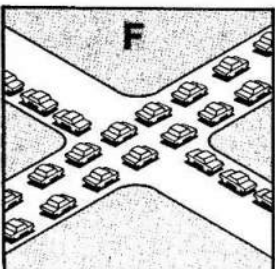
Note that due to a future SCDOT public project within the study area (described below in **Section 3.2**), traffic volumes were rerouted at the intersections of SC-51 / Flint Hill Road and SC-51 / Andrew Tucker Road / Business Driveway (as appropriate) due to roadway realignment. For purposes of analysis, the project is assumed to be completed within the study area by 2023. The 2021 rerouted traffic volumes are shown in **Figure 2-4** for utilization in ambient growth purposes only.

## **2.5 CAPACITY ANALYSIS**

Using field observations, aerial photography, and traffic count data, traffic operations were analyzed during 2021 (existing) and 2023 / 2025 (without and with the proposed development site trips).

Capacity analysis allows traffic engineers to determine the impacts of traffic on the surrounding roadway network. The Transportation Research Board's (TRB) *Highway Capacity Manual* (HCM) methodologies govern how the capacity analyses are conducted and how the results are interpreted. There are six letter grades of Levels of Service (LOS) from A to F, with LOS A representing the best operating conditions and LOS F the worst operating conditions. At signalized intersections, an overall intersection LOS E is generally considered unacceptable. At unsignalized intersections, a LOS E is generally considered acceptable only if the side street encounters delay. Nevertheless, side streets typically function at a LOS F during peak traffic periods because the traffic volumes often do not warrant a traffic signal to assist side street traffic. **Table 2-1** shows in detail how each of these levels of service are interpreted.

**Table 2-1: Level of Service Definitions**

| Level of Service | Roadway Segments or Controlled Access Highways   | Intersections   |   |
|------------------|--|---|---|
| A                | Free flow, low traffic density.  | No vehicle waits longer than one signal indication.   |    |
| B                | Delay is not unreasonable, stable traffic flow.  | On a rare occasion motorists wait through more than one signal indication.  |    |
| C                | Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.  | Intermittently drivers wait through more than one signal indication, and occasionally backups may develop behind left turning vehicles, traffic flow still stable and acceptable.   |   |
| D                | Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, thus preventing excessive backups. | Delays at intersections may become extensive with some, especially left-turning vehicles waiting two or more signal indications, but enough cycles with lower demand occur to permit periodic clearance, thus preventing excessive backups. |  |
| E                | Actual capacity of the roadway involves delay to all motorists due to congestion.  | Very long queues may create lengthy delays, especially for left-turning vehicles.   |   |
| F                | Forced flow with demand volumes greater than capacity resulting in complete congestion. Volumes drop to zero in extreme cases.   | Backups from locations downstream restrict or prevent movement of vehicles out of approach creating a storage area during part or all of an hour.   |   |

SOURCE: "A Policy on Design of Design of Urban Highways and Arterial Streets" - AASHTO, 1973 based upon material published in "Highway Capacity Manual", National Academy of Sciences, 1965.

For signalized and unsignalized intersections, level of service is defined in terms of **delay**, a measure of driver discomfort, frustration, fuel consumption and lost travel time. **Table 2-2** summarizes the delay associated with each LOS category:

**Table 2-2: Signalized and Unsignalized Intersection Level of Service Criteria**

| Signalized Intersections |                                     | Unsignalized Intersections |                                 |
|--------------------------|-------------------------------------|----------------------------|---------------------------------|
| Level of Service         | Control Delay per Vehicle (sec/veh) | Level of Service           | Average Control Delay (sec/veh) |
| A                        | ≤ 10                                | A                          | 0 to 10                         |
| B                        | > 10 to ≤ 20                        | B                          | > 10 to ≤ 15                    |
| C                        | > 20 to ≤ 35                        | C                          | > 15 to ≤ 25                    |
| D                        | > 35 to ≤ 55                        | D                          | > 25 to ≤ 35                    |
| E                        | > 55 to ≤ 80                        | E                          | > 35 to ≤ 50                    |
| F                        | > 80                                | F                          | > 50                            |




*Source: Exhibit 16-2 and Exhibit 17-2 from TRB's "Highway Capacity Manual 2000"*

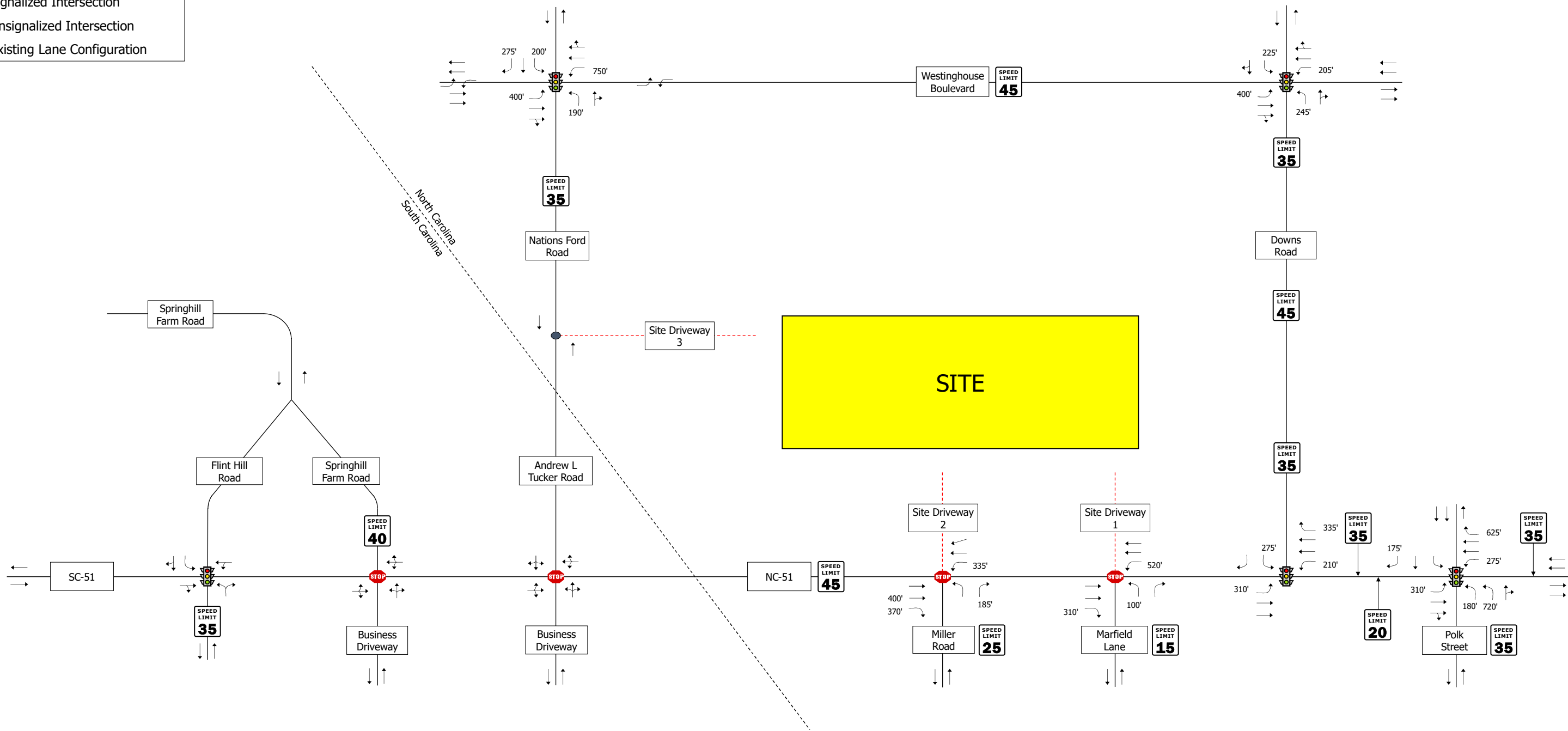
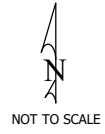
Capacity analyses were performed to assess operational conditions. Study area intersections were analyzed using SYNCHRO Version 10.3 based on Highway Capacity Manual (HCM) methodologies with the following assumptions:

- Existing grades;
- 12-foot lane widths;
- No parking activity, bus stops, or pedestrians;
- AM and PM Peak Hour Factors (PHFs) of 0.90;
- Heavy vehicle percentages 2%;
- Minimum turning movement of 4 vehicles per hour (VPH) for all allowed movements;
- Existing signal data found in the provided traffic signal plans (see **Appendix E**); and
- Optimization of signal cycle lengths, splits, and offsets as appropriate.



**LEGEND:**

- Existing Road
- - - Proposed Road
-  Signalized Intersection
-  Unsignalized Intersection
-  Existing Lane Configuration

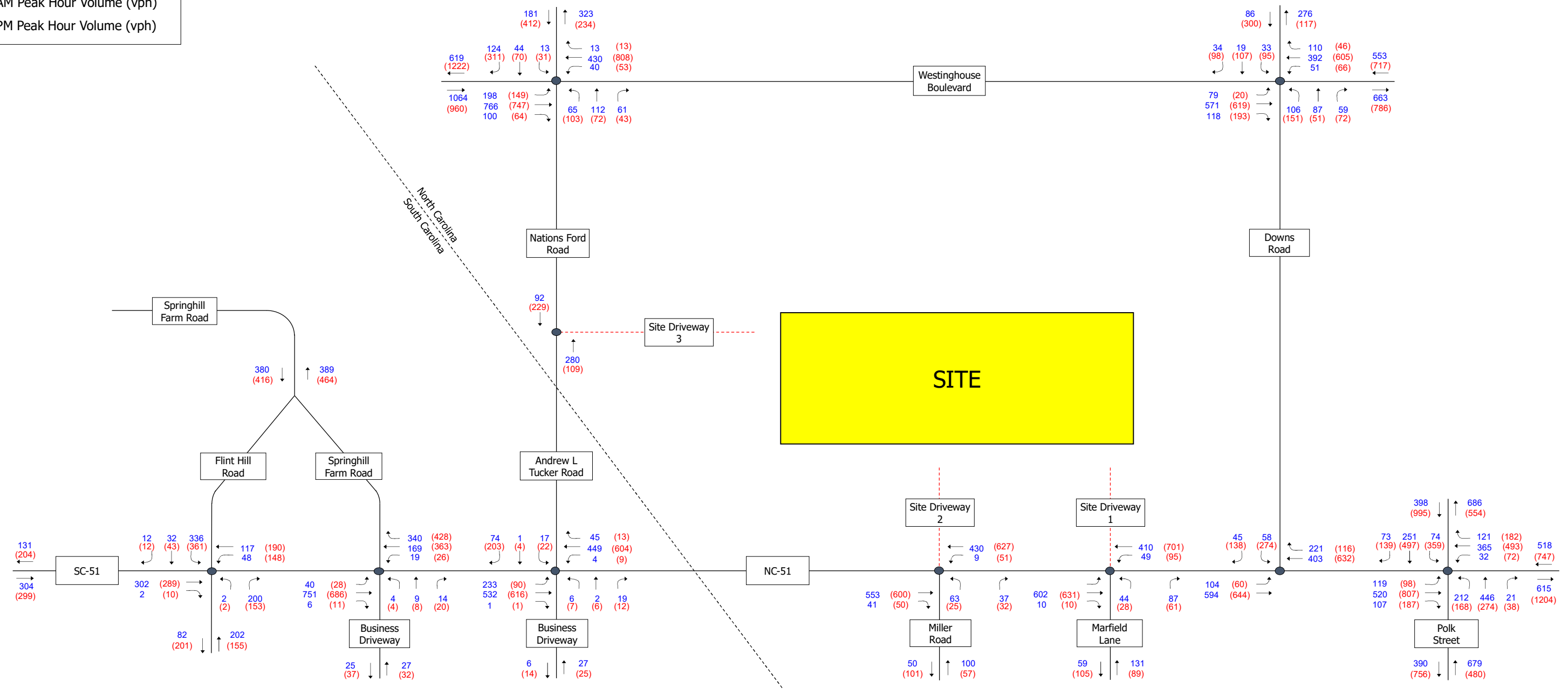
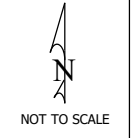


**Miller Farm Traffic Impact Analysis**  
2021 Existing Lane Configuration

Figure 2-2

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)



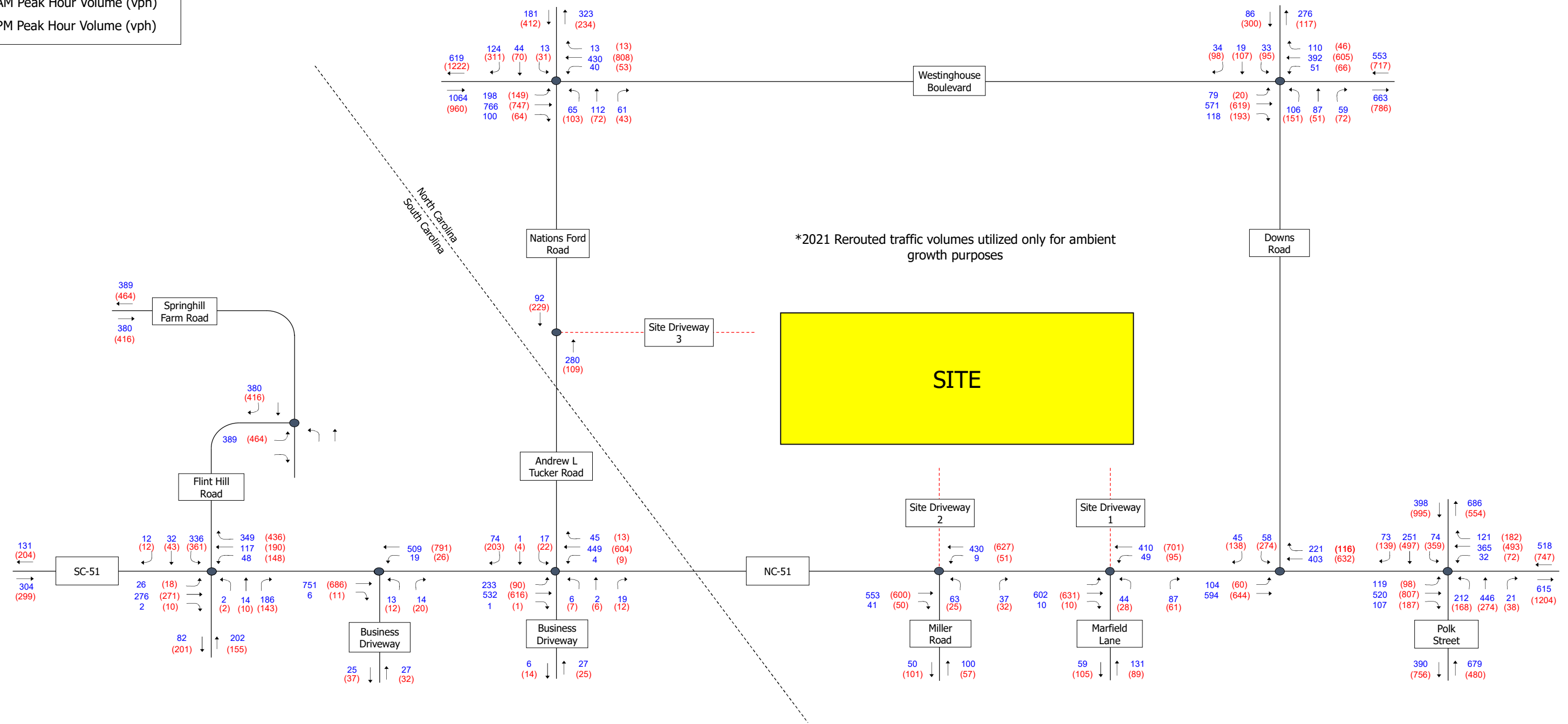
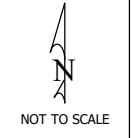
**Miller Farm Traffic Impact Analysis**  
2021 Existing Traffic Volumes

Figure 2-3



**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)



**Miller Farm Traffic Impact Analysis**  
 2021 Adjusted Traffic Volumes - Rerouted for SCDOT Project

Figure 2-4

### **3 EXISTING AND BACKGROUND CONDITIONS AND ANALYSIS**

#### **3.1 2021 ANALYSES**

**Tables 3-1a** and **3-1b** summarize the 2021 Existing intersection LOS and delay based on the geometry shown on **Figure 2-2** and the 2021 traffic volumes shown on **Figure 2-3**. The corresponding SYNCHRO outputs are included in **Appendix F**.

#### **South Carolina Study Area Intersections:**

The signalized intersection of SC-51 / Flint Hill Road is currently operating at an overall LOS C and a LOS D during the 2021 Existing AM and PM peak hours, respectively. The northbound approach is currently operating at a LOS D and a LOS E during the AM and PM peak hours, respectively. All other approaches are currently operating at a LOS D or better during both peak hours.

All approaches at the unsignalized intersection of SC-51 / Springhill Farm Road / Business Driveway are currently operating at a LOS C or better during both 2021 Existing peak hours.

The northbound and southbound approaches at the unsignalized intersection of SC-51 / Andrew L Tucker Road / Business Driveway are currently operating at a LOS E or worse during both 2021 Existing peak hours. All other approaches are currently operating at a LOS A during both peak hours.

**Table 3-1a: Intersection Level of Service and Delay Summary for South Carolina Study Area Intersections – 2021 Traffic Volumes**

| Intersection and Type of Control                  | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|---|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|   |                       |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 5: Flint Hill Road & SC-51                        | EB Thru/Right         |                        | 26.7                         | C                | 251                           | 256                               | 19.7                         | B                | 197                           | 207                               |
|   | EB Approach           |                        | 26.7                         | C                | --                            | --                                | 19.7                         | B                | --                            | --                                |
|   | WB Left/Thru          |                        | 24.9                         | C                | 143                           | 211                               | 39.6                         | D                | #336                          | 408                               |
|   | WB Approach           |                        | 24.9                         | C                | --                            | --                                | 39.6                         | D                | --                            | --                                |
|   | NB Left/Thru/Right    |                        | 43.7                         | D                | 194                           | 233                               | <b>60.7</b>                  | <b>E</b>         | #206                          | 152                               |
|   | NB Approach           |                        | 43.7                         | D                | --                            | --                                | <b>60.7</b>                  | <b>E</b>         | --                            | --                                |
|   | SB Left               |                        | 40.9                         | D                | 289                           | 266                               | 50.2                         | D                | #373                          | 295                               |
|   | SB Thru/Right         |                        | 21.5                         | C                | 45                            | 104                               | 24.0                         | C                | 56                            | 178                               |
|   | SB Approach           |                        | 38.7                         | D                | --                            | --                                | 46.8                         | D                | --                            | --                                |
| Overall   |                       |                        | 34.0                         | C                | --                            | --                                | 39.9                         | D                | --                            | --                                |
| 6: Business Driveway/Springhill Farm Road & SC-51 | EB Left/Thru/Right    |                        | 0.4                          | A                | 0.1                           | 415                               | 0.4                          | A                | 0.1                           | 420                               |
|   | EB Approach           |                        | 0.4                          | A                | --                            | --                                | 0.4                          | A                | --                            | --                                |
|   | WB Left/Thru/Right    |                        | 0.3                          | A                | 0.1                           | 108                               | 0.3                          | A                | 0.1                           | 119                               |
|   | WB Approach           |                        | 0.3                          | A                | --                            | --                                | 0.3                          | A                | --                            | --                                |
|   | NB Left/Thru/Right    |                        | 19.7                         | C                | 0.4                           | 66                                | 19.7                         | C                | 0.4                           | 107                               |
|   | NB Approach           |                        | 19.7                         | C                | --                            | --                                | 19.7                         | C                | --                            | --                                |
| 7: Business Driveway/Andrew L Tucker Road & SC-51 | EB Left/Thru/Right    |                        | 2.9                          | A                | 1                             | 128                               | 1.2                          | A                | 0.4                           | 124                               |
|   | EB Approach           |                        | 2.9                          | A                | --                            | --                                | 1.2                          | A                | --                            | --                                |
|   | WB Left/Thru/Right    |                        | 0.1                          | A                | 0                             | 134                               | 0.1                          | A                | 0                             | 392                               |
|   | WB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.1                          | A                | --                            | --                                |
|   | NB Left/Thru/Right    |                        | <b>47.1</b>                  | <b>E</b>         | 1                             | 118                               | <b>77.5</b>                  | <b>F</b>         | 1.4                           | 96                                |
|   | NB Approach           |                        | <b>47.1</b>                  | <b>E</b>         | --                            | --                                | <b>77.5</b>                  | <b>F</b>         | --                            | --                                |
|   | SB Left/Thru/Right    |                        | <b>52.1</b>                  | <b>F</b>         | 3.3                           | 351                               | <b>74.4</b>                  | <b>F</b>         | 8.4                           | 828                               |
|   | SB Approach           |                        | <b>52.1</b>                  | <b>F</b>         | --                            | --                                | <b>74.4</b>                  | <b>F</b>         | --                            | --                                |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

+ Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

### **North Carolina Study Area Intersections:**

All approaches at the unsignalized intersection of NC-51 / Miller Road are currently operating at a LOS C or better during both 2021 Existing peak hours.

All approaches at the unsignalized intersection of NC-51 / Marfield Lane are currently operating at a LOS C or better during both 2021 Existing peak hours.

The signalized intersection of NC-51 / Downs Road is currently operating at an overall LOS A and B during the 2021 Existing AM and PM peak hours, respectively. All approaches are currently operating at a LOS C or better during both peak hours.

The signalized intersection of NC-51 / Polk Street is currently operating at an overall LOS D during both 2021 Existing peak hours. Multiple approaches are currently operating unacceptably during the PM peak hour.

The signalized intersection of Westinghouse Boulevard / Downs Road is currently operating at an overall LOS A and LOS B during the 2021 Existing AM and PM peak hours, respectively. All approaches are currently operating at a LOS C or better during both peak hours.

The signalized intersection of Westinghouse Boulevard / Nations Ford Road is currently operating at an overall LOS B and LOS C during the 2021 Existing AM and PM peak hours, respectively. The northbound approach is currently operating at a LOS E during both peak hours. All other approaches are currently operating at a LOS D or better during both peak hours.

**Table 3-1b: Intersection Level of Service and Delay Summary for North Carolina Study Area Intersections – 2021 Traffic Volumes**

| Intersection and Type of Control               | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|--|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|  |                       |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 9: Miller Road & NC-51                         | EB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | EB Right              | 370                    | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 4                                 |
|  | EB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|  | WB Left               | 335                    | 8.9                          | A                | 0                             | 30                                | 9.4                          | A                | 0.2                           | 58                                |
|  | WB Thru               |                        | 0.0                          | A                | 0                             | 7                                 | 0.0                          | A                | 0                             | 28                                |
|  | WB Approach           |                        | 0.2                          | A                | --                            | --                                | 0.7                          | A                | --                            | --                                |
|  | NB Left               |                        | 21.6                         | C                | 0.9                           | 82                                | 28.0                         | D                | 0.5                           | 54                                |
|  | NB Right              | 185                    | 10.6                         | B                | 0.2                           | 60                                | 10.7                         | B                | 0.2                           | 50                                |
| NB Approach                                    |                       | 17.5                   | C                            | --               | --                            | 18.3                              | C                            | --               | --                            |                                   |
| 10: Marfield Lane & NC-51                      | EB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | EB Right              | 310                    | 0.0                          | A                | 0                             | 4                                 | 0.0                          | A                | 0                             | 6                                 |
|  | EB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|  | WB Left               | 520                    | 9.2                          | A                | 0.2                           | 59                                | 9.6                          | A                | 0.4                           | 82                                |
|  | WB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | WB Approach           |                        | 1.0                          | A                | --                            | --                                | 1.1                          | A                | --                            | --                                |
|  | NB Left               | 100                    | 25.5                         | D                | 0.8                           | 60                                | 39.8                         | F                | 0.9                           | 56                                |
|  | NB Right              |                        | 11.4                         | B                | 0.5                           | 68                                | 11.2                         | B                | 0.4                           | 59                                |
| NB Approach                                    |                       | 16.1                   | C                            | --               | --                            | 20.2                              | C                            | --               | --                            |                                   |
| 11: NC-51 & Downs Road                         | EB Left               | 310                    | 17.8                         | B                | 67                            | 105                               | 29.2                         | C                | 65                            | 88                                |
|  | EB Thru               |                        | 6.0                          | A                | 116                           | 91                                | 11.1                         | B                | 189                           | 132                               |
|  | EB Approach           |                        | 7.7                          | A                | --                            | --                                | 12.7                         | B                | --                            | --                                |
|  | WB U-Turn             | 210                    | 17.8                         | B                | 8                             | 33                                | 29.0                         | C                | 10                            | 30                                |
|  | WB Thru               |                        | 11.7                         | B                | 88                            | 114                               | 20.3                         | C                | 200                           | 199                               |
|  | WB Right              | 335                    | 0.2                          | A                | 0                             | 24                                | 0.1                          | A                | 0                             | 0                                 |
|  | WB Approach           |                        | 7.7                          | A                | --                            | --                                | 17.2                         | B                | --                            | --                                |
|  | SB Left               | 275                    | 18.3                         | B                | 45                            | 86                                | 26.9                         | C                | 197                           | 195                               |
|  | SB Right              |                        | 7.2                          | A                | 21                            | 80                                | 9.7                          | A                | 67                            | 135                               |
|  | SB Approach           |                        | 13.4                         | B                | --                            | --                                | 21.1                         | C                | --                            | --                                |
|  | Overall               |                        | 8.1                          | A                | --                            | --                                | 16.4                         | B                | --                            | --                                |
| 12: Polk Street & NC-51                        | EB Left               | 310                    | 51.1                         | D                | 164                           | 152                               | 64.5                         | F                | 142                           | 380                               |
|  | EB Thru/Right         |                        | 34.9                         | C                | 330                           | 271                               | 57.3                         | F                | #586                          | 556                               |
|  | EB Approach           |                        | 37.5                         | D                | --                            | --                                | 57.9                         | F                | --                            | --                                |
|  | WB Left               | 275                    | 50.9                         | D                | 62                            | 76                                | 73.7                         | F                | #128                          | 128                               |
|  | WB Thru               |                        | 40.8                         | D                | 200                           | 183                               | 38.0                         | D                | 245                           | 227                               |
|  | WB Right              | 625                    | 25.8                         | C                | 124                           | 136                               | 13.5                         | B                | 118                           | 152                               |
|  | WB Approach           |                        | 37.9                         | D                | --                            | --                                | 35.5                         | D                | --                            | --                                |
|  | NB Dual Lefts         | 450                    | 46.0                         | D                | 134                           | 172                               | 68.5                         | F                | #125                          | 268                               |
|  | NB Thru/Right         |                        | 40.7                         | D                | 471                           | 374                               | 85.3                         | F                | #467                          | 463                               |
|  | NB Approach           |                        | 42.3                         | D                | --                            | --                                | 79.4                         | F                | --                            | --                                |
|  | SB Left               |                        | 53.7                         | D                | 116                           | 105                               | 76.0                         | F                | #510                          | 458                               |
|  | SB Thru               |                        | 29.5                         | C                | 237                           | 230                               | 46.5                         | D                | #589                          | 636                               |
|  | SB Right              | 175                    | 12.9                         | B                | 55                            | 68                                | 16.9                         | B                | 104                           | 275                               |
| SB Approach                                    |                       | 30.9                   | C                            | --               | --                            | 53.0                              | D                            | --               | --                            |                                   |
| Overall  |                       | 37.9                   | D                            | --               | --                            | 54.5                              | D                            | --               | --                            |                                   |
| 13: Downs Road & Westinghouse Boulevard        | EB Left               | 400                    | 3.9                          | A                | 25                            | 85                                | 3.9                          | A                | 10                            | 43                                |
|  | EB Thru/Right         |                        | 4.4                          | A                | 82                            | 162                               | 6.4                          | A                | 122                           | 218                               |
|  | EB Approach           |                        | 4.3                          | A                | --                            | --                                | 6.3                          | A                | --                            | --                                |
|  | WB Left               | 205                    | 6.6                          | A                | 25                            | 64                                | 10.9                         | B                | 42                            | 89                                |
|  | WB Thru/Right         |                        | 5.6                          | A                | 75                            | 98                                | 8.3                          | A                | 121                           | 129                               |
|  | WB Approach           |                        | 5.7                          | A                | --                            | --                                | 8.6                          | A                | --                            | --                                |
|  | NB Left               | 245                    | 23.6                         | C                | 72                            | 130                               | 28.7                         | C                | 96                            | 155                               |
|  | NB Thru/Right         |                        | 23.0                         | C                | 91                            | 170                               | 18.6                         | B                | 69                            | 118                               |
|  | NB Approach           |                        | 23.3                         | C                | --                            | --                                | 24.2                         | C                | --                            | --                                |
|  | SB Left               | 225                    | 19.2                         | B                | 30                            | 68                                | 19.5                         | B                | 59                            | 111                               |
|  | SB Thru/Right         |                        | 19.2                         | B                | 40                            | 81                                | 22.1                         | C                | 111                           | 198                               |
| SB Approach                                    |                       | 19.2                   | B                            | --               | --                            | 21.3                              | C                            | --               | --                            |                                   |
| Overall  |                       | 8.4                    | A                            | --               | --                            | 11.5                              | B                            | --               | --                            |                                   |
| 14: Nations Ford Road & Westinghouse Boulevard | EB Left               | 400                    | 5.8                          | A                | 79                            | 129                               | 5.5                          | A                | 55                            | 122                               |
|  | EB Thru/Right         |                        | 11.2                         | B                | 262                           | 201                               | 9.8                          | A                | 228                           | 201                               |
|  | EB Approach           |                        | 10.2                         | B                | --                            | --                                | 9.1                          | A                | --                            | --                                |
|  | WB Left               | 750                    | 3.8                          | A                | 14                            | 48                                | 3.5                          | A                | 18                            | 58                                |
|  | WB Thru/Right         |                        | 10.0                         | B                | 140                           | 145                               | 12.6                         | B                | 291                           | 312                               |
|  | WB Approach           |                        | 9.5                          | A                | --                            | --                                | 12.0                         | B                | --                            | --                                |
|  | NB Left               | 190                    | 47.9                         | D                | 91                            | 147                               | 63.0                         | F                | 140                           | 160                               |
|  | NB Thru/Right         |                        | 60.6                         | F                | 210                           | 228                               | 54.9                         | D                | 149                           | 170                               |
|  | NB Approach           |                        | 57.2                         | F                | --                            | --                                | 58.7                         | F                | --                            | --                                |
|  | SB Left               | 200                    | 43.2                         | D                | 28                            | 56                                | 48.3                         | D                | 53                            | 84                                |
|  | SB Thru               |                        | 43.0                         | D                | 66                            | 87                                | 48.2                         | D                | 97                            | 203                               |
|  | SB Right              | 275                    | 32.0                         | C                | 122                           | 171                               | 46.8                         | D                | 303                           | 304                               |
|  | SB Approach           |                        | 35.4                         | D                | --                            | --                                | 47.1                         | D                | --                            | --                                |
| Overall  |                       | 18.0                   | B                            | --               | --                            | 20.9                              | C                            | --               | --                            |                                   |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

+ Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

### 3.2 BACKGROUND TRAFFIC VOLUMES

**Figures 3-1a** and **3-1b** show the ambient traffic volumes for 2023 and 2025 respectively. The ambient traffic volumes were calculated by applying a 2% growth rate to the 2021 traffic volumes for two and four years, respectively.

Per discussions with NCDOT and SCDOT (see **Appendix A**), there is currently one approved development in the project study area that will be partially or fully built-out by 2023. This development, Carolina Logistics Park, is to be located between Nations Ford Road and Downs Road in Pineville, NC. Per the TIA (prepared by Ramey Kemp and Associates in July 2020) the development is to be constructed over two phases with completion of Phase 1 occurring in 2023 and Phase 2 in 2026. Phase 1 is to comprise of a 2,500,000 SF industrial warehouse and Phase 2 is to construct an additional 1,000,000 SF industrial warehouse. Trip distribution for the development was assumed to follow the same pattern as outlined within the TIA (see **Appendix C**). For study area intersections not included in the Carolina Logistics Park TIA, trip distribution was based on existing area traffic. Per the TIA, there are no off-site improvements at any of the study area intersections. The projected and distributed trips from the approved development are shown in in **Figure 3-2**. Since construction of Phase 2 is scheduled to be completed after 2025, only Phase 1 trips were utilized.

The approved development trips shown in **Figure 3-2** were added to the 2023 and 2025 ambient traffic volumes (shown in **Figures 3-1a** and **3-1b**, respectively) to determine the 2023 and 2025 Background traffic volumes (shown in **Figures 3-3a** and **3-3b**, respectively).

Currently, there is one public project scheduled for completion within the project study area: a South Carolina Pennies for Progress project improving US-21 and SC-51 (see **Appendix D**). Based on conversations with York County, this project has an assumed build-out year of 2023 (see **Appendix D**) and will therefore be included in all future year analyses. Project improvements include widening of US-21, realignment of the US-21 / SC-51 intersection, widening of SC-51, realignment of the SC-51 / Flint Hill Road intersection, and severance of the Springhill Farm Road approach at the existing intersection of SC-51 / Springhill Farm Road / Business Driveway. The project begins at SC-460 (Springfield Parkway) in York County, South Carolina, and ends northwards prior to the intersection of US-21 / I-77 Northbound Off-Ramp / Springhill Farm Road and eastwards at the North Carolina / South Carolina border (see **Appendix D**).

### 3.3 2023 BACKGROUND TRAFFIC ANALYSIS

**Tables 3-2a** and **3-2b** summarize the 2023 Background intersection LOS and delay based on the future lane geometry and the 2023 Background traffic volumes shown in **Figure 3-3a**. The corresponding SYNCHRO outputs are included in **Appendix F**.

#### **South Carolina Study Area Intersections:**

The signalized intersection of SC-51 / Flint Hill Road is projected to operate at an overall LOS C during both 2023 Background peak hours. All approaches are projected to operate at a LOS C or better during both peak hours.

All approaches at the unsignalized intersection of NC-51 / Business Driveway are projected to operate at a LOS C or better during both 2023 Background peak hours.

The northbound and southbound approaches at the unsignalized intersection of SC-51 / Andrew L Tucker Road / Business Driveway are projected to operate at a LOS E or worse during both 2023 Background peak hours. All other approaches are projected to operate at a LOS A during both peak hours.

**Table 3-2a: Intersection Level of Service and Delay Summary for South Carolina Study Area Intersections – 2023 Background Traffic Volumes**

| Intersection and Type of Control                  | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|---|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|   |                       |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 5: Flint Hill Road & SC-51                        | EB Left               | 200                    | 25.2                         | C                | 36                            | 70                                | 20.6                         | C                | 24                            | 54                                |
|   | EB Thru/Right         |                        | 25.1                         | C                | 121                           | 130                               | 21.8                         | C                | 101                           | 113                               |
|   | EB Approach           |                        | 25.1                         | C                | --                            | --                                | 21.7                         | C                | --                            | --                                |
|   | WB Left               | 200                    | 27.4                         | C                | 60                            | 89                                | 33.5                         | C                | 142                           | 184                               |
|   | WB Thru               |                        | 23.7                         | C                | 56                            | 77                                | 20.8                         | C                | 73                            | 103                               |
|   | WB Right              | 350                    | 10.0                         | B                | 184                           | 197                               | 9.2                          | A                | 208                           | 247                               |
|   | WB Approach           |                        | 14.8                         | B                | --                            | --                                | 16.5                         | B                | --                            | --                                |
|   | NB Left               | 150                    | 21.0                         | C                | 9                             | 25                                | 26.2                         | C                | 10                            | 27                                |
|   | NB Thru/Right         |                        | 29.5                         | C                | 166                           | 202                               | 33.2                         | C                | 150                           | 193                               |
|   | NB Approach           |                        | 29.4                         | C                | --                            | --                                | 33.1                         | C                | --                            | --                                |
|   | SB Dual Lefts         | 250                    | 22.6                         | C                | 129                           | 157                               | 22.9                         | C                | 146                           | 160                               |
|   | SB Thru/Right         |                        | 19.8                         | B                | 43                            | 51                                | 21.2                         | C                | 57                            | 78                                |
|   | SB Approach           |                        | 22.3                         | C                | --                            | --                                | 22.7                         | C                | --                            | --                                |
|   | Overall               |                        |                              | 21.2             | C                             | --                                | --                           | 20.5             | C                             | --                                |
| 6: Business Driveway & SC-51                      | EB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 5                                 |
|   | EB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|   | WB Left/Thru/Right    |                        | 0.5                          | A                | 0                             | 56                                | 0.7                          | A                | 0                             | 83                                |
|   | WB Approach           |                        | 0.5                          | A                | --                            | --                                | 0.7                          | A                | --                            | --                                |
|   | NB Left/Right         |                        | 22.3                         | C                | 0.5                           | 66                                | 21.7                         | C                | 0.5                           | 53                                |
|   | NB Approach           |                        | 22.3                         | C                | --                            | --                                | 21.7                         | C                | --                            | --                                |
| 7: Business Driveway/Andrew L Tucker Road & SC-51 | EB Left               |                        | 10.3                         | B                | 1.3                           | 112                               | 9.8                          | A                | 0.5                           | 78                                |
|   | EB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|   | EB Approach           |                        | 3.3                          | A                | --                            | --                                | 1.4                          | A                | --                            | --                                |
|   | WB Left/Thru          |                        | 0.1                          | A                | 0                             | 33                                | 0.2                          | A                | 0                             | 44                                |
|   | WB Thru/Right         |                        | 0.1                          | A                | 0                             | 31                                | 0.2                          | A                | 0                             | 10                                |
|   | WB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.2                          | A                | --                            | --                                |
|   | NB Left/Thru/Right    |                        | <b>42.0</b>                  | <b>E</b>         | 1                             | 58                                | <b>50.1</b>                  | <b>F</b>         | 1                             | 45                                |
|   | NB Approach           |                        | <b>42.0</b>                  | <b>E</b>         | --                            | --                                | <b>50.1</b>                  | <b>F</b>         | --                            | --                                |
|   | SB Left/Thru/Right    |                        | <b>41.4</b>                  | <b>E</b>         | 3.1                           | 166                               | <b>41.4</b>                  | <b>E</b>         | 6.7                           | 329                               |
|   | SB Approach           |                        | <b>41.4</b>                  | <b>E</b>         | --                            | --                                | <b>41.4</b>                  | <b>E</b>         | --                            | --                                |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

\*\* Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for signalized intersections.

+ Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for unsignalized intersections.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

**North Carolina Study Area Intersections:**

All approaches at the unsignalized intersection of NC-51 / Miller Road are projected to operate at a LOS C or better during both 2023 Background peak hours.

All approaches at the unsignalized intersection of NC-51 / Marfield Lane are projected to operate at a LOS C or better during the 2023 Background peak hours.

The signalized intersection of NC-51 / Downs Road is projected to operate at an overall LOS A and a LOS B during the 2023 Background AM and PM peak hours, respectively. All approaches are projected to operate at a LOS C or better during both peak hours.

The signalized intersection of NC-51 / Polk Street is projected to operate at an overall LOS D and LOS E during the 2023 Background AM and PM peak hours, respectively. Multiple approaches are projected to operate unacceptably during at least one peak hour.

The signalized intersection of Westinghouse Boulevard / Downs Road is projected to operate at an overall LOS A and LOS B during the 2023 Background AM and PM peak hours, respectively. All approaches are projected to operate at a LOS C or better during both peak hours.

The signalized intersection of Westinghouse Boulevard / Nations Ford Road is projected to operate at an overall LOS C during both 2023 Background peak hours. The northbound approach is projected to operate at a LOS E during both peak hours. All other approaches are projected to operate at a LOS C or better during both peak hours.



**Table 3-2b: Intersection Level of Service and Delay Summary for North Carolina Study Area Intersections – 2023 Background Traffic Volumes**

| Intersection and Type of Control               | Movement and Approach   | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|--|-------------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|  |                         |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>2</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LOS <sup>2</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 9: Miller Road & NC-51                         | EB Thru                 |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | EB Right                | 370                    | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 6                                 |
|  | EB Approach             |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|  | WB Left                 | 335                    | 9.1                          | A                | 0                             | 32                                | 9.5                          | A                | 0.2                           | 60                                |
|  | WB Thru                 |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | WB Approach             |                        | 0.2                          | A                | --                            | --                                | 0.7                          | A                | --                            | --                                |
|  | NB Left                 |                        | 23.9                         | C                | 1.1                           | 94                                | 31.0                         | D                | 0.6                           | 68                                |
|  | NB Right                | 185                    | 10.8                         | B                | 0.2                           | 58                                | 10.9                         | B                | 0.2                           | 46                                |
|  | NB Approach             |                        | 19.1                         | C                | --                            | --                                | 19.8                         | C                | --                            | --                                |
| 10: Marfield Lane & NC-51                      | EB Thru                 |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | EB Right                | 310                    | 0.0                          | A                | 0                             | 2                                 | 0.0                          | A                | 0                             | 4                                 |
|  | EB Approach             |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|  | WB Left                 | 520                    | 9.4                          | A                | 0.2                           | 60                                | 9.8                          | A                | 0.4                           | 80                                |
|  | WB Thru                 |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | WB Approach             |                        | 1.0                          | A                | --                            | --                                | 1.1                          | A                | --                            | --                                |
|  | NB Left                 | 100                    | 28.8                         | D                | 1                             | 81                                | 46.2                         | E                | 1                             | 62                                |
|  | NB Right                |                        | 11.7                         | B                | 0.6                           | 72                                | 11.5                         | B                | 0.4                           | 63                                |
|  | NB Approach             |                        | 17.4                         | C                | --                            | --                                | 22.4                         | C                | --                            | --                                |
| 11: NC-51 & Downs Road                         | EB Left                 | 310                    | 18.4                         | B                | 79                            | 117                               | 31.8                         | C                | 79                            | 98                                |
|  | EB Thru                 |                        | 6.0                          | A                | 123                           | 86                                | 12.0                         | B                | 211                           | 150                               |
|  | EB Approach             |                        | 8.1                          | A                | --                            | --                                | 13.9                         | B                | --                            | --                                |
|  | WB U-Turn               | 210                    | 18.8                         | B                | 16                            | 28                                | 32.0                         | C                | 20                            | 31                                |
|  | WB Thru                 |                        | 12.4                         | B                | 97                            | 117                               | 22.0                         | C                | 227                           | 182                               |
|  | WB Right                | 335                    | 0.2                          | A                | 0                             | 14                                | 0.1                          | A                | 0                             | --                                |
|  | WB Approach             |                        | 7.9                          | A                | --                            | --                                | 18.5                         | B                | --                            | --                                |
|  | SB Left                 | 275                    | 19.0                         | B                | 51                            | 84                                | 28.3                         | C                | 232                           | 231                               |
|  | SB Right                |                        | 7.2                          | A                | 24                            | 79                                | 10.1                         | B                | 83                            | 133                               |
|  | SB Approach             |                        | 13.7                         | B                | --                            | --                                | 22.0                         | C                | --                            | --                                |
|  | Overall                 |                        | 8.5                          | A                | --                            | --                                | 17.6                         | B                | --                            | --                                |
|  | 12: Polk Street & NC-51 | EB Left                | 310                          | 52.3             | D                             | 171                               | 152                          | 71.4             | E                             | 162                               |
| EB Thru/Right                                  |                         |                        | 35.5                         | D                | 343                           | 259                               | 60.5                         | E                | #649                          | 584                               |
| EB Approach                                    |                         |                        | 38.3                         | D                | --                            | --                                | 61.5                         | E                | --                            | --                                |
| WB Left  |                         | 275                    | 52.2                         | D                | 64                            | 80                                | 89.9                         | F                | #150                          | 149                               |
| WB Thru  |                         |                        | 42.1                         | D                | 213                           | 191                               | 38.9                         | D                | 273                           | 269                               |
| WB Right                                       |                         | 625                    | 26.9                         | C                | 132                           | 131                               | 14.2                         | B                | 131                           | 152                               |
| WB Approach                                    |                         |                        | 39.2                         | D                | --                            | --                                | 37.7                         | D                | --                            | --                                |
| NB Dual Lefts                                  |                         | 450                    | 47.8                         | D                | 141                           | 204                               | 87.0                         | F                | #153                          | 347                               |
| NB Thru/Right                                  |                         |                        | 42.3                         | D                | 496                           | 357                               | 106.4                        | F                | #523                          | 480                               |
| NB Approach                                    |                         |                        | 44.0                         | D                | --                            | --                                | 99.5                         | F                | --                            | --                                |
| SB Left  |                         |                        | 57.7                         | E                | #129                          | 117                               | 98.9                         | F                | #581                          | 623                               |
| SB Thru  |                         |                        | 30.6                         | C                | 251                           | 213                               | 54.6                         | D                | #660                          | 648                               |
| SB Right                                       |                         | 175                    | 13.3                         | B                | 60                            | 78                                | 18.6                         | B                | 116                           | 275                               |
| SB Approach                                    |                         | 32.3                   | C                            | --               | --                            | 65.5                              | E                            | --               | --                            |                                   |
| Overall  |                         | 39.1                   | D                            | --               | --                            | 62.8                              | E                            | --               | --                            |                                   |
| 13: Downs Road & Westinghouse Boulevard        | EB Left                 | 400                    | 6.6                          | A                | 63                            | 87                                | 14.1                         | B                | m28                           | 38                                |
|  | EB Thru/Right           |                        | 6.7                          | A                | 230                           | 162                               | 18.7                         | B                | 416                           | 258                               |
|  | EB Approach             |                        | 6.7                          | A                | --                            | --                                | 18.6                         | B                | --                            | --                                |
|  | WB Left                 | 205                    | 8.4                          | A                | 37                            | 78                                | 15.1                         | B                | 56                            | 104                               |
|  | WB Thru/Right           |                        | 6.5                          | A                | 82                            | 93                                | 9.8                          | A                | 136                           | 133                               |
|  | WB Approach             |                        | 6.8                          | A                | --                            | --                                | 10.4                         | B                | --                            | --                                |
|  | NB Left                 | 245                    | 24.2                         | C                | 80                            | 161                               | 30.5                         | C                | 120                           | 201                               |
|  | NB Thru/Right           |                        | 22.9                         | C                | 95                            | 173                               | 17.2                         | B                | 77                            | 144                               |
|  | NB Approach             |                        | 23.4                         | C                | --                            | --                                | 24.8                         | C                | --                            | --                                |
|  | SB Left                 | 225                    | 18.9                         | B                | 29                            | 66                                | 17.7                         | B                | 59                            | 95                                |
|  | SB Thru/Right           |                        | 18.6                         | B                | 40                            | 91                                | 19.4                         | B                | 109                           | 179                               |
| SB Approach                                    |                         | 18.7                   | B                            | --               | --                            | 18.9                              | B                            | --               | --                            |                                   |
| Overall  |                         | 9.9                    | A                            | --               | --                            | 16.9                              | B                            | --               | --                            |                                   |
| 14: Nations Ford Road & Westinghouse Boulevard | EB Left                 | 400                    | 50.5                         | D                | 228                           | 268                               | 44.1                         | D                | 189                           | 209                               |
|  | EB Thru/Right           |                        | 13.7                         | B                | 352                           | 281                               | 14.4                         | B                | 301                           | 274                               |
|  | EB Approach             |                        | 20.1                         | C                | --                            | --                                | 18.8                         | B                | --                            | --                                |
|  | WB Left                 | 750                    | 52.0                         | D                | 62                            | 90                                | 56.1                         | E                | m93                           | 128                               |
|  | WB Thru/Right           |                        | 20.1                         | C                | 221                           | 234                               | 30.1                         | C                | 413                           | 385                               |
|  | WB Approach             |                        | 22.7                         | C                | --                            | --                                | 31.6                         | C                | --                            | --                                |
|  | NB Left                 | 190                    | 50.8                         | D                | 117                           | 183                               | 64.0                         | E                | 199                           | 236                               |
|  | NB Thru/Right           |                        | 60.5                         | E                | 216                           | 282                               | 45.3                         | D                | 140                           | 236                               |
|  | NB Approach             |                        | 57.3                         | E                | --                            | --                                | 56.1                         | E                | --                            | --                                |
|  | SB Left                 | 200                    | 43.4                         | D                | 31                            | 52                                | 40.4                         | D                | 51                            | 76                                |
|  | SB Thru                 |                        | 42.5                         | D                | 67                            | 97                                | 41.2                         | D                | 92                            | 134                               |
|  | SB Right                | 275                    | 22.9                         | C                | 95                            | 132                               | 27.0                         | C                | 263                           | 288                               |
|  | SB Approach             |                        | 29.2                         | C                | --                            | --                                | 30.4                         | C                | --                            | --                                |
| Overall  |                         | 26.1                   | C                            | --               | --                            | 29.0                              | C                            | --               | --                            |                                   |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

<sup>2</sup> Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for signalized intersections.

\* Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for unsignalized intersections.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

### **3.4 2025 BACKGROUND TRAFFIC ANALYSIS**

**Tables 3-3a** and **3-3b** summarize the 2025 Background intersection LOS and delay based on the future lane geometry and the 2025 Background traffic volumes shown in **Figure 3-3b**. The corresponding SYNCHRO outputs are included in **Appendix F**.

#### **South Carolina Study Area Intersections:**

The signalized intersection of SC-51 / Flint Hill Road is projected to operate at a LOS C during both 2025 Background peak hours. All approaches are projected to operate at a LOS C or better during both peak hours.

All approaches at the unsignalized intersection of SC-51 / Business Driveway are projected to operate at a LOS C or better during both 2025 Background peak hours.

The northbound and southbound approaches at the unsignalized intersection of SC-51 / Andrew L Tucker Road / Business Driveway are projected to operate at a LOS E or worse during both 2025 Background peak hours. All other approaches are projected to operate at a LOS A during both peak hours.

**Table 3-3a: Intersection Level of Service and Delay Summary for South Carolina Study Area Intersections – 2025 Background Traffic Volumes**

| Intersection and Type of Control                  | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|---|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|   |                       |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 5: Flint Hill Road & SC-51                        | EB Left               | 200                    | 25.8                         | C                | 37                            | 70                                | 19.6                         | B                | 23                            | 56                                |
|   | EB Thru/Right         |                        | 25.9                         | C                | 126                           | 150                               | 21.1                         | C                | 101                           | 111                               |
|   | EB Approach           |                        | 25.9                         | C                | --                            | --                                | 21.0                         | C                | --                            | --                                |
|   | WB Left               | 200                    | 28.5                         | C                | 63                            | 91                                | 33.7                         | C                | 143                           | 184                               |
|   | WB Thru               |                        | 24.3                         | C                | 58                            | 86                                | 20.2                         | C                | 73                            | 96                                |
|   | WB Right              | 350                    | 10.5                         | B                | 198                           | 198                               | 9.7                          | A                | 220                           | 242                               |
|   | WB Approach           |                        | 15.3                         | B                | --                            | --                                | 16.7                         | B                | --                            | --                                |
|   | NB Left               | 150                    | 21.2                         | C                | 9                             | 42                                | 25.2                         | C                | 10                            | 26                                |
|   | NB Thru/Right         |                        | 30.0                         | C                | 172                           | 211                               | 32.7                         | C                | 153                           | 174                               |
|   | NB Approach           |                        | 29.8                         | C                | --                            | --                                | 32.6                         | C                | --                            | --                                |
|   | SB Dual Lefts         | 250                    | 22.9                         | C                | 136                           | 171                               | 24.0                         | C                | 154                           | 163                               |
|   | SB Thru/Right         |                        | 20.0                         | C                | 46                            | 126                               | 22.1                         | C                | 60                            | 83                                |
|   | SB Approach           |                        | 22.6                         | C                | --                            | --                                | 23.8                         | C                | --                            | --                                |
| Overall   |                       |                        | 21.7                         | C                | --                            | --                                | 20.7                         | C                | --                            | --                                |
| 6: Business Driveway & SC-51                      | EB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|   | EB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|   | WB Left/Thru          |                        | 0.6                          | A                | 0                             | 69                                | 0.7                          | A                | 0                             | 76                                |
|   | WB Approach           |                        | 0.6                          | A                | --                            | --                                | 0.7                          | A                | --                            | --                                |
|   | NB Left/Right         |                        | 23.7                         | C                | 0.5                           | 62                                | 23.9                         | C                | 0.6                           | 58                                |
|   | NB Approach           |                        | 23.7                         | C                | --                            | --                                | 23.9                         | C                | --                            | --                                |
| 7: Business Driveway/Andrew L Tucker Road & SC-51 | EB Left               |                        | 10.5                         | B                | 1.4                           | 107                               | 10.0                         | B                | 0.5                           | 82                                |
|   | EB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|   | EB Approach           |                        | 3.4                          | A                | --                            | --                                | 1.4                          | A                | --                            | --                                |
|   | WB Left/Thru          |                        | 0.1                          | A                | 0                             | 26                                | 0.2                          | A                | 0                             | 40                                |
|   | WB Thru/Right         |                        | 0.1                          | A                | 0                             | 32                                | 0.2                          | A                | 0                             | 21                                |
|   | WB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.2                          | A                | --                            | --                                |
|   | NB Left/Thru/Right    |                        | <b>47.1</b>                  | <b>E</b>         | 1.1                           | 69                                | <b>60.3</b>                  | <b>F</b>         | 1.2                           | 68                                |
|   | NB Approach           |                        | <b>47.1</b>                  | <b>E</b>         | --                            | --                                | <b>60.3</b>                  | <b>F</b>         | --                            | --                                |
|   | SB Left/Thru/Right    |                        | <b>49.8</b>                  | <b>E</b>         | 3.7                           | 123                               | <b>54.4</b>                  | <b>F</b>         | 8.3                           | 303                               |
|   | SB Approach           |                        | <b>49.8</b>                  | <b>E</b>         | --                            | --                                | <b>54.4</b>                  | <b>F</b>         | --                            | --                                |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.  
 + Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO  
 \* - 95th percentile queues for unsignalized intersections reported in number of vehicles.  
 SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

**North Carolina Study Area Intersections:**

All approaches at the unsignalized intersection of NC-51 / Miller Road are projected to operate at a LOS C or better during both 2025 Background peak hours.

All approaches at the unsignalized intersection of NC-51 / Marfield Lane are projected to operate at a LOS C or better during both 2025 Background peak hours.

The signalized intersection of NC-51 / Downs Road is projected to operate at an overall LOS A and a LOS B during the 2025 Background AM and PM peak hours, respectively. All approaches are projected to operate at a LOS C or better during both peak hours.

The signalized intersection of NC-51 / Polk Street is projected to operate at an overall LOS D and LOS E during the 2025 Background AM and PM peak hours, respectively. Multiple approaches are projected to operate unacceptably during at least one peak hour.

The signalized intersection of Westinghouse Boulevard / Downs Road is projected to operate at an overall LOS B during both 2025 Background peak hours. All approaches are projected to operate at a LOS C or better during both peak hours.

The signalized intersection of Westinghouse Boulevard / Nations Ford Road is projected to operate at an overall LOS C during both 2025 Background peak hours. The northbound approach is projected to operate at a LOS E during both peak hours. All other approaches are projected to operate at a LOS C or better during both peak hours.

**Table 3-3b: Intersection Level of Service and Delay Summary for North Carolina Study Area Intersections – 2025 Background Traffic Volumes**

| Intersection and Type of Control               | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               | PM PEAK HOUR                      |                              |                  |                               |                                   |
|--|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|  |                       |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>2</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>2</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 9: Miller Road & NC-51                         | EB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | EB Right              | 370                    | 0.0                          | A                | 0                             | 2                                 | 0.0                          | A                | 0                             | 9                                 |
|  | EB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|  | WB Left               | 335                    | 9.2                          | A                | 0                             | 30                                | 9.7                          | A                | 0.2                           | 69                                |
|  | WB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | WB Approach           |                        | 0.2                          | A                | --                            | --                                | 0.7                          | A                | --                            | --                                |
|  | NB Left               |                        | 25.8                         | D                | 1.2                           | 90                                | 33.7                         | D                | 0.7                           | 74                                |
|  | NB Right              | 185                    | 10.9                         | B                | 0.2                           | 54                                | 11.1                         | B                | 0.2                           | 52                                |
|  | NB Approach           |                        | 20.3                         | C                | --                            | --                                | 20.9                         | C                | --                            | --                                |
| 10: Marfield Lane & NC-51                      | EB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 2                                 |
|  | EB Right              | 310                    | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 4                                 |
|  | EB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|  | WB Left               | 520                    | 9.5                          | A                | 0.2                           | 58                                | 10.0                         | B                | 0.5                           | 86                                |
|  | WB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | WB Approach           |                        | 1.0                          | A                | --                            | --                                | 1.2                          | A                | --                            | --                                |
|  | NB Left               | 100                    | 31.4                         | D                | 1.1                           | 64                                | 52.0                         | F                | 1.2                           | 62                                |
|  | NB Right              |                        | 11.9                         | B                | 0.6                           | 73                                | 11.7                         | B                | 0.4                           | 64                                |
|  | NB Approach           |                        | 18.5                         | C                | --                            | --                                | 24.3                         | C                | --                            | --                                |
| 11: NC-51 & Downs Road                         | EB Left               | 310                    | 18.9                         | B                | 84                            | 120                               | 33.4                         | C                | 84                            | 108                               |
|  | EB Thru               |                        | 6.0                          | A                | 130                           | 89                                | 12.4                         | B                | 227                           | 159                               |
|  | EB Approach           |                        | 8.2                          | A                | --                            | --                                | 14.4                         | B                | --                            | --                                |
|  | WB U-Turn             | 210                    | 19.5                         | B                | 12                            | 25                                | 33.5                         | C                | 22                            | 31                                |
|  | WB Thru               |                        | 12.5                         | B                | 103                           | 114                               | 22.6                         | C                | 246                           | 209                               |
|  | WB Right              | 335                    | 0.2                          | A                | 0                             | 29                                | 0.1                          | A                | 0                             | 0                                 |
|  | WB Approach           |                        | 8.0                          | A                | --                            | --                                | 19.0                         | B                | --                            | --                                |
|  | SB Left               | 275                    | 19.7                         | B                | 54                            | 94                                | 29.5                         | C                | 249                           | 221                               |
|  | SB Right              |                        | 7.5                          | A                | 25                            | 74                                | 10.5                         | B                | 88                            | 143                               |
|  | SB Approach           |                        | 14.2                         | B                | --                            | --                                | 22.9                         | C                | --                            | --                                |
|  | Overall               |                        | 8.6                          | A                | --                            | --                                | 18.2                         | B                | --                            | --                                |
|  | EB Left               | 310                    | 53.9                         | D                | 176                           | 188                               | 78.4                         | F                | 177                           | 410                               |
|  | EB Thru/Right         |                        | 37.0                         | D                | 359                           | 291                               | 66.8                         | F                | 732                           | 607                               |
|  | EB Approach           |                        | 39.7                         | D                | --                            | --                                | 67.9                         | F                | --                            | --                                |
| WB Left  | 275                   | 54.1                   | D                            | 66               | 93                            | 108.7                             | F                            | 176              | 185                           |                                   |
| WB Thru  |                       | 44.1                   | D                            | 223              | 188                           | 42.0                              | D                            | 306              | 297                           |                                   |
| WB Right                                       | 635                   | 28.1                   | C                            | 139              | 150                           | 15.1                              | B                            | 145              | 157                           |                                   |
| WB Approach                                    |                       | 41.0                   | D                            | --               | --                            | 41.7                              | D                            | --               | --                            |                                   |
| NB Dual Lefts                                  | 450                   | 48.9                   | D                            | 144              | 218                           | 110.5                             | F                            | 176              | 395                           |                                   |
| NB Thru/Right                                  |                       | 43.9                   | D                            | 526              | 432                           | 110.9                             | F                            | 572              | 627                           |                                   |
| NB Approach                                    |                       | 45.5                   | D                            | --               | --                            | 110.8                             | F                            | --               | --                            |                                   |
| SB Left  | 60.6                  | F                      | #135                         | 141              | 108.1                         | F                                 | #640                         | 594              |                               |                                   |
| SB Thru  |                       | 31.6                   | C                            | 266              | 252                           | 55.9                              | F                            | 717              | 582                           |                                   |
| SB Right                                       | 175                   | 13.5                   | B                            | 62               | 159                           | 19.2                              | B                            | 123              | 275                           |                                   |
| SB Approach                                    |                       | 33.5                   | C                            | --               | --                            | 69.5                              | F                            | --               | --                            |                                   |
| Overall  |                       | 40.6                   | D                            | --               | --                            | 68.7                              | F                            | --               | --                            |                                   |
| 13: Downs Road & Westinghouse Boulevard        | EB Left               | 400                    | 7.6                          | A                | 75                            | 95                                | 14.0                         | B                | n0                            | 46                                |
|  | EB Thru/Right         |                        | 7.7                          | A                | 266                           | 180                               | 19.5                         | B                | 436                           | 263                               |
|  | EB Approach           |                        | 7.7                          | A                | --                            | --                                | 19.4                         | B                | --                            | --                                |
|  | WB Left               | 205                    | 8.9                          | A                | 40                            | 87                                | 16.0                         | B                | 57                            | 117                               |
|  | WB Thru/Right         |                        | 6.7                          | A                | 87                            | 106                               | 9.9                          | A                | 133                           | 136                               |
|  | WB Approach           |                        | 6.9                          | A                | --                            | --                                | 10.5                         | B                | --                            | --                                |
|  | NB Left               | 245                    | 24.4                         | C                | 83                            | 135                               | 34.1                         | C                | #141                          | 188                               |
|  | NB Thru/Right         |                        | 23.0                         | C                | 98                            | 168                               | 17.6                         | B                | 84                            | 148                               |
|  | NB Approach           |                        | 23.6                         | C                | --                            | --                                | 27.0                         | C                | --                            | --                                |
|  | SB Left               | 225                    | 18.9                         | B                | 30                            | 67                                | 18.2                         | B                | 64                            | 118                               |
|  | SB Thru/Right         |                        | 18.5                         | B                | 41                            | 81                                | 20.0                         | C                | 120                           | 166                               |
| SB Approach                                    |                       | 18.7                   | B                            | --               | --                            | 19.5                              | B                            | --               | --                            |                                   |
| Overall  |                       | 10.5                   | B                            | --               | --                            | 17.6                              | B                            | --               | --                            |                                   |
| 14: Nations Ford Road & Westinghouse Boulevard | EB Left               | 400                    | 49.1                         | D                | 230                           | 279                               | 44.3                         | D                | 198                           | 216                               |
|  | EB Thru/Right         |                        | 14.4                         | B                | 375                           | 308                               | 14.8                         | B                | 316                           | 270                               |
|  | EB Approach           |                        | 20.4                         | C                | --                            | --                                | 19.2                         | B                | --                            | --                                |
|  | WB Left               | 750                    | 51.3                         | D                | 62                            | 100                               | 55.4                         | F                | n94                           | 117                               |
|  | WB Thru/Right         |                        | 21.7                         | C                | 236                           | 232                               | 31.9                         | C                | 409                           | 401                               |
|  | WB Approach           |                        | 24.1                         | C                | --                            | --                                | 33.3                         | C                | --                            | --                                |
|  | NB Left               | 190                    | 50.3                         | D                | 118                           | 206                               | 65.3                         | F                | 206                           | 239                               |
|  | NB Thru/Right         |                        | 60.5                         | F                | 222                           | 300                               | 45.6                         | D                | 148                           | 232                               |
|  | NB Approach           |                        | 57.2                         | F                | --                            | --                                | 56.9                         | F                | --                            | --                                |
|  | SB Left               | 200                    | 43.0                         | D                | 31                            | 44                                | 40.8                         | D                | 54                            | 80                                |
|  | SB Thru               |                        | 42.2                         | D                | 69                            | 93                                | 41.3                         | D                | 95                            | 166                               |
|  | SB Right              | 275                    | 20.9                         | C                | 91                            | 143                               | 27.2                         | C                | 282                           | 287                               |
|  | SB Approach           |                        | 27.7                         | C                | --                            | --                                | 30.6                         | C                | --                            | --                                |
|  | Overall               |                        | 26.4                         | C                | --                            | --                                | 29.9                         | C                | --                            | --                                |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

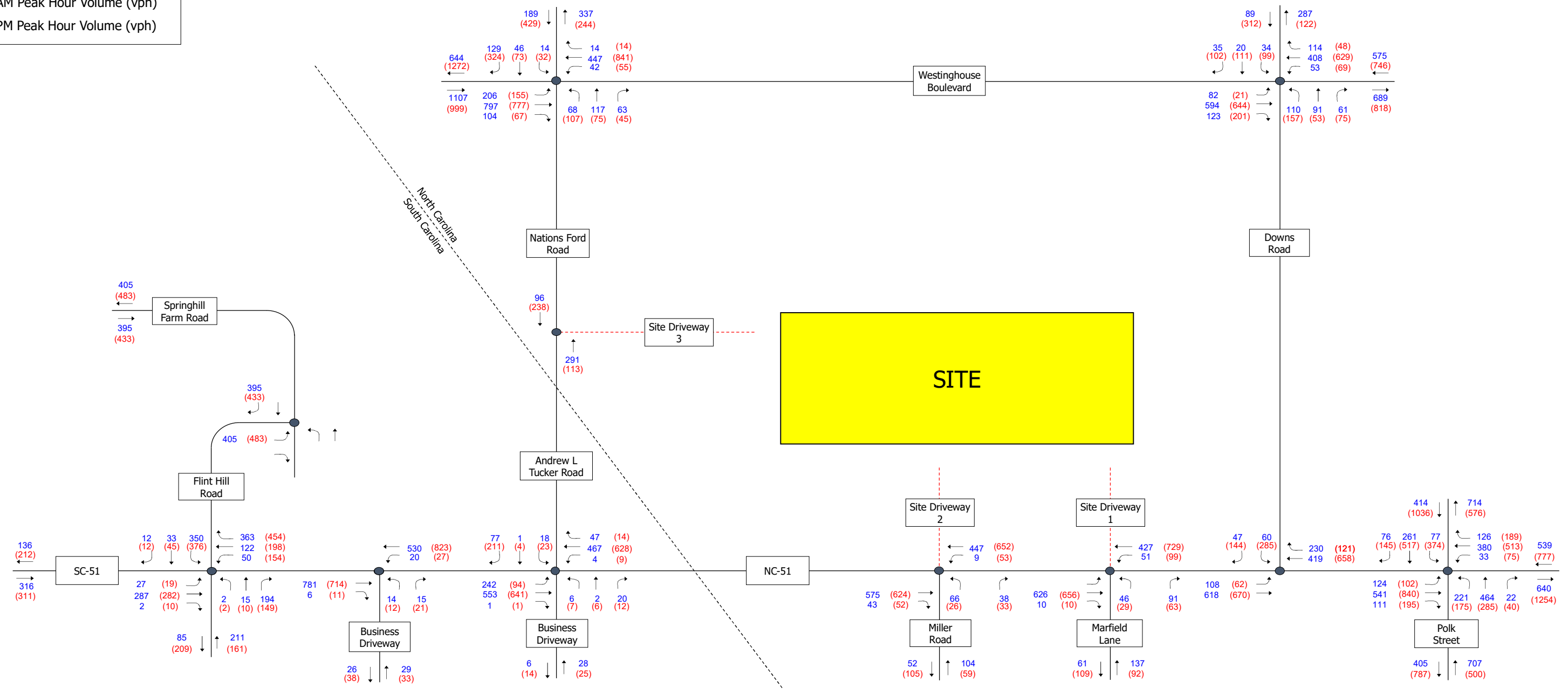
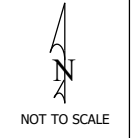
+ Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

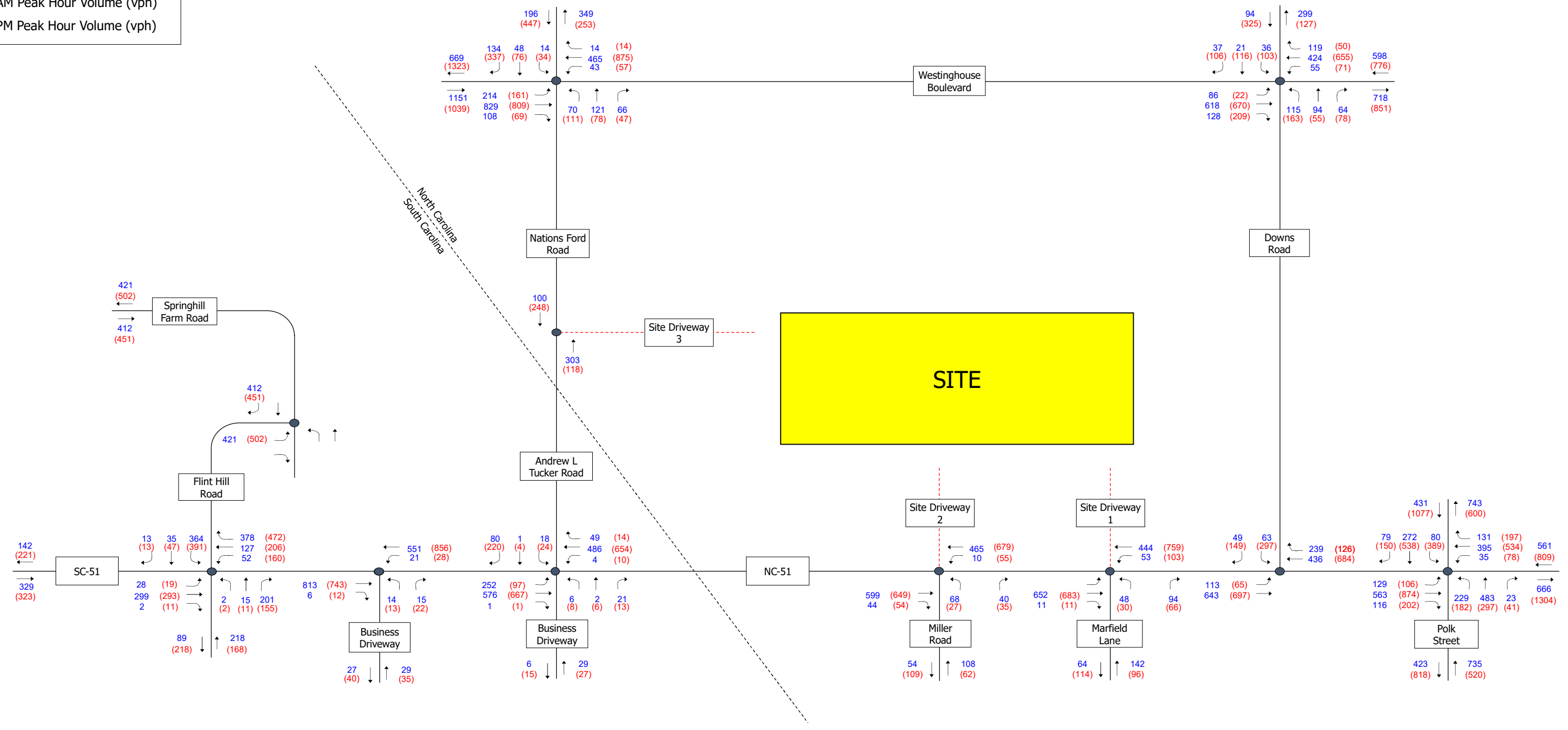
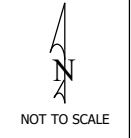


### Miller Farm Traffic Impact Analysis 2023 Ambient Traffic Volumes

Figure 3-1a

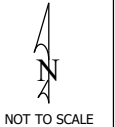
**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)



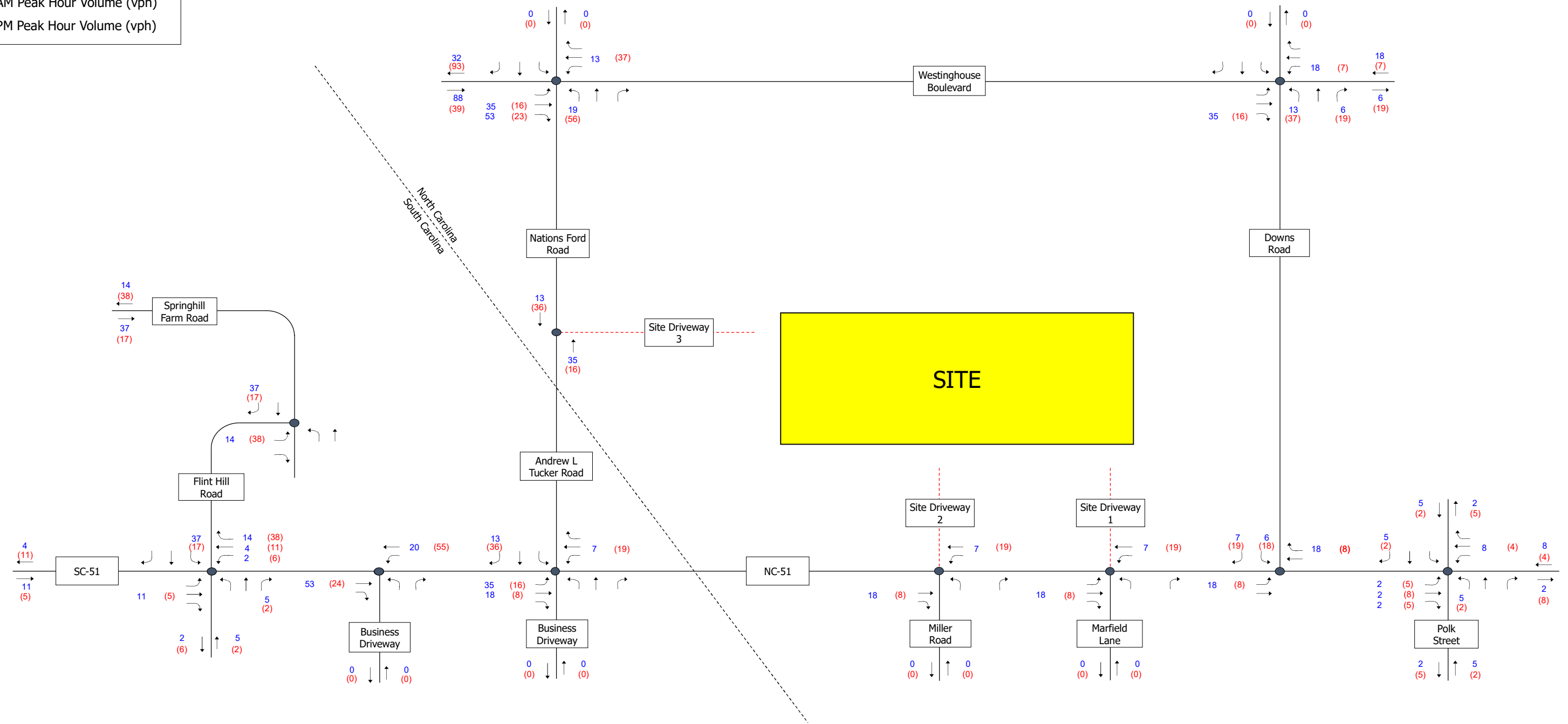
**Miller Farm Traffic Impact Analysis**  
2025 Ambient Traffic Volumes

Figure 3-1b



**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

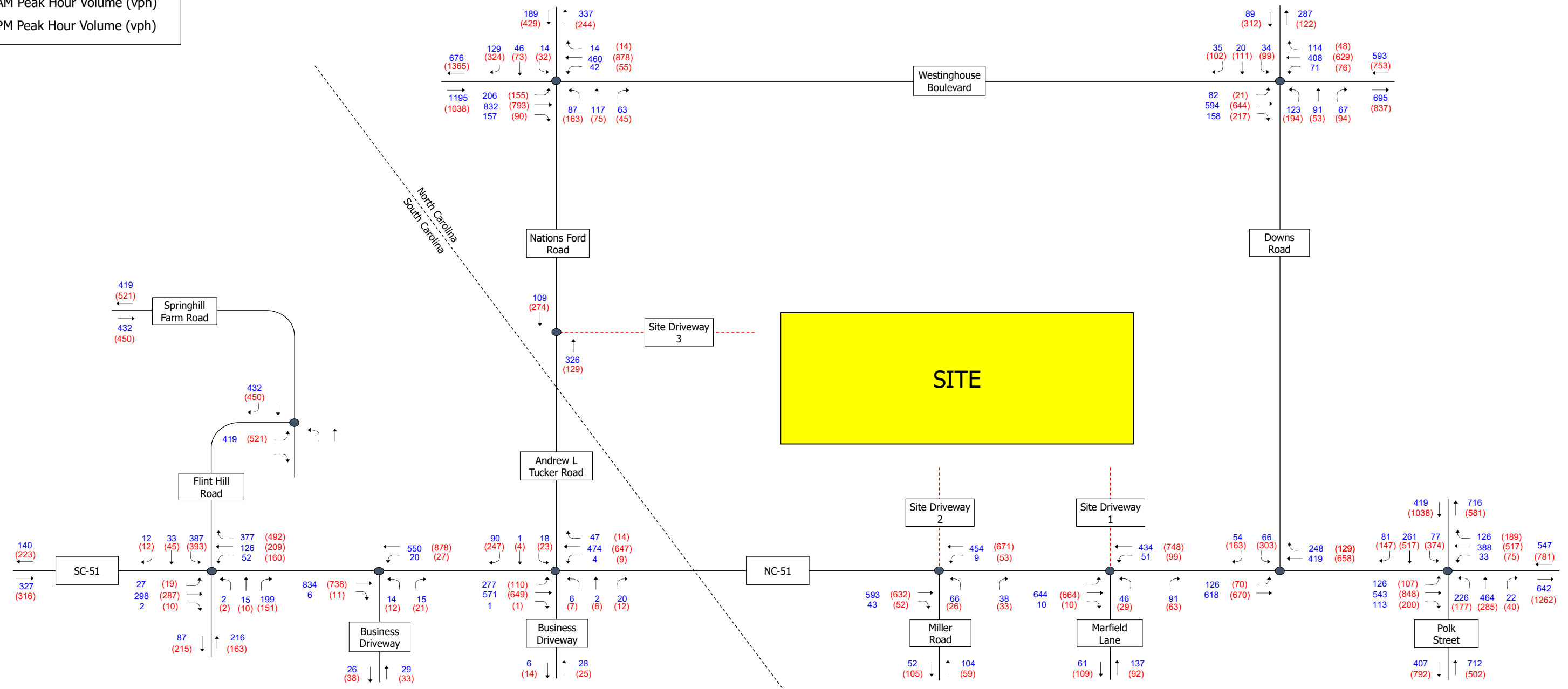
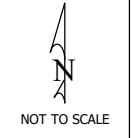


**Miller Farm Traffic Impact Analysis**  
 Approved Development 2023 Traffic Volumes - Carolina Logistics Park

Figure 3-2



**LEGEND:**  
 — Existing Road  
 - - - Proposed Road  
 XX AM Peak Hour Volume (vph)  
 (XX) PM Peak Hour Volume (vph)

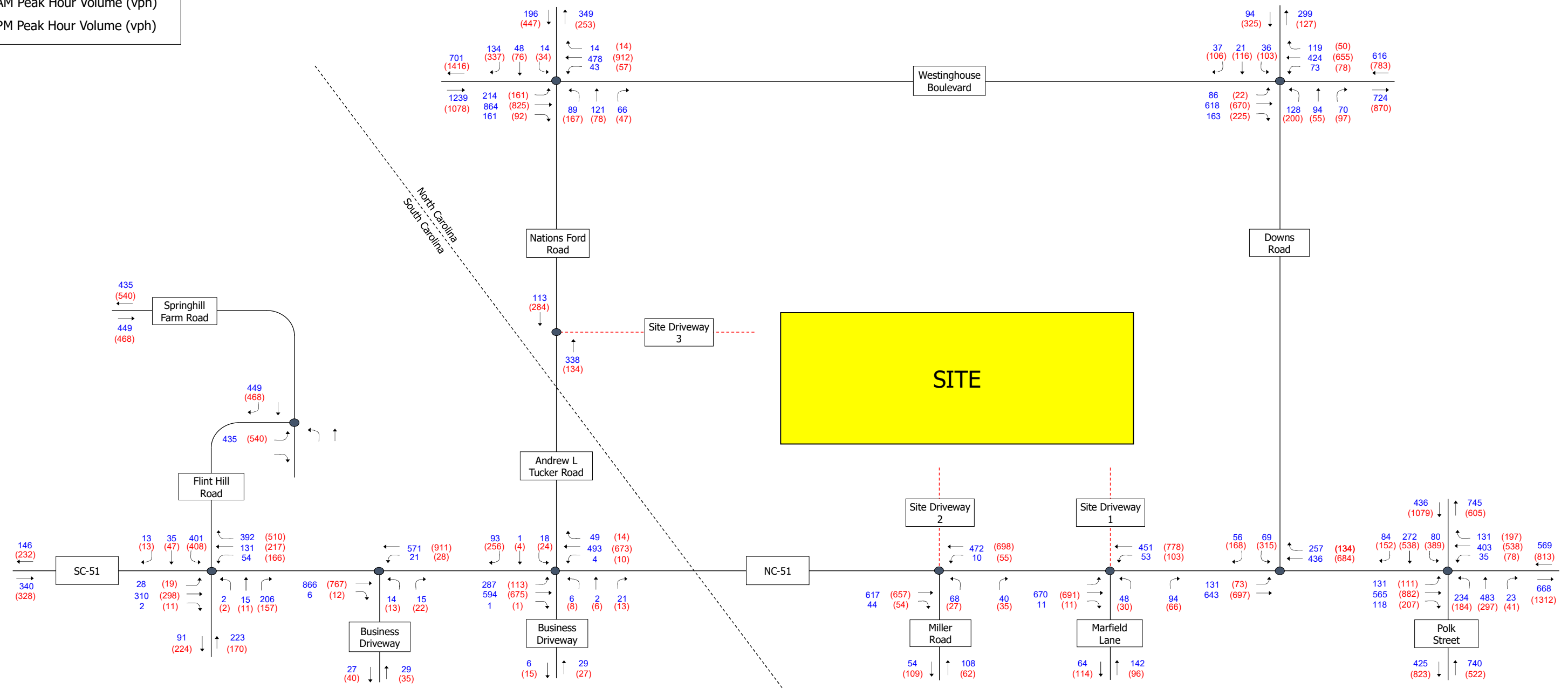
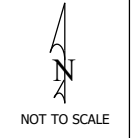


### Miller Farm Traffic Impact Analysis 2023 Background Traffic Volumes

Figure 3-3a

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)



## Miller Farm Traffic Impact Analysis

### 2025 Background Traffic Volumes

Figure 3-3b

## 4 SITE TRIP GENERATION AND DISTRIBUTION

Site trips for the development were estimated based on the proposed land uses supplied by the developer and subsequently distributed onto the surrounding roadway network.

### 4.1 TRIP GENERATION

The site-generated trips shown in **Table 4-1** are based on trip generation information provided in the 10<sup>th</sup> Edition of the Institute of Transportation Engineer's (ITE's) *Trip Generation Manual* and the anticipated size of the residential development. The trip generation was calculated using the proposed number of residential units as the independent variable and the provided equation (per NCDOT standards).

**Table 4-1: Combined Phases 1 – 2 Trip Generation Summary**

| ITE Land Use Code                    | Independent Variable | AM Peak Hour |     |       | PM Peak Hour |     |       | Daily Traffic |
|--------------------------------------|----------------------|--------------|-----|-------|--------------|-----|-------|---------------|
|                                      |                      | In           | Out | Total | In           | Out | Total |               |
| 210 – Single Family Detached Housing | 205 DU               | 38           | 112 | 150   | 127          | 75  | 202   | 2,013         |
| 220 – Multifamily Housing (Low Rise) | 138 DU               | 15           | 50  | 65    | 50           | 29  | 79    | 1,002         |
| Total:                               |                      | 53           | 162 | 215   | 177          | 104 | 281   | 3,015         |

SOURCE: Institute of Transportation Engineers' *Trip Generation Manual* 10<sup>th</sup> Edition (2017)

Combined Phases 1 – 2 AM peak hour trips totaled 53 incoming and 162 outgoing where PM peak hour trips totaled 177 incoming and 104 outgoing. Average daily traffic (ADT) volumes generated by the development totaled 3,015 VPD.

Phase 1, to be constructed in 2023, will consist of 47 single-family detached housing units and 39 townhouse units. When compared to the development's full build, Phase 1 represents approximately 23% of the total single-family detached housing units and 28% of the total townhouse units. Applying these percentages to the full build-out trip generation (see **Table 4-1**) results in the Phase 1 site-generated trips shown in **Table 4-2** below.

**Table 4-2: Phase 1 Trip Generation Summary**

| Land Use Percentages                             | Dwelling Units | AM Peak Hour |     |       | PM Peak Hour |     |       | Daily Traffic |
|--|----------------|--------------|-----|-------|--------------|-----|-------|---------------|
|  |                | In           | Out | Total | In           | Out | Total |               |
| Single-family Detached Housing – 23%             | 47 DU          | 9            | 26  | 35    | 29           | 17  | 46    | 463           |
| Multifamily Housing (Low Rise) – Townhomes – 28% | 39 DU          | 4            | 14  | 18    | 14           | 8   | 22    | 281           |
| Total:   |                | 13           | 40  | 53    | 43           | 25  | 68    | 744           |

Phase 1 AM peak hour trips totaled 13 incoming and 40 outgoing where PM trips totaled 43 incoming and 25 outgoing. The Phase 1 ADT is 744 VPD.

Phase 2, to be constructed in 2025, will consist of 158 single-family detached housing units and 99 townhouse units. When compared to the development's full build-out, Phase 2 represents approximately 77% of the total single-family detached housing units and 72% of the total townhouse units. Applying these percentages to the full build-out trip generation (**Table 4-1**) results in the Phase 2 site-generated trips shown in **Table 4-3** below.

**Table 4-3: Phase 2 Trip Generation Summary**

| Land Use Percentages                             | Dwelling Units | AM Peak Hour |     |       | PM Peak Hour |     |       | Daily Traffic |
|--|----------------|--------------|-----|-------|--------------|-----|-------|---------------|
|  |                | In           | Out | Total | In           | Out | Total |               |
| Single-family Detached Housing – 77%             | 158 DU         | 29           | 86  | 115   | 98           | 58  | 156   | 1,550         |
| Multifamily Housing (Low Rise) – Townhomes – 72% | 99 DU          | 11           | 36  | 47    | 36           | 21  | 57    | 721           |
| Total:   |                | 40           | 122 | 162   | 134          | 79  | 213   | 2,271         |

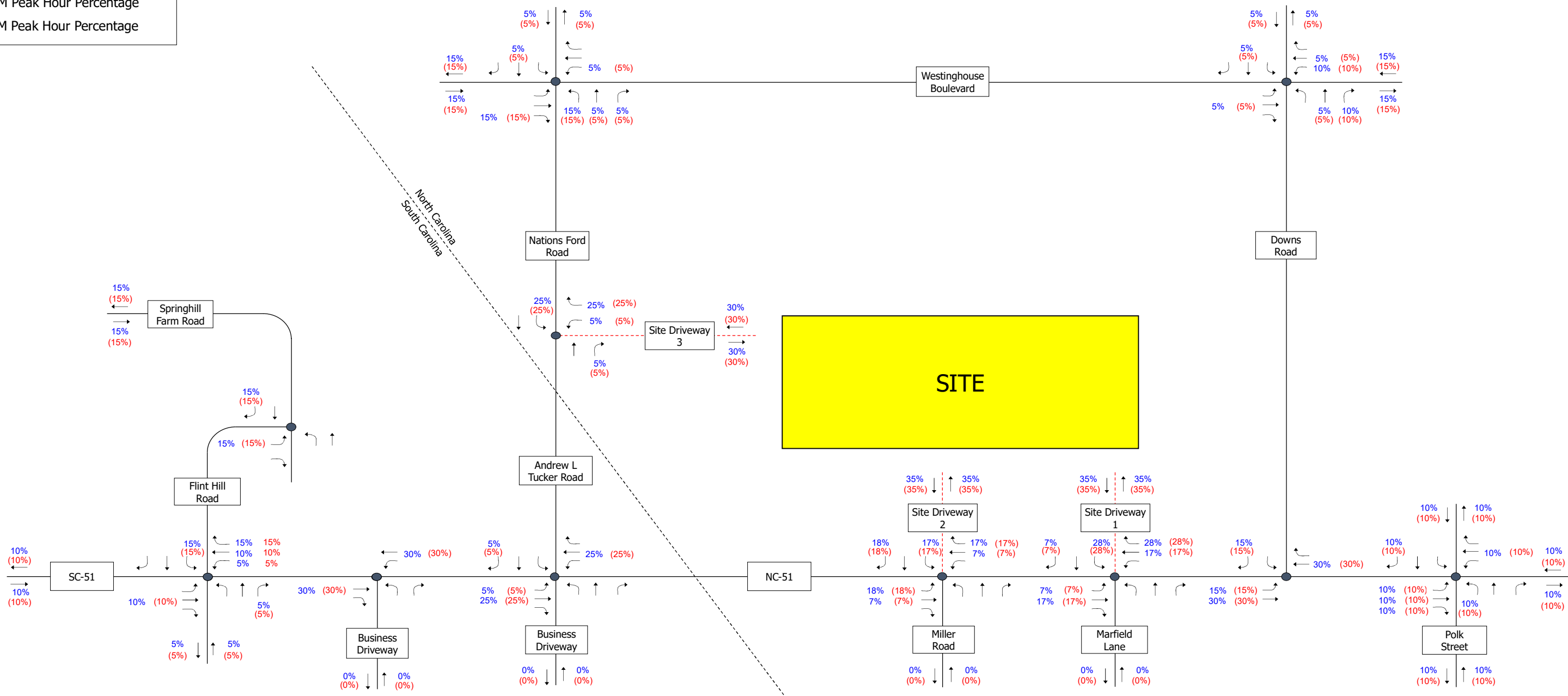
Phase 2 AM peak hour trips totaled 40 incoming and 122 outgoing where PM trips totaled 134 incoming and 79 outgoing. The Phase 2 ADT is 2,271 VPD.

**4.2 TRIP DISTRIBUTION**

The directional traffic patterns, or trip distribution, of the site-generated traffic was determined using the existing AM and PM peak hour traffic characteristics and engineering judgement. It was assumed, for purposes of this study, that all site traffic would enter and exit the study area in a similar manner as the existing traffic. Total trips into and out of the study area using SC-51, Flint Hill Road, Springhill Farm Road, Nations Ford Road, Westinghouse Boulevard, Downs Road, NC-51, and Polk Street form the basis for the percentage distribution. The percentages were routed, via shortest path, to and from the proposed development. The distribution percentages were then applied to the generated trips to predict routes and project traffic volumes for the 2023 Phase 1 and 2025 Phase 2 Build scenarios. **Figure 4-1** shows the trip distribution percentages. **Figures 4-2a** and **4-2b** show the Phase 1 and Phase 2 trip distribution volumes for the proposed development, respectively. Phase 1 trip distribution volumes (**Figure 4-2a**) and Phase 2 trip distribution volumes (**Figure 4-2b**) were then combined to determine the combined Phases 1 – 2 trip distribution volumes shown in **Figure 4-3**.

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Percentage
- (XX) PM Peak Hour Percentage

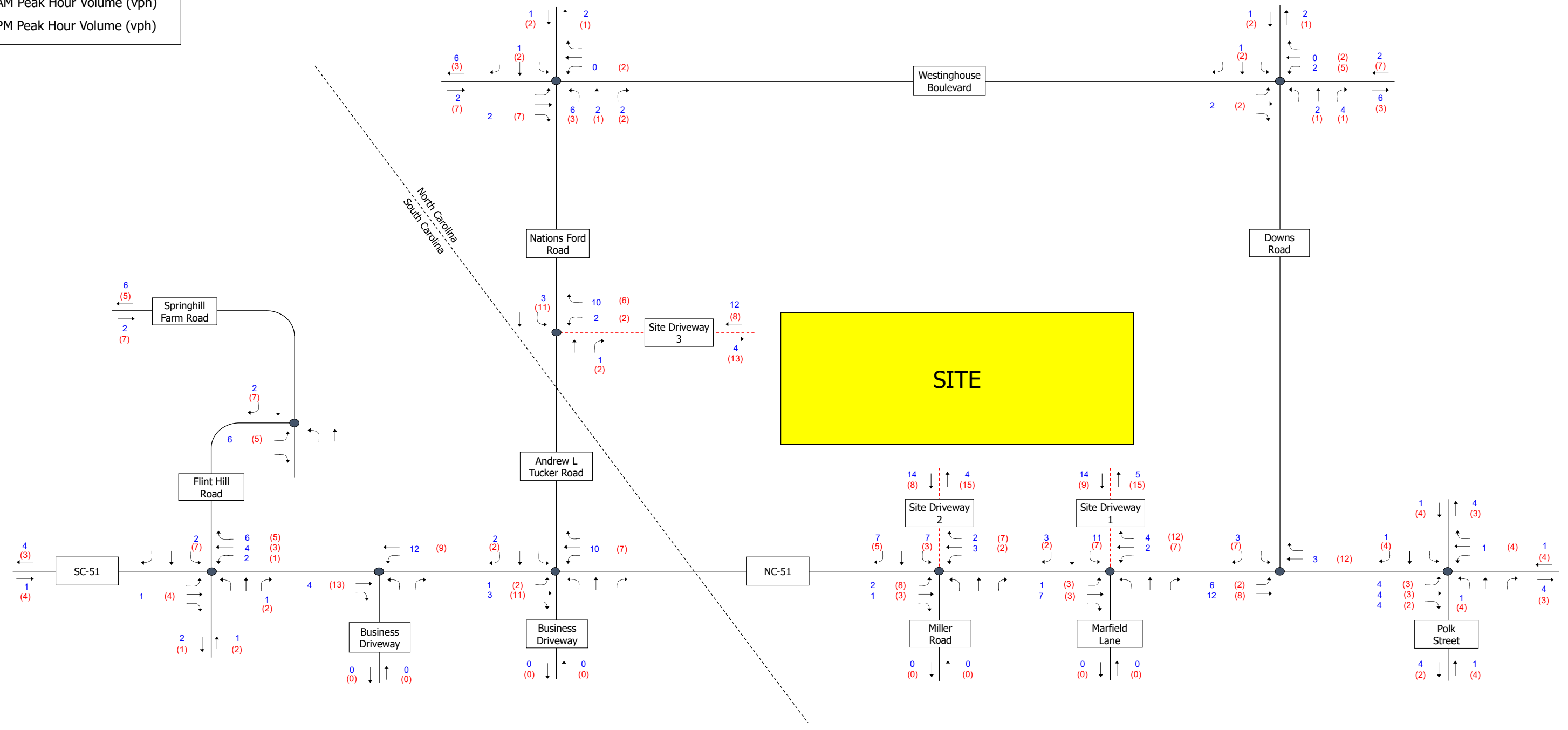
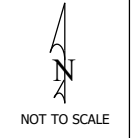


**Miller Farm Traffic Impact Analysis**  
Trip Distribution Percentages

Figure 4-1

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

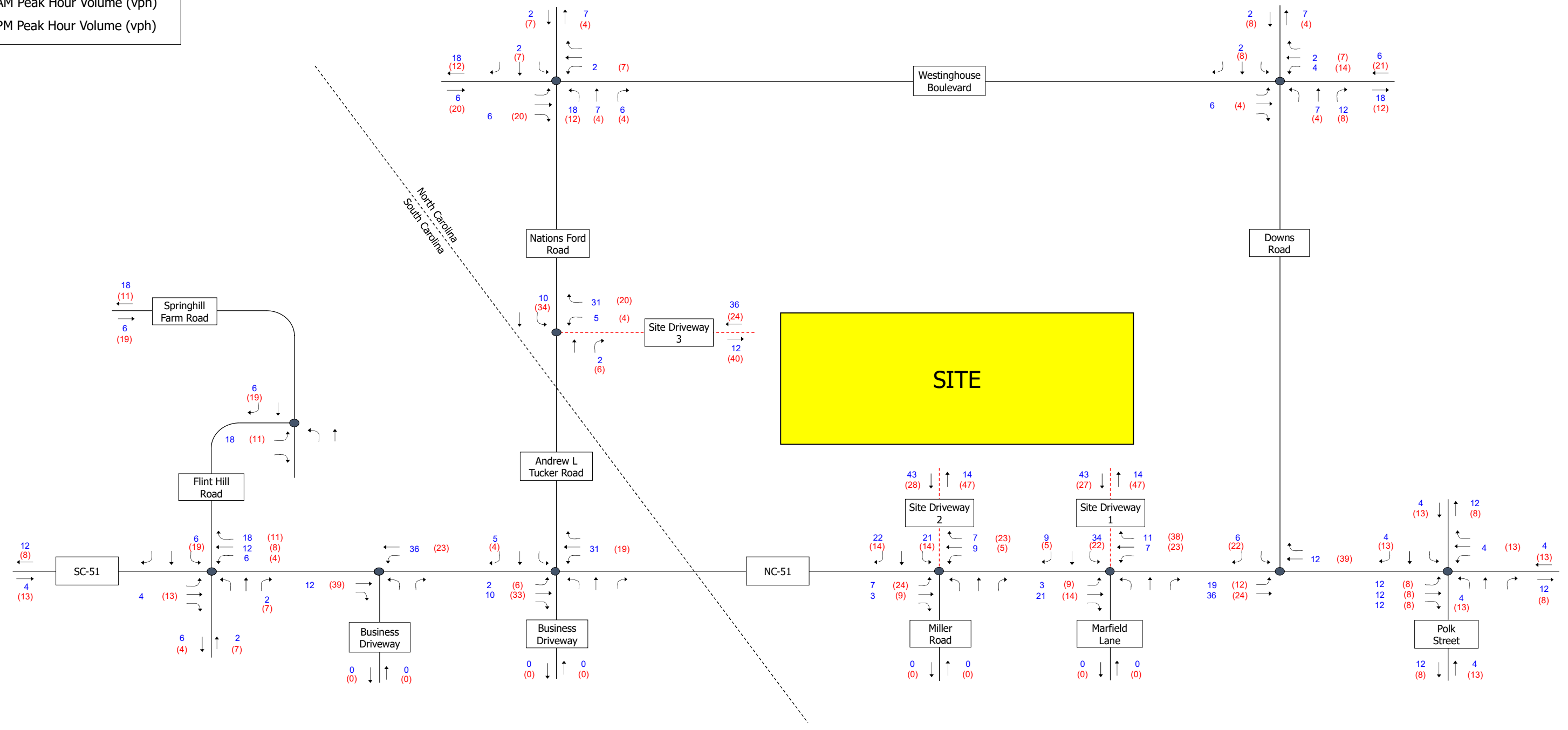
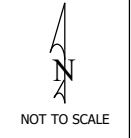


**Miller Farm Traffic Impact Analysis**  
 Trip Distribution Volumes - Phase 1

Figure 4-2a

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

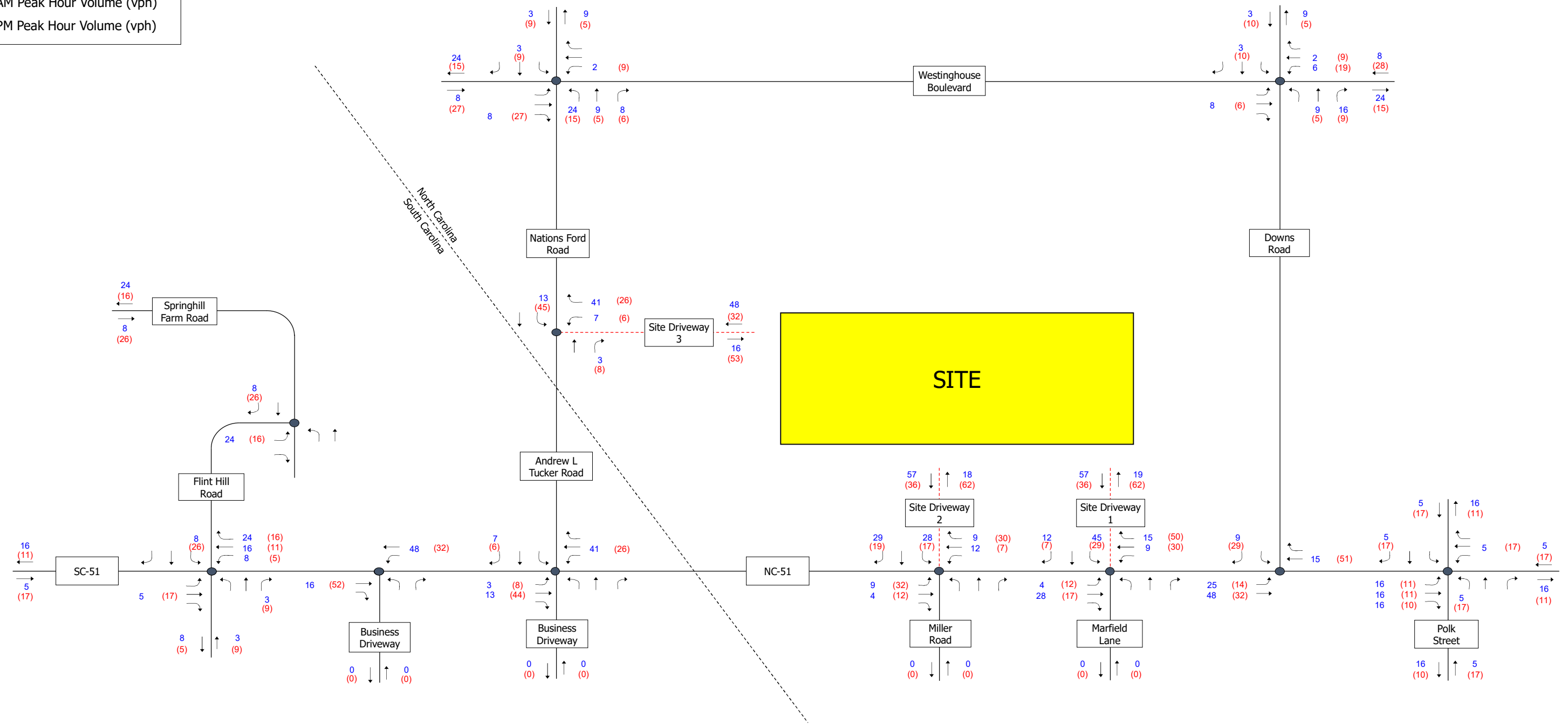
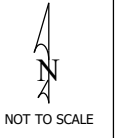


**Miller Farm Traffic Impact Analysis**  
 Trip Distribution Volumes - Phase 2

Figure 4-2b

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)



**Miller Farm Traffic Impact Analysis**  
 Trip Distribution Volumes - Phases 1-2

Figure 4-3



## 5 BUILD CONDITION AND ANALYSIS

To complete the 2023 Phase 1 and 2025 Phase 2 Build analyses (including the proposed development), the estimated site trips were added to the Background traffic volumes. The projected total volumes, along with the future intersection geometry and optimized signal timings, were used to complete the capacity analyses.

The Background traffic volumes (**Figures 3-3a** and **3-3b**) were added to the total projected site trips (**Figures 4-2a** and **4-3**) from the subject development to generate the 2023 Phase 1 Build traffic volumes (background + site) shown in **Figure 5-1a** and the 2025 Phase 2 Build traffic volumes shown in **Figure 5-1b**, respectively.

To summarize, the 2023 Phase 1 and 2025 Phase 2 Build traffic volumes shown in **Figures 5-1a** and **5-1b** (respectively) contain the following:

- 2021 traffic volumes grown by an ambient growth rate of 2% per year (for 2 and 4 years, respectively);
- Traffic volumes from the study area approved development; and
- Phase 1 and Phase 2 Site trips generated by the subject development.

### 5.1 2023 PHASE 1 BUILD ANALYSIS

**Tables 5-1a** and **5-1b** summarize the 2023 Phase 1 Build intersection LOS and delay based on the future lane geometry and the 2023 Phase 1 Build traffic volumes shown in **Figure 5-1a**. The corresponding SYNCHRO outputs are included in **Appendix F**.

#### South Carolina Study Area Intersections:

The signalized intersection of SC-51 / Flint Hill Road is projected to operate at an overall LOS C during both 2023 Phase 1 Build peak hours. All approaches are projected to operate at a LOS C or better during both peak hours. Because the intersection is anticipated to operate acceptably overall, no improvements are recommended due to Phase 1 construction.

All approaches at the unsignalized intersection of SC-51 / Business Driveway are projected to operate at a LOS C or better during both 2023 Phase 1 Build peak hours. Because the intersection is anticipated to operate acceptably, no improvements are recommended due to Phase 1 construction.

The northbound and southbound approaches at the unsignalized intersection of SC-51 / Andrew L Tucker Road / Business Driveway are projected to operate at a LOS E or worse during both 2023 Phase 1 Build hours. All other approaches are projected to operate at a LOS A during both peak hours. Based on the 2023 Background and 2023 Phase 1 Build scenarios, the proposed development is projected to increase the subject intersection's traffic volumes by a maximum of 1.3%. Additionally, the intersection is projected to experience the same LOS between the Background and Build scenarios. Because of this, no improvements are recommended due to Phase 1 construction.

**Table 5-1a: Intersection Level of Service and Delay Summary for South Carolina Study Area Intersections – 2023 Phase 1 Build Traffic Volumes**

| Intersection and Type of Control                  | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|---|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|   |                       |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 5: Flint Hill Road & SC-51                        | EB Left               | 200                    | 25.4                         | C                | 36                            | 58                                | 20.3                         | C                | 24                            | 52                                |
|   | EB Thru/Right         |                        | 25.3                         | C                | 121                           | 132                               | 21.5                         | C                | 102                           | 112                               |
|   | EB Approach           |                        | 25.3                         | C                | --                            | --                                | 21.5                         | C                | --                            | --                                |
|   | WB Left               | 200                    | 27.8                         | C                | 62                            | 98                                | 33.4                         | C                | 143                           | 167                               |
|   | WB Thru               |                        | 23.8                         | C                | 57                            | 80                                | 20.6                         | C                | 74                            | 99                                |
|   | WB Right              | 350                    | 10.1                         | B                | 189                           | 181                               | 9.5                          | A                | 219                           | 254                               |
|   | WB Approach           |                        | 15.0                         | B                | --                            | --                                | 16.6                         | B                | --                            | --                                |
|   | NB Left               | 150                    | 21.2                         | C                | 9                             | 22                                | 25.5                         | C                | 10                            | 24                                |
|   | NB Thru/Right         |                        | 29.6                         | C                | 168                           | 187                               | 32.6                         | C                | 151                           | 189                               |
|   | NB Approach           |                        | 29.5                         | C                | --                            | --                                | 32.4                         | C                | --                            | --                                |
|   | SB Dual Lefts         | 250                    | 22.6                         | C                | 130                           | 149                               | 23.6                         | C                | 152                           | 153                               |
|   | SB Thru/Right         |                        | 19.8                         | B                | 43                            | 64                                | 21.8                         | C                | 58                            | 76                                |
|   | SB Approach           |                        | 22.3                         | C                | --                            | --                                | 23.3                         | C                | --                            | --                                |
|   | Overall               |                        |                              | 21.3             | C                             | --                                | --                           | 20.6             | C                             | --                                |
| 6: Business Driveway & SC-51                      | EB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|   | EB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|   | WB Left/Thru          |                        | 0.5                          | A                | 0.1                           | 64                                | 0.7                          | A                | 0.1                           | 74                                |
|   | WB Approach           |                        | 0.5                          | A                | --                            | --                                | 0.7                          | A                | --                            | --                                |
|   | NB Left/Right         |                        | 22.6                         | C                | 0.5                           | 53                                | 22.3                         | C                | 0.5                           | 56                                |
|   | NB Approach           |                        | 22.6                         | C                | --                            | --                                | 22.3                         | C                | --                            | --                                |
| 7: Business Driveway/Andrew L Tucker Road & SC-51 | EB Left               |                        | 10.3                         | B                | 1.4                           | 107                               | 9.9                          | A                | 0.5                           | 80                                |
|   | EB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|   | EB Approach           |                        | 3.4                          | A                | --                            | --                                | 1.4                          | A                | --                            | --                                |
|   | WB Left/Thru          |                        | 0.1                          | A                | 0                             | 26                                | 0.2                          | A                | 0                             | 45                                |
|   | WB Thru/Right         |                        | 0.1                          | A                | 0                             | 33                                | 0.2                          | A                | 0                             | 19                                |
|   | WB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.2                          | A                | --                            | --                                |
|   | NB Left/Thru/Right    |                        | <b>42.8</b>                  | <b>E</b>         | 1                             | 60                                | <b>53.6</b>                  | <b>F</b>         | 1                             | 54                                |
|   | NB Approach           |                        | <b>42.8</b>                  | <b>E</b>         | --                            | --                                | <b>53.6</b>                  | <b>F</b>         | --                            | --                                |
|   | SB Left/Thru/Right    |                        | <b>42.5</b>                  | <b>E</b>         | 3.3                           | 147                               | <b>44.4</b>                  | <b>E</b>         | 7.1                           | 284                               |
|   | SB Approach           |                        | <b>42.5</b>                  | <b>E</b>         | --                            | --                                | <b>44.4</b>                  | <b>E</b>         | --                            | --                                |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

\*\* Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for signalized intersections.

+ Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for unsignalized intersections.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

**North Carolina Study Area Intersections:**

All approaches at the unsignalized intersection of Miller Road / NC-51 / Site Driveway 2 are projected to operate at a LOS D or better during both 2023 Phase 1 Build peak hours. Per the NCDOT Policy on Street and Driveway Access to North Carolina Highways Manual:

*"Generally left and right turn lanes and tapers shall be considered when:*

- In accordance with G.S. 136-18(29), the average daily traffic meets or exceeds 4,000 vehicles per day on any secondary route (the average daily traffic should include both the existing traffic plus traffic generated by the proposed development)"*

With AADTs along NC-51 exceeding 4,000 VPD, an eastbound left-turn lane is recommended at Site Driveway 2. Per the nomograph (provided in the Driveway Manual – see **Appendix G**), and projected 2025 Phase 2 Build traffic volumes\*, a 100-foot eastbound left-turn lane (with appropriate taper) is

recommended (see **Figure 6-1**). As shown in **Table 5-2**, following the construction of this improvement, the intersection is expected to continue to operate acceptably.

\*Recommended turn-lane storage lengths were sized based on 2025 Phase 2 Build traffic volumes to provide adequate storage for future queued vehicles.

The southbound approach at the unsignalized intersection of NC-51 / Marfield Lane / Site Driveway 1 is projected to operate unacceptably during the 2023 Phase 1 Build PM peak hour. All other approaches are projected to operate at a LOS D or better during both peak hours. Per the nomograph (provided in the Driveway Manual – see **Appendix G**), and projected 2025 Phase 2 Build traffic volumes, a 100-foot eastbound left-turn lane (with appropriate taper) is recommended (see **Figure 6-1**). As shown in **Table 5-2**, following the construction of this improvement, the southbound approach is projected to continue to operate unacceptably during the PM peak hour. Despite the fact the southbound approach is projected to operate unacceptably, no additional improvements are recommended at this intersection due to Phase 1 construction. Outside of signalization, no feasible amount of geometric improvements will result in an acceptable level of service for the failing minor street approach. Based on projected volumes and peaking characteristics of developments in the area, traffic signal warrants will likely not be met for the MUTCD's 4-hour and 8-hour volume warrants (which the NCDOT typically requires for signalization).

The signalized intersection of NC-51 / Downs Road is projected to operate at an overall LOS A and a LOS B during the 2023 Phase 1 Build AM and PM peak hours, respectively. All approaches are projected to operate at a LOS C or better during both peak hours. Because the intersection is anticipated to operate acceptably overall, no improvements are recommended due to Phase 1 construction.

The signalized intersection of NC-51 / Polk Street is projected to operate at an overall LOS D and a LOS E during the 2023 Phase 1 Build AM and PM peak hours, respectively. Multiple approaches are projected to operate unacceptably during at least one peak hour. Despite the fact that the intersection is anticipated to operate unacceptably, no improvements are recommended due to Phase 1 construction. The percent difference between the 2023 Background and 2023 Phase 1 Build intersection delays are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual.

The signalized intersection of Westinghouse Boulevard / Downs Road is projected to operate at an overall LOS B during both 2023 Phase 1 Build peak hours. All approaches are projected to operate at a LOS C or better during both peak hours. Because the intersection is anticipated to operate acceptably overall, no improvements are recommended due to Phase 1 construction.

The signalized intersection of Westinghouse Boulevard / Nations Ford Road is projected to operate at a LOS C during both 2023 Phase 1 Build peak hours. The northbound approach is projected to operate at a LOS E during both peak hours. All other approaches are projected to operate at a LOS C or better during both peak hours. Because the intersection is anticipated to operate acceptably overall, no improvements are recommended due to Phase 1 construction.

All approaches at the unsignalized intersection of Nations Ford Road / Site Driveway 3 are projected to operate at a LOS B or better during both 2023 Phase 1 Build peak hours. Per the nomograph (provided in the Driveway Manual – see **Appendix G**), and projected 2025 Phase 2 Build traffic volumes, a 100-foot southbound left-turn lane (with appropriate taper) is recommended (see **Figure 6-1**). As shown in **Table 5-2**, following the construction of this improvement, all approaches are projected to continue to operate acceptably during both peak hours.

**Table 5-1b: Intersection Level of Service and Delay Summary for North Carolina Study Area Intersections – 2023 Phase 1 Build Traffic Volumes**

| Intersection and Type of Control                             | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|--|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|  |                       |                        | Delay <sup>1</sup> (sec/veh) | LDS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LDS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 9: Miller Road/Site Driveway 2 & NC-51                       | EB Left/Thru          |                        | 0.0                          | A                | 0                             | 25                                | 0.1                          | A                | 0                             | 20                                |
|  | EB Right              | 370                    | 0.0                          | A                | 0                             | 2                                 | 0.0                          | A                | 0                             | 13                                |
|  | EB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.2                          | A                | --                            | --                                |
|  | WB Left               | 335                    | 8.1                          | A                | 0                             | 28                                | 9.6                          | A                | 0.2                           | 55                                |
|  | WB Thru/Right         |                        | 0.0                          | A                | 0                             | 2                                 | 0.0                          | A                | 0                             | 2                                 |
|  | WB Approach           |                        | 0.2                          | A                | --                            | --                                | 0.7                          | A                | --                            | --                                |
|  | NB Left/Thru          |                        | 32.7                         | D                | 1.6                           | 89                                | <b>47.0</b>                  | <b>F</b>         | 1.1                           | 56                                |
|  | NB Right              | 185                    | 10.8                         | B                | 0.2                           | 56                                | 10.9                         | B                | 0.2                           | 56                                |
|  | NB Approach           |                        | 25.0                         | D                | --                            | --                                | 28.4                         | D                | --                            | --                                |
|  | SB Left/Thru/Right    |                        | 18.9                         | C                | 0.2                           | 37                                | 32.3                         | D                | 0.3                           | 28                                |
| SB Approach  |                       | 18.9                   | C                            | --               | --                            | 32.3                              | D                            | --               | --                            |                                   |
| 10: Marfield Lane/Site Driveway 1 & NC-51                    | EB Left/Thru          |                        | 0.0                          | A                | 0                             | 12                                | 0.0                          | A                | 0                             | 25                                |
|  | EB Right              | 310                    | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 2                                 |
|  | EB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.1                          | A                | --                            | --                                |
|  | WB Left               | 520                    | 9.4                          | A                | 0.2                           | 41                                | 9.8                          | A                | 0.4                           | 64                                |
|  | WB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | WB Approach           |                        | 1.8                          | A                | --                            | --                                | 1.1                          | A                | --                            | --                                |
|  | NB Left/Thru          |                        | <b>40.7</b>                  | <b>F</b>         | 1.5                           | 96                                | <b>79.0</b>                  | <b>F</b>         | 1.8                           | 74                                |
|  | NB Right              |                        | 11.7                         | B                | 0.6                           | 90                                | 11.5                         | B                | 0.4                           | 66                                |
|  | NB Approach           |                        | 22.0                         | C                | --                            | --                                | 34.7                         | D                | --                            | --                                |
|  | SB Left/Thru/Right    |                        | 26.8                         | D                | 0.4                           | 53                                | <b>54.5</b>                  | <b>F</b>         | 0.6                           | 42                                |
| SB Approach  |                       | 26.8                   | D                            | --               | --                            | <b>54.5</b>                       | <b>F</b>                     | --               | --                            |                                   |
| 11: NC-51 & Downs Road                                       | EB Left               | 310                    | 18.6                         | B                | 83                            | 108                               | 32.3                         | C                | 82                            | 111                               |
|  | EB Thru               |                        | 6.0                          | A                | 126                           | 98                                | 11.9                         | B                | 214                           | 148                               |
|  | EB Approach           |                        | 8.2                          | A                | --                            | --                                | 13.9                         | B                | --                            | --                                |
|  | WB U-Turn             | 210                    | 19.0                         | B                | 18                            | 30                                | 32.5                         | C                | 19                            | 28                                |
|  | WB Thru               |                        | 12.5                         | B                | 96                            | 121                               | 21.9                         | C                | 234                           | 202                               |
|  | WB Right              | 335                    | 0.2                          | A                | 0                             | 27                                | 0.1                          | A                | 0                             | --                                |
|  | WB Approach           |                        | 8.0                          | A                | --                            | --                                | 18.5                         | B                | --                            | --                                |
|  | SB Left               | 275                    | 19.3                         | B                | 51                            | 89                                | 29.0                         | C                | 236                           | 258                               |
|  | SB Right              |                        | 7.3                          | A                | 25                            | 80                                | 10.4                         | B                | 88                            | 136                               |
|  | SB Approach           |                        | 13.7                         | B                | --                            | --                                | 32.4                         | C                | --                            | --                                |
| Overall  |                       | 8.5                    | A                            | --               | --                            | 17.7                              | B                            | --               | --                            |                                   |
| 12: Polk Street & NC-51                                      | EB Left               | 310                    | 52.9                         | D                | 175                           | 171                               | <b>72.1</b>                  | <b>F</b>         | 165                           | 388                               |
|  | EB Thru/Right         |                        | 35.3                         | D                | 344                           | 292                               | <b>63.0</b>                  | <b>F</b>         | #655                          | 566                               |
|  | EB Approach           |                        | 38.2                         | D                | --                            | --                                | <b>62.0</b>                  | <b>F</b>         | --                            | --                                |
|  | WB Left               | 275                    | 52.4                         | D                | 64                            | 72                                | <b>89.4</b>                  | <b>F</b>         | #150                          | 156                               |
|  | WB Thru               |                        | 41.7                         | D                | 211                           | 199                               | 39.0                         | D                | 275                           | 258                               |
|  | WB Right              | 625                    | 26.7                         | C                | 130                           | 135                               | 14.2                         | B                | 131                           | 161                               |
|  | WB Approach           |                        | 38.9                         | D                | --                            | --                                | 37.8                         | D                | --                            | --                                |
|  | NB Dual Lefts         | 450                    | 47.9                         | D                | 142                           | 194                               | <b>89.4</b>                  | <b>F</b>         | #157                          | 283                               |
|  | NB Thru/Right         |                        | 43.2                         | D                | 504                           | 380                               | <b>106.7</b>                 | <b>F</b>         | #523                          | 515                               |
|  | NB Approach           |                        | 44.7                         | D                | --                            | --                                | <b>100.5</b>                 | <b>F</b>         | --                            | --                                |
| SB Left  |                       | <b>58.0</b>            | <b>F</b>                     | #129             | 135                           | <b>99.2</b>                       | <b>F</b>                     | #581             | 484                           |                                   |
| SB Thru  |                       | 31.1                   | C                            | 255              | 252                           | 54.7                              | D                            | #660             | 593                           |                                   |
| SB Right   | 175                   | 13.5                   | B                            | 61               | 85                            | 18.6                              | B                            | 119              | 275                           |                                   |
| SB Approach  |                       | 32.6                   | C                            | --               | --                            | <b>65.4</b>                       | <b>F</b>                     | --               | --                            |                                   |
| Overall  |                       | 39.3                   | D                            | --               | --                            | <b>63.2</b>                       | <b>F</b>                     | --               | --                            |                                   |
| 13: Downs Road & Westinghouse Boulevard                      | EB Left               | 400                    | 6.9                          | A                | 67                            | 79                                | 13.5                         | B                | #27                           | 48                                |
|  | EB Thru/Right         |                        | 7.0                          | A                | 243                           | 198                               | 17.9                         | B                | 406                           | 241                               |
|  | EB Approach           |                        | 7.0                          | A                | --                            | --                                | 17.8                         | B                | --                            | --                                |
|  | WB Left               | 205                    | 8.5                          | A                | 38                            | 81                                | 14.7                         | B                | 55                            | 113                               |
|  | WB Thru/Right         |                        | 6.5                          | A                | 82                            | 105                               | 9.4                          | A                | 122                           | 128                               |
|  | WB Approach           |                        | 6.8                          | A                | --                            | --                                | 9.9                          | A                | --                            | --                                |
|  | NB Left               | 245                    | 24.2                         | C                | 80                            | 134                               | 33.6                         | C                | #148                          | 194                               |
|  | NB Thru/Right         |                        | 23.2                         | C                | 99                            | 185                               | 38.1                         | B                | 85                            | 124                               |
|  | NB Approach           |                        | 23.6                         | C                | --                            | --                                | 26.9                         | C                | --                            | --                                |
|  | SB Left               | 225                    | 19.0                         | B                | 29                            | 64                                | 18.6                         | B                | 64                            | 95                                |
| SB Thru/Right  |                       | 18.6                   | B                            | 40               | 85                            | 20.4                              | C                            | 120              | 169                           |                                   |
| SB Approach  |                       | 18.8                   | B                            | --               | --                            | 19.8                              | B                            | --               | --                            |                                   |
| Overall  |                       | 10.2                   | B                            | --               | --                            | 16.8                              | B                            | --               | --                            |                                   |
| 14: Nations Ford Road & Westinghouse Boulevard               | EB Left               | 400                    | 49.9                         | D                | 225                           | 249                               | 44.3                         | D                | 190                           | 203                               |
|  | EB Thru/Right         |                        | 13.9                         | B                | 355                           | 252                               | 34.7                         | B                | 311                           | 257                               |
|  | EB Approach           |                        | 20.1                         | C                | --                            | --                                | 19.1                         | B                | --                            | --                                |
|  | WB Left               | 750                    | 52.0                         | D                | 62                            | 90                                | <b>35.7</b>                  | <b>F</b>         | #94                           | 120                               |
|  | WB Thru/Right         |                        | 20.6                         | C                | 223                           | 296                               | 31.8                         | C                | 401                           | 371                               |
|  | WB Approach           |                        | 23.2                         | C                | --                            | --                                | 33.2                         | C                | --                            | --                                |
|  | NB Left               | 190                    | 51.3                         | D                | 122                           | 196                               | <b>64.0</b>                  | <b>F</b>         | 201                           | 242                               |
|  | NB Thru/Right         |                        | <b>68.9</b>                  | <b>F</b>         | 220                           | 254                               | 45.2                         | D                | 143                           | 222                               |
|  | NB Approach           |                        | <b>57.4</b>                  | <b>F</b>         | --                            | --                                | <b>56.0</b>                  | <b>F</b>         | --                            | --                                |
|  | SB Left               | 200                    | 43.1                         | D                | 31                            | 58                                | 40.1                         | D                | 51                            | 92                                |
| SB Thru  |                       | 42.3                   | D                            | 68               | 85                            | 41.0                              | D                            | 93               | 185                           |                                   |
| SB Right   | 275                   | 22.4                   | C                            | 93               | 139                           | 26.9                              | C                            | 263              | 305                           |                                   |
| SB Approach  |                       | 28.0                   | C                            | --               | --                            | 30.3                              | C                            | --               | --                            |                                   |
| Overall  |                       | 26.3                   | C                            | --               | --                            | 29.7                              | C                            | --               | --                            |                                   |
| 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3 | WB Left/Right         |                        | 10.8                         | B                | 0.1                           | 35                                | 10.1                         | B                | 0                             | 31                                |
|  | WB Approach           |                        | 10.8                         | B                | --                            | --                                | 10.1                         | B                | --                            | --                                |
|  | NB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | NB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|  | SB Left/Thru          |                        | 0.3                          | A                | 0                             | 20                                | 0.3                          | A                | 0                             | 25                                |
| SB Approach  |                       | 0.3                    | A                            | --               | --                            | 0.3                               | A                            | --               | --                            |                                   |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

\*\* Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for signalized intersections.

\* Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for unsignalized intersections.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

**Table 5-2: Intersection Level of Service and Delay Summary –  
2023 Phase 1 Build + Improvements Traffic Volumes**

| Intersection and Type of Control                             | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|--|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|  |                       |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 9: Miller Road/Site Driveway 2 & NC-51                       | EB Left               | 100                    | 8.4                          | A                | 0                             | 12                                | 9.3                          | A                | 0                             | 18                                |
|  | EB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | EB Right              | 370                    | 0.0                          | A                | 0                             | 2                                 | 0.0                          | A                | 0                             | 10                                |
|  | EB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.1                          | A                | --                            | --                                |
|  | WB Left               | 335                    | 9.1                          | A                | 0                             | 37                                | 9.6                          | A                | 0.2                           | 62                                |
|  | WB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | WB Approach           |                        | 0.2                          | A                | --                            | --                                | 0.7                          | A                | --                            | --                                |
|  | NB Left/Thru          |                        | 32.7                         | D                | 1.6                           | 88                                | 47.1                         | E                | 1.1                           | 73                                |
|  | NB Right              | 185                    | 10.8                         | B                | 0.2                           | 48                                | 10.9                         | B                | 0.2                           | 58                                |
|  | NB Approach           |                        | 25.0                         | D                | --                            | --                                | 28.1                         | D                | --                            | --                                |
|  | SB Left/Thru/Right    |                        | 18.8                         | C                | 0.2                           | 32                                | 32.1                         | D                | 0.3                           | 41                                |
| SB Approach  |                       | 18.8                   | C                            | --               | --                            | 32.1                              | D                            | --               | --                            |                                   |
| 10: Marfield Lane/Site Driveway 1 & NC-51                    | EB Left               | 100                    | 8.4                          | A                | 0                             | 14                                | 9.6                          | A                | 0                             | 16                                |
|  | EB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 2                                 |
|  | EB Right              | 310                    | 0.0                          | A                | 0                             | 6                                 | 0.0                          | A                | 0                             | 2                                 |
|  | EB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.1                          | A                | --                            | --                                |
|  | WB Left               | 520                    | 9.4                          | A                | 0.2                           | 58                                | 9.8                          | A                | 0.4                           | 78                                |
|  | WB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | WB Approach           |                        | 1.0                          | A                | --                            | --                                | 1.1                          | A                | --                            | --                                |
|  | NB Left/Thru          |                        | 40.7                         | E                | 1.5                           | 69                                | 79.0                         | F                | 1.8                           | 77                                |
|  | NB Right              |                        | 11.7                         | B                | 0.6                           | 75                                | 11.5                         | B                | 0.4                           | 61                                |
|  | NB Approach           |                        | 22.0                         | C                | --                            | --                                | 34.7                         | D                | --                            | --                                |
|  | SB Left/Thru/Right    |                        | 26.8                         | D                | 0.4                           | 40                                | 53.9                         | F                | 0.6                           | 51                                |
| SB Approach  |                       | 26.8                   | D                            | --               | --                            | 53.9                              | F                            | --               | --                            |                                   |
| 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3 | WB Left/Right         |                        | 10.8                         | B                | 0.1                           | 29                                | 10.1                         | B                | 0                             | 29                                |
|  | WB Approach           |                        | 10.8                         | B                | --                            | --                                | 10.1                         | B                | --                            | --                                |
|  | NB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | NB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|  | SB Left               | 100                    | 8.0                          | A                | 0                             | 18                                | 7.5                          | A                | 0                             | 18                                |
|  | SB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
| SB Approach  |                       | 0.3                    | A                            | --               | --                            | 0.3                               | A                            | --               | --                            |                                   |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

\*\* Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for signalized intersections.

+ Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for unsignalized intersections.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

**5.2 2025 PHASE 2 BUILD ANALYSIS**

**Tables 5-3a and 5-3b** summarize the 2025 Phase 2 Build intersection LOS and delay based on the future lane geometry and the 2025 Phase 2 Build traffic volumes shown in **Figure 5-1b**. The corresponding SYNCHRO outputs are included in **Appendix F**.

**South Carolina Study Area Intersections:**

The signalized intersection of SC-51 / Flint Hill Road is projected to operate at a LOS C during both 2025 Phase 2 Build peak hours. All approaches are projected to operate at a LOS C or better during both peak hours. Because the intersection is anticipated to operate acceptably overall, no improvements are recommended due to Phase 2 construction.

All approaches at the unsignalized intersection of SC-51 / Business Driveway are projected to operate at a LOS D or better during the 2025 Phase 2 Build peak hours. Because the intersection is projected to operate acceptably, no improvements are recommended due to Phase 2 construction.

The northbound and southbound approaches at the unsignalized intersection of SC-51 / Andrew L Tucker Road / Business Driveway are projected to operate at a LOS F during both 2025 Phase 2 Build peak hours. All other approaches are projected to operate at a LOS A during both peak hours. To address capacity concerns, it is recommended that the development pay a fee-in-lieu (proportionate to the development's impact) toward intersection signalization. Based on the 2025 Background and 2025 Phase 2 Build scenarios, the proposed development is projected to increase the subject intersection's traffic volumes by a maximum of 4.7%.

**Table 5-3a: Intersection Level of Service and Delay Summary for South Carolina Study Area Intersections – 2025 Phase 2 Build Traffic Volumes**

| Intersection and Type of Control                  | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|---|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|   |                       |                        | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>1</sup> (sec/veh) | LOS <sup>1</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 5: Flint Hill Road & SC-51                        | EB Left               | 200                    | 26.7                         | C                | 38                            | 78                                | 19.4                         | B                | 23                            | 53                                |
|   | EB Thru/Right         |                        | 26.9                         | C                | 131                           | 136                               | 21.2                         | C                | 106                           | 112                               |
|   | EB Approach           |                        | 26.9                         | C                | --                            | --                                | 21.1                         | C                | --                            | --                                |
|   | WB Left               | 200                    | 30.6                         | C                | 71                            | 97                                | 35.7                         | D                | 150                           | 198                               |
|   | WB Thru               |                        | 25.2                         | C                | 65                            | 87                                | 20.2                         | C                | 75                            | 110                               |
|   | WB Right              | 350                    | 10.9                         | B                | 217                           | 203                               | 10.0                         | B                | 230                           | 246                               |
|   | WB Approach           |                        | 16.2                         | B                | --                            | --                                | 17.3                         | B                | --                            | --                                |
|   | NB Left               | 150                    | 21.8                         | C                | 9                             | 27                                | 26.2                         | C                | 10                            | 27                                |
|   | NB Thru/Right         |                        | 31.0                         | C                | 178                           | 209                               | 34.2                         | C                | 166                           | 185                               |
|   | NB Approach           |                        | 30.8                         | C                | --                            | --                                | 34.1                         | C                | --                            | --                                |
|   | SB Dual Lefts         | 250                    | 22.8                         | C                | 141                           | 164                               | 25.2                         | C                | 169                           | 175                               |
|   | SB Thru/Right         |                        | 20.0                         | C                | 46                            | 64                                | 23.0                         | C                | 62                            | 97                                |
|   | SB Approach           |                        | 22.5                         | C                | --                            | --                                | 25.0                         | C                | --                            | --                                |
| Overall   |                       |                        | 22.2                         | C                | --                            | --                                | 21.5                         | C                | --                            | --                                |
| 6: Business Driveway & SC-51                      | EB Thru/Right         |                        | 0.0                          | A                | 0                             | 3                                 | 0.0                          | A                | 0                             | 2                                 |
|   | EB Approach           |                        | 0.0                          | A                | --                            | --                                | 0.0                          | A                | --                            | --                                |
|   | WB Left/Thru          |                        | 0.6                          | A                | 0                             | 61                                | 0.8                          | A                | 0                             | 90                                |
|   | WB Approach           |                        | 0.6                          | A                | --                            | --                                | 0.8                          | A                | --                            | --                                |
|   | NB Left/Right         |                        | 25.0                         | D                | 0.5                           | 57                                | 26.4                         | D                | 0.7                           | 59                                |
|   | NB Approach           |                        | 25.0                         | D                | --                            | --                                | 26.4                         | D                | --                            | --                                |
| 7: Business Driveway/Andrew L Tucker Road & SC-51 | EB Left               |                        | 10.9                         | B                | 1.5                           | 114                               | 10.2                         | B                | 0.6                           | 85                                |
|   | EB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|   | EB Approach           |                        | 3.5                          | A                | --                            | --                                | 1.5                          | A                | --                            | --                                |
|   | WB Left/Thru          |                        | 0.1                          | A                | 0                             | 26                                | 0.2                          | A                | 0                             | 41                                |
|   | WB Thru/Right         |                        | 0.1                          | A                | 0                             | 34                                | 0.2                          | A                | 0                             | 20                                |
|   | WB Approach           |                        | 0.1                          | A                | --                            | --                                | 0.2                          | A                | --                            | --                                |
|   | NB Left/Thru/Right    |                        | <b>53.9</b>                  | <b>F</b>         | 1.3                           | 62                                | <b>78.9</b>                  | <b>F</b>         | 1.5                           | 62                                |
|   | NB Approach           |                        | <b>53.9</b>                  | <b>F</b>         | --                            | --                                | <b>78.9</b>                  | <b>F</b>         | --                            | --                                |
|   | SB Left/Thru/Right    |                        | <b>61.4</b>                  | <b>F</b>         | 4.5                           | 162                               | <b>75.1</b>                  | <b>F</b>         | 10.2                          | 354                               |
| SB Approach                                       |                       | <b>61.4</b>            | <b>F</b>                     | --               | --                            | <b>75.1</b>                       | <b>F</b>                     | --               | --                            |                                   |

<sup>1</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

+ Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.

SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

**North Carolina Study Area Intersections:**

The northbound and southbound approaches at the unsignalized intersection of NC-51 / Miller Road / Site Driveway 2 are projected to operate unacceptably during the 2025 Phase 2 Build PM peak hour. All other approaches are projected to operate at a LOS A during both peak hours. Despite the fact that these approaches are projected to operate unacceptably, no additional improvements are recommended at this intersection due to the construction of the proposed development. Outside of signalization, no feasible amount of geometric improvements will result in an acceptable level of service for the failing minor street approaches. Based on projected volumes and peaking characteristics of developments in the area, traffic signal warrants will likely not be met for the MUTCD's 4-hour and 8-hour volume warrants (which the NCDOT typically requires for signalization).

The northbound and southbound approaches at the unsignalized intersection of NC-51 / Marfield Lane / Site Driveway 1 are projected to operate unacceptably during at least one peak hour. All other approaches are projected to operate at a LOS A during both peak hours. Despite the fact that these approaches are projected to operate unacceptably, no additional improvements are recommended at this intersection due to the construction of the proposed development. Outside of signalization, no feasible amount of geometric improvements will result in an acceptable level of service for the failing minor street approaches. Based on projected volumes and peaking characteristics of developments in the area, traffic signal warrants will likely not be met for the MUTCD's 4-hour and 8-hour volume warrants (which the NCDOT typically requires for signalization).

The signalized intersection of NC-51 / Downs Road is projected to operate at an overall LOS A and a LOS B during the 2025 Phase 2 Build AM and PM peak hours, respectively. All approaches are projected to operate at a LOS C or better during both peak hours. Because the intersection is anticipated to operate acceptably overall, no improvements are recommended due to Phase 2 construction.

The signalized intersection of NC-51 / Polk Street is projected to operate at an overall LOS D and a LOS E during the 2025 Phase 2 Build AM and PM peak hours, respectively. Multiple approaches are projected to operate unacceptably during at least one peak hour. Despite the fact that the intersection is anticipated to operate unacceptably, no improvements are recommended due to Phase 2 construction. The percent difference between the 2025 Background and 2025 Phase 2 Build intersection delays are less than 25%, which does not trigger requirement for improvement recommendations per NCDOT's Driveway Manual.

The signalized intersection of Westinghouse Boulevard / Downs Road is projected to operate at an overall LOS B during both 2025 Phase 2 Build peak hours. All approaches are projected to operate at a LOS C or better during both peak hours. Because the intersection is anticipated to operate acceptably overall, no improvements are recommended due to Phase 2 construction.

The signalized intersection of Westinghouse Boulevard / Nations Ford Road is projected to operate at an overall LOS C during both 2025 Phase 2 Build peak hours. The northbound approach is projected to operate at a LOS E during both peak hours. All other approaches are projected to operate at a LOS C or better during both peak hours. Because the intersection is anticipated to operate acceptably overall, no improvements are recommended due to Phase 2 construction.

All approaches at the unsignalized intersection of Nations Ford Road / Site Driveway 3 are projected to operate at a LOS B or better during both 2025 Phase 2 Build peak hours. Because the intersection is projected to operate acceptably, no improvements are recommended due to Phase 2 construction.

**Table 5-3b: Intersection Level of Service and Delay Summary for North Carolina Study Area Intersections – 2025 Phase 2 Build Traffic Volumes**

| Intersection and Type of Control                             | Movement and Approach | Turn Lane Storage (ft) | AM PEAK HOUR                 |                  |                               |                                   | PM PEAK HOUR                 |                  |                               |                                   |
|--|-----------------------|------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|------------------------------|------------------|-------------------------------|-----------------------------------|
|  |                       |                        | Delay <sup>3</sup> (sec/veh) | LOS <sup>4</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) | Delay <sup>3</sup> (sec/veh) | LOS <sup>4</sup> | *95th Percentile Queue Length | Sim Traffic Max Queue Length (ft) |
| 9: Miller Road/Site Driveway 2 & NC-51                       | EB Left               | 100                    | 8.6                          | A                | 0                             | 16                                | 9.7                          | A                | 0.1                           | 33                                |
|  | EB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 2                                 |
|  | EB Right              | 370                    | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 10                                |
|  | EB Approach           |                        | 0.1                          | A                | —                             | —                                 | 0.4                          | A                | —                             | —                                 |
|  | WB Left               | 335                    | 9.2                          | A                | 0                             | 27                                | 9.8                          | A                | 0.2                           | 66                                |
|  | WB Thru/Right         |                        | 0.0                          | A                | 0                             | 2                                 | 0.0                          | A                | 0                             | 9                                 |
|  | WB Approach           |                        | 0.2                          | A                | —                             | —                                 | 0.7                          | A                | —                             | —                                 |
|  | NB Left/Thru          |                        | 40.4                         | E                | 2.1                           | 90                                | 65.0                         | F                | 1.5                           | 71                                |
|  | NB Right              | 185                    | 30.9                         | B                | 0.2                           | 56                                | 11.1                         | B                | 0.2                           | 48                                |
|  | NB Approach           |                        | 29.9                         | D                | —                             | —                                 | 36.8                         | F                | —                             | —                                 |
|  | SB Left/Thru/Right    |                        | 20.9                         | C                | 0.9                           | 70                                | 42.6                         | E                | 1.3                           | 62                                |
| SB Approach  |                       | 20.9                   | C                            | —                | —                             | 42.6                              | E                            | —                | —                             |                                   |
| 10: Marfield Lane/Site Driveway 1 & NC-51                    | EB Left               | 100                    | 8.5                          | A                | 0                             | 16                                | 10.1                         | B                | 0.1                           | 29                                |
|  | EB Thru               |                        | 0.0                          | A                | 0                             | 4                                 | 0.0                          | A                | 0                             | 2                                 |
|  | EB Right              | 310                    | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 4                                 |
|  | EB Approach           |                        | 0.0                          | A                | —                             | —                                 | 0.2                          | A                | —                             | —                                 |
|  | WB Left               | 520                    | 9.7                          | A                | 0.2                           | 40                                | 10.1                         | B                | 0.5                           | 76                                |
|  | WB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 6                                 |
|  | WB Approach           |                        | 1.0                          | A                | —                             | —                                 | 1.1                          | A                | —                             | —                                 |
|  | NB Left/Thru          |                        | 50.3                         | F                | 1.9                           | 84                                | 126.0                        | F                | 2.4                           | 70                                |
|  | NB Right              |                        | 12.1                         | B                | 0.6                           | 76                                | 11.8                         | B                | 0.4                           | 66                                |
|  | NB Approach           |                        | 25.7                         | D                | —                             | —                                 | 47.2                         | E                | —                             | —                                 |
|  | SB Left/Thru/Right    |                        | 40.9                         | E                | 1.8                           | 81                                | 142.8                        | F                | 3                             | 70                                |
| SB Approach  |                       | 40.9                   | E                            | —                | —                             | 142.8                             | F                            | —                | —                             |                                   |
| 11: NC-51 & Downs Road                                       | EB Left               | 310                    | 19.3                         | B                | 99                            | 132                               | 35.3                         | D                | 101                           | 104                               |
|  | EB Thru               |                        | 5.9                          | A                | 241                           | 105                               | 12.4                         | B                | 241                           | 148                               |
|  | EB Right              |                        | 8.4                          | A                | —                             | —                                 | 14.9                         | B                | —                             | —                                 |
|  | EB Approach           |                        | 8.4                          | A                | —                             | —                                 | 14.9                         | B                | —                             | —                                 |
|  | WB U-Turn             | 210                    | 26.5                         | C                | 9                             | 36                                | 35.8                         | D                | 12                            | 29                                |
|  | WB Thru               |                        | 14.0                         | B                | 111                           | 126                               | 23.8                         | C                | 278                           | 239                               |
|  | WB Right              | 335                    | 0.2                          | A                | 0                             | 68                                | 0.1                          | A                | 0                             | —                                 |
|  | WB Approach           |                        | 9.1                          | A                | —                             | —                                 | 20.2                         | C                | —                             | —                                 |
|  | SB Left               | 275                    | 26.6                         | C                | 56                            | 98                                | 31.0                         | C                | 266                           | 233                               |
|  | SB Right              |                        | 7.5                          | A                | 29                            | 83                                | 11.4                         | B                | 109                           | 158                               |
|  | SB Approach           |                        | 14.3                         | B                | —                             | —                                 | 23.5                         | C                | —                             | —                                 |
| Overall  |                       | 9.1                    | A                            | —                | —                             | 28.0                              | B                            | —                | —                             |                                   |
| 12: Polk Street & NC-51                                      | EB Left               | 310                    | 54.9                         | D                | 102                           | 199                               | 76.6                         | F                | 190                           | 410                               |
|  | EB Thru/Right         |                        | 37.3                         | D                | 375                           | 334                               | 71.2                         | F                | #755                          | 759                               |
|  | EB Approach           |                        | 40.3                         | D                | —                             | —                                 | 71.7                         | F                | —                             | —                                 |
|  | WB Left               | 275                    | 54.9                         | D                | 66                            | 85                                | 108.7                        | F                | #176                          | 167                               |
|  | WB Thru               |                        | 44.8                         | D                | 226                           | 192                               | 43.8                         | D                | 324                           | 290                               |
|  | WB Right              | 625                    | 28.7                         | C                | 139                           | 163                               | 15.9                         | B                | 150                           | 186                               |
|  | WB Approach           |                        | 41.7                         | D                | —                             | —                                 | 43.1                         | D                | —                             | —                                 |
|  | NB Dual Lefts         | 450                    | 50.0                         | D                | 147                           | 224                               | 104.2                        | F                | #186                          | 524                               |
|  | NB Thru/Right         |                        | 45.3                         | D                | 534                           | 412                               | 110.9                        | F                | #572                          | 766                               |
|  | NB Approach           |                        | 46.8                         | D                | —                             | —                                 | 106.4                        | F                | —                             | —                                 |
|  | SB Left               |                        | 61.8                         | E                | #135                          | 124                               | 108.1                        | F                | #640                          | 816                               |
| SB Thru  |                       | 32.6                   | C                            | 270              | 245                           | 58.7                              | E                            | #730             | 779                           |                                   |
| SB Right   | 175                   | 13.6                   | B                            | 65               | 86                            | 19.3                              | B                            | 135              | 275                           |                                   |
| SB Approach  |                       | 34.1                   | C                            | —                | —                             | 70.1                              | E                            | —                | —                             |                                   |
| Overall  |                       | 41.4                   | D                            | —                | —                             | 70.2                              | E                            | —                | —                             |                                   |
| 13: Downs Road & Westinghouse Boulevard                      | EB Left               | 400                    | 9.0                          | A                | 88                            | 102                               | 13.3                         | B                | m26                           | 50                                |
|  | EB Thru/Right         |                        | 9.2                          | A                | 316                           | 192                               | 19.0                         | B                | 437                           | 247                               |
|  | EB Approach           |                        | 9.2                          | A                | —                             | —                                 | 18.9                         | B                | —                             | —                                 |
|  | WB Left               | 205                    | 10.1                         | B                | 46                            | 93                                | 18.8                         | B                | #77                           | 119                               |
|  | WB Thru/Right         |                        | 7.1                          | A                | 92                            | 111                               | 9.7                          | A                | 130                           | 143                               |
|  | WB Approach           |                        | 7.5                          | A                | —                             | —                                 | 10.8                         | B                | —                             | —                                 |
|  | NB Left               | 245                    | 23.1                         | C                | 80                            | 139                               | 38.5                         | D                | #161                          | 213                               |
|  | NB Thru/Right         |                        | 23.3                         | C                | 108                           | 179                               | 38.5                         | B                | 94                            | 174                               |
|  | NB Approach           |                        | 23.2                         | C                | —                             | —                                 | 29.4                         | C                | —                             | —                                 |
|  | SB Left               | 225                    | 28.3                         | B                | 30                            | 66                                | 18.8                         | B                | 66                            | 106                               |
|  | SB Thru/Right         |                        | 17.8                         | B                | 42                            | 95                                | 20.8                         | C                | 129                           | 184                               |
| SB Approach  |                       | 18.0                   | B                            | —                | —                             | 20.2                              | C                            | —                | —                             |                                   |
| Overall  |                       | 11.4                   | B                            | —                | —                             | 17.9                              | B                            | —                | —                             |                                   |
| 14: Nations Ford Road & Westinghouse Boulevard               | EB Left               | 400                    | 47.4                         | D                | 226                           | 244                               | 46.4                         | D                | 209                           | 200                               |
|  | EB Thru/Right         |                        | 15.5                         | B                | 400                           | 300                               | 16.6                         | B                | 351                           | 286                               |
|  | EB Approach           |                        | 21.0                         | C                | —                             | —                                 | 21.0                         | C                | —                             | —                                 |
|  | WB Left               | 750                    | 51.8                         | D                | 69                            | 111                               | 66.4                         | F                | m103                          | 124                               |
|  | WB Thru/Right         |                        | 23.4                         | C                | 245                           | 252                               | 32.7                         | C                | 416                           | 374                               |
|  | WB Approach           |                        | 25.7                         | C                | —                             | —                                 | 34.3                         | C                | —                             | —                                 |
|  | NB Left               | 190                    | 52.0                         | D                | 142                           | 205                               | 64.7                         | E                | 218                           | 251                               |
|  | NB Thru/Right         |                        | 59.6                         | E                | 236                           | 279                               | 44.0                         | D                | 154                           | 231                               |
|  | NB Approach           |                        | 58.9                         | E                | —                             | —                                 | 55.9                         | E                | —                             | —                                 |
|  | SB Left               | 200                    | 41.6                         | D                | 30                            | 48                                | 38.7                         | D                | 52                            | 76                                |
|  | SB Thru               |                        | 40.9                         | D                | 71                            | 79                                | 39.8                         | D                | 101                           | 134                               |
| SB Right   | 275                   | 20.2                   | C                            | 86               | 129                           | 25.5                              | C                            | 270              | 265                           |                                   |
| SB Approach  |                       | 27.1                   | C                            | —                | —                             | 29.1                              | C                            | —                | —                             |                                   |
| Overall  |                       | 27.6                   | C                            | —                | —                             | 30.7                              | C                            | —                | —                             |                                   |
| 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3 | WB Left/Right         |                        | 11.2                         | B                | 0.3                           | 68                                | 10.0                         | B                | 0.1                           | 53                                |
|  | WB Approach           |                        | 11.2                         | B                | —                             | —                                 | 10.0                         | B                | —                             | —                                 |
|  | NB Thru/Right         |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
|  | NB Approach           |                        | 0.0                          | A                | —                             | —                                 | 0.0                          | A                | —                             | —                                 |
|  | SB Left               | 100                    | 8.1                          | A                | 0                             | 35                                | 7.6                          | A                | 0.1                           | 41                                |
|  | SB Thru               |                        | 0.0                          | A                | 0                             | 0                                 | 0.0                          | A                | 0                             | 0                                 |
| SB Approach  |                       | 0.8                    | A                            | —                | —                             | 1.0                               | A                            | —                | —                             |                                   |

<sup>3</sup> Overall intersection LOS and delay reported for signalized intersections and roundabouts only.

<sup>4</sup> Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for signalized intersections.

<sup>5</sup> Delay greater than 9999.99 seconds cannot be calculated by SYNCHRO for unsignalized intersections.

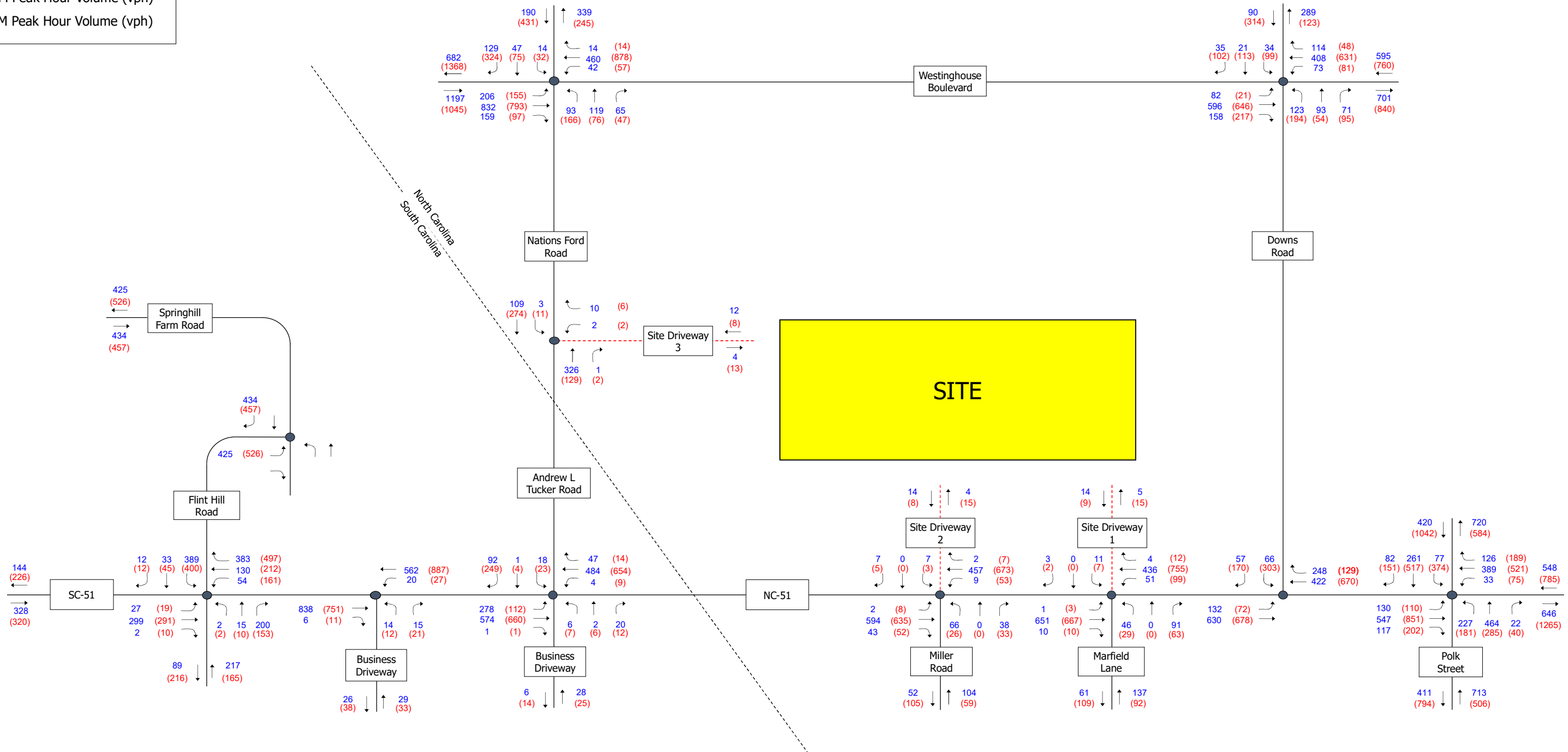
SYNCHRO does not provide level of service or delay for unsignalized movements with no conflicting volumes.

\* - 95th percentile queues for unsignalized intersections reported in number of vehicles.



**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

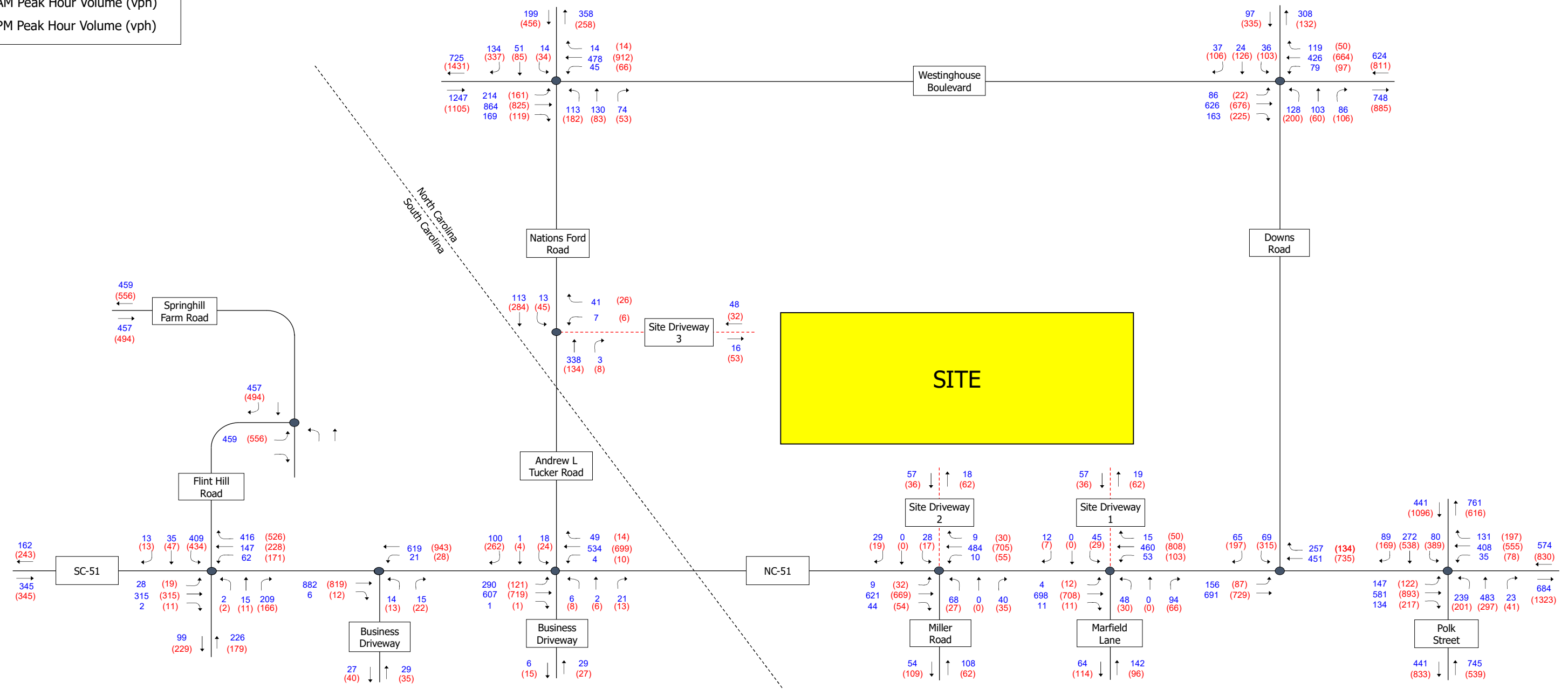
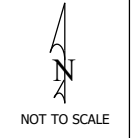


**Miller Farm Traffic Impact Analysis**  
2023 Phase 1 Build Traffic Volumes

Figure 5-1a

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)



**Miller Farm Traffic Impact Analysis**  
2025 Phase 2 Traffic Volumes

Figure 5-1b

## 6 CONCLUSIONS AND RECOMMENDATIONS

Capacity analyses were performed for the following scenarios:

- 2021 Existing traffic volumes;
- 2023 Background traffic volumes (ambient growth + approved surrounding developments);
- 2025 Background traffic volumes (ambient growth + approved surrounding developments);
- 2023 Phase 1 Build traffic volumes (Background + site trips for Phase 1), and
- 2025 Phase 2 Build traffic volumes (Background + site trips for Phases 1 – 2).

In closing, the following improvements (see **Figure 6-1**) are recommended in conjunction with the construction of the proposed development:

### Phase 1:

#### North Carolina Study Area Intersections:

- NC-51 / Miller Road / Site Driveway 2
  - Construction of a 100-foot eastbound left-turn lane (with appropriate taper)
  - 100-Foot internally protected storage (IPS)
- NC-51 / Marfield Lane / Site Driveway 1
  - Construction of a 100-foot eastbound left-turn lane (with appropriate taper)
  - 100-Foot IPS
- Nations Ford Road / Site Driveway 3
  - Construction of a 100-foot southbound left-turn lane (with appropriate taper)
  - 100-Foot IPS

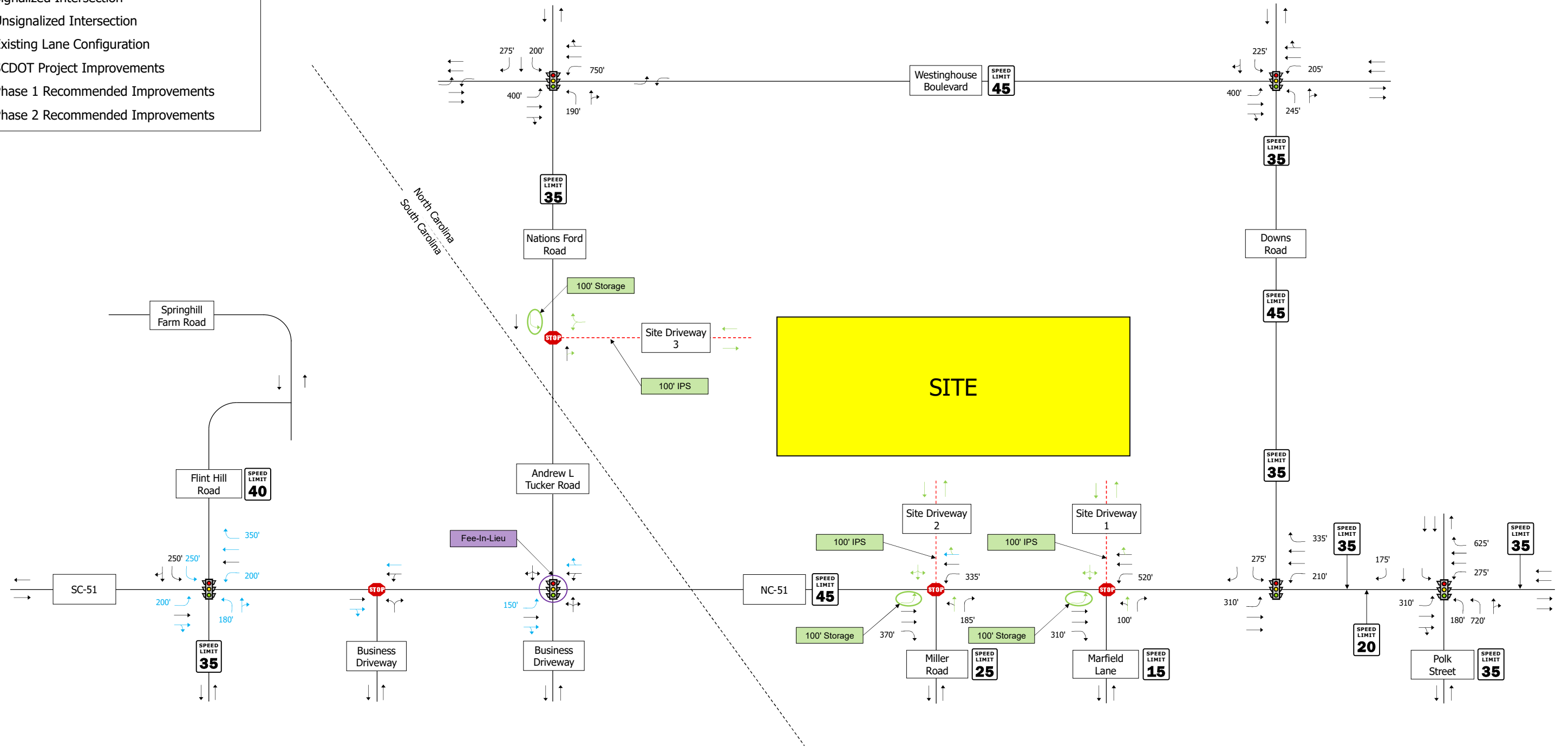
### Phase 2:

#### South Carolina Study Area Intersections:

- SC-51 / Andrew L Tucker Road / Business Driveway
  - Fee-in-lieu (proportionate to the development's impact) toward intersection signalization

**LEGEND:**

- Existing Road
- Proposed Road
- Signalized Intersection
- Unsignalized Intersection
- Existing Lane Configuration
- SCDOT Project Improvements
- Phase 1 Recommended Improvements
- Phase 2 Recommended Improvements



### Miller Farm Traffic Impact Analysis 2025 Proposed Lane Configuration

Figure 6-1

## **Appendix A – Scoping Information**



# NCDOT Traffic Impact Analysis Need Screening / Scoping Request



A Traffic Impact Analysis (TIA) may be required for developments based on the site trip generation estimates, site context, or at the discretion of the NCDOT District Engineer. The Applicant or the TIA Consultant shall submit this form along with the site plan to the District Engineer to determine the TIA need and, if a TIA is required, initiate the TIA scoping process. Without an approved scope, the TIA is incomplete and will be rejected until the study is revised to conform to NCDOT's TIA requirements.

**Project Name:** Miller Farm Residential Development      **Previous Name:** If Applicable \_\_\_\_\_  
**Location:** Pineville, NC      **County:** Mecklenburg      **Municipality:** Pineville  
**Project Description:** 343 total residential units (205 single family / 138 townhomes)

|                         |  |   |
|-------------------------|--|---|
| <b>Project Contact:</b> | Applicant  | TIA Consultant  |
| Company Name            | <u>DRB Group</u>   | <u>Timmons Group</u>  |
| Contact Person          | <u>James F. Martin</u>   | <u>Jeff Hochanadel, PE, PTOE</u>                                |
| Phone Number            | <u>704-634-1703</u>  | <u>919-866-4511</u>   |
| Email                   | <u>jmartin@drbgroup.com</u>  | <u>jeff.hochanadel@timmons.com</u>                              |
| Mailing Address         | <u>227 West Trade Street, Suite 1610</u><br><u>Charlotte, NC 28202</u> | <u>5410 Trinity Road, Suite 102</u><br><u>Raleigh, NC 27607</u> |

**Site Plan Prepared By:** Timmons Group      **Site Plan Date:** 10/20/2021

See site plan/vicinity map requirements on page 2.

**Parcel Size:** 113.28 Acre(s)      **Anticipated Build-Out Year:** 2025

**Weekday Site Trip Generation - Do NOT adjust for mode split, pass-by, internal capture, or diverted trips.**

| ITE LUC | Proposed Land Use | Size | Unit  | Daily Trips | Peak Hour Type | AM Peak Hour Trips |      |       | PM Peak Hour Trips |      |       | Data Source  |
|---------|-------------------|------|-------|-------------|----------------|--------------------|------|-------|--------------------|------|-------|--------------|
|         |                   |      |       |             |                | Enter              | Exit | Total | Enter              | Exit | Total |              |
| 210     | Single-Family     | 205  | Units | 2013        | Adj. Street    | 38                 | 112  | 150   | 127                | 75   | 202   | ITE Equation |
| 220     | Townhomes         | 138  | Units | 1002        | Adj. Street    | 15                 | 50   | 65    | 50                 | 29   | 79    | ITE Equation |
| Total   |                   |      |       | 3015        |                | 53                 | 162  | 215   | 177                | 104  | 281   |              |

Refer to the current [NCDOT Congestion Management Capacity Analysis Guidelines](#) for acceptable trip calculation methods and data sources.

\*\*Explain local or other data sources, if used: \_\_\_\_\_

- The estimated site trips meet NCDOT's TIA trip threshold of 3,000 daily trips.
- The estimated site trips meet the municipal TIA trip threshold of 400 ADT / 100 peak hour trips
- This project is located in a known STIP and/ or local CIP project # \_\_\_\_\_
- This project includes a rezoning request.
- The proposed site access is located within 1,000 feet of an interchange.
- The Applicant requests for a new or modified control-of-access break.
- The Applicant requests for a new or modified median break.

|   |                               |                    |
|---|-------------------------------|--------------------|
| _____<br>Applicant's Signature              | James F. Martin<br>Print Name | 12/08/2021<br>Date |
| Effective Date: 10/01/2017 (Version 17-721) |                               |                    |



# NCDOT Traffic Impact Analysis Need Screening / Scoping Request



**Site Plan/Vicinity Map Requirement for TIA Need Screening:** While the site plan may not be finalized during the TIA scoping stage, the graphic representation of the proposed development shall provide adequate details on the development scope and context. More specifically, the site plan/map shall clearly show the location and type of each access point, spacing to adjacent and opposing driveways or intersections, internal street network, proposed buildings/parcels with their anticipated uses and sizes at full build-out and, if applicable, any nearby interstate, US, NC or Secondary Roads (SR).

**Project Name:** \_\_\_\_\_ **Project Reference Number:** \_\_\_\_\_

**A TIA is Required by the Local Government.** In addition, the study area is expected to include NCDOT maintained transportation facilities.

**A TIA is Required by NCDOT,** per the [Policy on Street and Driveway Access to North Carolina Highways](#).

If either or both of the boxes above are checked, the Applicant/TIA Consultant is hereby requested to fill out as much as possible of the following TIA scoping checklist, and return it along with the supporting documents to NCDOT prior to the scoping meeting.

**A TIA is NOT required.** This decision is based on the development information presented above. Changes in the development plan will require re-evaluation of the TIA need, and may necessitate a TIA. The Applicant should inform the District Engineer of any significant changes in a timely fashion to avoid delays or rejections of the driveway permit / encroachment agreement applications.

**Additional Comments:**

The TIA need decision is made by the NCDOT Division \_\_\_\_\_ District \_\_\_\_\_ on \_\_\_\_\_.

\_\_\_\_\_  
 NCDOT District Representative's Signature  
 Email concurrence may be used in lieu of the signature.

\_\_\_\_\_  
 Print Name



# NCDOT TIA Scoping Checklist



**Project Name:** Miller Farm Residential Development

**TIA Scoping Date:** 12/08/21

**TIA Need Screening Forms are Attached.** Project Reference #: \_\_\_\_\_ Decision Date: \_\_\_\_\_

**Site Plan and Access**

Provide a site plan illustrating site access, internal and external roadways, buildings and land uses.  
Refer to NCDOT's [Policy on Street and Driveway Access to North Carolina Highways](#) pages 14 and 15 for site plan requirements.

Identify site access.

| New Access      | On Road                  | Access Type            |                     | Driveway Spacing                           |                |                               |
|-----------------|--------------------------|------------------------|---------------------|--|----------------|-------------------------------|
|                 | Road Name                | Permitted Movements    | Traffic Control     | Distance (ft)                              | Direction      | Nearest Intersection / Access |
| Access A        | NC-51                    | Conventional Full-Mvmt | 2-Way Stop          | 0  |                | Marfield Lane                 |
| Access B        | NC-51                    | Conventional Full-Mvmt | 2-Way Stop          | 0  |                | Miller Road                   |
| Access C        | Nations Ford             | Conventional Full-Mvmt | 2-Way Stop          | 400  | North          | SC Border                     |
| Access D        |                          |                        |                     |  |                |                               |
| Access E        |                          |                        |                     |  |                |                               |
| Access F        |                          |                        |                     |  |                |                               |
| Access G        |                          |                        |                     |  |                |                               |
| Access H        |                          |                        |                     |  |                |                               |
| Existing Access | Existing Intersection of |                        | Access Modification | Proposed Interconnectivity (If Applicable) |                |                               |
|                 | Road A                   | Road B                 |                     | Connector #                                | Road Connected | Adjacent Development          |
| Access 1        |                          |                        |                     | Connector 1                                |                |                               |
| Access 2        |                          |                        |                     | Connector 2                                |                |                               |
| Access 3        |                          |                        |                     | Connector 3                                |                |                               |
| Access 4        |                          |                        |                     | Connector 4                                |                |                               |

Additional access clarifications and provisions (e.g., proposed control-of-access or median breaks, modifications of existing access, loading/unloading area access, bike/pedestrian accommodation).

**Proposed K-12 School Site**

NCDOT [MSTA School Traffic Calculator](#) for Select School Type shall be used.

Peak Hour Factors (PHFs) shall be adjusted/weighted for new school trips (0.5 PHF by default).

Internal school circulation analysis is required, and should be submitted in advance or concurrent with the TIA submittal.

Clarify traffic operation plans (e.g. traffic circulation pattern, pedestrian access, drop-off/pick-up zone location and configuration, queue storage area and, if applicable, staggered start times).





# NCDOT TIA Scoping Checklist



## Trip Generation

The TIA Consultant shall prepare trip generation estimates following the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), and submit the calculation sheets and supporting information to the District Engineer for approval prior to capacity analysis.

| ITE LUC  | Proposed Land Use | Size                | Unit  | Daily Trips                 | Peak Hour Type | AM Peak Hour Trips |      |       | PM Peak Hour Trips |      |       | Data Source   |
|--|-------------------|---------------------|-------|-----------------------------|----------------|--------------------|------|-------|--------------------|------|-------|---------------|
|  |                   |                     |       |                             |                | Enter              | Exit | Total | Enter              | Exit | Total |               |
| 210  | Single-Family     | 205                 | Units | 2013                        | Adj. Street    | 38                 | 112  | 150   | 127                | 75   | 202   | ITE Equation  |
| 220  | Townhomes         | 138                 | Units | 1002                        | Adj. Street    | 15                 | 50   | 65    | 50                 | 29   | 79    | ITE Equation  |
|  |                   |                     |       |                             |                |                    |      |       |                    |      |       |               |
|  |                   |                     |       |                             |                |                    |      |       |                    |      |       |               |
|  |                   |                     |       |                             |                |                    |      |       |                    |      |       |               |
|  |                   |                     |       |                             |                |                    |      |       |                    |      |       |               |
|  |                   |                     |       |                             |                |                    |      |       |                    |      |       |               |
|  |                   |                     |       |                             |                |                    |      |       |                    |      |       |               |
|  |                   |                     |       |                             |                |                    |      |       |                    |      |       |               |
|  |                   |                     |       |                             |                |                    |      |       |                    |      |       |               |
| Unadjusted Site Trips                              |                   |                     |       | 3015                        |                | 53                 | 162  | 215   | 177                | 104  | 281   | X             |
| Internal Capture Trips (Attach Calculation Sheets) |                   |                     |       |                             |                |                    |      |       |                    |      |       | Please Select |
| Internal Capture % of Unadjusted Site Trips        |                   |                     |       | %                           |                | %                  |      |       | %                  |      |       | X             |
| LUC  | Proposed Land Use | Any Internal Trips? |       | Pass-By % of External Trips |                |                    |      |       |                    |      |       | X             |
|  |                   |                     |       | %                           |                | %                  |      | %     |                    |      |       |               |
|  |                   |                     |       | %                           |                | %                  |      | %     |                    |      |       |               |
|  |                   |                     |       | %                           |                | %                  |      | %     |                    |      |       |               |
|  |                   |                     |       | %                           |                | %                  |      | %     |                    |      |       |               |
| Pass-By Trips (Attach Calculation Sheets)          |                   |                     |       |                             |                |                    |      |       |                    |      |       | X             |
| Adjacent Street Volumes                            |                   |                     |       |                             |                |                    |      |       |                    |      |       | Please Select |
| Non-Pass-By Primary Trips                          |                   |                     |       |                             |                |                    |      |       |                    |      |       | X             |
| Diverted Trips, if Applicable and Justifiable      |                   |                     |       |                             |                |                    |      |       |                    |      |       | Please Select |

\*\*Explain local or other data sources, if used:

## Existing Site Trip Information for Redevelopment Projects (Attach separate sheets as needed)

| ITE LUC                   | Existing Land Use | Size | Unit | Daily Trips | Peak Hour Type | AM Peak Hour Trips |      |       | PM Peak Hour Trips |      |       | Data Source   |
|---------------------------|-------------------|------|------|-------------|----------------|--------------------|------|-------|--------------------|------|-------|---------------|
|                           |                   |      |      |             |                | Enter              | Exit | Total | Enter              | Exit | Total |               |
|                           |                   |      |      |             | Please Select  |                    |      |       |                    |      |       | Please Select |
| Total Existing Site Trips |                   |      |      |             |                |                    |      |       |                    |      |       | X             |



# NCDOT TIA Scoping Checklist



## Trip Distribution

- Trip distribution diagrams are submitted concurrently with this document (attach separate sheets).
- Trip distribution diagrams will be submitted separately, along with supporting information, to the District Engineer for review and approval prior to capacity analysis. The trip distribution shall be based on the current and anticipated traffic patterns, as well as instructions noted below.

If required by the District Engineer, the following additional diagrams shall also be submitted:

- Mixed-Use Developments (separate diagrams for residential, commercial, and office trips)
- Inter-Development Trips (if 'internal' trips cross public streets)
- Pass-By Trips
- Diverted Trips
- Each Analysis Period

## Mode Split

- Provide Data Source and Justification

| Mode \ Period | Auto |   |   |
|---------------|------|---|---|
| AM Peak       | %    | % | % |
| PM Peak       | %    | % | % |
| Daily         | %    | % | % |
|               | %    | % | % |

- Identify proper infrastructure and accommodation for other modes of travel.

## Analysis Peak Periods:

- Weekday AM Peak 7:00 a.m. - 9:00 a.m. (6:30 a.m. - 8:30 a.m. for SC Counts)
- Weekday PM Peak 4:00 p.m. - 6:00 p.m. (4:30 p.m. - 6:30 p.m. for SC Counts)
- Weekday Midday Peak \_\_\_\_\_
- Weekday PM School Peak \_\_\_\_\_
- Weekend \_\_\_\_\_ Peak \_\_\_\_\_
- Other \_\_\_\_\_



# NCDOT TIA Scoping Checklist



## Study Area Intersections and Data Collection

The study area shall include the site access intersections (both new and existing) identified under “Site Plan and Access” on page 1, as well as the following external and, if applicable, internal intersections.

| External Intersection | Intersection of |               | Traffic Control | Intersection Turning Movement Counts |                |                   | Notes |
|-----------------------|-----------------|---------------|-----------------|--------------------------------------|----------------|-------------------|-------|
|                       | Road A          | Road B        |                 | New / Existing                       | Date of Counts | Growth Adjustment |       |
| #1                    | Nations Ford Rd | Westinghouse  | Signal          | Require New Counts                   | 9/9/2021       |                   |       |
| #2                    | Downs Road      | Westinghouse  | Signal          | Require New Counts                   | 9/9/2021       |                   |       |
| #3                    | Polk Street     | NC-51         | Signal          | Require New Counts                   | 9/9/2021       |                   |       |
| #4                    | Downs Road      | NC-51         | Signal          | Require New Counts                   | 9/9/2021       |                   |       |
| #5                    | Marfield Lane   | NC-51         | 2-Way Stop      | Require New Counts                   | 9/9/2021       |                   |       |
| #6                    | Miller Road     | NC-51         | 2-Way Stop      | Require New Counts                   | 9/9/2021       |                   |       |
| #7                    | Andrew Tucker   | SC-51         | 2-Way Stop      | Require New Counts                   | 9/9/2021       |                   |       |
| #8                    | SC 46-48        | SC-51         | 2-Way Stop      | Require New Counts                   | 9/9/2021       |                   |       |
| #9                    | SC-51           | Flint Hill Rd | 2-Way Stop      | Require New Counts                   | 9/9/2021       |                   |       |
| #10                   |                 |               |                 |                                      |                |                   |       |
| #11                   |                 |               |                 |                                      |                |                   |       |
| #12                   |                 |               |                 |                                      |                |                   |       |

| Internal Intersection | Intersection of |        | Access Type     |                     | Intersection Spacing |               |                      |
|-----------------------|-----------------|--------|-----------------|---------------------|----------------------|---------------|----------------------|
|                       | Road A          | Road B | Traffic Control | Permitted Movements | Distance (ft)        | Direction     | Nearest Intersection |
| #101                  |                 |        | Please Select   | Please Select       |                      | Please Select |                      |
| #102                  |                 |        |                 |                     |                      |               |                      |
| #103                  |                 |        |                 |                     |                      |               |                      |
| #104                  |                 |        |                 |                     |                      |               |                      |
| #105                  |                 |        |                 |                     |                      |               |                      |

The following data will be collected:

- New traffic turning movement counts in  15-min intervals  5-min intervals (near schools)  
 Unless otherwise noted above, new traffic counts shall be collected at the existing study intersections during the analysis periods. Weekday counts shall avoid Mondays, Fridays, holidays, school breaks, road closures, and major weather events.
- To account for the impact of existing and/or proposed school traffic, PHFs will be adjusted for:  
     intersections numbered: \_\_\_\_\_  
     and access points numbered: \_\_\_\_\_
- Traffic Forecast Data for TIP: \_\_\_\_\_
- Roadway/Intersection Configuration & Traffic Control
- Traffic Signal Phasing & Timing Data
- Crash Data: \_\_\_\_\_ Period: \_\_\_\_\_
- Other: \_\_\_\_\_



# NCDOT TIA Scoping Checklist



**Future Year Conditions**

Project Build-Out Year: Phase 1: 2023 / Phase 2: 2025

Future Analysis Year(s): \_\_\_\_\_

Identify below any funded/committed future transportation improvements, as well as any approved but incomplete developments near the site.

| Funded STIP / Local CIP Project | Project Description                        | Year Complete                                  |                              |
|---------------------------------|--|--|------------------------------|
| SC-51 Widening                  | Widening of SC-51 westward from SC/NC Line | 2025   |                              |
|                                 |  |  |                              |
|                                 |  |  |                              |
|                                 |  |  |                              |
| Nearby Approved Development     | Location                                   | Future Land Use (exclude any completed phases) | Committed Improvements       |
| Carolina Logistics Park         | North of Miller Farm Site                  | Industrial Warehouse                           | Signal Phasing Modifications |
|                                 |  |  |                              |
|                                 |  |  |                              |
|                                 |  |  |                              |

Annual Growth Factor: 2 %

Justification/Data Source: Published NCDOT AADT volumes

**Local Comprehensive Transportation Plan Compliance**

Identify Applicable Local Transportation Planning Documents

Identify Applicable Roadways inside the Study Area

| Road Name | Classification | Speed Limit | Proposed Cross-Section | Proposed Right-of-Way | Compliance Requirements | Affect Study Intersection # |
|-----------|----------------|-------------|------------------------|-----------------------|-------------------------|-----------------------------|
|           |                |             |                        |                       |                         |                             |
|           |                |             |                        |                       |                         |                             |
|           |                |             |                        |                       |                         |                             |
|           |                |             |                        |                       |                         |                             |
|           |                |             |                        |                       |                         |                             |



# NCDOT TIA Scoping Checklist



## Study Method

The traffic analysis shall follow the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), [Policy on Street and Driveway Access to North Carolina Highways](#), and use the current approved version of analysis software (e.g. Synchro/SimTraffic, HCS, Sidra Intersection, TransModeler).

The study shall include the following analysis scenarios for each analysis period.

1. Existing Conditions
2. Future No-Build Conditions (existing + background growth + approved developments + committed or funded improvements)
3. Future Build Conditions (future no-build + site trips)
4. Future Build with Improvements Conditions (future build traffic with improvements to mitigate the proposed development's impacts) and, if applicable:
5. TIP Design Year Analysis \_\_\_\_\_
6. Alternative Access Scenario (without proposed control-of-access or median break / modification)

The following additional analysis/outputs should be provided as warranted:

- Signal Warrant Analysis for accesses/intersections \_\_\_\_\_
- Multi-Modal Level of Service Analysis
- School Loading Zone Traffic Simulation
- Phasing Analysis (scope separately as needed)
- Safety/Crash Analysis
- Control-of-Access Modification Justification
- Median Break / Modification Justification
- Other \_\_\_\_\_

## Submittals

In addition to the hardcopies required below, the TIA Consultant shall provide the District Engineer and, if required, the local government an electronic copy of the study documents, including the latest site plan, figures and appendices, in searchable PDF files and the original traffic analysis files (e.g., Synchro, HCS).

To expedite review, the NCDOT electronic submittals shall also be delivered concurrently to:

- Div. Traffic Engr  Regional Traffic Engr  Congestion Management  Other SCDOT/York Co

| Submittals                     | NCDOT      |          | Local Government |          |
|--------------------------------|------------|----------|------------------|----------|
|                                | Electronic | Hardcopy | Electronic       | Hardcopy |
| Trip Generation & Distribution | Required   |          | Required         |          |
| Draft TIA Report               | Required   | 0        | Required         | 0        |
| Final Sealed TIA Report        | Required   | 2        | Required         | 2        |

- Additional Comments** (municipal TIA requirements, approved variations from NCDOT guidelines)



# NCDOT TIA Scoping Checklist



## Agreement by All Parties

The undersigned agree to the contents and methodology described above for completing the required traffic impact analysis for the proposed development identified herein. Any changes to the above methodology contemplated by the Applicant or the TIA Consultant must be submitted to the District Engineer in writing. If approved by NCDOT, then such changes may be accepted for the TIA report. Subsequent revisions to the development plan (e.g. land use, density, site access, or schedule) may require additional scoping and analysis, and may modify the TIA requirements.

This agreement shall become effective on the date approved by NCDOT, and shall expire \_\_\_\_ months after the effective date or upon significant changes to the roadway network and/or development assumptions, whichever occurs first. Once expired, renewal or re-scoping will be required for subsequent TIA submittals.

## APPLICANT

|           |                 |            |
|-----------|-----------------|------------|
|           | James F. Martin | 12/08/2021 |
| Signature | Print Name      | Date       |

## TIA CONSULTANT

|           |                           |            |
|-----------|---------------------------|------------|
|           | Jeff Hochanadel, PE, PTOE | 12/08/2021 |
| Signature | Print Name                | Date       |

## LOCAL GOVERNMENT REPRESENTATIVE (If Applicable)

|           |            |      |
|-----------|------------|------|
|           |            |      |
| Signature | Print Name | Date |

Email concurrence may be used in lieu of the signature.

## NCDOT DISTRICT REPRESENTATIVE

Reviewed and approved by the NCDOT Division \_\_\_\_ District \_\_\_\_ on \_\_\_\_\_.

|           |            |
|-----------|------------|
|           |            |
| Signature | Print Name |

Email concurrence may be used in lieu of the signature.



# NCDOT TIA Submittal Checklist



**Submittal:** Please Select **Document Date:** \_\_\_\_\_  
**Project Name:** \_\_\_\_\_ **Previous Name:** If Applicable \_\_\_\_\_  
**NCDOT Division:** \_\_\_\_\_ **District:** \_\_\_\_\_ **County:** \_\_\_\_\_ **Municipality:** \_\_\_\_\_  
**TIA Consultant:** \_\_\_\_\_ **Submitted By:** \_\_\_\_\_  
**Phone Number:** \_\_\_\_\_ **Email:** \_\_\_\_\_  
**TIA Scoping Checklist Approval Date:** \_\_\_\_\_ **Unadjusted Daily Site Trips:** \_\_\_\_\_

- The approved TIA Scoping Checklist is included in this submittal.
- LOS D or better is expected at all study intersections after proposed mitigations.
- The study report is sealed by a NC Professional Engineer with expertise in traffic engineering.
- This study has identified all known deficiencies with and without the proposed development.
- This study has identified mitigation measures to adequately accommodate the site trips.

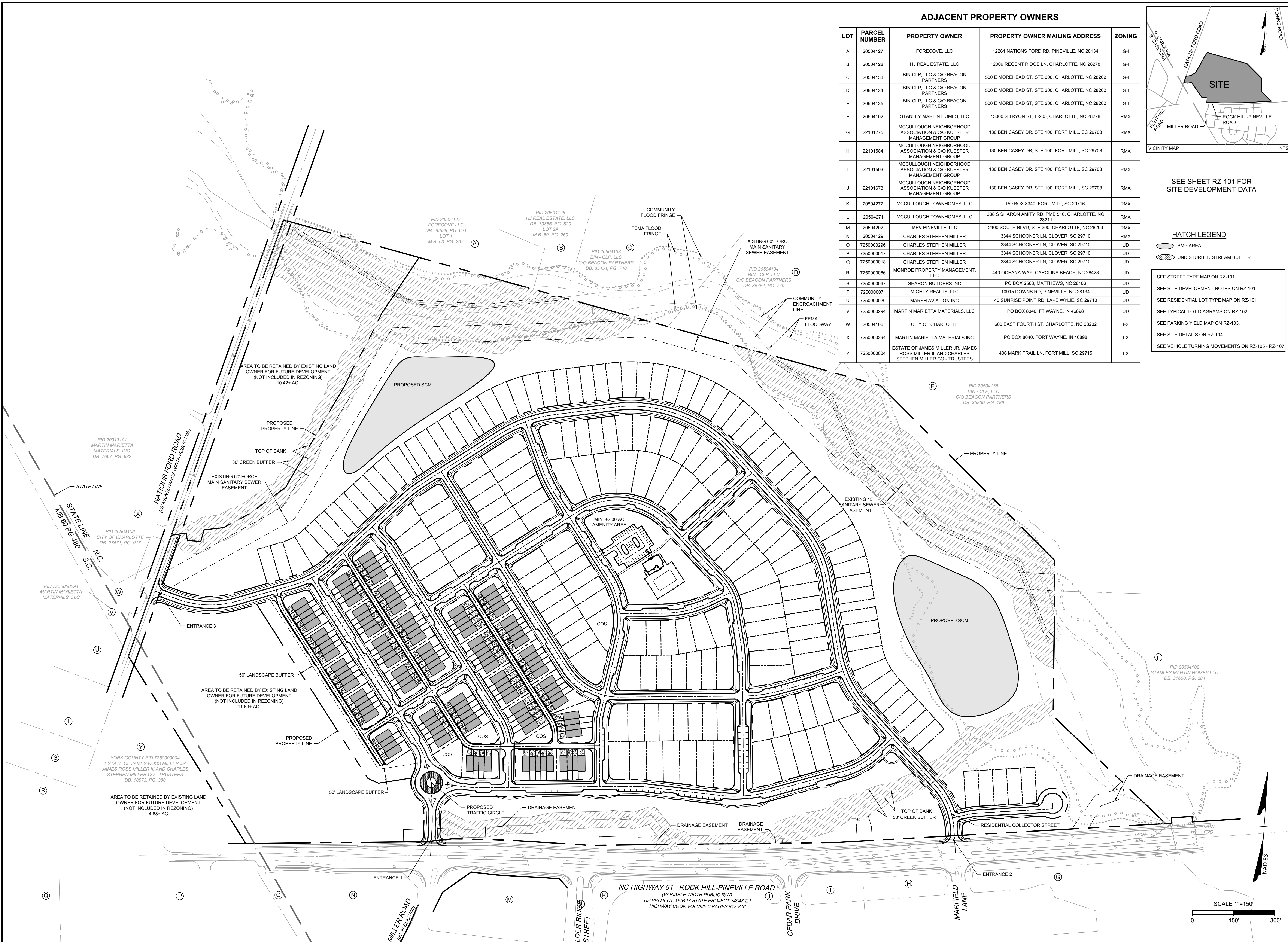
Explain here if any of the boxes above are unchecked:

The undersigned affirms that, except for the deviations noted below, the TIA submittal conforms to the current [NCDOT Congestion Management Capacity Analysis Guidelines](#), [Policy on Street and Driveway Access to North Carolina Highways](#), and the TIA Scoping Checklist approved by the NCDOT District Office. The undersigned also acknowledges that the TIA will be rejected if the deviations and justifications are not properly documented and approved by NCDOT.

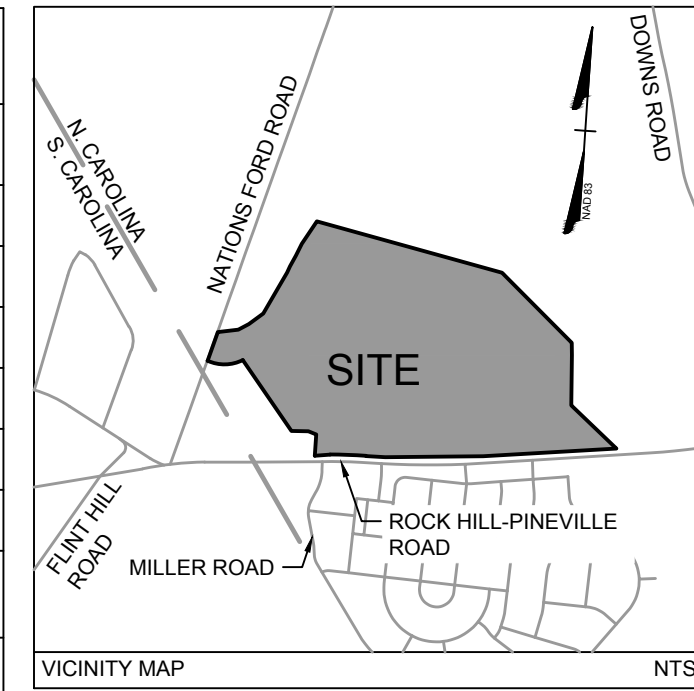
**Deviations and Justifications** (e.g., changes in site plan, development schedule, site trip and off-site trip estimates, study area, data collection, analysis period and method. Attached separate sheets if needed.)

\_\_\_\_\_  
 TIA Consultant's Signature Print Name Date  
 (Professional Engineer of TIA Record)

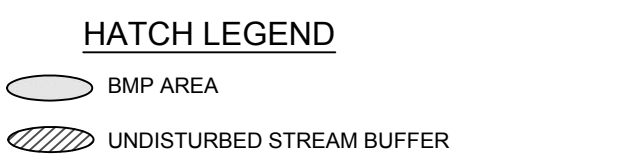
S:\10445021-Miller Farm Pineville (Dan Ryan)\DWG\Sheet\Re zoning\45021-C100-SITE.dwg | Printed on 10/20/2021 9:42 AM | by Katie Bradley



| ADJACENT PROPERTY OWNERS |               |   |   |        |
|--------------------------|---------------|---|---|--------|
| LOT                      | PARCEL NUMBER | PROPERTY OWNER  | PROPERTY OWNER MAILING ADDRESS                      | ZONING |
| A                        | 20504127      | FORECOVE, LLC   | 12261 NATIONS FORD RD, PINEVILLE, NC 28134          | G-1    |
| B                        | 20504128      | HJ REAL ESTATE, LLC   | 12009 REGENT RIDGE LN, CHARLOTTE, NC 28278          | G-1    |
| C                        | 20504133      | BIN-CLP, LLC & C/O BEACON PARTNERS  | 500 E MOREHEAD ST, STE 200, CHARLOTTE, NC 28202     | G-1    |
| D                        | 20504134      | BIN-CLP, LLC & C/O BEACON PARTNERS  | 500 E MOREHEAD ST, STE 200, CHARLOTTE, NC 28202     | G-1    |
| E                        | 20504135      | BIN-CLP, LLC & C/O BEACON PARTNERS  | 500 E MOREHEAD ST, STE 200, CHARLOTTE, NC 28202     | G-1    |
| F                        | 20504102      | STANLEY MARTIN HOMES, LLC   | 13000 S TRYON ST, F-205, CHARLOTTE, NC 28278        | RMX    |
| G                        | 22101275      | MCCULLOUGH NEIGHBORHOOD ASSOCIATION & C/O KUESTER MANAGEMENT GROUP                        | 130 BEN CASEY DR, STE 100, FORT MILL, SC 29708      | RMX    |
| H                        | 22101584      | MCCULLOUGH NEIGHBORHOOD ASSOCIATION & C/O KUESTER MANAGEMENT GROUP                        | 130 BEN CASEY DR, STE 100, FORT MILL, SC 29708      | RMX    |
| I                        | 22101593      | MCCULLOUGH NEIGHBORHOOD ASSOCIATION & C/O KUESTER MANAGEMENT GROUP                        | 130 BEN CASEY DR, STE 100, FORT MILL, SC 29708      | RMX    |
| J                        | 22101873      | MCCULLOUGH NEIGHBORHOOD ASSOCIATION & C/O KUESTER MANAGEMENT GROUP                        | 130 BEN CASEY DR, STE 100, FORT MILL, SC 29708      | RMX    |
| K                        | 20504272      | MCCULLOUGH TOWNHOMES, LLC   | PO BOX 3340, FORT MILL, SC 29716                    | RMX    |
| L                        | 20504271      | MCCULLOUGH TOWNHOMES, LLC   | 338 S SHARON AMITY RD, FMB 510, CHARLOTTE, NC 28211 | RMX    |
| M                        | 20504202      | MPV PINEVILLE, LLC  | 2400 SOUTH BLVD, STE 300, CHARLOTTE, NC 28203       | RMX    |
| N                        | 20504129      | CHARLES STEPHEN MILLER  | 3344 SCHOONER LN, CLOVER, SC 29710                  | UD     |
| O                        | 7250000296    | CHARLES STEPHEN MILLER  | 3344 SCHOONER LN, CLOVER, SC 29710                  | UD     |
| P                        | 7250000017    | CHARLES STEPHEN MILLER  | 3344 SCHOONER LN, CLOVER, SC 29710                  | UD     |
| Q                        | 7250000018    | CHARLES STEPHEN MILLER  | 3344 SCHOONER LN, CLOVER, SC 29710                  | UD     |
| R                        | 7250000068    | MONROE PROPERTY MANAGEMENT, LLC   | 440 OCEANA WAY, CAROLINA BEACH, NC 28428            | UD     |
| S                        | 7250000067    | SHARON BUILDERS INC   | PO BOX 2568, MATTHEWS, NC 28106                     | UD     |
| T                        | 7250000071    | MIGHTY REALTY, LLC  | 10915 DOWNS RD, PINEVILLE, NC 28134                 | UD     |
| U                        | 7250000026    | MARSH AVIATION INC  | 40 SUNRISE POINT RD, LAKE WYLLIE, SC 29710          | UD     |
| V                        | 7250000294    | MARTIN MARIETTA MATERIALS, LLC  | PO BOX 8040, FT WAYNE, IN 46898                     | UD     |
| W                        | 20504106      | CITY OF CHARLOTTE   | 600 EAST FOURTH ST, CHARLOTTE, NC 28202             | I-2    |
| X                        | 7250000294    | MARTIN MARIETTA MATERIALS INC   | PO BOX 8040, FORT WAYNE, IN 46898                   | I-2    |
| Y                        | 7250000004    | ESTATE OF JAMES MILLER JR, JAMES ROSS MILLER III AND CHARLES STEPHEN MILLER CO - TRUSTEES | 406 MARK TRAIL LN, FORT MILL, SC 29715              | I-2    |



SEE SHEET RZ-101 FOR SITE DEVELOPMENT DATA



- SEE STREET TYPE MAP ON RZ-101.
- SEE SITE DEVELOPMENT NOTES ON RZ-101.
- SEE RESIDENTIAL LOT TYPE MAP ON RZ-101.
- SEE TYPICAL LOT DIAGRAMS ON RZ-102.
- SEE PARKING YIELD MAP ON RZ-103.
- SEE SITE DETAILS ON RZ-104.
- SEE VEHICLE TURNING MOVEMENTS ON RZ-105 - RZ-107.

THIS DRAWING PREPARED AT THE  
**CHARLOTTE OFFICE**  
 610 E. Morehead Street, Suite 250 | Charlotte, NC 28202  
 TEL 704.602.8600 FAX 704.376.1076 www.timmons.com  
 North Carolina License No. C-1652  
 Project Contact Email Address: chris.todd@timmons.com

| DATE       | REVISED PER COMMENTS | REVISION DESCRIPTION |
|------------|----------------------|----------------------|
| 06/18/2021 | REVISED PER COMMENTS |                      |
| 08/04/2021 | REVISED PER COMMENTS |                      |
| 10/20/2021 | REVISED PER COMMENTS |                      |

**DRB GROUP**  
 227 WEST TRADE STREET, SUITE 1610  
 CHARLOTTE, NC 28202

YOUR VISION ACHIEVED THROUGH OURS.

**TIMMONS GROUP**  
 NORTH CAROLINA LICENSE NO. C-1652

**MILLER FARM**  
 PINEVILLE, NORTH CAROLINA  
 CONDITIONAL REZONING PLAN OVERALL

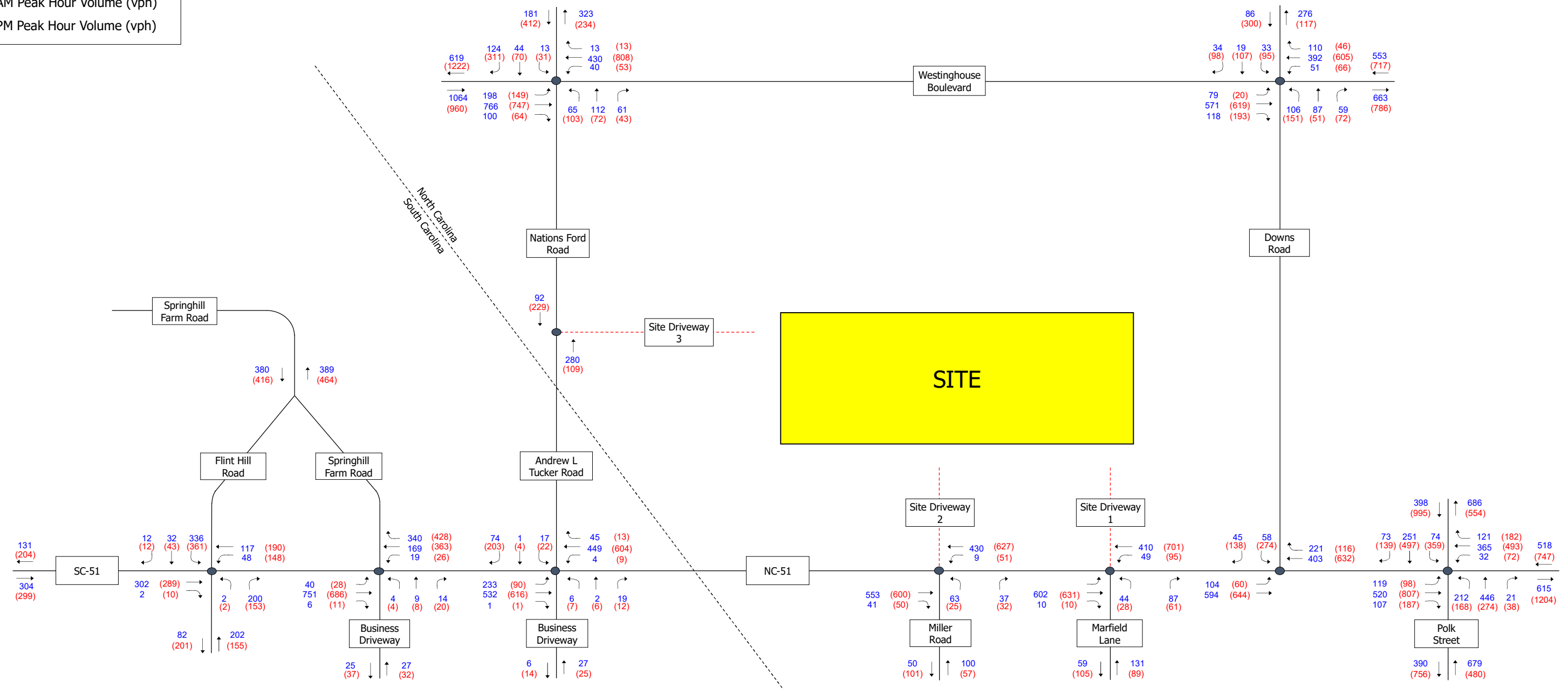
JOB NO. 45021  
 SHEET NO. RZ-100

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**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Volume (vph)
- (XX) PM Peak Hour Volume (vph)

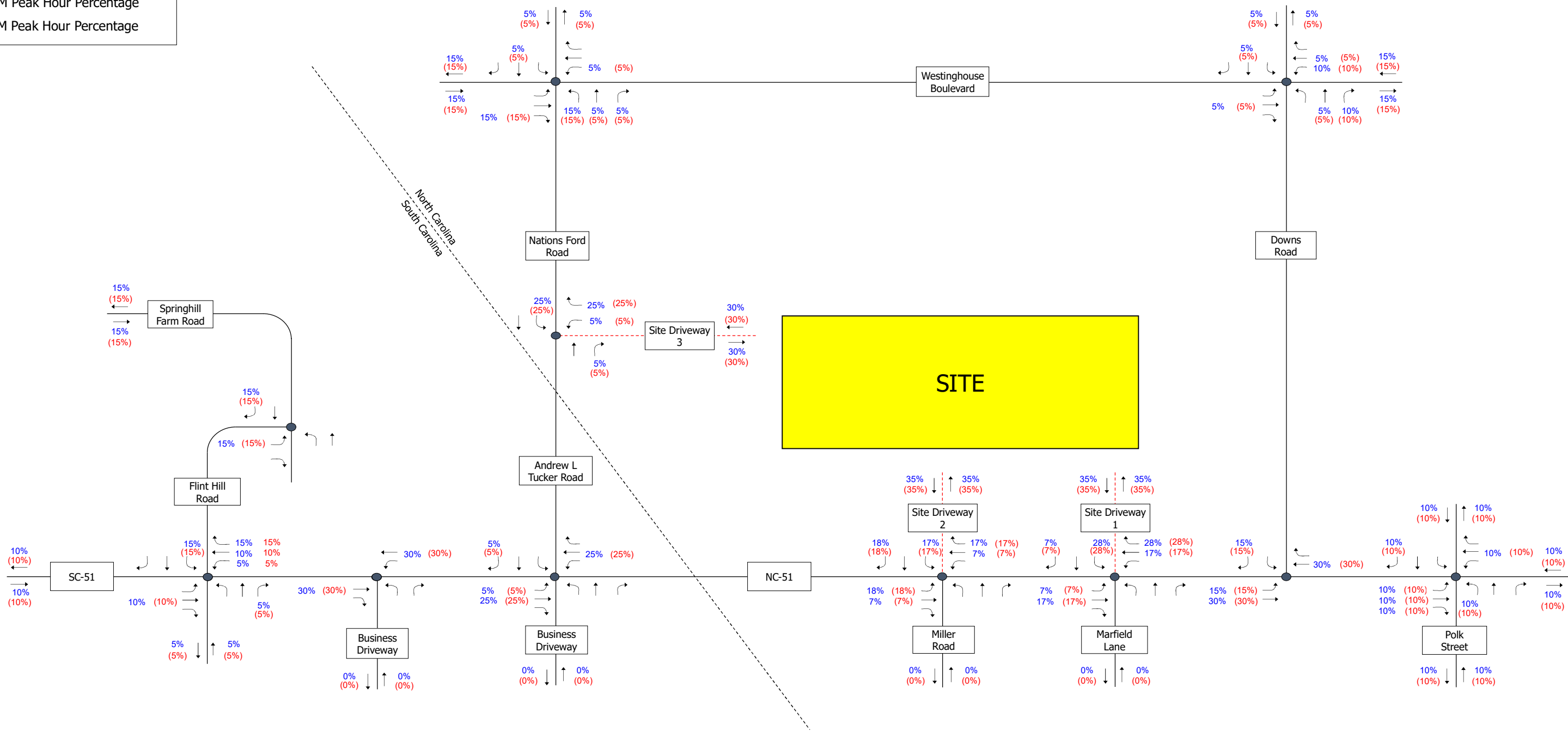


**Miller Farm Traffic Impact Analysis**  
2021 Existing Traffic Volumes

Figure 2-3

**LEGEND:**

- Existing Road
- - - Proposed Road
- XX AM Peak Hour Percentage
- (XX) PM Peak Hour Percentage



**Miller Farm Traffic Impact Analysis**  
Trip Distribution Percentages

Figure 4-1

## **Appendix B – Traffic Counts**



TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Downs)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

| Start Time  | Downs Road Southbound |      |      |            | NC 51 Westbound |      |      |            | NC 51 Eastbound |      |      |            | Int. Total |
|-------------|-----------------------|------|------|------------|-----------------|------|------|------------|-----------------|------|------|------------|------------|
|             | Right                 | Left | UTrn | App. Total | Right           | Thru | UTrn | App. Total | Thru            | Left | UTrn | App. Total |            |
| 07:00 AM    | 10                    | 16   | 0    | 26         | 49              | 83   | 0    | 132        | 115             | 23   | 0    | 138        | 296        |
| 07:15 AM    | 9                     | 12   | 0    | 21         | 54              | 94   | 0    | 148        | 140             | 28   | 0    | 168        | 337        |
| 07:30 AM    | 9                     | 19   | 0    | 28         | 60              | 110  | 0    | 170        | 149             | 21   | 0    | 170        | 368        |
| 07:45 AM    | 12                    | 13   | 0    | 25         | 70              | 102  | 0    | 172        | 169             | 27   | 0    | 196        | 393        |
| Total       | 40                    | 60   | 0    | 100        | 233             | 389  | 0    | 622        | 573             | 99   | 0    | 672        | 1394       |
| 08:00 AM    | 15                    | 14   | 0    | 29         | 37              | 97   | 0    | 134        | 136             | 28   | 0    | 164        | 327        |
| 08:15 AM    | 18                    | 16   | 0    | 34         | 30              | 84   | 0    | 114        | 134             | 22   | 3    | 159        | 307        |
| 08:30 AM    | 7                     | 22   | 0    | 29         | 33              | 102  | 0    | 135        | 127             | 17   | 1    | 145        | 309        |
| 08:45 AM    | 10                    | 18   | 0    | 28         | 36              | 85   | 0    | 121        | 125             | 24   | 0    | 149        | 298        |
| Total       | 50                    | 70   | 0    | 120        | 136             | 368  | 0    | 504        | 522             | 91   | 4    | 617        | 1241       |
| Grand Total | 90                    | 130  | 0    | 220        | 369             | 757  | 0    | 1126       | 1095            | 190  | 4    | 1289       | 2635       |
| Apprch %    | 40.9                  | 59.1 | 0    |            | 32.8            | 67.2 | 0    |            | 84.9            | 14.7 | 0.3  |            |            |
| Total %     | 3.4                   | 4.9  | 0    | 8.3        | 14              | 28.7 | 0    | 42.7       | 41.6            | 7.2  | 0.2  | 48.9       |            |
| Cars +      | 75                    | 111  | 0    | 186        | 353             | 726  | 0    | 1079       | 1064            | 182  | 4    | 1250       | 2515       |
| % Cars +    | 83.3                  | 85.4 | 0    | 84.5       | 95.7            | 95.9 | 0    | 95.8       | 97.2            | 95.8 | 100  | 97         | 95.4       |
| Trucks      | 15                    | 19   | 0    | 34         | 16              | 31   | 0    | 47         | 31              | 8    | 0    | 39         | 120        |
| % Trucks    | 16.7                  | 14.6 | 0    | 15.5       | 4.3             | 4.1  | 0    | 4.2        | 2.8             | 4.2  | 0    | 3          | 4.6        |



TRAFFIC DATA COLLECTION

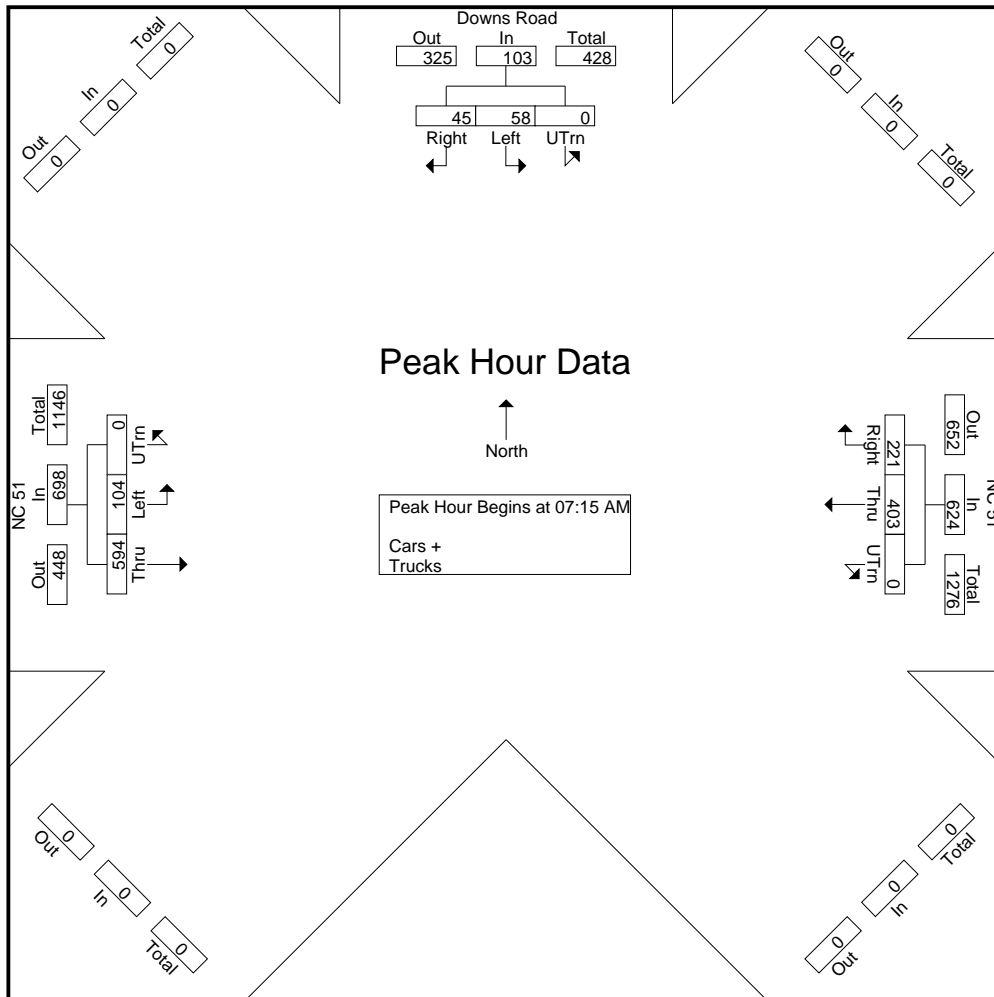
File Name : Pineville(NC 51 and Downs)AM Peak

Site Code :

Start Date : 9/9/2021

Page No : 2

| Start Time   | Downs Road Southbound |      |      |            | NC 51 Westbound |      |      |            | NC 51 Eastbound |      |      |            | Int. Total |
|--|-----------------------|------|------|------------|-----------------|------|------|------------|-----------------|------|------|------------|------------|
|  | Right                 | Left | UTrn | App. Total | Right           | Thru | UTrn | App. Total | Thru            | Left | UTrn | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 |                       |      |      |            |                 |      |      |            |                 |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                       |      |      |            |                 |      |      |            |                 |      |      |            |            |
| 07:15 AM   | 9                     | 12   | 0    | 21         | 54              | 94   | 0    | 148        | 140             | 28   | 0    | 168        | 337        |
| 07:30 AM   | 9                     | 19   | 0    | 28         | 60              | 110  | 0    | 170        | 149             | 21   | 0    | 170        | 368        |
| 07:45 AM   | 12                    | 13   | 0    | 25         | 70              | 102  | 0    | 172        | 169             | 27   | 0    | 196        | 393        |
| 08:00 AM   | 15                    | 14   | 0    | 29         | 37              | 97   | 0    | 134        | 136             | 28   | 0    | 164        | 327        |
| Total Volume   | 45                    | 58   | 0    | 103        | 221             | 403  | 0    | 624        | 594             | 104  | 0    | 698        | 1425       |
| % App. Total   | 43.7                  | 56.3 | 0    |            | 35.4            | 64.6 | 0    |            | 85.1            | 14.9 | 0    |            |            |
| PHF  | .750                  | .763 | .000 | .888       | .789            | .916 | .000 | .907       | .879            | .929 | .000 | .890       | .906       |





TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Downs)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

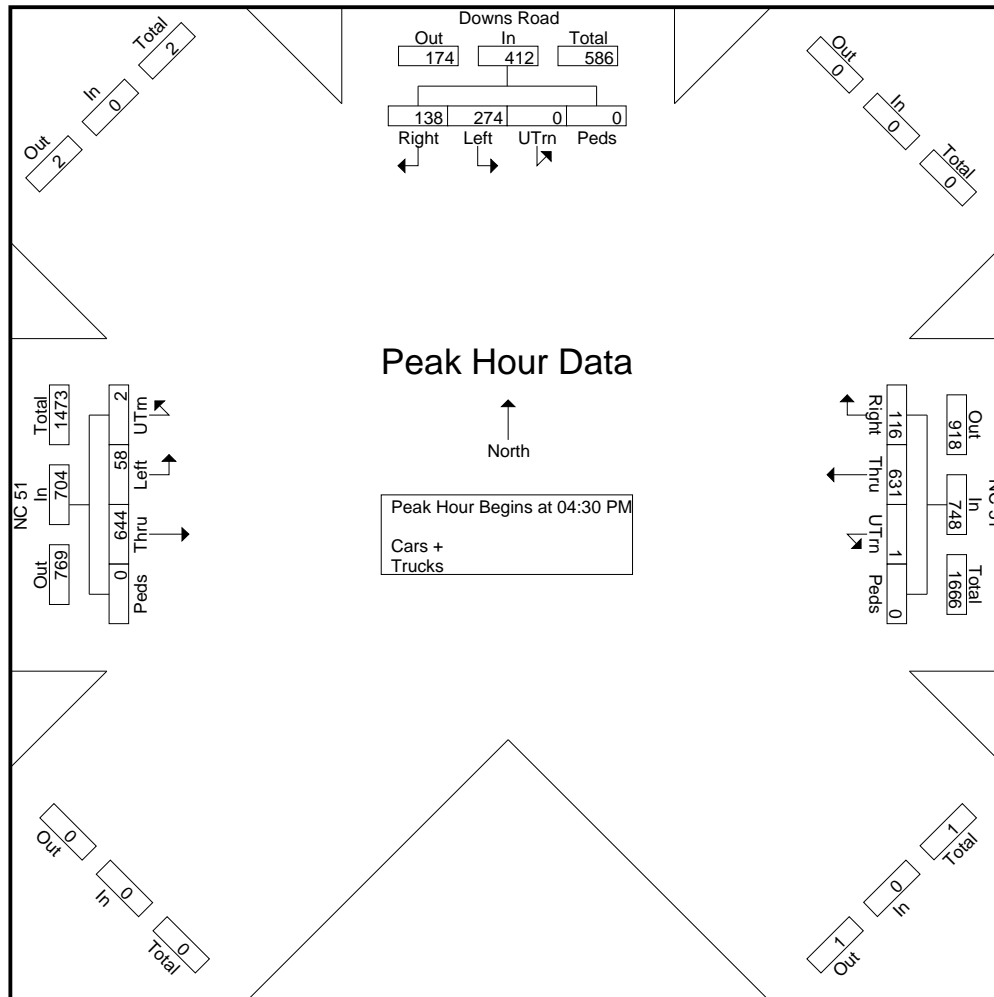
| Start Time  | Downs Road Southbound |      |      |      |            | NC 51 Westbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|-------------|-----------------------|------|------|------|------------|-----------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|             | Right                 | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total | Thru            | Left | UTrn | Peds | App. Total |            |
| 04:00 PM    | 31                    | 47   | 0    | 0    | 78         | 27              | 136  | 1    | 0    | 164        | 169             | 18   | 0    | 0    | 187        | 429        |
| 04:15 PM    | 22                    | 53   | 0    | 0    | 75         | 30              | 127  | 1    | 0    | 158        | 180             | 9    | 2    | 0    | 191        | 424        |
| 04:30 PM    | 27                    | 68   | 0    | 0    | 95         | 20              | 134  | 1    | 0    | 155        | 168             | 14   | 0    | 0    | 182        | 432        |
| 04:45 PM    | 38                    | 83   | 0    | 0    | 121        | 31              | 128  | 0    | 0    | 159        | 165             | 11   | 1    | 0    | 177        | 457        |
| Total       | 118                   | 251  | 0    | 0    | 369        | 108             | 525  | 3    | 0    | 636        | 682             | 52   | 3    | 0    | 737        | 1742       |
| 05:00 PM    | 38                    | 70   | 0    | 0    | 108        | 34              | 175  | 0    | 0    | 209        | 173             | 17   | 0    | 0    | 190        | 507        |
| 05:15 PM    | 35                    | 53   | 0    | 0    | 88         | 31              | 194  | 0    | 0    | 225        | 138             | 16   | 1    | 0    | 155        | 468        |
| 05:30 PM    | 31                    | 46   | 0    | 0    | 77         | 28              | 132  | 0    | 0    | 160        | 163             | 15   | 1    | 0    | 179        | 416        |
| 05:45 PM    | 25                    | 31   | 0    | 1    | 57         | 29              | 150  | 0    | 0    | 179        | 123             | 10   | 2    | 0    | 135        | 371        |
| Total       | 129                   | 200  | 0    | 1    | 330        | 122             | 651  | 0    | 0    | 773        | 597             | 58   | 4    | 0    | 659        | 1762       |
| Grand Total | 247                   | 451  | 0    | 1    | 699        | 230             | 1176 | 3    | 0    | 1409       | 1279            | 110  | 7    | 0    | 1396       | 3504       |
| Apprch %    | 35.3                  | 64.5 | 0    | 0.1  |            | 16.3            | 83.5 | 0.2  | 0    |            | 91.6            | 7.9  | 0.5  | 0    |            |            |
| Total %     | 7                     | 12.9 | 0    | 0    | 19.9       | 6.6             | 33.6 | 0.1  | 0    | 40.2       | 36.5            | 3.1  | 0.2  | 0    | 39.8       |            |
| Cars +      | 241                   | 447  | 0    | 1    | 689        | 166             | 1163 | 3    | 0    | 1332       | 1263            | 105  | 7    | 0    | 1375       | 3396       |
| % Cars +    | 97.6                  | 99.1 | 0    | 100  | 98.6       | 72.2            | 98.9 | 100  | 0    | 94.5       | 98.7            | 95.5 | 100  | 0    | 98.5       | 96.9       |
| Trucks      | 6                     | 4    | 0    | 0    | 10         | 64              | 13   | 0    | 0    | 77         | 16              | 5    | 0    | 0    | 21         | 108        |
| % Trucks    | 2.4                   | 0.9  | 0    | 0    | 1.4        | 27.8            | 1.1  | 0    | 0    | 5.5        | 1.3             | 4.5  | 0    | 0    | 1.5        | 3.1        |



TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Downs)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Downs Road Southbound |      |      |      |            | NC 51 Westbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|--|-----------------------|------|------|------|------------|-----------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|  | Right                 | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total | Thru            | Left | UTrn | Peds | App. Total |            |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 |                       |      |      |      |            |                 |      |      |      |            |                 |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                       |      |      |      |            |                 |      |      |      |            |                 |      |      |      |            |            |
| 04:30 PM   | 27                    | 68   | 0    | 0    | 95         | 20              | 134  | 1    | 0    | 155        | 168             | 14   | 0    | 0    | 182        | 432        |
| 04:45 PM   | 38                    | 83   | 0    | 0    | 121        | 31              | 128  | 0    | 0    | 159        | 165             | 11   | 1    | 0    | 177        | 457        |
| 05:00 PM   | 38                    | 70   | 0    | 0    | 108        | 34              | 175  | 0    | 0    | 209        | 173             | 17   | 0    | 0    | 190        | 507        |
| 05:15 PM   | 35                    | 53   | 0    | 0    | 88         | 31              | 194  | 0    | 0    | 225        | 138             | 16   | 1    | 0    | 155        | 468        |
| Total Volume   | 138                   | 274  | 0    | 0    | 412        | 116             | 631  | 1    | 0    | 748        | 644             | 58   | 2    | 0    | 704        | 1864       |
| % App. Total   | 33.5                  | 66.5 | 0    | 0    |            | 15.5            | 84.4 | 0.1  | 0    |            | 91.5            | 8.2  | 0.3  | 0    |            |            |
| PHF  | .908                  | .825 | .000 | .000 | .851       | .853            | .813 | .250 | .000 | .831       | .931            | .853 | .500 | .000 | .926       | .919       |





TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Marfield)  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

| Start Time | NC 51 Westbound |      |      |      |            | Marfield lane Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|------------|-----------------|------|------|------|------------|--------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|            | Thru            | Left | UTrn | Peds | App. Total | Right                    | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total |            |
| 06:00 AM   | 47              | 4    | 1    | 0    | 52         | 2                        | 3    | 0    | 0    | 5          | 0               | 48   | 0    | 0    | 48         | 105        |
| 06:15 AM   | 63              | 0    | 2    | 0    | 65         | 9                        | 5    | 0    | 0    | 14         | 1               | 55   | 0    | 0    | 56         | 135        |
| 06:30 AM   | 88              | 1    | 3    | 0    | 92         | 11                       | 3    | 0    | 0    | 14         | 4               | 110  | 1    | 0    | 115        | 221        |
| 06:45 AM   | 86              | 4    | 2    | 0    | 92         | 9                        | 6    | 0    | 0    | 15         | 0               | 122  | 0    | 0    | 122        | 229        |
| Total      | 284             | 9    | 8    | 0    | 301        | 31                       | 17   | 0    | 0    | 48         | 5               | 335  | 1    | 0    | 341        | 690        |
| 07:00 AM   | 94              | 4    | 2    | 0    | 100        | 12                       | 11   | 0    | 0    | 23         | 1               | 133  | 1    | 0    | 135        | 258        |
| 07:15 AM   | 88              | 8    | 0    | 0    | 96         | 15                       | 10   | 0    | 0    | 25         | 0               | 149  | 1    | 0    | 150        | 271        |
| 07:30 AM   | 116             | 12   | 0    | 0    | 128        | 23                       | 14   | 1    | 0    | 38         | 2               | 154  | 2    | 0    | 158        | 324        |
| 07:45 AM   | 104             | 8    | 0    | 0    | 112        | 22                       | 4    | 0    | 0    | 26         | 1               | 164  | 1    | 0    | 166        | 304        |
| Total      | 402             | 32   | 2    | 0    | 436        | 72                       | 39   | 1    | 0    | 112        | 4               | 600  | 5    | 0    | 609        | 1157       |
| 08:00 AM   | 103             | 13   | 2    | 0    | 118        | 22                       | 14   | 0    | 0    | 36         | 2               | 140  | 0    | 0    | 142        | 296        |
| 08:15 AM   | 87              | 14   | 0    | 0    | 101        | 20                       | 11   | 0    | 0    | 31         | 5               | 139  | 2    | 0    | 146        | 278        |
| 08:30 AM   | 94              | 9    | 0    | 0    | 103        | 15                       | 3    | 0    | 1    | 19         | 2               | 124  | 0    | 0    | 126        | 248        |
| 08:45 AM   | 86              | 8    | 1    | 0    | 95         | 10                       | 8    | 0    | 0    | 18         | 2               | 137  | 0    | 0    | 139        | 252        |
| Total      | 370             | 44   | 3    | 0    | 417        | 67                       | 36   | 0    | 1    | 104        | 11              | 540  | 2    | 0    | 553        | 1074       |
| 09:00 AM   | 101             | 6    | 0    | 0    | 107        | 8                        | 2    | 0    | 0    | 10         | 2               | 120  | 1    | 0    | 123        | 240        |
| 09:15 AM   | 106             | 12   | 0    | 0    | 118        | 6                        | 2    | 0    | 0    | 8          | 3               | 110  | 1    | 0    | 114        | 240        |
| 09:30 AM   | 87              | 12   | 1    | 0    | 100        | 12                       | 4    | 0    | 0    | 16         | 2               | 133  | 1    | 0    | 136        | 252        |
| 09:45 AM   | 96              | 8    | 0    | 0    | 104        | 7                        | 2    | 0    | 0    | 9          | 3               | 120  | 2    | 0    | 125        | 238        |
| Total      | 390             | 38   | 1    | 0    | 429        | 33                       | 10   | 0    | 0    | 43         | 10              | 483  | 5    | 0    | 498        | 970        |
| 10:00 AM   | 93              | 8    | 0    | 0    | 101        | 13                       | 0    | 0    | 0    | 13         | 3               | 114  | 0    | 0    | 117        | 231        |
| 10:15 AM   | 90              | 11   | 0    | 0    | 101        | 5                        | 6    | 0    | 0    | 11         | 1               | 108  | 0    | 0    | 109        | 221        |
| 10:30 AM   | 107             | 6    | 0    | 0    | 113        | 11                       | 5    | 0    | 0    | 16         | 2               | 103  | 1    | 0    | 106        | 235        |
| 10:45 AM   | 108             | 14   | 0    | 0    | 122        | 12                       | 4    | 0    | 0    | 16         | 2               | 118  | 1    | 0    | 121        | 259        |
| Total      | 398             | 39   | 0    | 0    | 437        | 41                       | 15   | 0    | 0    | 56         | 8               | 443  | 2    | 0    | 453        | 946        |
| 11:00 AM   | 95              | 7    | 5    | 0    | 107        | 12                       | 7    | 0    | 0    | 19         | 3               | 102  | 1    | 0    | 106        | 232        |
| 11:15 AM   | 108             | 7    | 0    | 0    | 115        | 8                        | 3    | 0    | 0    | 11         | 1               | 121  | 1    | 0    | 123        | 249        |
| 11:30 AM   | 142             | 10   | 0    | 0    | 152        | 13                       | 3    | 0    | 0    | 16         | 1               | 116  | 3    | 0    | 120        | 288        |
| 11:45 AM   | 131             | 16   | 0    | 0    | 147        | 13                       | 11   | 0    | 0    | 24         | 1               | 121  | 0    | 0    | 122        | 293        |
| Total      | 476             | 40   | 5    | 0    | 521        | 46                       | 24   | 0    | 0    | 70         | 6               | 460  | 5    | 0    | 471        | 1062       |
| 12:00 PM   | 135             | 16   | 1    | 0    | 152        | 10                       | 6    | 0    | 0    | 16         | 1               | 133  | 0    | 0    | 134        | 302        |
| 12:15 PM   | 108             | 6    | 1    | 0    | 115        | 12                       | 7    | 0    | 0    | 19         | 4               | 124  | 1    | 0    | 129        | 263        |
| 12:30 PM   | 179             | 19   | 0    | 0    | 198        | 9                        | 3    | 0    | 1    | 13         | 5               | 138  | 2    | 0    | 145        | 356        |
| 12:45 PM   | 126             | 9    | 0    | 0    | 135        | 15                       | 7    | 0    | 0    | 22         | 1               | 126  | 1    | 0    | 128        | 285        |
| Total      | 548             | 50   | 2    | 0    | 600        | 46                       | 23   | 0    | 1    | 70         | 11              | 521  | 4    | 0    | 536        | 1206       |
| 01:00 PM   | 131             | 14   | 0    | 0    | 145        | 9                        | 8    | 0    | 0    | 17         | 0               | 116  | 0    | 0    | 116        | 278        |
| 01:15 PM   | 139             | 9    | 0    | 0    | 148        | 14                       | 2    | 0    | 1    | 17         | 3               | 120  | 2    | 0    | 125        | 290        |
| 01:30 PM   | 153             | 10   | 0    | 0    | 163        | 9                        | 10   | 0    | 0    | 19         | 3               | 112  | 0    | 0    | 115        | 297        |
| 01:45 PM   | 153             | 12   | 1    | 0    | 166        | 3                        | 6    | 0    | 0    | 9          | 1               | 128  | 1    | 0    | 130        | 305        |
| Total      | 576             | 45   | 1    | 0    | 622        | 35                       | 26   | 0    | 1    | 62         | 7               | 476  | 3    | 0    | 486        | 1170       |
| 02:00 PM   | 128             | 6    | 0    | 0    | 134        | 4                        | 1    | 0    | 0    | 5          | 4               | 110  | 0    | 0    | 114        | 253        |





TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Marfield)

Site Code :

Start Date : 9/9/2021

Page No : 2

Groups Printed- Cars + - Trucks

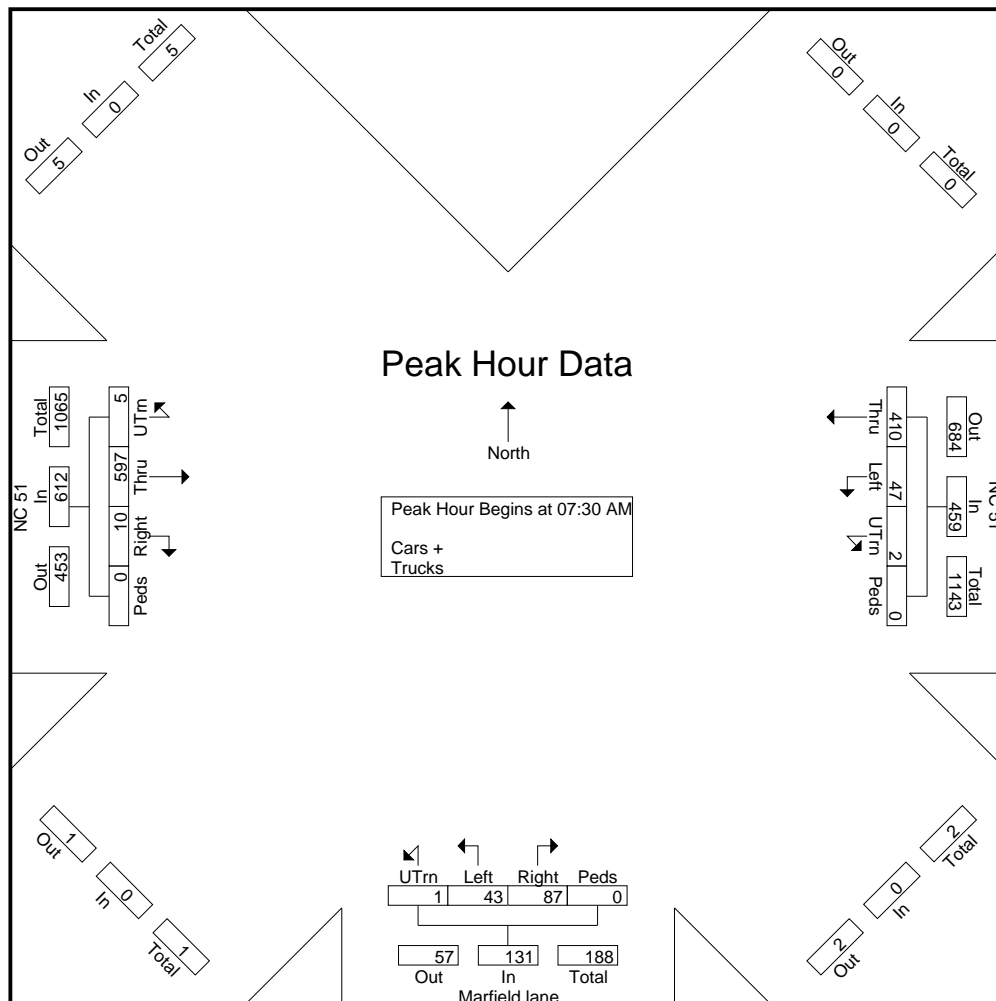
| Start Time  | NC 51 Westbound |      |      |      |            | Marfield lane Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|-------------|-----------------|------|------|------|------------|--------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|             | Thru            | Left | UTrn | Peds | App. Total | Right                    | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total |            |
| 02:15 PM    | 156             | 5    | 0    | 0    | 161        | 14                       | 5    | 0    | 0    | 19         | 6               | 121  | 1    | 0    | 128        | 308        |
| 02:30 PM    | 140             | 8    | 0    | 0    | 148        | 9                        | 6    | 0    | 1    | 16         | 3               | 127  | 1    | 0    | 131        | 295        |
| 02:45 PM    | 135             | 11   | 0    | 0    | 146        | 6                        | 7    | 0    | 0    | 13         | 6               | 137  | 0    | 0    | 143        | 302        |
| Total       | 559             | 30   | 0    | 0    | 589        | 33                       | 19   | 0    | 1    | 53         | 19              | 495  | 2    | 0    | 516        | 1158       |
| 03:00 PM    | 138             | 13   | 1    | 0    | 152        | 8                        | 4    | 0    | 0    | 12         | 1               | 135  | 0    | 0    | 136        | 300        |
| 03:15 PM    | 144             | 12   | 0    | 0    | 156        | 9                        | 3    | 0    | 0    | 12         | 2               | 115  | 3    | 0    | 120        | 288        |
| 03:30 PM    | 133             | 10   | 0    | 0    | 143        | 12                       | 5    | 0    | 2    | 19         | 1               | 141  | 0    | 0    | 142        | 304        |
| 03:45 PM    | 165             | 13   | 0    | 0    | 178        | 16                       | 1    | 0    | 0    | 17         | 4               | 135  | 0    | 0    | 139        | 334        |
| Total       | 580             | 48   | 1    | 0    | 629        | 45                       | 13   | 0    | 2    | 60         | 8               | 526  | 3    | 0    | 537        | 1226       |
| 04:00 PM    | 153             | 15   | 0    | 0    | 168        | 6                        | 4    | 0    | 0    | 10         | 2               | 179  | 2    | 0    | 183        | 361        |
| 04:15 PM    | 135             | 14   | 0    | 0    | 149        | 11                       | 8    | 0    | 0    | 19         | 1               | 186  | 1    | 0    | 188        | 356        |
| 04:30 PM    | 145             | 17   | 1    | 0    | 163        | 8                        | 4    | 0    | 0    | 12         | 2               | 178  | 0    | 0    | 180        | 355        |
| 04:45 PM    | 136             | 22   | 0    | 0    | 158        | 8                        | 8    | 0    | 0    | 16         | 5               | 162  | 1    | 0    | 168        | 342        |
| Total       | 569             | 68   | 1    | 0    | 638        | 33                       | 24   | 0    | 0    | 57         | 10              | 705  | 4    | 0    | 719        | 1414       |
| 05:00 PM    | 193             | 25   | 2    | 0    | 220        | 23                       | 3    | 0    | 0    | 26         | 2               | 162  | 0    | 0    | 164        | 410        |
| 05:15 PM    | 195             | 26   | 0    | 0    | 221        | 18                       | 7    | 0    | 0    | 25         | 1               | 144  | 0    | 0    | 145        | 391        |
| 05:30 PM    | 177             | 20   | 0    | 0    | 197        | 12                       | 10   | 0    | 0    | 22         | 2               | 162  | 0    | 0    | 164        | 383        |
| 05:45 PM    | 156             | 18   | 0    | 0    | 174        | 12                       | 7    | 0    | 0    | 19         | 6               | 123  | 1    | 0    | 130        | 323        |
| Total       | 721             | 89   | 2    | 0    | 812        | 65                       | 27   | 0    | 0    | 92         | 11              | 591  | 1    | 0    | 603        | 1507       |
| 06:00 PM    | 145             | 15   | 0    | 0    | 160        | 9                        | 5    | 0    | 0    | 14         | 4               | 120  | 0    | 0    | 124        | 298        |
| 06:15 PM    | 130             | 16   | 0    | 0    | 146        | 10                       | 2    | 0    | 0    | 12         | 1               | 112  | 0    | 0    | 113        | 271        |
| 06:30 PM    | 125             | 10   | 0    | 0    | 135        | 7                        | 4    | 0    | 0    | 11         | 0               | 103  | 0    | 0    | 103        | 249        |
| 06:45 PM    | 111             | 5    | 0    | 0    | 116        | 5                        | 1    | 0    | 0    | 6          | 1               | 90   | 0    | 0    | 91         | 213        |
| Total       | 511             | 46   | 0    | 0    | 557        | 31                       | 12   | 0    | 0    | 43         | 6               | 425  | 0    | 0    | 431        | 1031       |
| Grand Total | 6384            | 578  | 26   | 0    | 6988       | 578                      | 285  | 1    | 6    | 870        | 116             | 6600 | 37   | 0    | 6753       | 14611      |
| Apprch %    | 91.4            | 8.3  | 0.4  | 0    |            | 66.4                     | 32.8 | 0.1  | 0.7  |            | 1.7             | 97.7 | 0.5  | 0    |            |            |
| Total %     | 43.7            | 4    | 0.2  | 0    | 47.8       | 4                        | 2    | 0    | 0    | 6          | 0.8             | 45.2 | 0.3  | 0    | 46.2       |            |
| Cars +      | 6146            | 555  | 25   | 0    | 6726       | 558                      | 280  | 0    | 6    | 844        | 115             | 6463 | 36   | 0    | 6614       | 14184      |
| % Cars +    | 96.3            | 96   | 96.2 | 0    | 96.3       | 96.5                     | 98.2 | 0    | 100  | 97         | 99.1            | 97.9 | 97.3 | 0    | 97.9       | 97.1       |
| Trucks      | 238             | 23   | 1    | 0    | 262        | 20                       | 5    | 1    | 0    | 26         | 1               | 137  | 1    | 0    | 139        | 427        |
| % Trucks    | 3.7             | 4    | 3.8  | 0    | 3.7        | 3.5                      | 1.8  | 100  | 0    | 3          | 0.9             | 2.1  | 2.7  | 0    | 2.1        | 2.9        |



TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Marfield)  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 3

| Start Time   | NC 51 Westbound |      |      |      |            | Marfield lane Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|--|-----------------|------|------|------|------------|--------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|  | Thru            | Left | UTrn | Peds | App. Total | Right                    | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total |            |
| Peak Hour Analysis From 06:00 AM to 11:45 AM - Peak 1 of 1 |                 |      |      |      |            |                          |      |      |      |            |                 |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:30 AM       |                 |      |      |      |            |                          |      |      |      |            |                 |      |      |      |            |            |
| 07:30 AM   | 116             | 12   | 0    | 0    | 128        | 23                       | 14   | 1    | 0    | 38         | 2               | 154  | 2    | 0    | 158        | 324        |
| 07:45 AM   | 104             | 8    | 0    | 0    | 112        | 22                       | 4    | 0    | 0    | 26         | 1               | 164  | 1    | 0    | 166        | 304        |
| 08:00 AM   | 103             | 13   | 2    | 0    | 118        | 22                       | 14   | 0    | 0    | 36         | 2               | 140  | 0    | 0    | 142        | 296        |
| 08:15 AM   | 87              | 14   | 0    | 0    | 101        | 20                       | 11   | 0    | 0    | 31         | 5               | 139  | 2    | 0    | 146        | 278        |
| Total Volume   | 410             | 47   | 2    | 0    | 459        | 87                       | 43   | 1    | 0    | 131        | 10              | 597  | 5    | 0    | 612        | 1202       |
| % App. Total   | 89.3            | 10.2 | 0.4  | 0    |            | 66.4                     | 32.8 | 0.8  | 0    |            | 1.6             | 97.5 | 0.8  | 0    |            |            |
| PHF  | .884            | .839 | .250 | .000 | .896       | .946                     | .768 | .250 | .000 | .862       | .500            | .910 | .625 | .000 | .922       | .927       |





TRAFFIC DATA COLLECTION

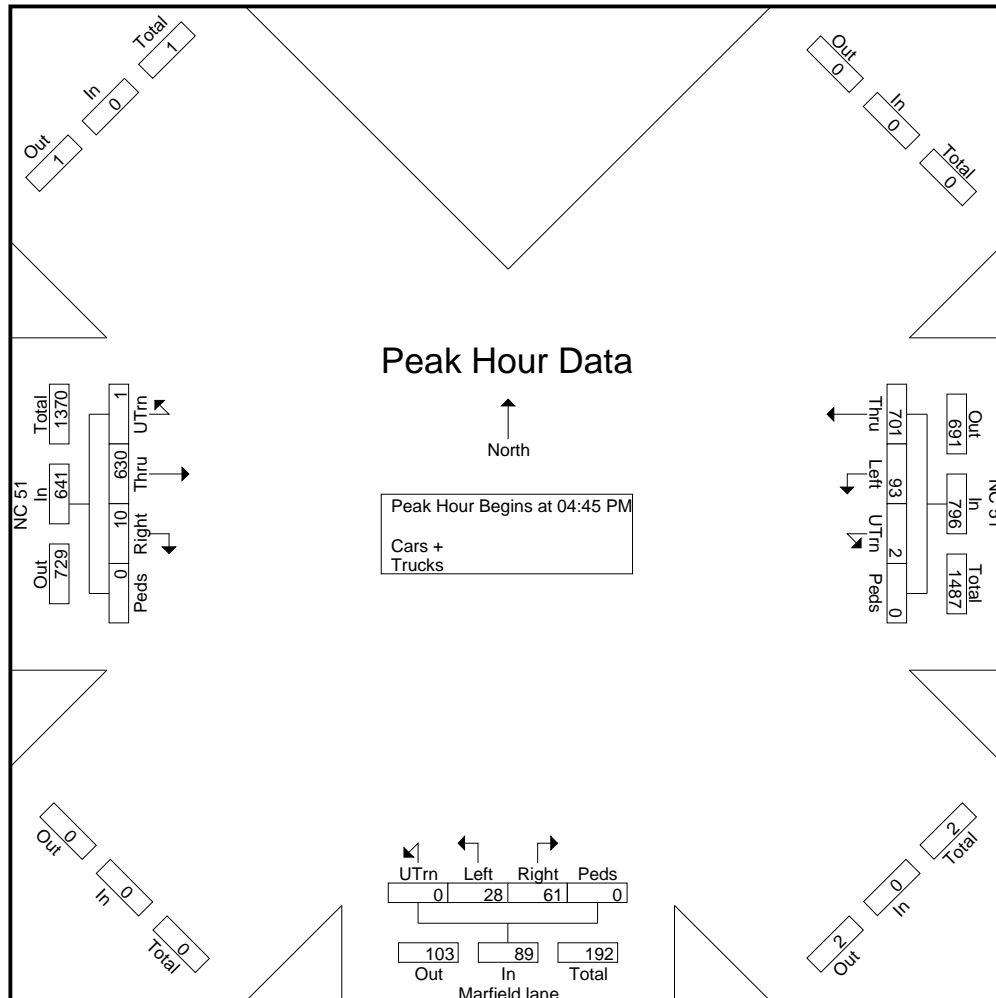
File Name : Pineville(NC 51 and Marfield)

Site Code :

Start Date : 9/9/2021

Page No : 4

| Start Time   | NC 51 Westbound |      |      |      |            | Marfield lane Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|--|-----------------|------|------|------|------------|--------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|  | Thru            | Left | UTrn | Peds | App. Total | Right                    | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total |            |
| Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1 |                 |      |      |      |            |                          |      |      |      |            |                 |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                 |      |      |      |            |                          |      |      |      |            |                 |      |      |      |            |            |
| 04:45 PM   | 136             | 22   | 0    | 0    | 158        | 8                        | 8    | 0    | 0    | 16         | 5               | 162  | 1    | 0    | 168        | 342        |
| 05:00 PM   | 193             | 25   | 2    | 0    | 220        | 23                       | 3    | 0    | 0    | 26         | 2               | 162  | 0    | 0    | 164        | 410        |
| 05:15 PM   | 195             | 26   | 0    | 0    | 221        | 18                       | 7    | 0    | 0    | 25         | 1               | 144  | 0    | 0    | 145        | 391        |
| 05:30 PM   | 177             | 20   | 0    | 0    | 197        | 12                       | 10   | 0    | 0    | 22         | 2               | 162  | 0    | 0    | 164        | 383        |
| Total Volume   | 701             | 93   | 2    | 0    | 796        | 61                       | 28   | 0    | 0    | 89         | 10              | 630  | 1    | 0    | 641        | 1526       |
| % App. Total   | 88.1            | 11.7 | 0.3  | 0    |            | 68.5                     | 31.5 | 0    | 0    |            | 1.6             | 98.3 | 0.2  | 0    |            |            |
| PHF  | .899            | .894 | .250 | .000 | .900       | .663                     | .700 | .000 | .000 | .856       | .500            | .972 | .250 | .000 | .954       | .930       |





TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Miller)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

| Start Time  | NC 51 Westbound |      |      |      |            | Miller Road Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|-------------|-----------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|             | Thru            | Left | UTrn | Peds | App. Total | Right                  | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total |            |
| 07:00 AM    | 98              | 1    | 0    | 0    | 99         | 5                      | 26   | 0    | 0    | 31         | 3               | 115  | 0    | 0    | 118        | 248        |
| 07:15 AM    | 94              | 3    | 0    | 0    | 97         | 10                     | 16   | 0    | 0    | 26         | 9               | 140  | 0    | 0    | 149        | 272        |
| 07:30 AM    | 129             | 1    | 0    | 0    | 130        | 12                     | 19   | 1    | 0    | 32         | 12              | 139  | 0    | 0    | 151        | 313        |
| 07:45 AM    | 97              | 2    | 0    | 0    | 99         | 8                      | 11   | 0    | 0    | 19         | 8               | 143  | 1    | 0    | 152        | 270        |
| Total       | 418             | 7    | 0    | 0    | 425        | 35                     | 72   | 1    | 0    | 108        | 32              | 537  | 1    | 0    | 570        | 1103       |
| 08:00 AM    | 110             | 3    | 0    | 0    | 113        | 7                      | 15   | 1    | 0    | 23         | 12              | 130  | 0    | 0    | 142        | 278        |
| 08:15 AM    | 89              | 4    | 1    | 0    | 94         | 8                      | 17   | 0    | 0    | 25         | 9               | 132  | 0    | 0    | 141        | 260        |
| 08:30 AM    | 96              | 5    | 0    | 0    | 101        | 9                      | 14   | 0    | 0    | 23         | 7               | 113  | 0    | 0    | 120        | 244        |
| 08:45 AM    | 87              | 2    | 0    | 0    | 89         | 7                      | 7    | 0    | 1    | 15         | 12              | 118  | 0    | 0    | 130        | 234        |
| Total       | 382             | 14   | 1    | 0    | 397        | 31                     | 53   | 1    | 1    | 86         | 40              | 493  | 0    | 0    | 533        | 1016       |
| Grand Total | 800             | 21   | 1    | 0    | 822        | 66                     | 125  | 2    | 1    | 194        | 72              | 1030 | 1    | 0    | 1103       | 2119       |
| Apprch %    | 97.3            | 2.6  | 0.1  | 0    |            | 34                     | 64.4 | 1    | 0.5  |            | 6.5             | 93.4 | 0.1  | 0    |            |            |
| Total %     | 37.8            | 1    | 0    | 0    | 38.8       | 3.1                    | 5.9  | 0.1  | 0    | 9.2        | 3.4             | 48.6 | 0    | 0    | 52.1       |            |
| Cars +      | 760             | 21   | 1    | 0    | 782        | 66                     | 125  | 1    | 1    | 193        | 71              | 999  | 1    | 0    | 1071       | 2046       |
| % Cars +    | 95              | 100  | 100  | 0    | 95.1       | 100                    | 100  | 50   | 100  | 99.5       | 98.6            | 97   | 100  | 0    | 97.1       | 96.6       |
| Trucks      | 40              | 0    | 0    | 0    | 40         | 0                      | 0    | 1    | 0    | 1          | 1               | 31   | 0    | 0    | 32         | 73         |
| % Trucks    | 5               | 0    | 0    | 0    | 4.9        | 0                      | 0    | 50   | 0    | 0.5        | 1.4             | 3    | 0    | 0    | 2.9        | 3.4        |



TRAFFIC DATA COLLECTION

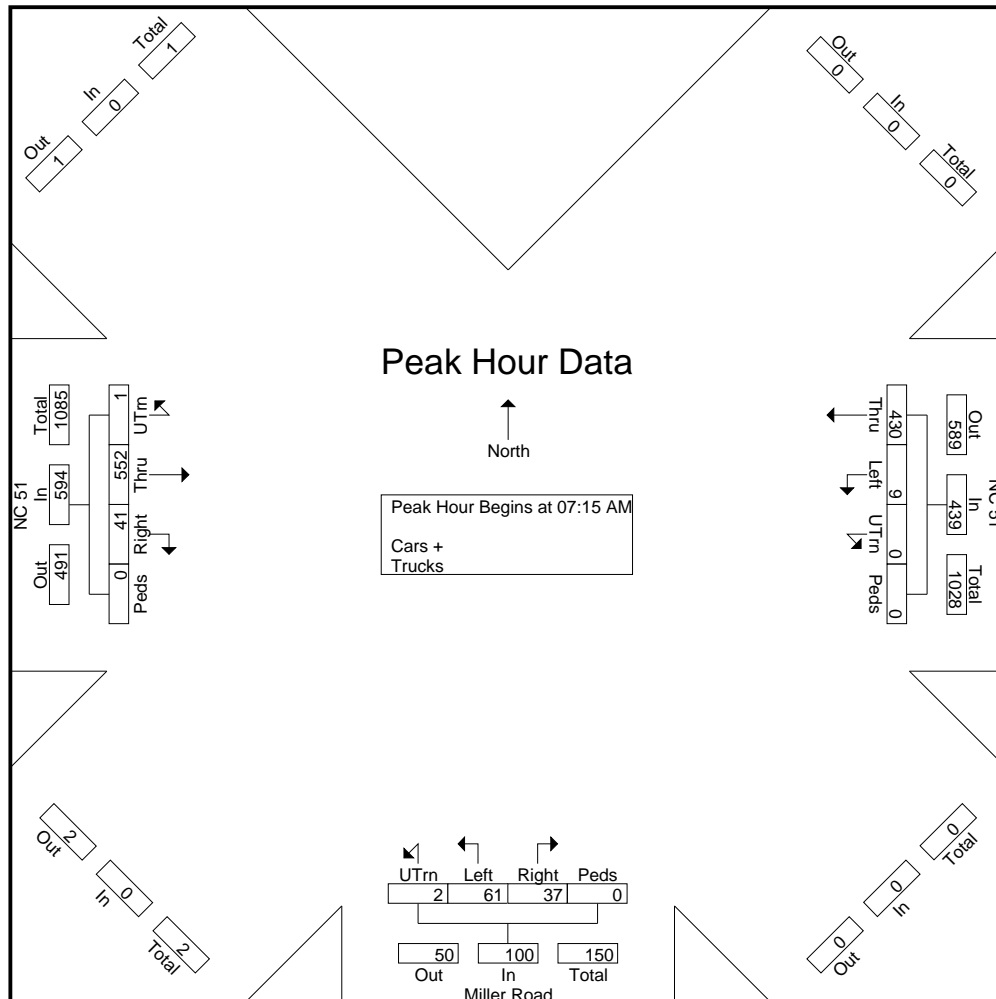
File Name : Pineville(NC 51 and Miller)AM Peak

Site Code :

Start Date : 9/9/2021

Page No : 2

| Start Time   | NC 51 Westbound |      |      |      |            | Miller Road Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|--|-----------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|  | Thru            | Left | UTrn | Peds | App. Total | Right                  | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 |                 |      |      |      |            |                        |      |      |      |            |                 |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                 |      |      |      |            |                        |      |      |      |            |                 |      |      |      |            |            |
| 07:15 AM   | 94              | 3    | 0    | 0    | 97         | 10                     | 16   | 0    | 0    | 26         | 9               | 140  | 0    | 0    | 149        | 272        |
| 07:30 AM   | 129             | 1    | 0    | 0    | 130        | 12                     | 19   | 1    | 0    | 32         | 12              | 139  | 0    | 0    | 151        | 313        |
| 07:45 AM   | 97              | 2    | 0    | 0    | 99         | 8                      | 11   | 0    | 0    | 19         | 8               | 143  | 1    | 0    | 152        | 270        |
| 08:00 AM   | 110             | 3    | 0    | 0    | 113        | 7                      | 15   | 1    | 0    | 23         | 12              | 130  | 0    | 0    | 142        | 278        |
| Total Volume   | 430             | 9    | 0    | 0    | 439        | 37                     | 61   | 2    | 0    | 100        | 41              | 552  | 1    | 0    | 594        | 1133       |
| % App. Total   | 97.9            | 2.1  | 0    | 0    |            | 37                     | 61   | 2    | 0    |            | 6.9             | 92.9 | 0.2  | 0    |            |            |
| PHF  | .833            | .750 | .000 | .000 | .844       | .771                   | .803 | .500 | .000 | .781       | .854            | .965 | .250 | .000 | .977       | .905       |





TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Miller)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

| Start Time  | NC 51 Westbound |      |      |      |            | Miller Road Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|-------------|-----------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|             | Thru            | Left | UTrn | Peds | App. Total | Right                  | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total |            |
| 04:00 PM    | 147             | 3    | 1    | 0    | 151        | 8                      | 10   | 0    | 1    | 19         | 13              | 167  | 0    | 1    | 181        | 351        |
| 04:15 PM    | 132             | 6    | 0    | 0    | 138        | 5                      | 18   | 0    | 0    | 23         | 11              | 181  | 0    | 0    | 192        | 353        |
| 04:30 PM    | 129             | 7    | 0    | 0    | 136        | 8                      | 10   | 0    | 0    | 18         | 5               | 170  | 0    | 0    | 175        | 329        |
| 04:45 PM    | 129             | 6    | 1    | 0    | 136        | 4                      | 3    | 0    | 0    | 7          | 14              | 162  | 0    | 0    | 176        | 319        |
| Total       | 537             | 22   | 2    | 0    | 561        | 25                     | 41   | 0    | 1    | 67         | 43              | 680  | 0    | 1    | 724        | 1352       |
| 05:00 PM    | 174             | 18   | 0    | 0    | 192        | 10                     | 6    | 0    | 0    | 16         | 14              | 149  | 1    | 0    | 164        | 372        |
| 05:15 PM    | 176             | 14   | 0    | 0    | 190        | 9                      | 8    | 0    | 0    | 17         | 13              | 132  | 0    | 0    | 145        | 352        |
| 05:30 PM    | 148             | 12   | 0    | 0    | 160        | 9                      | 8    | 0    | 0    | 17         | 9               | 156  | 0    | 0    | 165        | 342        |
| 05:45 PM    | 131             | 11   | 0    | 0    | 142        | 3                      | 10   | 0    | 0    | 13         | 16              | 121  | 0    | 0    | 137        | 292        |
| Total       | 629             | 55   | 0    | 0    | 684        | 31                     | 32   | 0    | 0    | 63         | 52              | 558  | 1    | 0    | 611        | 1358       |
| Grand Total | 1166            | 77   | 2    | 0    | 1245       | 56                     | 73   | 0    | 1    | 130        | 95              | 1238 | 1    | 1    | 1335       | 2710       |
| Apprch %    | 93.7            | 6.2  | 0.2  | 0    |            | 43.1                   | 56.2 | 0    | 0.8  |            | 7.1             | 92.7 | 0.1  | 0.1  |            |            |
| Total %     | 43              | 2.8  | 0.1  | 0    | 45.9       | 2.1                    | 2.7  | 0    | 0    | 4.8        | 3.5             | 45.7 | 0    | 0    | 49.3       |            |
| Cars +      | 1152            | 76   | 2    | 0    | 1230       | 55                     | 72   | 0    | 1    | 128        | 94              | 1216 | 1    | 1    | 1312       | 2670       |
| % Cars +    | 98.8            | 98.7 | 100  | 0    | 98.8       | 98.2                   | 98.6 | 0    | 100  | 98.5       | 98.9            | 98.2 | 100  | 100  | 98.3       | 98.5       |
| Trucks      | 14              | 1    | 0    | 0    | 15         | 1                      | 1    | 0    | 0    | 2          | 1               | 22   | 0    | 0    | 23         | 40         |
| % Trucks    | 1.2             | 1.3  | 0    | 0    | 1.2        | 1.8                    | 1.4  | 0    | 0    | 1.5        | 1.1             | 1.8  | 0    | 0    | 1.7        | 1.5        |



TRAFFIC DATA COLLECTION

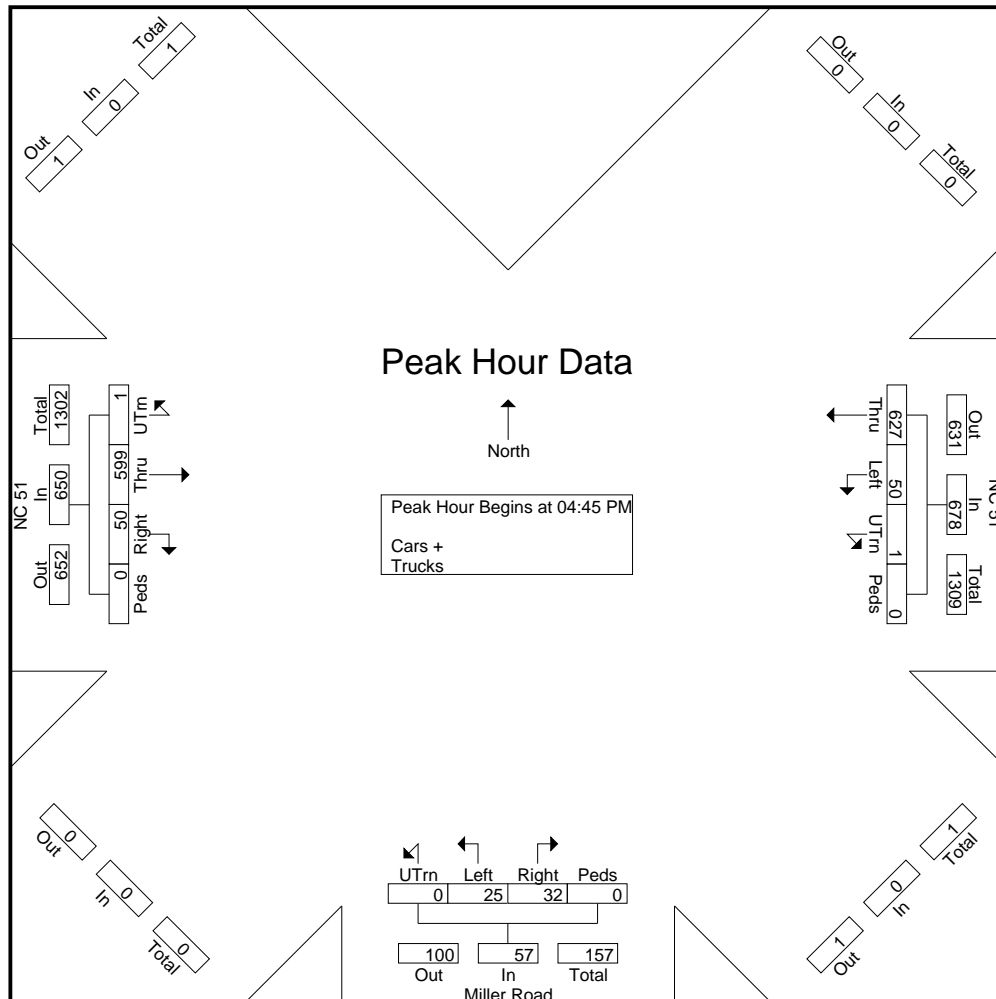
File Name : Pineville(NC 51 and Miller)PM Peak

Site Code :

Start Date : 9/9/2021

Page No : 2

| Start Time   | NC 51 Westbound |      |      |      |            | Miller Road Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|--|-----------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|  | Thru            | Left | UTrn | Peds | App. Total | Right                  | Left | UTrn | Peds | App. Total | Right           | Thru | UTrn | Peds | App. Total |            |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 |                 |      |      |      |            |                        |      |      |      |            |                 |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:45 PM       |                 |      |      |      |            |                        |      |      |      |            |                 |      |      |      |            |            |
| 04:45 PM   | 129             | 6    | 1    | 0    | 136        | 4                      | 3    | 0    | 0    | 7          | 14              | 162  | 0    | 0    | 176        | 319        |
| 05:00 PM   | 174             | 18   | 0    | 0    | 192        | 10                     | 6    | 0    | 0    | 16         | 14              | 149  | 1    | 0    | 164        | 372        |
| 05:15 PM   | 176             | 14   | 0    | 0    | 190        | 9                      | 8    | 0    | 0    | 17         | 13              | 132  | 0    | 0    | 145        | 352        |
| 05:30 PM   | 148             | 12   | 0    | 0    | 160        | 9                      | 8    | 0    | 0    | 17         | 9               | 156  | 0    | 0    | 165        | 342        |
| Total Volume   | 627             | 50   | 1    | 0    | 678        | 32                     | 25   | 0    | 0    | 57         | 50              | 599  | 1    | 0    | 650        | 1385       |
| % App. Total   | 92.5            | 7.4  | 0.1  | 0    |            | 56.1                   | 43.9 | 0    | 0    |            | 7.7             | 92.2 | 0.2  | 0    |            |            |
| PHF  | .891            | .694 | .250 | .000 | .883       | .800                   | .781 | .000 | .000 | .838       | .893            | .924 | .250 | .000 | .923       | .931       |





TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Polk)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

| Start Time  | Polk Street Southbound |      |      |      |            | NC 51 Westbound |      |      |      |            | Polk Street Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|-------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|             | Right                  | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total | Right                  | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total |            |
| 07:00 AM    | 12                     | 61   | 20   | 0    | 93         | 18              | 85   | 12   | 0    | 115        | 1                      | 85   | 30   | 0    | 116        | 31              | 93   | 25   | 0    | 149        | 473        |
| 07:15 AM    | 17                     | 29   | 16   | 0    | 62         | 31              | 96   | 12   | 0    | 139        | 6                      | 93   | 48   | 0    | 147        | 25              | 107  | 21   | 0    | 153        | 501        |
| 07:30 AM    | 17                     | 62   | 11   | 0    | 90         | 33              | 106  | 15   | 0    | 154        | 8                      | 104  | 49   | 0    | 161        | 26              | 144  | 39   | 0    | 209        | 614        |
| 07:45 AM    | 22                     | 49   | 24   | 0    | 95         | 32              | 91   | 8    | 0    | 131        | 3                      | 138  | 74   | 0    | 215        | 28              | 128  | 28   | 0    | 184        | 625        |
| Total       | 68                     | 201  | 71   | 0    | 340        | 114             | 378  | 47   | 0    | 539        | 18                     | 420  | 201  | 0    | 639        | 110             | 472  | 113  | 0    | 695        | 2213       |
| 08:00 AM    | 13                     | 61   | 16   | 0    | 90         | 37              | 95   | 4    | 0    | 136        | 7                      | 105  | 47   | 0    | 159        | 27              | 139  | 24   | 0    | 190        | 575        |
| 08:15 AM    | 21                     | 79   | 23   | 0    | 123        | 19              | 73   | 5    | 0    | 97         | 3                      | 99   | 42   | 0    | 144        | 26              | 109  | 28   | 0    | 163        | 527        |
| 08:30 AM    | 23                     | 48   | 25   | 0    | 96         | 27              | 101  | 5    | 0    | 133        | 5                      | 80   | 45   | 0    | 130        | 28              | 122  | 24   | 0    | 174        | 533        |
| 08:45 AM    | 17                     | 60   | 17   | 0    | 94         | 39              | 75   | 8    | 0    | 122        | 6                      | 73   | 35   | 0    | 114        | 29              | 107  | 25   | 2    | 163        | 493        |
| Total       | 74                     | 248  | 81   | 0    | 403        | 122             | 344  | 22   | 0    | 488        | 21                     | 357  | 169  | 0    | 547        | 110             | 477  | 101  | 2    | 690        | 2128       |
| Grand Total | 142                    | 449  | 152  | 0    | 743        | 236             | 722  | 69   | 0    | 1027       | 39                     | 777  | 370  | 0    | 1186       | 220             | 949  | 214  | 2    | 1385       | 4341       |
| Apprch %    | 19.1                   | 60.4 | 20.5 | 0    |            | 23              | 70.3 | 6.7  | 0    |            | 3.3                    | 65.5 | 31.2 | 0    |            | 15.9            | 68.5 | 15.5 | 0.1  |            |            |
| Total %     | 3.3                    | 10.3 | 3.5  | 0    | 17.1       | 5.4             | 16.6 | 1.6  | 0    | 23.7       | 0.9                    | 17.9 | 8.5  | 0    | 27.3       | 5.1             | 21.9 | 4.9  | 0    | 31.9       |            |
| Cars +      | 137                    | 421  | 139  | 0    | 697        | 230             | 698  | 65   | 0    | 993        | 38                     | 765  | 348  | 0    | 1151       | 211             | 911  | 210  | 2    | 1334       | 4175       |
| % Cars +    | 96.5                   | 93.8 | 91.4 | 0    | 93.8       | 97.5            | 96.7 | 94.2 | 0    | 96.7       | 97.4                   | 98.5 | 94.1 | 0    | 97         | 95.9            | 96   | 98.1 | 100  | 96.3       | 96.2       |
| Trucks      | 5                      | 28   | 13   | 0    | 46         | 6               | 24   | 4    | 0    | 34         | 1                      | 12   | 22   | 0    | 35         | 9               | 38   | 4    | 0    | 51         | 166        |
| % Trucks    | 3.5                    | 6.2  | 8.6  | 0    | 6.2        | 2.5             | 3.3  | 5.8  | 0    | 3.3        | 2.6                    | 1.5  | 5.9  | 0    | 3          | 4.1             | 4    | 1.9  | 0    | 3.7        | 3.8        |

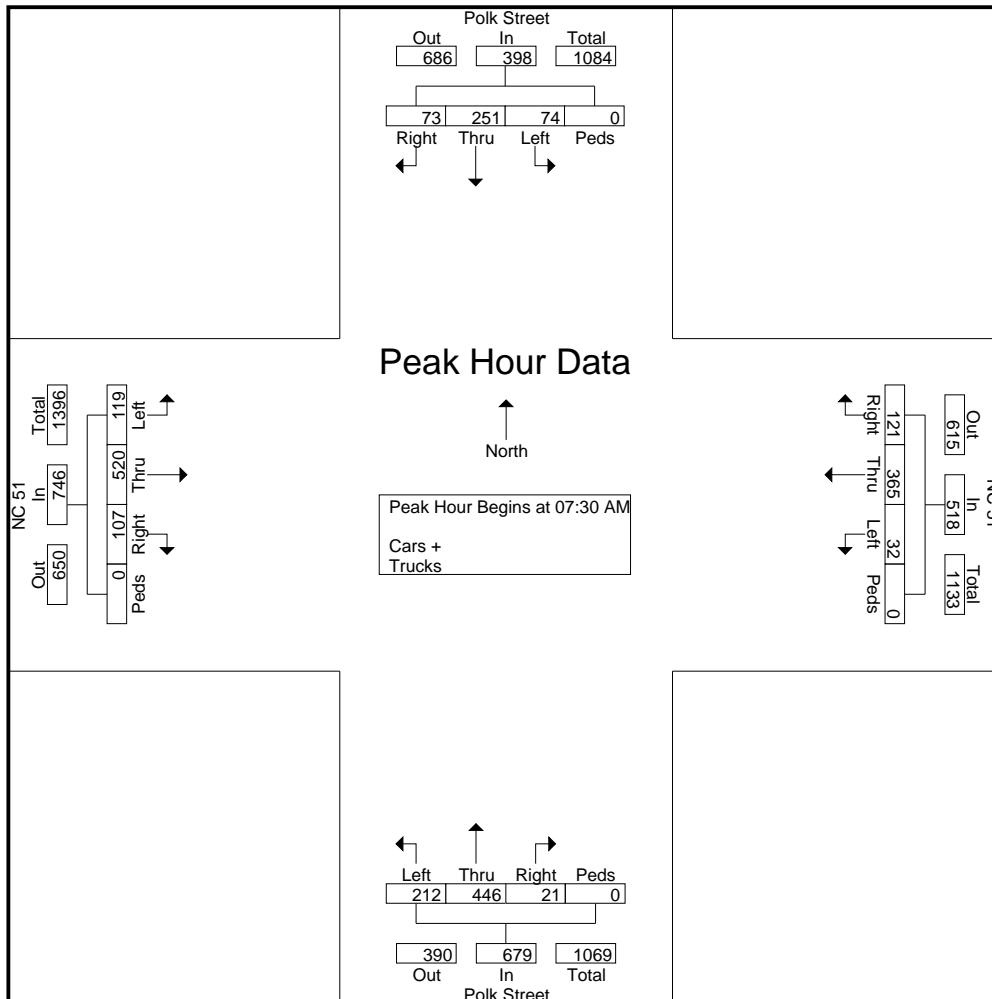




TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Polk)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Polk Street Southbound |           |      |      |            | NC 51 Westbound |            |      |      |            | Polk Street Northbound |            |      |      |            | NC 51 Eastbound |            |      |      |            | Int. Total |
|--|------------------------|-----------|------|------|------------|-----------------|------------|------|------|------------|------------------------|------------|------|------|------------|-----------------|------------|------|------|------------|------------|
|  | Right                  | Thru      | Left | Peds | App. Total | Right           | Thru       | Left | Peds | App. Total | Right                  | Thru       | Left | Peds | App. Total | Right           | Thru       | Left | Peds | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 |                        |           |      |      |            |                 |            |      |      |            |                        |            |      |      |            |                 |            |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:30 AM       |                        |           |      |      |            |                 |            |      |      |            |                        |            |      |      |            |                 |            |      |      |            |            |
| 07:30 AM   | 17                     | 62        | 11   | 0    | 90         | 33              | <b>106</b> | 15   | 0    | 154        | 8                      | 104        | 49   | 0    | 161        | 26              | <b>144</b> | 39   | 0    | <b>209</b> | 614        |
| 07:45 AM   | 22                     | 49        | 24   | 0    | 95         | 32              | 91         | 8    | 0    | 131        | 3                      | <b>138</b> | 74   | 0    | <b>215</b> | 28              | 128        | 28   | 0    | 184        | <b>625</b> |
| 08:00 AM   | 13                     | 61        | 16   | 0    | 90         | 37              | 95         | 4    | 0    | 136        | 7                      | 105        | 47   | 0    | 159        | 27              | 139        | 24   | 0    | 190        | 575        |
| 08:15 AM   | 21                     | <b>79</b> | 23   | 0    | <b>123</b> | 19              | 73         | 5    | 0    | 97         | 3                      | 99         | 42   | 0    | 144        | 26              | 109        | 28   | 0    | 163        | 527        |
| Total Volume   | 73                     | 251       | 74   | 0    | 398        | 121             | 365        | 32   | 0    | 518        | 21                     | 446        | 212  | 0    | 679        | 107             | 520        | 119  | 0    | 746        | 2341       |
| % App. Total   | 18.3                   | 63.1      | 18.6 | 0    |            | 23.4            | 70.5       | 6.2  | 0    |            | 3.1                    | 65.7       | 31.2 | 0    |            | 14.3            | 69.7       | 16   | 0    |            |            |
| PHF  | .830                   | .794      | .771 | .000 | .809       | .818            | .861       | .533 | .000 | .841       | .656                   | .808       | .716 | .000 | .790       | .955            | .903       | .763 | .000 | .892       | .936       |





TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Polk)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

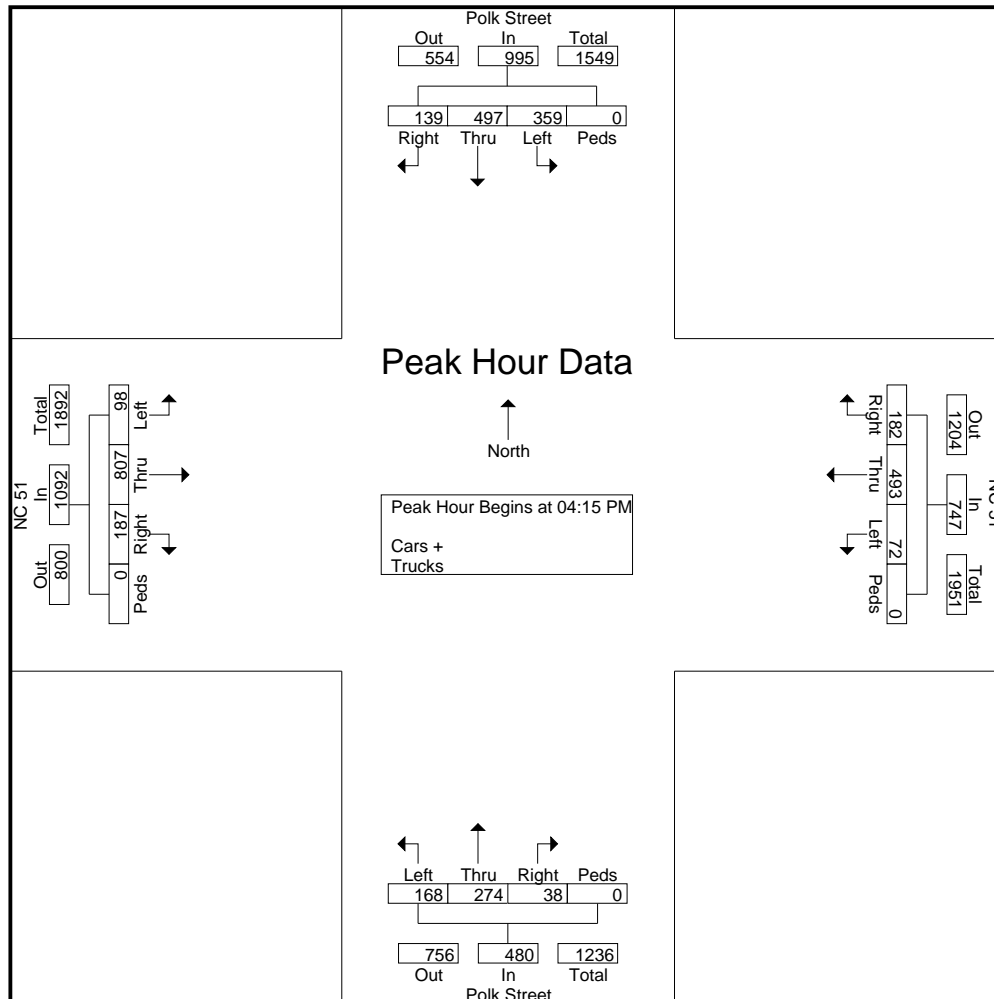
| Start Time  | Polk Street Southbound |      |      |      |            | NC 51 Westbound |      |      |      |            | Polk Street Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|-------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|             | Right                  | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total | Right                  | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total |            |
| 04:00 PM    | 34                     | 131  | 86   | 0    | 251        | 63              | 124  | 13   | 0    | 200        | 9                      | 61   | 43   | 1    | 114        | 46              | 173  | 23   | 0    | 242        | 807        |
| 04:15 PM    | 30                     | 131  | 87   | 0    | 248        | 47              | 113  | 12   | 0    | 172        | 13                     | 80   | 39   | 0    | 132        | 38              | 224  | 29   | 0    | 291        | 843        |
| 04:30 PM    | 29                     | 124  | 87   | 0    | 240        | 42              | 121  | 25   | 0    | 188        | 6                      | 66   | 31   | 0    | 103        | 47              | 167  | 23   | 0    | 237        | 768        |
| 04:45 PM    | 24                     | 114  | 83   | 0    | 221        | 48              | 122  | 21   | 0    | 191        | 10                     | 58   | 55   | 0    | 123        | 56              | 209  | 25   | 0    | 290        | 825        |
| Total       | 117                    | 500  | 343  | 0    | 960        | 200             | 480  | 71   | 0    | 751        | 38                     | 265  | 168  | 1    | 472        | 187             | 773  | 100  | 0    | 1060       | 3243       |
| 05:00 PM    | 56                     | 128  | 102  | 0    | 286        | 45              | 137  | 14   | 0    | 196        | 9                      | 70   | 43   | 0    | 122        | 46              | 207  | 21   | 0    | 274        | 878        |
| 05:15 PM    | 51                     | 126  | 87   | 0    | 264        | 29              | 177  | 9    | 0    | 215        | 11                     | 67   | 35   | 0    | 113        | 32              | 173  | 24   | 0    | 229        | 821        |
| 05:30 PM    | 37                     | 105  | 48   | 0    | 190        | 41              | 137  | 17   | 0    | 195        | 7                      | 56   | 41   | 0    | 104        | 47              | 164  | 27   | 1    | 239        | 728        |
| 05:45 PM    | 34                     | 108  | 64   | 0    | 206        | 35              | 119  | 24   | 0    | 178        | 10                     | 73   | 47   | 0    | 130        | 25              | 128  | 21   | 0    | 174        | 688        |
| Total       | 178                    | 467  | 301  | 0    | 946        | 150             | 570  | 64   | 0    | 784        | 37                     | 266  | 166  | 0    | 469        | 150             | 672  | 93   | 1    | 916        | 3115       |
| Grand Total | 295                    | 967  | 644  | 0    | 1906       | 350             | 1050 | 135  | 0    | 1535       | 75                     | 531  | 334  | 1    | 941        | 337             | 1445 | 193  | 1    | 1976       | 6358       |
| Apprch %    | 15.5                   | 50.7 | 33.8 | 0    |            | 22.8            | 68.4 | 8.8  | 0    |            | 8                      | 56.4 | 35.5 | 0.1  |            | 17.1            | 73.1 | 9.8  | 0.1  |            |            |
| Total %     | 4.6                    | 15.2 | 10.1 | 0    | 30         | 5.5             | 16.5 | 2.1  | 0    | 24.1       | 1.2                    | 8.4  | 5.3  | 0    | 14.8       | 5.3             | 22.7 | 3    | 0    | 31.1       |            |
| Cars +      | 287                    | 956  | 637  | 0    | 1880       | 338             | 1015 | 133  | 0    | 1486       | 73                     | 514  | 297  | 1    | 885        | 332             | 1438 | 186  | 1    | 1957       | 6208       |
| % Cars +    | 97.3                   | 98.9 | 98.9 | 0    | 98.6       | 96.6            | 96.7 | 98.5 | 0    | 96.8       | 97.3                   | 96.8 | 88.9 | 100  | 94         | 98.5            | 99.5 | 96.4 | 100  | 99         | 97.6       |
| Trucks      | 8                      | 11   | 7    | 0    | 26         | 12              | 35   | 2    | 0    | 49         | 2                      | 17   | 37   | 0    | 56         | 5               | 7    | 7    | 0    | 19         | 150        |
| % Trucks    | 2.7                    | 1.1  | 1.1  | 0    | 1.4        | 3.4             | 3.3  | 1.5  | 0    | 3.2        | 2.7                    | 3.2  | 11.1 | 0    | 6          | 1.5             | 0.5  | 3.6  | 0    | 1          | 2.4        |



TRAFFIC DATA COLLECTION

File Name : Pineville(NC 51 and Polk)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Polk Street Southbound |      |      |      |            | NC 51 Westbound |      |      |      |            | Polk Street Northbound |      |      |      |            | NC 51 Eastbound |      |      |      |            | Int. Total |
|--|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|  | Right                  | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total | Right                  | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total |            |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 |                        |      |      |      |            |                 |      |      |      |            |                        |      |      |      |            |                 |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:15 PM       |                        |      |      |      |            |                 |      |      |      |            |                        |      |      |      |            |                 |      |      |      |            |            |
| 04:15 PM   | 30                     | 131  | 87   | 0    | 248        | 47              | 113  | 12   | 0    | 172        | 13                     | 80   | 39   | 0    | 132        | 38              | 224  | 29   | 0    | 291        | 843        |
| 04:30 PM   | 29                     | 124  | 87   | 0    | 240        | 42              | 121  | 25   | 0    | 188        | 6                      | 66   | 31   | 0    | 103        | 47              | 167  | 23   | 0    | 237        | 768        |
| 04:45 PM   | 24                     | 114  | 83   | 0    | 221        | 48              | 122  | 21   | 0    | 191        | 10                     | 58   | 55   | 0    | 123        | 56              | 209  | 25   | 0    | 290        | 825        |
| 05:00 PM   | 56                     | 128  | 102  | 0    | 286        | 45              | 137  | 14   | 0    | 196        | 9                      | 70   | 43   | 0    | 122        | 46              | 207  | 21   | 0    | 274        | 878        |
| Total Volume   | 139                    | 497  | 359  | 0    | 995        | 182             | 493  | 72   | 0    | 747        | 38                     | 274  | 168  | 0    | 480        | 187             | 807  | 98   | 0    | 1092       | 3314       |
| % App. Total   | 14                     | 49.9 | 36.1 | 0    |            | 24.4            | 66   | 9.6  | 0    |            | 7.9                    | 57.1 | 35   | 0    |            | 17.1            | 73.9 | 9    | 0    |            |            |
| PHF  | .621                   | .948 | .880 | .000 | .870       | .948            | .900 | .720 | .000 | .953       | .731                   | .856 | .764 | .000 | .909       | .835            | .901 | .845 | .000 | .938       | .944       |





TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Andrew Tucker)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

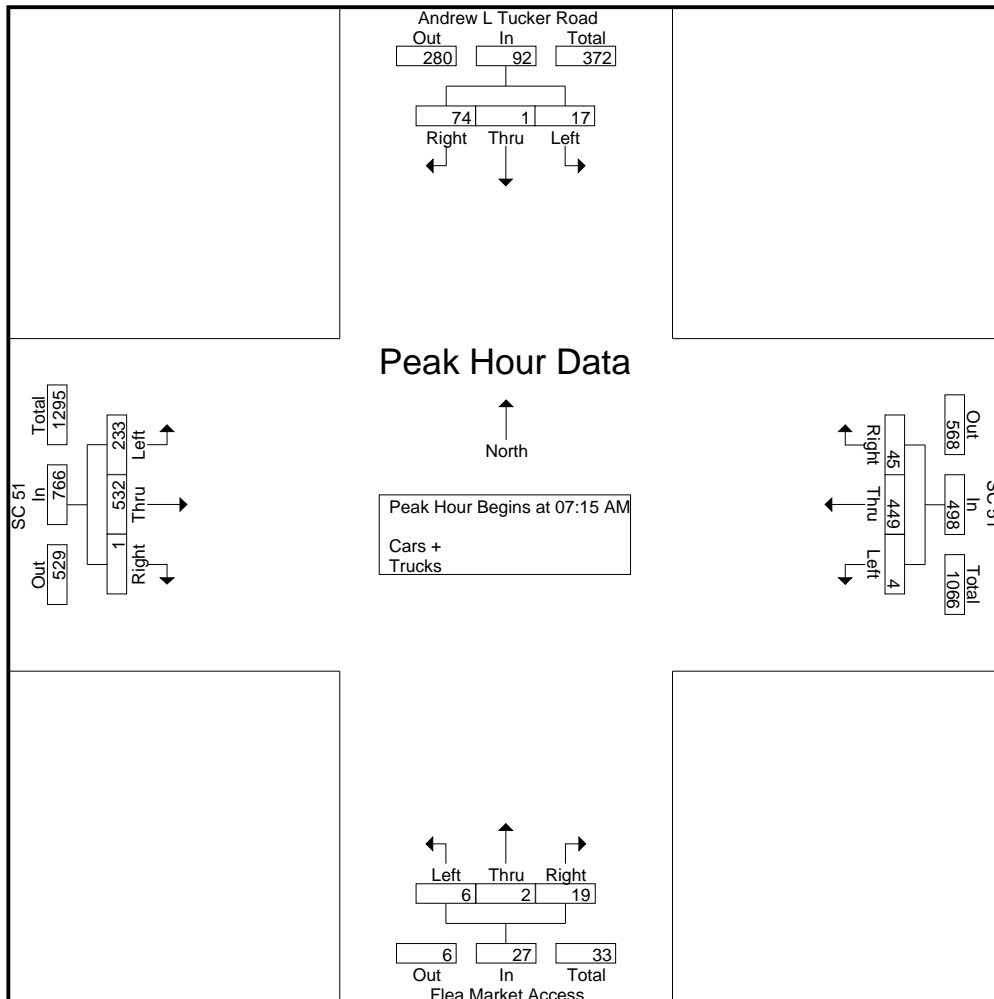
| Start Time  | Andrew L Tucker Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Flea Market Access Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|-------------|---------------------------------|------|------|------------|-----------------|------|------|------------|-------------------------------|------|------|------------|-----------------|------|------|------------|------------|
|             | Right                           | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                         | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| 07:00 AM    | 18                              | 0    | 2    | 20         | 9               | 112  | 0    | 121        | 1                             | 0    | 0    | 1          | 2               | 114  | 43   | 159        | 301        |
| 07:15 AM    | 13                              | 0    | 3    | 16         | 6               | 104  | 2    | 112        | 4                             | 1    | 5    | 10         | 0               | 131  | 49   | 180        | 318        |
| 07:30 AM    | 17                              | 0    | 4    | 21         | 16              | 136  | 2    | 154        | 4                             | 1    | 0    | 5          | 1               | 139  | 55   | 195        | 375        |
| 07:45 AM    | 24                              | 0    | 5    | 29         | 10              | 100  | 0    | 110        | 7                             | 0    | 0    | 7          | 0               | 132  | 72   | 204        | 350        |
| Total       | 72                              | 0    | 14   | 86         | 41              | 452  | 4    | 497        | 16                            | 2    | 5    | 23         | 3               | 516  | 219  | 738        | 1344       |
| 08:00 AM    | 20                              | 1    | 5    | 26         | 13              | 109  | 0    | 122        | 4                             | 0    | 1    | 5          | 0               | 130  | 57   | 187        | 340        |
| 08:15 AM    | 20                              | 0    | 3    | 23         | 5               | 101  | 1    | 107        | 3                             | 4    | 0    | 7          | 1               | 128  | 24   | 153        | 290        |
| 08:30 AM    | 14                              | 1    | 5    | 20         | 7               | 99   | 1    | 107        | 4                             | 0    | 1    | 5          | 1               | 107  | 29   | 137        | 269        |
| 08:45 AM    | 15                              | 1    | 2    | 18         | 11              | 89   | 0    | 100        | 5                             | 0    | 1    | 6          | 0               | 124  | 31   | 155        | 279        |
| Total       | 69                              | 3    | 15   | 87         | 36              | 398  | 2    | 436        | 16                            | 4    | 3    | 23         | 2               | 489  | 141  | 632        | 1178       |
| Grand Total | 141                             | 3    | 29   | 173        | 77              | 850  | 6    | 933        | 32                            | 6    | 8    | 46         | 5               | 1005 | 360  | 1370       | 2522       |
| Apprch %    | 81.5                            | 1.7  | 16.8 |            | 8.3             | 91.1 | 0.6  |            | 69.6                          | 13   | 17.4 |            | 0.4             | 73.4 | 26.3 |            |            |
| Total %     | 5.6                             | 0.1  | 1.1  | 6.9        | 3.1             | 33.7 | 0.2  | 37         | 1.3                           | 0.2  | 0.3  | 1.8        | 0.2             | 39.8 | 14.3 | 54.3       |            |
| Cars +      | 118                             | 2    | 27   | 147        | 69              | 817  | 6    | 892        | 26                            | 4    | 5    | 35         | 2               | 986  | 328  | 1316       | 2390       |
| % Cars +    | 83.7                            | 66.7 | 93.1 | 85         | 89.6            | 96.1 | 100  | 95.6       | 81.2                          | 66.7 | 62.5 | 76.1       | 40              | 98.1 | 91.1 | 96.1       | 94.8       |
| Trucks      | 23                              | 1    | 2    | 26         | 8               | 33   | 0    | 41         | 6                             | 2    | 3    | 11         | 3               | 19   | 32   | 54         | 132        |
| % Trucks    | 16.3                            | 33.3 | 6.9  | 15         | 10.4            | 3.9  | 0    | 4.4        | 18.8                          | 33.3 | 37.5 | 23.9       | 60              | 1.9  | 8.9  | 3.9        | 5.2        |



TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Andrew Tucker)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Andrew L Tucker Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Flea Market Access Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|--|---------------------------------|------|------|------------|-----------------|------|------|------------|-------------------------------|------|------|------------|-----------------|------|------|------------|------------|
|  | Right                           | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                         | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 |                                 |      |      |            |                 |      |      |            |                               |      |      |            |                 |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                                 |      |      |            |                 |      |      |            |                               |      |      |            |                 |      |      |            |            |
| 07:15 AM   | 13                              | 0    | 3    | 16         | 6               | 104  | 2    | 112        | 4                             | 1    | 5    | 10         | 0               | 131  | 49   | 180        | 318        |
| 07:30 AM   | 17                              | 0    | 4    | 21         | 16              | 136  | 2    | 154        | 4                             | 1    | 0    | 5          | 1               | 139  | 55   | 195        | 375        |
| 07:45 AM   | 24                              | 0    | 5    | 29         | 10              | 100  | 0    | 110        | 7                             | 0    | 0    | 7          | 0               | 132  | 72   | 204        | 350        |
| 08:00 AM   | 20                              | 1    | 5    | 26         | 13              | 109  | 0    | 122        | 4                             | 0    | 1    | 5          | 0               | 130  | 57   | 187        | 340        |
| Total Volume   | 74                              | 1    | 17   | 92         | 45              | 449  | 4    | 498        | 19                            | 2    | 6    | 27         | 1               | 532  | 233  | 766        | 1383       |
| % App. Total   | 80.4                            | 1.1  | 18.5 |            | 9               | 90.2 | 0.8  |            | 70.4                          | 7.4  | 22.2 |            | 0.1             | 69.5 | 30.4 |            |            |
| PHF  | .771                            | .250 | .850 | .793       | .703            | .825 | .500 | .808       | .679                          | .500 | .300 | .675       | .250            | .957 | .809 | .939       | .922       |





TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Andrew Tucker)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

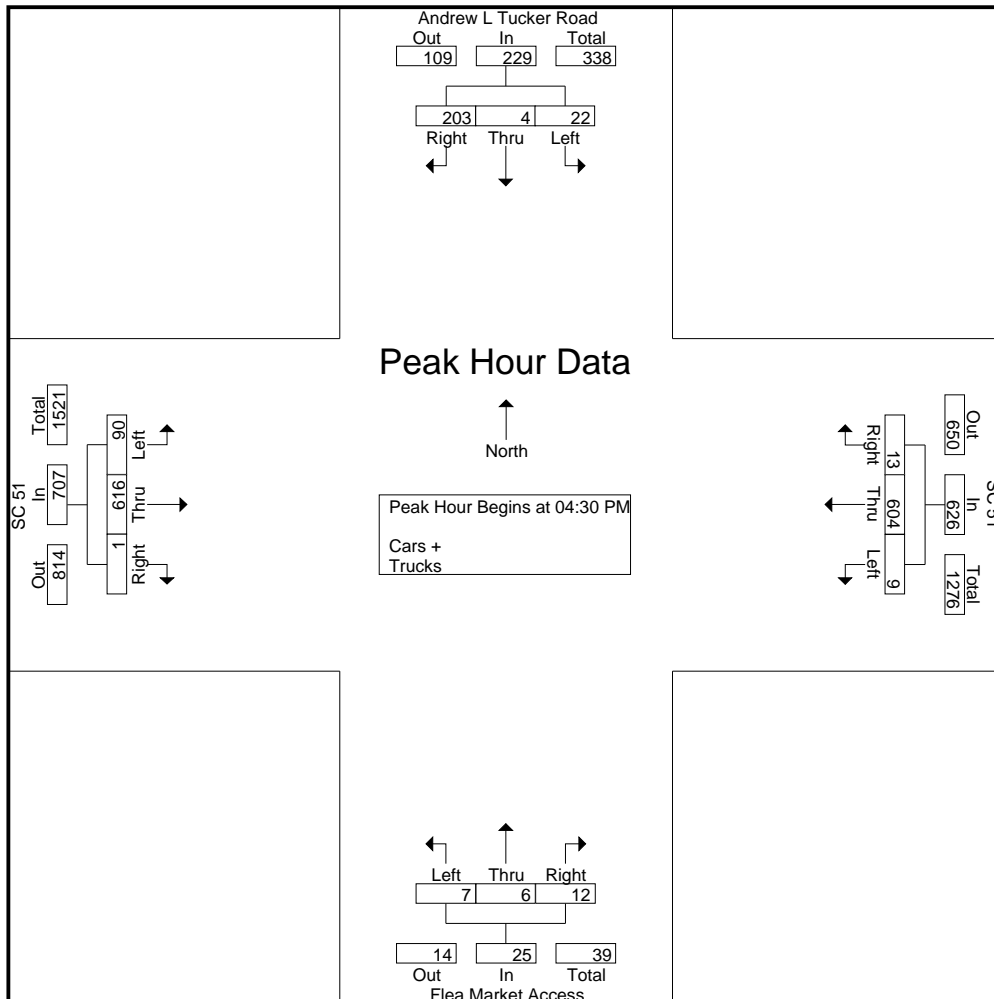
| Start Time  | Andrew L Tucker Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Flea Market Access Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|-------------|---------------------------------|------|------|------------|-----------------|------|------|------------|-------------------------------|------|------|------------|-----------------|------|------|------------|------------|
|             | Right                           | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                         | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| 04:00 PM    | 42                              | 0    | 5    | 47         | 1               | 150  | 3    | 154        | 5                             | 2    | 5    | 12         | 0               | 167  | 26   | 193        | 406        |
| 04:15 PM    | 37                              | 2    | 5    | 44         | 4               | 145  | 2    | 151        | 2                             | 0    | 2    | 4          | 0               | 174  | 25   | 199        | 398        |
| 04:30 PM    | 51                              | 0    | 6    | 57         | 4               | 125  | 4    | 133        | 4                             | 1    | 2    | 7          | 0               | 159  | 26   | 185        | 382        |
| 04:45 PM    | 50                              | 2    | 5    | 57         | 2               | 134  | 1    | 137        | 3                             | 0    | 2    | 5          | 0               | 171  | 19   | 190        | 389        |
| Total       | 180                             | 4    | 21   | 205        | 11              | 554  | 10   | 575        | 14                            | 3    | 11   | 28         | 0               | 671  | 96   | 767        | 1575       |
| 05:00 PM    | 48                              | 0    | 4    | 52         | 5               | 167  | 3    | 175        | 3                             | 4    | 1    | 8          | 1               | 151  | 23   | 175        | 410        |
| 05:15 PM    | 54                              | 2    | 7    | 63         | 2               | 178  | 1    | 181        | 2                             | 1    | 2    | 5          | 0               | 135  | 22   | 157        | 406        |
| 05:30 PM    | 31                              | 1    | 1    | 33         | 4               | 150  | 2    | 156        | 2                             | 0    | 2    | 4          | 1               | 158  | 19   | 178        | 371        |
| 05:45 PM    | 38                              | 0    | 4    | 42         | 6               | 129  | 4    | 139        | 8                             | 0    | 1    | 9          | 0               | 116  | 11   | 127        | 317        |
| Total       | 171                             | 3    | 16   | 190        | 17              | 624  | 10   | 651        | 15                            | 5    | 6    | 26         | 2               | 560  | 75   | 637        | 1504       |
| Grand Total | 351                             | 7    | 37   | 395        | 28              | 1178 | 20   | 1226       | 29                            | 8    | 17   | 54         | 2               | 1231 | 171  | 1404       | 3079       |
| Apprch %    | 88.9                            | 1.8  | 9.4  |            | 2.3             | 96.1 | 1.6  |            | 53.7                          | 14.8 | 31.5 |            | 0.1             | 87.7 | 12.2 |            |            |
| Total %     | 11.4                            | 0.2  | 1.2  | 12.8       | 0.9             | 38.3 | 0.6  | 39.8       | 0.9                           | 0.3  | 0.6  | 1.8        | 0.1             | 40   | 5.6  | 45.6       |            |
| Cars +      | 341                             | 7    | 37   | 385        | 27              | 1164 | 20   | 1211       | 29                            | 8    | 17   | 54         | 2               | 1214 | 166  | 1382       | 3032       |
| % Cars +    | 97.2                            | 100  | 100  | 97.5       | 96.4            | 98.8 | 100  | 98.8       | 100                           | 100  | 100  | 100        | 100             | 98.6 | 97.1 | 98.4       | 98.5       |
| Trucks      | 10                              | 0    | 0    | 10         | 1               | 14   | 0    | 15         | 0                             | 0    | 0    | 0          | 0               | 17   | 5    | 22         | 47         |
| % Trucks    | 2.8                             | 0    | 0    | 2.5        | 3.6             | 1.2  | 0    | 1.2        | 0                             | 0    | 0    | 0          | 0               | 1.4  | 2.9  | 1.6        | 1.5        |



TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Andrew Tucker)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Andrew L Tucker Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Flea Market Access Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|--|---------------------------------|------|------|------------|-----------------|------|------|------------|-------------------------------|------|------|------------|-----------------|------|------|------------|------------|
|  | Right                           | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                         | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 |                                 |      |      |            |                 |      |      |            |                               |      |      |            |                 |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                                 |      |      |            |                 |      |      |            |                               |      |      |            |                 |      |      |            |            |
| 04:30 PM   | 51                              | 0    | 6    | 57         | 4               | 125  | 4    | 133        | 4                             | 1    | 2    | 7          | 0               | 159  | 26   | 185        | 382        |
| 04:45 PM   | 50                              | 2    | 5    | 57         | 2               | 134  | 1    | 137        | 3                             | 0    | 2    | 5          | 0               | 171  | 19   | 190        | 389        |
| 05:00 PM   | 48                              | 0    | 4    | 52         | 5               | 167  | 3    | 175        | 3                             | 4    | 1    | 8          | 1               | 151  | 23   | 175        | 410        |
| 05:15 PM   | 54                              | 2    | 7    | 63         | 2               | 178  | 1    | 181        | 2                             | 1    | 2    | 5          | 0               | 135  | 22   | 157        | 406        |
| Total Volume   | 203                             | 4    | 22   | 229        | 13              | 604  | 9    | 626        | 12                            | 6    | 7    | 25         | 1               | 616  | 90   | 707        | 1587       |
| % App. Total   | 88.6                            | 1.7  | 9.6  |            | 2.1             | 96.5 | 1.4  |            | 48                            | 24   | 28   |            | 0.1             | 87.1 | 12.7 |            |            |
| PHF  | .940                            | .500 | .786 | .909       | .650            | .848 | .563 | .865       | .750                          | .375 | .875 | .781       | .250            | .901 | .865 | .930       | .968       |





TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Flint Hill)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

| Start Time  | Flint Hill Road Southbound |      |      |      |            | SC 51 Westbound |      |      |      |            | Flint Hill Road Northbound |      |      |      |            | SC 51 Eastbound |      |      |      |            | Int. Total |
|-------------|----------------------------|------|------|------|------------|-----------------|------|------|------|------------|----------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|             | Right                      | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total | Right                      | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total |            |
| 07:00 AM    | 2                          | 15   | 82   | 0    | 99         | 0               | 26   | 16   | 0    | 42         | 47                         | 0    | 1    | 0    | 48         | 1               | 63   | 0    | 0    | 64         | 253        |
| 07:15 AM    | 5                          | 7    | 81   | 0    | 93         | 0               | 28   | 6    | 0    | 34         | 47                         | 0    | 0    | 0    | 47         | 0               | 69   | 0    | 0    | 69         | 243        |
| 07:30 AM    | 1                          | 7    | 73   | 0    | 81         | 0               | 33   | 15   | 0    | 48         | 59                         | 0    | 0    | 0    | 59         | 1               | 92   | 0    | 0    | 93         | 281        |
| 07:45 AM    | 4                          | 3    | 100  | 0    | 107        | 0               | 30   | 11   | 0    | 41         | 47                         | 0    | 1    | 0    | 48         | 0               | 78   | 0    | 0    | 78         | 274        |
| Total       | 12                         | 32   | 336  | 0    | 380        | 0               | 117  | 48   | 0    | 165        | 200                        | 0    | 2    | 0    | 202        | 2               | 302  | 0    | 0    | 304        | 1051       |
| 08:00 AM    | 0                          | 2    | 87   | 0    | 89         | 0               | 29   | 17   | 0    | 46         | 48                         | 0    | 0    | 0    | 48         | 1               | 63   | 0    | 0    | 64         | 247        |
| 08:15 AM    | 4                          | 7    | 65   | 0    | 76         | 0               | 28   | 14   | 0    | 42         | 32                         | 0    | 0    | 0    | 32         | 0               | 65   | 0    | 0    | 65         | 215        |
| 08:30 AM    | 0                          | 3    | 58   | 0    | 61         | 0               | 22   | 23   | 0    | 45         | 45                         | 0    | 0    | 0    | 45         | 0               | 49   | 0    | 0    | 49         | 200        |
| 08:45 AM    | 3                          | 6    | 62   | 1    | 72         | 1               | 19   | 15   | 0    | 35         | 51                         | 0    | 3    | 0    | 54         | 0               | 59   | 0    | 0    | 59         | 220        |
| Total       | 7                          | 18   | 272  | 1    | 298        | 1               | 98   | 69   | 0    | 168        | 176                        | 0    | 3    | 0    | 179        | 1               | 236  | 0    | 0    | 237        | 882        |
| Grand Total | 19                         | 50   | 608  | 1    | 678        | 1               | 215  | 117  | 0    | 333        | 376                        | 0    | 5    | 0    | 381        | 3               | 538  | 0    | 0    | 541        | 1933       |
| Apprch %    | 2.8                        | 7.4  | 89.7 | 0.1  |            | 0.3             | 64.6 | 35.1 | 0    |            | 98.7                       | 0    | 1.3  | 0    |            | 0.6             | 99.4 | 0    | 0    |            |            |
| Total %     | 1                          | 2.6  | 31.5 | 0.1  | 35.1       | 0.1             | 11.1 | 6.1  | 0    | 17.2       | 19.5                       | 0    | 0.3  | 0    | 19.7       | 0.2             | 27.8 | 0    | 0    | 28         |            |
| Cars +      | 16                         | 42   | 599  | 1    | 658        | 1               | 200  | 103  | 0    | 304        | 331                        | 0    | 5    | 0    | 336        | 2               | 515  | 0    | 0    | 517        | 1815       |
| % Cars +    | 84.2                       | 84   | 98.5 | 100  | 97.1       | 100             | 93   | 88   | 0    | 91.3       | 88                         | 0    | 100  | 0    | 88.2       | 66.7            | 95.7 | 0    | 0    | 95.6       | 93.9       |
| Trucks      | 3                          | 8    | 9    | 0    | 20         | 0               | 15   | 14   | 0    | 29         | 45                         | 0    | 0    | 0    | 45         | 1               | 23   | 0    | 0    | 24         | 118        |
| % Trucks    | 15.8                       | 16   | 1.5  | 0    | 2.9        | 0               | 7    | 12   | 0    | 8.7        | 12                         | 0    | 0    | 0    | 11.8       | 33.3            | 4.3  | 0    | 0    | 4.4        | 6.1        |

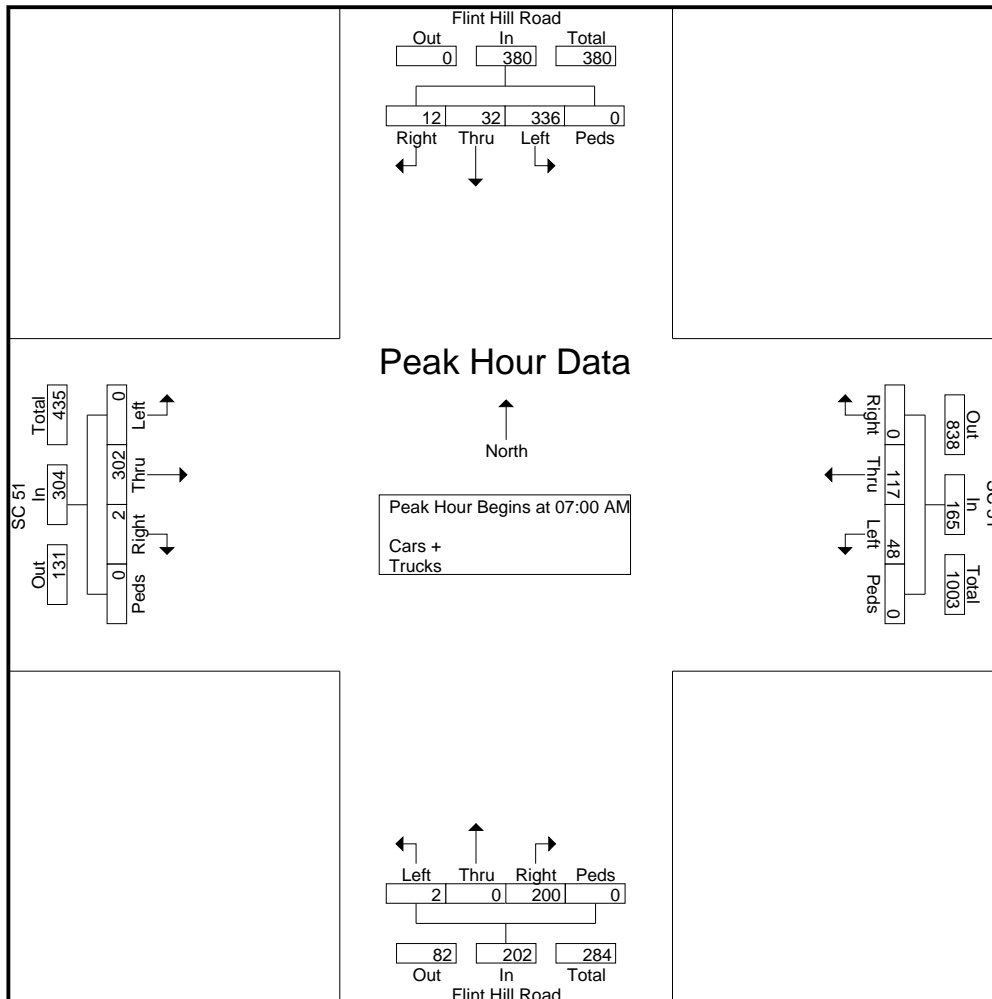




TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Flint Hill)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Flint Hill Road Southbound |      |      |      |            | SC 51 Westbound |      |      |      |            | Flint Hill Road Northbound |      |      |      |            | SC 51 Eastbound |      |      |      |            | Int. Total |
|--|----------------------------|------|------|------|------------|-----------------|------|------|------|------------|----------------------------|------|------|------|------------|-----------------|------|------|------|------------|------------|
|  | Right                      | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total | Right                      | Thru | Left | Peds | App. Total | Right           | Thru | Left | Peds | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 |                            |      |      |      |            |                 |      |      |      |            |                            |      |      |      |            |                 |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:00 AM       |                            |      |      |      |            |                 |      |      |      |            |                            |      |      |      |            |                 |      |      |      |            |            |
| 07:00 AM   | 2                          | 15   | 82   | 0    | 99         | 0               | 26   | 16   | 0    | 42         | 47                         | 0    | 1    | 0    | 48         | 1               | 63   | 0    | 0    | 64         | 253        |
| 07:15 AM   | 5                          | 7    | 81   | 0    | 93         | 0               | 28   | 6    | 0    | 34         | 47                         | 0    | 0    | 0    | 47         | 0               | 69   | 0    | 0    | 69         | 243        |
| 07:30 AM   | 1                          | 7    | 73   | 0    | 81         | 0               | 33   | 15   | 0    | 48         | 59                         | 0    | 0    | 0    | 59         | 1               | 92   | 0    | 0    | 93         | 281        |
| 07:45 AM   | 4                          | 3    | 100  | 0    | 107        | 0               | 30   | 11   | 0    | 41         | 47                         | 0    | 1    | 0    | 48         | 0               | 78   | 0    | 0    | 78         | 274        |
| Total Volume   | 12                         | 32   | 336  | 0    | 380        | 0               | 117  | 48   | 0    | 165        | 200                        | 0    | 2    | 0    | 202        | 2               | 302  | 0    | 0    | 304        | 1051       |
| % App. Total   | 3.2                        | 8.4  | 88.4 | 0    |            | 0               | 70.9 | 29.1 | 0    |            | 99                         | 0    | 1    | 0    |            | 0.7             | 99.3 | 0    | 0    |            |            |
| PHF  | .600                       | .533 | .840 | .000 | .888       | .000            | .886 | .750 | .000 | .859       | .847                       | .000 | .500 | .000 | .856       | .500            | .821 | .000 | .000 | .817       | .935       |





TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Flint Hill)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

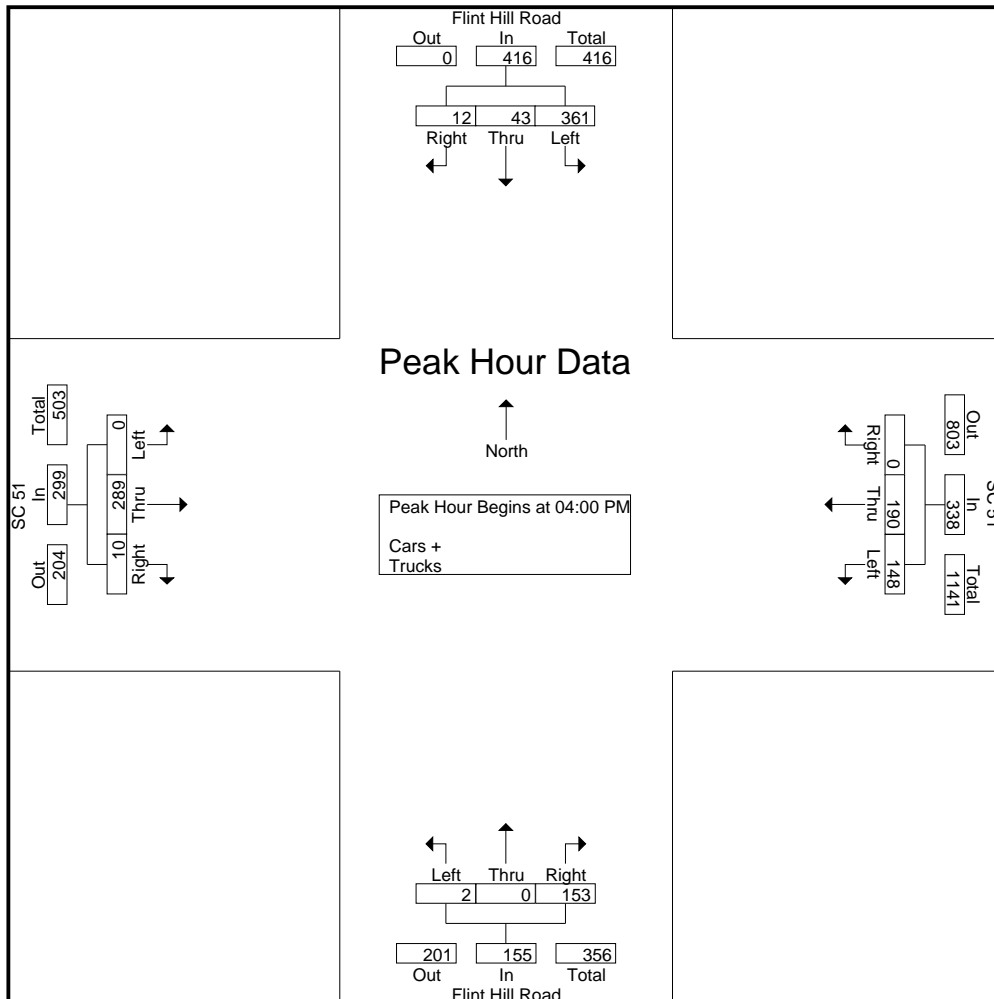
| Start Time  | Flint Hill Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Flint Hill Road Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|-------------|----------------------------|------|------|------------|-----------------|------|------|------------|----------------------------|------|------|------------|-----------------|------|------|------------|------------|
|             | Right                      | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                      | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| 04:00 PM    | 5                          | 16   | 90   | 111        | 0               | 63   | 26   | 89         | 54                         | 0    | 0    | 54         | 2               | 65   | 0    | 67         | 321        |
| 04:15 PM    | 2                          | 5    | 78   | 85         | 0               | 49   | 36   | 85         | 39                         | 0    | 2    | 41         | 0               | 79   | 0    | 79         | 290        |
| 04:30 PM    | 3                          | 10   | 91   | 104        | 0               | 38   | 47   | 85         | 29                         | 0    | 0    | 29         | 1               | 74   | 0    | 75         | 293        |
| 04:45 PM    | 2                          | 12   | 102  | 116        | 0               | 40   | 39   | 79         | 31                         | 0    | 0    | 31         | 7               | 71   | 0    | 78         | 304        |
| Total       | 12                         | 43   | 361  | 416        | 0               | 190  | 148  | 338        | 153                        | 0    | 2    | 155        | 10              | 289  | 0    | 299        | 1208       |
| 05:00 PM    | 2                          | 16   | 98   | 116        | 0               | 48   | 58   | 106        | 25                         | 0    | 2    | 27         | 2               | 58   | 0    | 60         | 309        |
| 05:15 PM    | 2                          | 13   | 74   | 89         | 0               | 51   | 46   | 97         | 35                         | 0    | 4    | 39         | 3               | 62   | 0    | 65         | 290        |
| 05:30 PM    | 5                          | 12   | 81   | 98         | 0               | 56   | 41   | 97         | 42                         | 0    | 4    | 46         | 6               | 57   | 0    | 63         | 304        |
| 05:45 PM    | 1                          | 8    | 68   | 77         | 0               | 34   | 37   | 71         | 19                         | 0    | 2    | 21         | 2               | 41   | 0    | 43         | 212        |
| Total       | 10                         | 49   | 321  | 380        | 0               | 189  | 182  | 371        | 121                        | 0    | 12   | 133        | 13              | 218  | 0    | 231        | 1115       |
| Grand Total | 22                         | 92   | 682  | 796        | 0               | 379  | 330  | 709        | 274                        | 0    | 14   | 288        | 23              | 507  | 0    | 530        | 2323       |
| Apprch %    | 2.8                        | 11.6 | 85.7 |            | 0               | 53.5 | 46.5 |            | 95.1                       | 0    | 4.9  |            | 4.3             | 95.7 | 0    |            |            |
| Total %     | 0.9                        | 4    | 29.4 | 34.3       | 0               | 16.3 | 14.2 | 30.5       | 11.8                       | 0    | 0.6  | 12.4       | 1               | 21.8 | 0    | 22.8       |            |
| Cars +      | 20                         | 91   | 676  | 787        | 0               | 374  | 324  | 698        | 272                        | 0    | 7    | 279        | 23              | 496  | 0    | 519        | 2283       |
| % Cars +    | 90.9                       | 98.9 | 99.1 | 98.9       | 0               | 98.7 | 98.2 | 98.4       | 99.3                       | 0    | 50   | 96.9       | 100             | 97.8 | 0    | 97.9       | 98.3       |
| Trucks      | 2                          | 1    | 6    | 9          | 0               | 5    | 6    | 11         | 2                          | 0    | 7    | 9          | 0               | 11   | 0    | 11         | 40         |
| % Trucks    | 9.1                        | 1.1  | 0.9  | 1.1        | 0               | 1.3  | 1.8  | 1.6        | 0.7                        | 0    | 50   | 3.1        | 0               | 2.2  | 0    | 2.1        | 1.7        |



TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Flint Hill)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Flint Hill Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Flint Hill Road Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|--|----------------------------|------|------|------------|-----------------|------|------|------------|----------------------------|------|------|------------|-----------------|------|------|------------|------------|
|  | Right                      | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                      | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 |                            |      |      |            |                 |      |      |            |                            |      |      |            |                 |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:00 PM       |                            |      |      |            |                 |      |      |            |                            |      |      |            |                 |      |      |            |            |
| 04:00 PM   | 5                          | 16   | 90   | 111        | 0               | 63   | 26   | 89         | 54                         | 0    | 0    | 54         | 2               | 65   | 0    | 67         | 321        |
| 04:15 PM   | 2                          | 5    | 78   | 85         | 0               | 49   | 36   | 85         | 39                         | 0    | 2    | 41         | 0               | 79   | 0    | 79         | 290        |
| 04:30 PM   | 3                          | 10   | 91   | 104        | 0               | 38   | 47   | 85         | 29                         | 0    | 0    | 29         | 1               | 74   | 0    | 75         | 293        |
| 04:45 PM   | 2                          | 12   | 102  | 116        | 0               | 40   | 39   | 79         | 31                         | 0    | 0    | 31         | 7               | 71   | 0    | 78         | 304        |
| Total Volume   | 12                         | 43   | 361  | 416        | 0               | 190  | 148  | 338        | 153                        | 0    | 2    | 155        | 10              | 289  | 0    | 299        | 1208       |
| % App. Total   | 2.9                        | 10.3 | 86.8 |            | 0               | 56.2 | 43.8 |            | 98.7                       | 0    | 1.3  |            | 3.3             | 96.7 | 0    |            |            |
| PHF  | .600                       | .672 | .885 | .897       | .000            | .754 | .787 | .949       | .708                       | .000 | .250 | .718       | .357            | .915 | .000 | .946       | .941       |





TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Springhill Farm)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

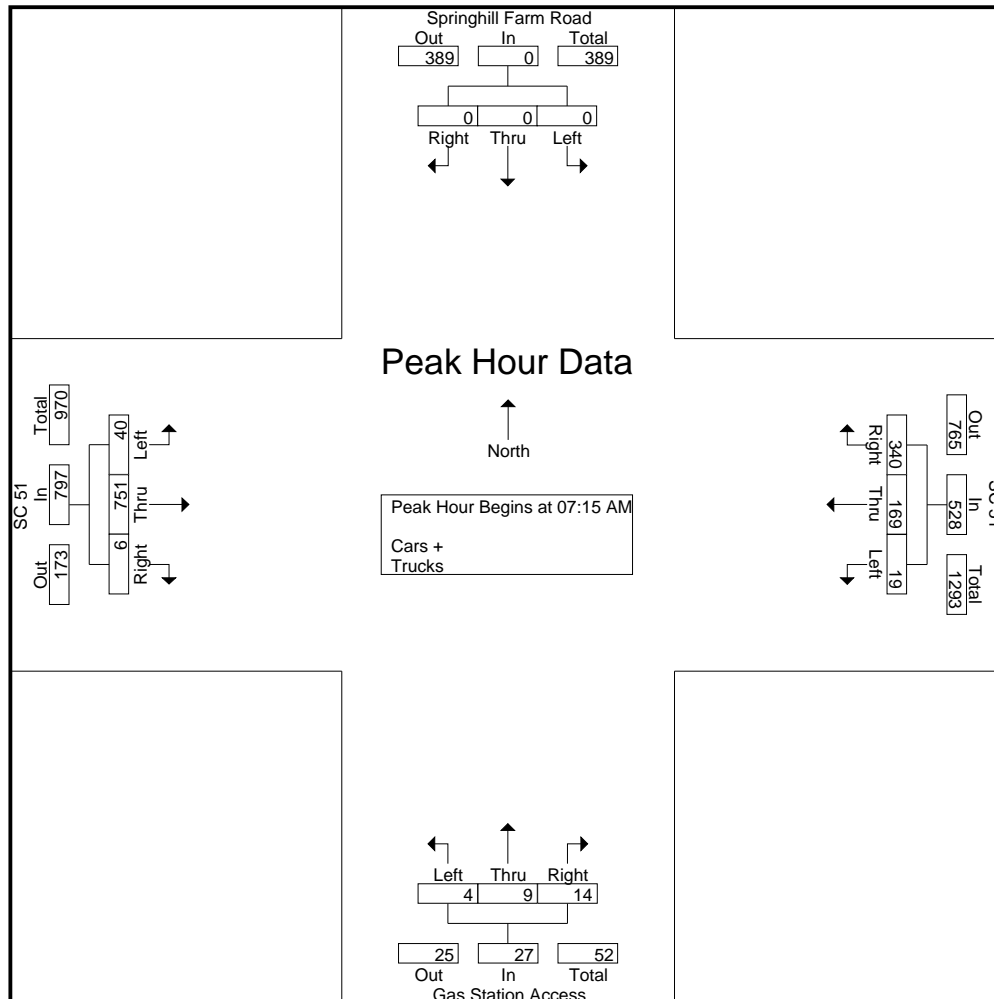
| Start Time  | Springhill Farm Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Gas Station Access Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|-------------|---------------------------------|------|------|------------|-----------------|------|------|------------|-------------------------------|------|------|------------|-----------------|------|------|------------|------------|
|             | Right                           | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                         | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| 07:00 AM    | 0                               | 0    | 0    | 0          | 80              | 46   | 4    | 130        | 2                             | 1    | 2    | 5          | 3               | 162  | 15   | 180        | 315        |
| 07:15 AM    | 0                               | 0    | 0    | 0          | 81              | 36   | 5    | 122        | 3                             | 6    | 2    | 11         | 1               | 176  | 9    | 186        | 319        |
| 07:30 AM    | 0                               | 0    | 0    | 0          | 96              | 53   | 4    | 153        | 6                             | 1    | 0    | 7          | 0               | 189  | 14   | 203        | 363        |
| 07:45 AM    | 0                               | 0    | 0    | 0          | 81              | 36   | 6    | 123        | 1                             | 1    | 0    | 2          | 2               | 204  | 10   | 216        | 341        |
| Total       | 0                               | 0    | 0    | 0          | 338             | 171  | 19   | 528        | 12                            | 9    | 4    | 25         | 6               | 731  | 48   | 785        | 1338       |
| 08:00 AM    | 0                               | 0    | 0    | 0          | 82              | 44   | 4    | 130        | 4                             | 1    | 2    | 7          | 3               | 182  | 7    | 192        | 329        |
| 08:15 AM    | 0                               | 0    | 0    | 0          | 71              | 45   | 5    | 121        | 5                             | 1    | 0    | 6          | 1               | 149  | 11   | 161        | 288        |
| 08:30 AM    | 0                               | 0    | 0    | 0          | 65              | 45   | 5    | 115        | 2                             | 1    | 2    | 5          | 1               | 134  | 9    | 144        | 264        |
| 08:45 AM    | 0                               | 0    | 0    | 0          | 67              | 32   | 7    | 106        | 5                             | 1    | 2    | 8          | 2               | 152  | 14   | 168        | 282        |
| Total       | 0                               | 0    | 0    | 0          | 285             | 166  | 21   | 472        | 16                            | 4    | 6    | 26         | 7               | 617  | 41   | 665        | 1163       |
| Grand Total | 0                               | 0    | 0    | 0          | 623             | 337  | 40   | 1000       | 28                            | 13   | 10   | 51         | 13              | 1348 | 89   | 1450       | 2501       |
| Apprch %    | 0                               | 0    | 0    | 0          | 62.3            | 33.7 | 4    |            | 54.9                          | 25.5 | 19.6 |            | 0.9             | 93   | 6.1  |            |            |
| Total %     | 0                               | 0    | 0    | 0          | 24.9            | 13.5 | 1.6  | 40         | 1.1                           | 0.5  | 0.4  | 2          | 0.5             | 53.9 | 3.6  | 58         |            |
| Cars +      | 0                               | 0    | 0    | 0          | 599             | 304  | 38   | 941        | 27                            | 12   | 8    | 47         | 10              | 1296 | 76   | 1382       | 2370       |
| % Cars +    | 0                               | 0    | 0    | 0          | 96.1            | 90.2 | 95   | 94.1       | 96.4                          | 92.3 | 80   | 92.2       | 76.9            | 96.1 | 85.4 | 95.3       | 94.8       |
| Trucks      | 0                               | 0    | 0    | 0          | 24              | 33   | 2    | 59         | 1                             | 1    | 2    | 4          | 3               | 52   | 13   | 68         | 131        |
| % Trucks    | 0                               | 0    | 0    | 0          | 3.9             | 9.8  | 5    | 5.9        | 3.6                           | 7.7  | 20   | 7.8        | 23.1            | 3.9  | 14.6 | 4.7        | 5.2        |



TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Springhill Farm)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Springhill Farm Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Gas Station Access Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|--|---------------------------------|------|------|------------|-----------------|------|------|------------|-------------------------------|------|------|------------|-----------------|------|------|------------|------------|
|  | Right                           | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                         | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 |                                 |      |      |            |                 |      |      |            |                               |      |      |            |                 |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                                 |      |      |            |                 |      |      |            |                               |      |      |            |                 |      |      |            |            |
| 07:15 AM   | 0                               | 0    | 0    | 0          | 81              | 36   | 5    | 122        | 3                             | 6    | 2    | 11         | 1               | 176  | 9    | 186        | 319        |
| 07:30 AM   | 0                               | 0    | 0    | 0          | 96              | 53   | 4    | 153        | 6                             | 1    | 0    | 7          | 0               | 189  | 14   | 203        | 363        |
| 07:45 AM   | 0                               | 0    | 0    | 0          | 81              | 36   | 6    | 123        | 1                             | 1    | 0    | 2          | 2               | 204  | 10   | 216        | 341        |
| 08:00 AM   | 0                               | 0    | 0    | 0          | 82              | 44   | 4    | 130        | 4                             | 1    | 2    | 7          | 3               | 182  | 7    | 192        | 329        |
| Total Volume   | 0                               | 0    | 0    | 0          | 340             | 169  | 19   | 528        | 14                            | 9    | 4    | 27         | 6               | 751  | 40   | 797        | 1352       |
| % App. Total   | 0                               | 0    | 0    | 0          | 64.4            | 32   | 3.6  |            | 51.9                          | 33.3 | 14.8 |            | 0.8             | 94.2 | 5    |            |            |
| PHF  | .000                            | .000 | .000 | .000       | .885            | .797 | .792 | .863       | .583                          | .375 | .500 | .614       | .500            | .920 | .714 | .922       | .931       |





TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Springhill Farm)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

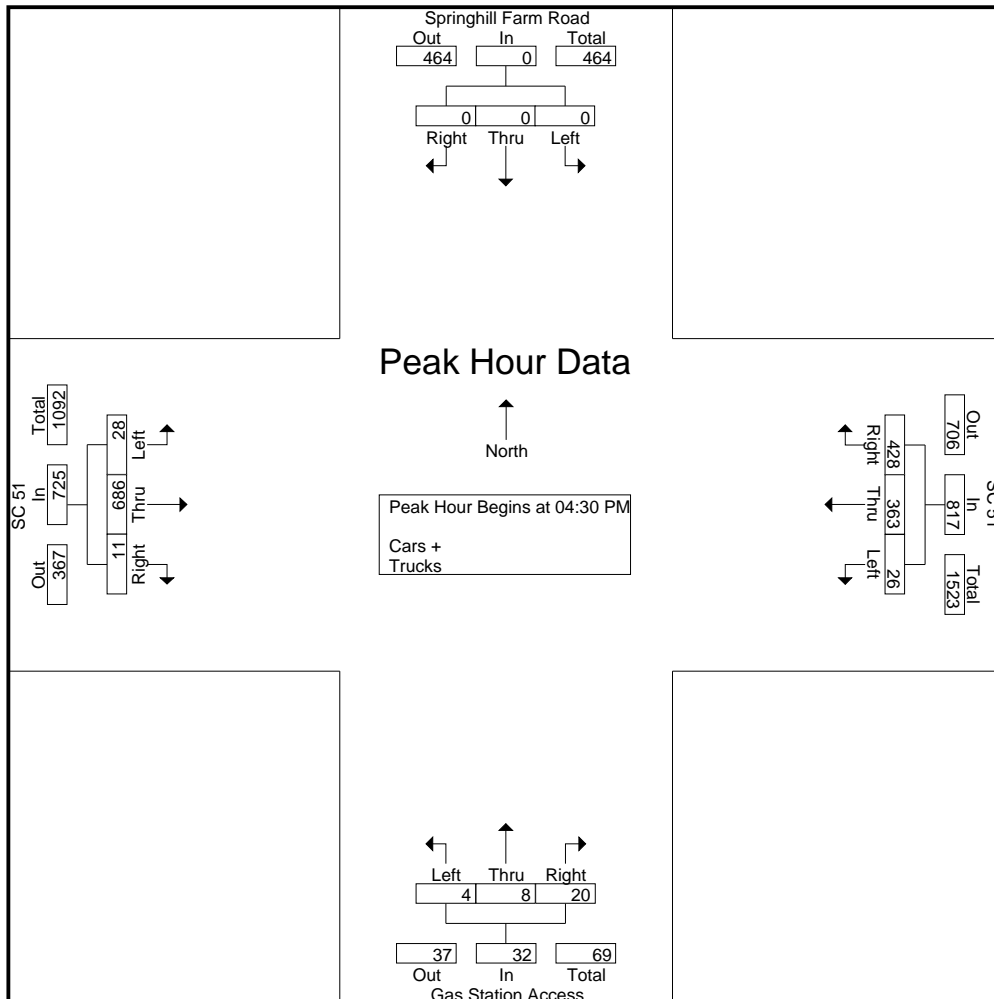
| Start Time  | Springhill Farm Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Gas Station Access Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|-------------|---------------------------------|------|------|------------|-----------------|------|------|------------|-------------------------------|------|------|------------|-----------------|------|------|------------|------------|
|             | Right                           | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                         | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| 04:00 PM    | 0                               | 0    | 0    | 0          | 94              | 90   | 10   | 194        | 8                             | 2    | 0    | 10         | 3               | 188  | 12   | 203        | 407        |
| 04:15 PM    | 0                               | 0    | 0    | 0          | 92              | 84   | 9    | 185        | 7                             | 1    | 1    | 9          | 2               | 189  | 8    | 199        | 393        |
| 04:30 PM    | 0                               | 0    | 0    | 0          | 99              | 76   | 6    | 181        | 3                             | 2    | 0    | 5          | 5               | 180  | 8    | 193        | 379        |
| 04:45 PM    | 0                               | 0    | 0    | 0          | 93              | 85   | 8    | 186        | 7                             | 2    | 1    | 10         | 2               | 184  | 2    | 188        | 384        |
| Total       | 0                               | 0    | 0    | 0          | 378             | 335  | 33   | 746        | 25                            | 7    | 2    | 34         | 12              | 741  | 30   | 783        | 1563       |
| 05:00 PM    | 0                               | 0    | 0    | 0          | 109             | 103  | 5    | 217        | 6                             | 3    | 3    | 12         | 2               | 169  | 8    | 179        | 408        |
| 05:15 PM    | 0                               | 0    | 0    | 0          | 127             | 99   | 7    | 233        | 4                             | 1    | 0    | 5          | 2               | 153  | 10   | 165        | 403        |
| 05:30 PM    | 0                               | 0    | 0    | 0          | 95              | 91   | 2    | 188        | 5                             | 4    | 1    | 10         | 3               | 171  | 6    | 180        | 378        |
| 05:45 PM    | 0                               | 0    | 0    | 0          | 73              | 77   | 14   | 164        | 3                             | 3    | 0    | 6          | 1               | 122  | 3    | 126        | 296        |
| Total       | 0                               | 0    | 0    | 0          | 404             | 370  | 28   | 802        | 18                            | 11   | 4    | 33         | 8               | 615  | 27   | 650        | 1485       |
| Grand Total | 0                               | 0    | 0    | 0          | 782             | 705  | 61   | 1548       | 43                            | 18   | 6    | 67         | 20              | 1356 | 57   | 1433       | 3048       |
| Apprch %    | 0                               | 0    | 0    | 0          | 50.5            | 45.5 | 3.9  |            | 64.2                          | 26.9 | 9    |            | 1.4             | 94.6 | 4    |            |            |
| Total %     | 0                               | 0    | 0    | 0          | 25.7            | 23.1 | 2    | 50.8       | 1.4                           | 0.6  | 0.2  | 2.2        | 0.7             | 44.5 | 1.9  | 47         |            |
| Cars +      | 0                               | 0    | 0    | 0          | 774             | 694  | 59   | 1527       | 43                            | 18   | 6    | 67         | 20              | 1335 | 56   | 1411       | 3005       |
| % Cars +    | 0                               | 0    | 0    | 0          | 99              | 98.4 | 96.7 | 98.6       | 100                           | 100  | 100  | 100        | 100             | 98.5 | 98.2 | 98.5       | 98.6       |
| Trucks      | 0                               | 0    | 0    | 0          | 8               | 11   | 2    | 21         | 0                             | 0    | 0    | 0          | 0               | 21   | 1    | 22         | 43         |
| % Trucks    | 0                               | 0    | 0    | 0          | 1               | 1.6  | 3.3  | 1.4        | 0                             | 0    | 0    | 0          | 0               | 1.5  | 1.8  | 1.5        | 1.4        |



TRAFFIC DATA COLLECTION

File Name : Pineville(SC 51 and Springhill Farm)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Springhill Farm Road Southbound |      |      |            | SC 51 Westbound |      |      |            | Gas Station Access Northbound |      |      |            | SC 51 Eastbound |      |      |            | Int. Total |
|--|---------------------------------|------|------|------------|-----------------|------|------|------------|-------------------------------|------|------|------------|-----------------|------|------|------------|------------|
|  | Right                           | Thru | Left | App. Total | Right           | Thru | Left | App. Total | Right                         | Thru | Left | App. Total | Right           | Thru | Left | App. Total |            |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 |                                 |      |      |            |                 |      |      |            |                               |      |      |            |                 |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                                 |      |      |            |                 |      |      |            |                               |      |      |            |                 |      |      |            |            |
| 04:30 PM   | 0                               | 0    | 0    | 0          | 99              | 76   | 6    | 181        | 3                             | 2    | 0    | 5          | 5               | 180  | 8    | 193        | 379        |
| 04:45 PM   | 0                               | 0    | 0    | 0          | 93              | 85   | 8    | 186        | 7                             | 2    | 1    | 10         | 2               | 184  | 2    | 188        | 384        |
| 05:00 PM   | 0                               | 0    | 0    | 0          | 109             | 103  | 5    | 217        | 6                             | 3    | 3    | 12         | 2               | 169  | 8    | 179        | 408        |
| 05:15 PM   | 0                               | 0    | 0    | 0          | 127             | 99   | 7    | 233        | 4                             | 1    | 0    | 5          | 2               | 153  | 10   | 165        | 403        |
| Total Volume   | 0                               | 0    | 0    | 0          | 428             | 363  | 26   | 817        | 20                            | 8    | 4    | 32         | 11              | 686  | 28   | 725        | 1574       |
| % App. Total   | 0                               | 0    | 0    | 0          | 52.4            | 44.4 | 3.2  |            | 62.5                          | 25   | 12.5 |            | 1.5             | 94.6 | 3.9  |            |            |
| PHF  | .000                            | .000 | .000 | .000       | .843            | .881 | .813 | .877       | .714                          | .667 | .333 | .667       | .550            | .932 | .700 | .939       | .964       |





TRAFFIC DATA COLLECTION

File Name : Pineville(Westinghouse and Downs)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

| Start Time  | Downs Road Southbound |      |      |      |            | Westinghouse Boulevard Westbound |      |      |      |            | Downs Road Northbound |      |      |      |            | Westinghouse Boulevard Eastbound |      |      |      |            | Int. Total |
|-------------|-----------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
|             | Right                 | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                 | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total |            |
| 07:00 AM    | 9                     | 10   | 8    | 0    | 27         | 27                               | 98   | 13   | 0    | 138        | 8                     | 11   | 19   | 0    | 38         | 41                               | 120  | 18   | 0    | 179        | 382        |
| 07:15 AM    | 3                     | 7    | 3    | 1    | 14         | 22                               | 76   | 13   | 1    | 112        | 11                    | 16   | 18   | 0    | 45         | 35                               | 121  | 15   | 0    | 171        | 342        |
| 07:30 AM    | 13                    | 1    | 3    | 0    | 17         | 30                               | 111  | 15   | 0    | 156        | 11                    | 25   | 29   | 0    | 65         | 33                               | 162  | 20   | 0    | 215        | 453        |
| 07:45 AM    | 10                    | 5    | 10   | 0    | 25         | 33                               | 91   | 14   | 0    | 138        | 19                    | 34   | 27   | 0    | 80         | 28                               | 139  | 24   | 0    | 191        | 434        |
| Total       | 35                    | 23   | 24   | 1    | 83         | 112                              | 376  | 55   | 1    | 544        | 49                    | 86   | 93   | 0    | 228        | 137                              | 542  | 77   | 0    | 756        | 1611       |
| 08:00 AM    | 7                     | 5    | 7    | 0    | 19         | 29                               | 90   | 16   | 0    | 135        | 18                    | 18   | 21   | 0    | 57         | 36                               | 152  | 23   | 0    | 211        | 422        |
| 08:15 AM    | 4                     | 8    | 13   | 0    | 25         | 18                               | 100  | 6    | 2    | 126        | 11                    | 10   | 29   | 0    | 50         | 21                               | 118  | 12   | 0    | 151        | 352        |
| 08:30 AM    | 4                     | 5    | 10   | 0    | 19         | 21                               | 113  | 13   | 0    | 147        | 15                    | 7    | 22   | 0    | 44         | 39                               | 141  | 14   | 0    | 194        | 404        |
| 08:45 AM    | 6                     | 7    | 6    | 0    | 19         | 20                               | 82   | 13   | 0    | 115        | 20                    | 14   | 16   | 0    | 50         | 24                               | 124  | 17   | 0    | 165        | 349        |
| Total       | 21                    | 25   | 36   | 0    | 82         | 88                               | 385  | 48   | 2    | 523        | 64                    | 49   | 88   | 0    | 201        | 120                              | 535  | 66   | 0    | 721        | 1527       |
| Grand Total | 56                    | 48   | 60   | 1    | 165        | 200                              | 761  | 103  | 3    | 1067       | 113                   | 135  | 181  | 0    | 429        | 257                              | 1077 | 143  | 0    | 1477       | 3138       |
| Apprch %    | 33.9                  | 29.1 | 36.4 | 0.6  |            | 18.7                             | 71.3 | 9.7  | 0.3  |            | 26.3                  | 31.5 | 42.2 | 0    |            | 17.4                             | 72.9 | 9.7  | 0    |            |            |
| Total %     | 1.8                   | 1.5  | 1.9  | 0    | 5.3        | 6.4                              | 24.3 | 3.3  | 0.1  | 34         | 3.6                   | 4.3  | 5.8  | 0    | 13.7       | 8.2                              | 34.3 | 4.6  | 0    | 47.1       |            |
| Cars +      | 45                    | 41   | 51   | 0    | 137        | 194                              | 668  | 88   | 3    | 953        | 107                   | 131  | 159  | 0    | 397        | 240                              | 976  | 134  | 0    | 1350       | 2837       |
| % Cars +    | 80.4                  | 85.4 | 85   | 0    | 83         | 97                               | 87.8 | 85.4 | 100  | 89.3       | 94.7                  | 97   | 87.8 | 0    | 92.5       | 93.4                             | 90.6 | 93.7 | 0    | 91.4       | 90.4       |
| Trucks      | 11                    | 7    | 9    | 1    | 28         | 6                                | 93   | 15   | 0    | 114        | 6                     | 4    | 22   | 0    | 32         | 17                               | 101  | 9    | 0    | 127        | 301        |
| % Trucks    | 19.6                  | 14.6 | 15   | 100  | 17         | 3                                | 12.2 | 14.6 | 0    | 10.7       | 5.3                   | 3    | 12.2 | 0    | 7.5        | 6.6                              | 9.4  | 6.3  | 0    | 8.6        | 9.6        |

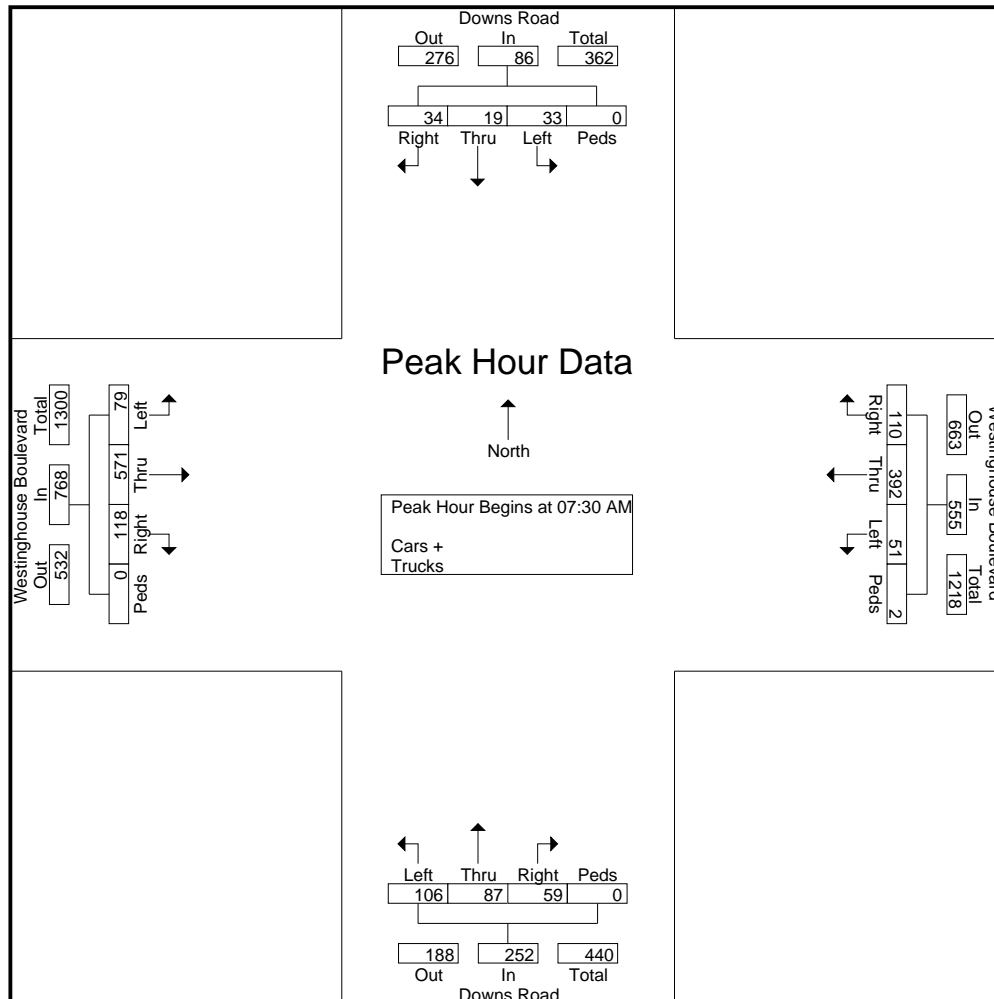




TRAFFIC DATA COLLECTION

File Name : Pineville(Westinghouse and Downs)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Downs Road Southbound |      |      |      |            | Westinghouse Boulevard Westbound |      |      |      |            | Downs Road Northbound |      |      |      |            | Westinghouse Boulevard Eastbound |      |      |      |            | Int. Total |
|--|-----------------------|------|------|------|------------|----------------------------------|------|------|------|------------|-----------------------|------|------|------|------------|----------------------------------|------|------|------|------------|------------|
|  | Right                 | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total | Right                 | Thru | Left | Peds | App. Total | Right                            | Thru | Left | Peds | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 |                       |      |      |      |            |                                  |      |      |      |            |                       |      |      |      |            |                                  |      |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:30 AM       |                       |      |      |      |            |                                  |      |      |      |            |                       |      |      |      |            |                                  |      |      |      |            |            |
| 07:30 AM   | 13                    | 1    | 3    | 0    | 17         | 30                               | 111  | 15   | 0    | 156        | 11                    | 25   | 29   | 0    | 65         | 33                               | 162  | 20   | 0    | 215        | 453        |
| 07:45 AM   | 10                    | 5    | 10   | 0    | 25         | 33                               | 91   | 14   | 0    | 138        | 19                    | 34   | 27   | 0    | 80         | 28                               | 139  | 24   | 0    | 191        | 434        |
| 08:00 AM   | 7                     | 5    | 7    | 0    | 19         | 29                               | 90   | 16   | 0    | 135        | 18                    | 18   | 21   | 0    | 57         | 36                               | 152  | 23   | 0    | 211        | 422        |
| 08:15 AM   | 4                     | 8    | 13   | 0    | 25         | 18                               | 100  | 6    | 2    | 126        | 11                    | 10   | 29   | 0    | 50         | 21                               | 118  | 12   | 0    | 151        | 352        |
| Total Volume   | 34                    | 19   | 33   | 0    | 86         | 110                              | 392  | 51   | 2    | 555        | 59                    | 87   | 106  | 0    | 252        | 118                              | 571  | 79   | 0    | 768        | 1661       |
| % App. Total   | 39.5                  | 22.1 | 38.4 | 0    |            | 19.8                             | 70.6 | 9.2  | 0.4  |            | 23.4                  | 34.5 | 42.1 | 0    |            | 15.4                             | 74.3 | 10.3 | 0    |            |            |
| PHF  | .654                  | .594 | .635 | .000 | .860       | .833                             | .883 | .797 | .250 | .889       | .776                  | .640 | .914 | .000 | .788       | .819                             | .881 | .823 | .000 | .893       | .917       |





TRAFFIC DATA COLLECTION

File Name : Pineville(Westinghouse and Downs)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

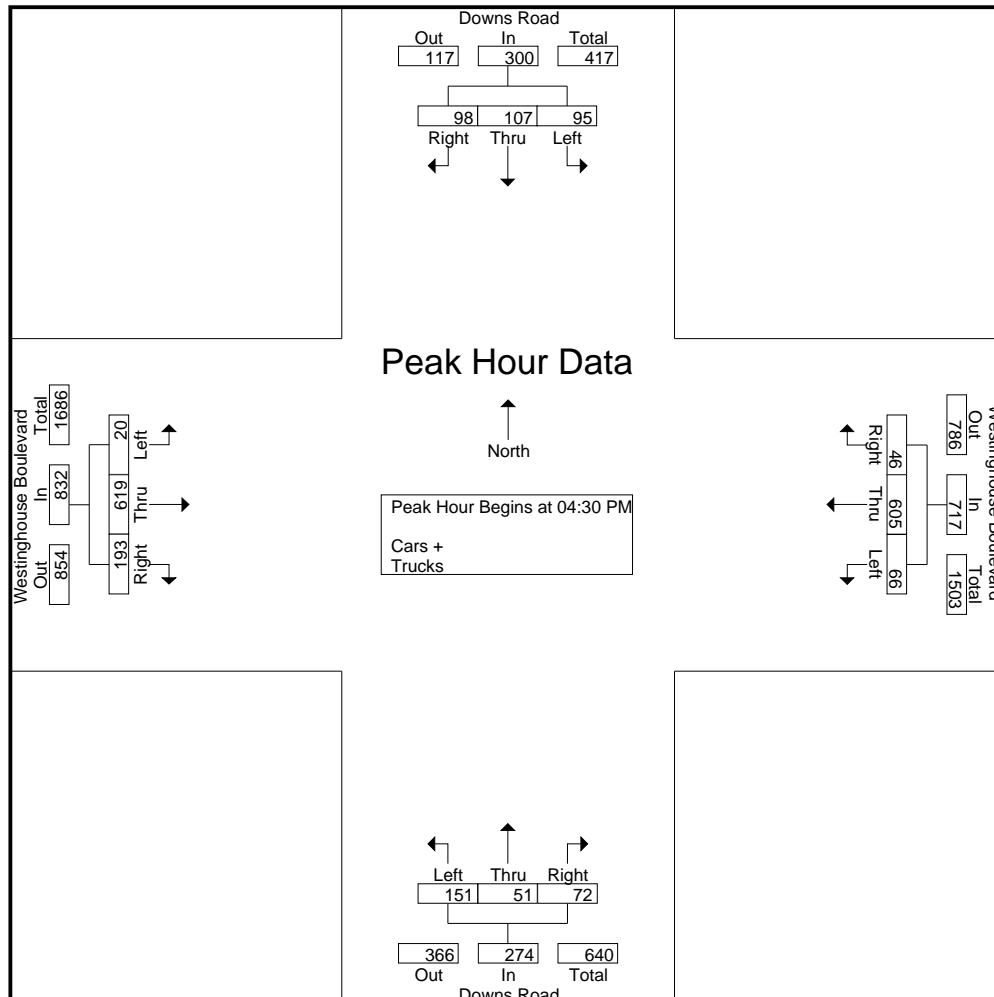
| Start Time  | Downs Road Southbound |      |      |            | Westinghouse Boulevard Westbound |      |      |            | Downs Road Northbound |      |      |            | Westinghouse Boulevard Eastbound |      |      |            | Int. Total |
|-------------|-----------------------|------|------|------------|----------------------------------|------|------|------------|-----------------------|------|------|------------|----------------------------------|------|------|------------|------------|
|             | Right                 | Thru | Left | App. Total | Right                            | Thru | Left | App. Total | Right                 | Thru | Left | App. Total | Right                            | Thru | Left | App. Total |            |
| 04:00 PM    | 19                    | 23   | 17   | 59         | 15                               | 119  | 13   | 147        | 20                    | 13   | 47   | 80         | 30                               | 115  | 10   | 155        | 441        |
| 04:15 PM    | 14                    | 16   | 17   | 47         | 15                               | 156  | 18   | 189        | 17                    | 19   | 24   | 60         | 49                               | 155  | 13   | 217        | 513        |
| 04:30 PM    | 40                    | 25   | 31   | 96         | 13                               | 139  | 17   | 169        | 19                    | 12   | 43   | 74         | 43                               | 148  | 10   | 201        | 540        |
| 04:45 PM    | 21                    | 29   | 16   | 66         | 14                               | 152  | 16   | 182        | 20                    | 15   | 29   | 64         | 49                               | 153  | 3    | 205        | 517        |
| Total       | 94                    | 93   | 81   | 268        | 57                               | 566  | 64   | 687        | 76                    | 59   | 143  | 278        | 171                              | 571  | 36   | 778        | 2011       |
| 05:00 PM    | 26                    | 29   | 32   | 87         | 11                               | 159  | 14   | 184        | 19                    | 7    | 40   | 66         | 57                               | 150  | 3    | 210        | 547        |
| 05:15 PM    | 11                    | 24   | 16   | 51         | 8                                | 155  | 19   | 182        | 14                    | 17   | 39   | 70         | 44                               | 168  | 4    | 216        | 519        |
| 05:30 PM    | 13                    | 11   | 8    | 32         | 9                                | 118  | 12   | 139        | 17                    | 15   | 31   | 63         | 31                               | 190  | 2    | 223        | 457        |
| 05:45 PM    | 8                     | 17   | 19   | 44         | 9                                | 101  | 14   | 124        | 16                    | 18   | 29   | 63         | 31                               | 114  | 7    | 152        | 383        |
| Total       | 58                    | 81   | 75   | 214        | 37                               | 533  | 59   | 629        | 66                    | 57   | 139  | 262        | 163                              | 622  | 16   | 801        | 1906       |
| Grand Total | 152                   | 174  | 156  | 482        | 94                               | 1099 | 123  | 1316       | 142                   | 116  | 282  | 540        | 334                              | 1193 | 52   | 1579       | 3917       |
| Apprch %    | 31.5                  | 36.1 | 32.4 |            | 7.1                              | 83.5 | 9.3  |            | 26.3                  | 21.5 | 52.2 |            | 21.2                             | 75.6 | 3.3  |            |            |
| Total %     | 3.9                   | 4.4  | 4    | 12.3       | 2.4                              | 28.1 | 3.1  | 33.6       | 3.6                   | 3    | 7.2  | 13.8       | 8.5                              | 30.5 | 1.3  | 40.3       |            |
| Cars +      | 150                   | 156  | 145  | 451        | 86                               | 1045 | 106  | 1237       | 134                   | 113  | 269  | 516        | 300                              | 1133 | 49   | 1482       | 3686       |
| % Cars +    | 98.7                  | 89.7 | 92.9 | 93.6       | 91.5                             | 95.1 | 86.2 | 94         | 94.4                  | 97.4 | 95.4 | 95.6       | 89.8                             | 95   | 94.2 | 93.9       | 94.1       |
| Trucks      | 2                     | 18   | 11   | 31         | 8                                | 54   | 17   | 79         | 8                     | 3    | 13   | 24         | 34                               | 60   | 3    | 97         | 231        |
| % Trucks    | 1.3                   | 10.3 | 7.1  | 6.4        | 8.5                              | 4.9  | 13.8 | 6          | 5.6                   | 2.6  | 4.6  | 4.4        | 10.2                             | 5    | 5.8  | 6.1        | 5.9        |



TRAFFIC DATA COLLECTION

File Name : Pineville(Westinghouse and Downs)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Downs Road Southbound |      |      |            | Westinghouse Boulevard Westbound |      |      |            | Downs Road Northbound |      |      |            | Westinghouse Boulevard Eastbound |      |      |            | Int. Total |
|--|-----------------------|------|------|------------|----------------------------------|------|------|------------|-----------------------|------|------|------------|----------------------------------|------|------|------------|------------|
|  | Right                 | Thru | Left | App. Total | Right                            | Thru | Left | App. Total | Right                 | Thru | Left | App. Total | Right                            | Thru | Left | App. Total |            |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 |                       |      |      |            |                                  |      |      |            |                       |      |      |            |                                  |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                       |      |      |            |                                  |      |      |            |                       |      |      |            |                                  |      |      |            |            |
| 04:30 PM   | 40                    | 25   | 31   | 96         | 13                               | 139  | 17   | 169        | 19                    | 12   | 43   | 74         | 43                               | 148  | 10   | 201        | 540        |
| 04:45 PM   | 21                    | 29   | 16   | 66         | 14                               | 152  | 16   | 182        | 20                    | 15   | 29   | 64         | 49                               | 153  | 3    | 205        | 517        |
| 05:00 PM   | 26                    | 29   | 32   | 87         | 11                               | 159  | 14   | 184        | 19                    | 7    | 40   | 66         | 57                               | 150  | 3    | 210        | 547        |
| 05:15 PM   | 11                    | 24   | 16   | 51         | 8                                | 155  | 19   | 182        | 14                    | 17   | 39   | 70         | 44                               | 168  | 4    | 216        | 519        |
| Total Volume   | 98                    | 107  | 95   | 300        | 46                               | 605  | 66   | 717        | 72                    | 51   | 151  | 274        | 193                              | 619  | 20   | 832        | 2123       |
| % App. Total   | 32.7                  | 35.7 | 31.7 |            | 6.4                              | 84.4 | 9.2  |            | 26.3                  | 18.6 | 55.1 |            | 23.2                             | 74.4 | 2.4  |            |            |
| PHF  | .613                  | .922 | .742 | .781       | .821                             | .951 | .868 | .974       | .900                  | .750 | .878 | .926       | .846                             | .921 | .500 | .963       | .970       |





TRAFFIC DATA COLLECTION

File Name : Pineville(Westinghouse and Nations Ford)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

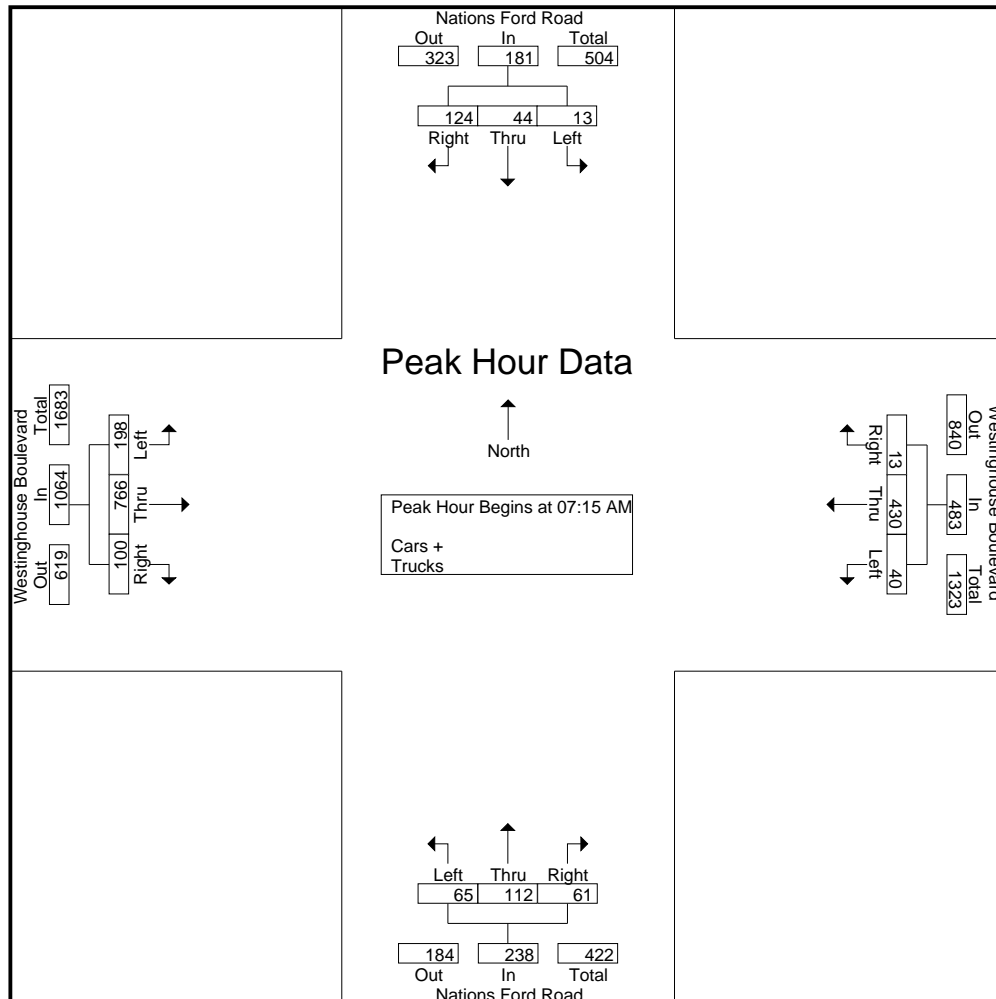
| Start Time  | Nations Ford Road Southbound |      |      |            | Westinghouse Boulevard Westbound |      |      |            | Nations Ford Road Northbound |      |      |            | Westinghouse Boulevard Eastbound |      |      |            | Int. Total |
|-------------|------------------------------|------|------|------------|----------------------------------|------|------|------------|------------------------------|------|------|------------|----------------------------------|------|------|------------|------------|
|             | Right                        | Thru | Left | App. Total | Right                            | Thru | Left | App. Total | Right                        | Thru | Left | App. Total | Right                            | Thru | Left | App. Total |            |
| 07:00 AM    | 17                           | 9    | 0    | 26         | 4                                | 98   | 17   | 119        | 13                           | 22   | 10   | 45         | 14                               | 155  | 35   | 204        | 394        |
| 07:15 AM    | 30                           | 9    | 4    | 43         | 4                                | 86   | 12   | 102        | 9                            | 29   | 13   | 51         | 25                               | 194  | 40   | 259        | 455        |
| 07:30 AM    | 19                           | 8    | 1    | 28         | 4                                | 132  | 11   | 147        | 19                           | 33   | 19   | 71         | 18                               | 186  | 59   | 263        | 509        |
| 07:45 AM    | 42                           | 15   | 4    | 61         | 1                                | 119  | 9    | 129        | 18                           | 25   | 18   | 61         | 33                               | 204  | 43   | 280        | 531        |
| Total       | 108                          | 41   | 9    | 158        | 13                               | 435  | 49   | 497        | 59                           | 109  | 60   | 228        | 90                               | 739  | 177  | 1006       | 1889       |
| 08:00 AM    | 33                           | 12   | 4    | 49         | 4                                | 93   | 8    | 105        | 15                           | 25   | 15   | 55         | 24                               | 182  | 56   | 262        | 471        |
| 08:15 AM    | 32                           | 8    | 4    | 44         | 3                                | 127  | 12   | 142        | 6                            | 11   | 18   | 35         | 16                               | 159  | 43   | 218        | 439        |
| 08:30 AM    | 34                           | 10   | 5    | 49         | 4                                | 125  | 7    | 136        | 16                           | 17   | 23   | 56         | 23                               | 162  | 35   | 220        | 461        |
| 08:45 AM    | 36                           | 8    | 1    | 45         | 7                                | 88   | 8    | 103        | 15                           | 10   | 11   | 36         | 23                               | 166  | 52   | 241        | 425        |
| Total       | 135                          | 38   | 14   | 187        | 18                               | 433  | 35   | 486        | 52                           | 63   | 67   | 182        | 86                               | 669  | 186  | 941        | 1796       |
| Grand Total | 243                          | 79   | 23   | 345        | 31                               | 868  | 84   | 983        | 111                          | 172  | 127  | 410        | 176                              | 1408 | 363  | 1947       | 3685       |
| Apprch %    | 70.4                         | 22.9 | 6.7  |            | 3.2                              | 88.3 | 8.5  |            | 27.1                         | 42   | 31   |            | 9                                | 72.3 | 18.6 |            |            |
| Total %     | 6.6                          | 2.1  | 0.6  | 9.4        | 0.8                              | 23.6 | 2.3  | 26.7       | 3                            | 4.7  | 3.4  | 11.1       | 4.8                              | 38.2 | 9.9  | 52.8       |            |
| Cars +      | 196                          | 68   | 19   | 283        | 28                               | 770  | 60   | 858        | 96                           | 163  | 103  | 362        | 157                              | 1288 | 315  | 1760       | 3263       |
| % Cars +    | 80.7                         | 86.1 | 82.6 | 82         | 90.3                             | 88.7 | 71.4 | 87.3       | 86.5                         | 94.8 | 81.1 | 88.3       | 89.2                             | 91.5 | 86.8 | 90.4       | 88.5       |
| Trucks      | 47                           | 11   | 4    | 62         | 3                                | 98   | 24   | 125        | 15                           | 9    | 24   | 48         | 19                               | 120  | 48   | 187        | 422        |
| % Trucks    | 19.3                         | 13.9 | 17.4 | 18         | 9.7                              | 11.3 | 28.6 | 12.7       | 13.5                         | 5.2  | 18.9 | 11.7       | 10.8                             | 8.5  | 13.2 | 9.6        | 11.5       |



TRAFFIC DATA COLLECTION

File Name : Pineville(Westinghouse and Nations Ford)AM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Nations Ford Road Southbound |      |      |            | Westinghouse Boulevard Westbound |      |      |            | Nations Ford Road Northbound |      |      |            | Westinghouse Boulevard Eastbound |      |      |            | Int. Total |
|--|------------------------------|------|------|------------|----------------------------------|------|------|------------|------------------------------|------|------|------------|----------------------------------|------|------|------------|------------|
|  | Right                        | Thru | Left | App. Total | Right                            | Thru | Left | App. Total | Right                        | Thru | Left | App. Total | Right                            | Thru | Left | App. Total |            |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 |                              |      |      |            |                                  |      |      |            |                              |      |      |            |                                  |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 07:15 AM       |                              |      |      |            |                                  |      |      |            |                              |      |      |            |                                  |      |      |            |            |
| 07:15 AM   | 30                           | 9    | 4    | 43         | 4                                | 86   | 12   | 102        | 9                            | 29   | 13   | 51         | 25                               | 194  | 40   | 259        | 455        |
| 07:30 AM   | 19                           | 8    | 1    | 28         | 4                                | 132  | 11   | 147        | 19                           | 33   | 19   | 71         | 18                               | 186  | 59   | 263        | 509        |
| 07:45 AM   | 42                           | 15   | 4    | 61         | 1                                | 119  | 9    | 129        | 18                           | 25   | 18   | 61         | 33                               | 204  | 43   | 280        | 531        |
| 08:00 AM   | 33                           | 12   | 4    | 49         | 4                                | 93   | 8    | 105        | 15                           | 25   | 15   | 55         | 24                               | 182  | 56   | 262        | 471        |
| Total Volume   | 124                          | 44   | 13   | 181        | 13                               | 430  | 40   | 483        | 61                           | 112  | 65   | 238        | 100                              | 766  | 198  | 1064       | 1966       |
| % App. Total   | 68.5                         | 24.3 | 7.2  |            | 2.7                              | 89   | 8.3  |            | 25.6                         | 47.1 | 27.3 |            | 9.4                              | 72   | 18.6 |            |            |
| PHF  | .738                         | .733 | .813 | .742       | .813                             | .814 | .833 | .821       | .803                         | .848 | .855 | .838       | .758                             | .939 | .839 | .950       | .926       |





TRAFFIC DATA COLLECTION

File Name : Pineville(Westinghouse and Nations Ford)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 1

Groups Printed- Cars + - Trucks

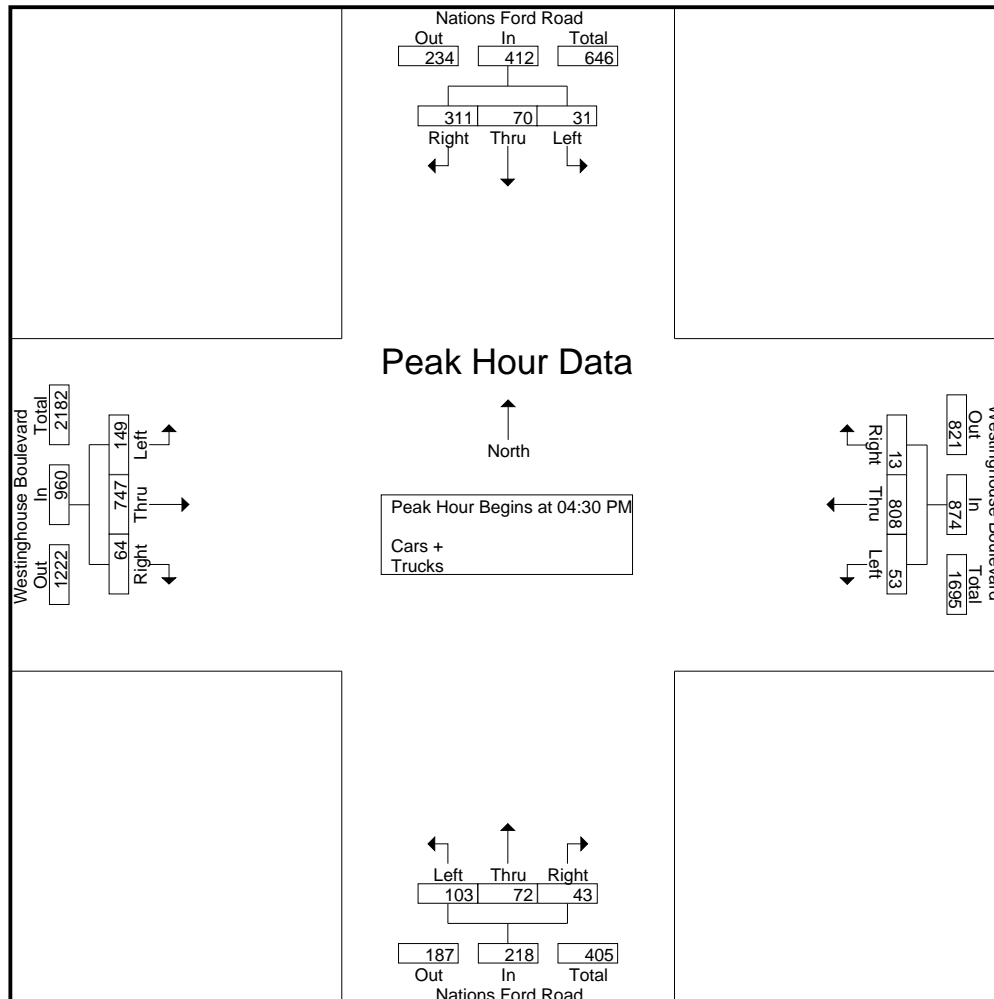
| Start Time  | Nations Ford Road Southbound |      |      |            | Westinghouse Boulevard Westbound |      |      |            | Nations Ford Road Northbound |      |      |            | Westinghouse Boulevard Eastbound |      |      |            | Int. Total |
|-------------|------------------------------|------|------|------------|----------------------------------|------|------|------------|------------------------------|------|------|------------|----------------------------------|------|------|------------|------------|
|             | Right                        | Thru | Left | App. Total | Right                            | Thru | Left | App. Total | Right                        | Thru | Left | App. Total | Right                            | Thru | Left | App. Total |            |
| 04:00 PM    | 62                           | 23   | 7    | 92         | 2                                | 180  | 14   | 196        | 13                           | 21   | 24   | 58         | 18                               | 139  | 39   | 196        | 542        |
| 04:15 PM    | 49                           | 21   | 8    | 78         | 1                                | 192  | 11   | 204        | 18                           | 15   | 21   | 54         | 12                               | 191  | 22   | 225        | 561        |
| 04:30 PM    | 88                           | 13   | 6    | 107        | 4                                | 215  | 9    | 228        | 11                           | 20   | 41   | 72         | 8                                | 179  | 48   | 235        | 642        |
| 04:45 PM    | 73                           | 21   | 9    | 103        | 3                                | 190  | 17   | 210        | 6                            | 13   | 14   | 33         | 15                               | 199  | 43   | 257        | 603        |
| Total       | 272                          | 78   | 30   | 380        | 10                               | 777  | 51   | 838        | 48                           | 69   | 100  | 217        | 53                               | 708  | 152  | 913        | 2348       |
| 05:00 PM    | 93                           | 15   | 7    | 115        | 4                                | 217  | 12   | 233        | 15                           | 25   | 30   | 70         | 23                               | 181  | 26   | 230        | 648        |
| 05:15 PM    | 57                           | 21   | 9    | 87         | 2                                | 186  | 15   | 203        | 11                           | 14   | 18   | 43         | 18                               | 188  | 32   | 238        | 571        |
| 05:30 PM    | 35                           | 10   | 5    | 50         | 3                                | 162  | 9    | 174        | 9                            | 13   | 13   | 35         | 16                               | 207  | 40   | 263        | 522        |
| 05:45 PM    | 43                           | 14   | 2    | 59         | 0                                | 128  | 10   | 138        | 2                            | 7    | 13   | 22         | 10                               | 141  | 26   | 177        | 396        |
| Total       | 228                          | 60   | 23   | 311        | 9                                | 693  | 46   | 748        | 37                           | 59   | 74   | 170        | 67                               | 717  | 124  | 908        | 2137       |
| Grand Total | 500                          | 138  | 53   | 691        | 19                               | 1470 | 97   | 1586       | 85                           | 128  | 174  | 387        | 120                              | 1425 | 276  | 1821       | 4485       |
| Apprch %    | 72.4                         | 20   | 7.7  |            | 1.2                              | 92.7 | 6.1  |            | 22                           | 33.1 | 45   |            | 6.6                              | 78.3 | 15.2 |            |            |
| Total %     | 11.1                         | 3.1  | 1.2  | 15.4       | 0.4                              | 32.8 | 2.2  | 35.4       | 1.9                          | 2.9  | 3.9  | 8.6        | 2.7                              | 31.8 | 6.2  | 40.6       |            |
| Cars +      | 459                          | 134  | 53   | 646        | 18                               | 1409 | 89   | 1516       | 78                           | 124  | 161  | 363        | 109                              | 1333 | 257  | 1699       | 4224       |
| % Cars +    | 91.8                         | 97.1 | 100  | 93.5       | 94.7                             | 95.9 | 91.8 | 95.6       | 91.8                         | 96.9 | 92.5 | 93.8       | 90.8                             | 93.5 | 93.1 | 93.3       | 94.2       |
| Trucks      | 41                           | 4    | 0    | 45         | 1                                | 61   | 8    | 70         | 7                            | 4    | 13   | 24         | 11                               | 92   | 19   | 122        | 261        |
| % Trucks    | 8.2                          | 2.9  | 0    | 6.5        | 5.3                              | 4.1  | 8.2  | 4.4        | 8.2                          | 3.1  | 7.5  | 6.2        | 9.2                              | 6.5  | 6.9  | 6.7        | 5.8        |



TRAFFIC DATA COLLECTION

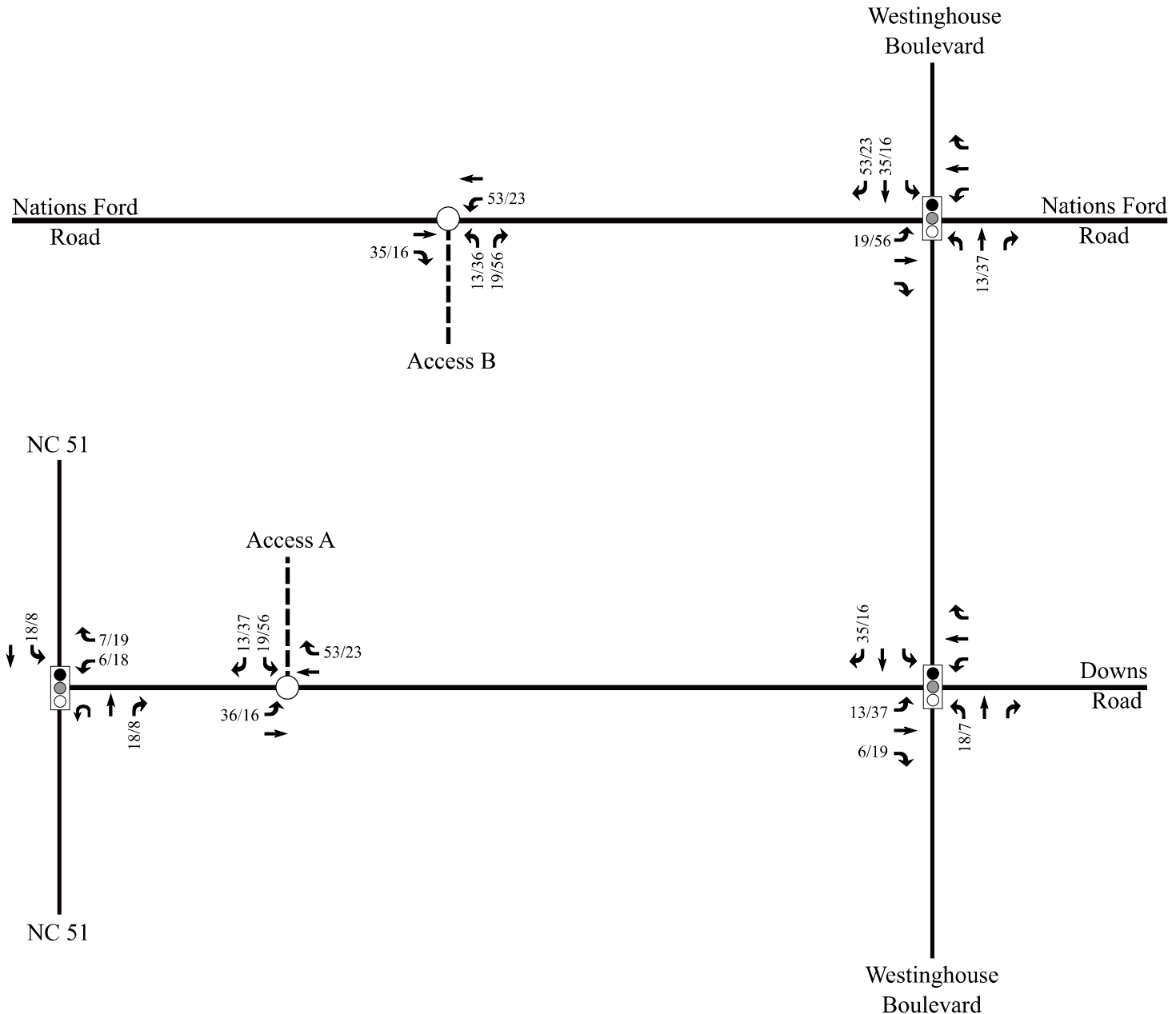
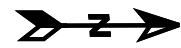
File Name : Pineville(Westinghouse and Nations Ford)PM Peak  
 Site Code :  
 Start Date : 9/9/2021  
 Page No : 2

| Start Time   | Nations Ford Road Southbound |      |      |            | Westinghouse Boulevard Westbound |      |      |            | Nations Ford Road Northbound |      |      |            | Westinghouse Boulevard Eastbound |      |      |            | Int. Total |
|--|------------------------------|------|------|------------|----------------------------------|------|------|------------|------------------------------|------|------|------------|----------------------------------|------|------|------------|------------|
|  | Right                        | Thru | Left | App. Total | Right                            | Thru | Left | App. Total | Right                        | Thru | Left | App. Total | Right                            | Thru | Left | App. Total |            |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 |                              |      |      |            |                                  |      |      |            |                              |      |      |            |                                  |      |      |            |            |
| Peak Hour for Entire Intersection Begins at 04:30 PM       |                              |      |      |            |                                  |      |      |            |                              |      |      |            |                                  |      |      |            |            |
| 04:30 PM   | 88                           | 13   | 6    | 107        | 4                                | 215  | 9    | 228        | 11                           | 20   | 41   | 72         | 8                                | 179  | 48   | 235        | 642        |
| 04:45 PM   | 73                           | 21   | 9    | 103        | 3                                | 190  | 17   | 210        | 6                            | 13   | 14   | 33         | 15                               | 199  | 43   | 257        | 603        |
| 05:00 PM   | 93                           | 15   | 7    | 115        | 4                                | 217  | 12   | 233        | 15                           | 25   | 30   | 70         | 23                               | 181  | 26   | 230        | 648        |
| 05:15 PM   | 57                           | 21   | 9    | 87         | 2                                | 186  | 15   | 203        | 11                           | 14   | 18   | 43         | 18                               | 188  | 32   | 238        | 571        |
| Total Volume   | 311                          | 70   | 31   | 412        | 13                               | 808  | 53   | 874        | 43                           | 72   | 103  | 218        | 64                               | 747  | 149  | 960        | 2464       |
| % App. Total   | 75.5                         | 17   | 7.5  |            | 1.5                              | 92.4 | 6.1  |            | 19.7                         | 33   | 47.2 |            | 6.7                              | 77.8 | 15.5 |            |            |
| PHF  | .836                         | .833 | .861 | .896       | .813                             | .931 | .779 | .938       | .717                         | .720 | .628 | .757       | .696                             | .938 | .776 | .934       | .951       |



## **Appendix C – Approved Developments**





**LEGEND**

- Signalized Intersection
- Unsignalized Intersection
- X / Y → AM / PM Peak Hour Site Trips



Carolina Logistics Park  
Pineville, NC

Proposed Site  
Phase 1  
Trip Assignment

Scale: Not to Scale      Figure 11

## **Appendix D – SCDOT Public Project Information**

## Chuck Jones

---

**From:** Hamilton, Patrick <Patrick.Hamilton@yorkcountygov.com>  
**Sent:** Tuesday, December 21, 2021 4:06 PM  
**To:** Cliff Lawson  
**Cc:** Jeff Hochanadel; Chuck Jones  
**Subject:** RE: Miller Farm TIA Scoping Meeting

10-4, thanks Cliff.

### Patrick Hamilton, P.E.

[Assistant County Engineer - Transportation  
Engineering](#)  
York County Government

---

[patrick.hamilton@yorkcountygov.com](mailto:patrick.hamilton@yorkcountygov.com)  
Phone: 803-818-5763  
Cell: 803-526-5332



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---

**From:** Cliff Lawson <Cliff.Lawson@timmons.com>  
**Sent:** Tuesday, December 21, 2021 1:28 PM  
**To:** Hamilton, Patrick <Patrick.Hamilton@yorkcountygov.com>  
**Cc:** Jeff Hochanadel <Jeff.Hochanadel@timmons.com>; Chuck Jones <Chuck.Jones@timmons.com>  
**Subject:** RE: Miller Farm TIA Scoping Meeting

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---

Patrick,

Thanks for taking my call earlier today. Per our conversation, the TIA will assume the Pennies for Progress project will be completed at our study area intersections by 2023.

Thanks,

**Cliff Lawson, PE, PTOE**

*Senior Project Manager*

Office: 919.866.4946 | Fax: 704.376.1076

---

**From:** Hamilton, Patrick <[Patrick.Hamilton@yorkcountygov.com](mailto:Patrick.Hamilton@yorkcountygov.com)>

**Sent:** Monday, September 20, 2021 12:00 PM

**To:** Jeff Hochanadel <[Jeff.Hochanadel@timmons.com](mailto:Jeff.Hochanadel@timmons.com)>; Wagner, Leah P <[lwagner@ncdot.gov](mailto:lwagner@ncdot.gov)>; Taylor, Wendy A <[wataylor1@ncdot.gov](mailto:wataylor1@ncdot.gov)>; Stephens, Christopher <[Christopher.Stephens@yorkcountygov.com](mailto:Christopher.Stephens@yorkcountygov.com)>; 'Love, Allison C.' <[LoveAC@scdot.org](mailto:LoveAC@scdot.org)>; Tagliaferri, Anthony <[atagliaferri@ncdot.gov](mailto:atagliaferri@ncdot.gov)>; Gamble, David D. <[GambleDD@scdot.org](mailto:GambleDD@scdot.org)>; [tmorgan@pinevillenc.gov](mailto:tmorgan@pinevillenc.gov)

**Cc:** Chris Todd <[Chris.Todd@timmons.com](mailto:Chris.Todd@timmons.com)>; Cliff Lawson <[Cliff.Lawson@timmons.com](mailto:Cliff.Lawson@timmons.com)>; Trevor Darnell <[Trevor.Darnell@timmons.com](mailto:Trevor.Darnell@timmons.com)>; Katie Bradley <[Katie.Bradley@timmons.com](mailto:Katie.Bradley@timmons.com)>

**Subject:** RE: Miller Farm TIA Scoping Meeting

Jeff,

The current schedule for the Pennies for Progress project to widen US 21 and Hwy. 51 has construction beginning in summer 2022. Based on the size of the project, I would expect construction to be completed in spring 2025.

Thanks,

**Patrick Hamilton, P.E.**

[Assistant County Engineer - Transportation](#)

*Engineering*

*York County Government*

---

[patrick.hamilton@yorkcountygov.com](mailto:patrick.hamilton@yorkcountygov.com)

Phone: 803-818-5763

Cell: 803-526-5332



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---

**From:** Jeff Hochanadel <[Jeff.Hochanadel@timmons.com](mailto:Jeff.Hochanadel@timmons.com)>  
**Sent:** Wednesday, September 15, 2021 3:24 PM  
**To:** Wagner, Leah P <[lwagner@ncdot.gov](mailto:lwagner@ncdot.gov)>; Taylor, Wendy A <[wataylor1@ncdot.gov](mailto:wataylor1@ncdot.gov)>; Hamilton, Patrick <[Patrick.Hamilton@yorkcountygov.com](mailto:Patrick.Hamilton@yorkcountygov.com)>; Stephens, Christopher <[Christopher.Stephens@yorkcountygov.com](mailto:Christopher.Stephens@yorkcountygov.com)>; 'Love, Allison C.' <[LoveAC@scdot.org](mailto:LoveAC@scdot.org)>; Tagliaferri, Anthony <[atagliaferri@ncdot.gov](mailto:atagliaferri@ncdot.gov)>; Gamble, David D. <[GambleDD@scdot.org](mailto:GambleDD@scdot.org)>; [tmorgan@pinevillenc.gov](mailto:tmorgan@pinevillenc.gov)  
**Cc:** Chris Todd <[Chris.Todd@timmons.com](mailto:Chris.Todd@timmons.com)>; Cliff Lawson <[Cliff.Lawson@timmons.com](mailto:Cliff.Lawson@timmons.com)>; Trevor Darnell <[Trevor.Darnell@timmons.com](mailto:Trevor.Darnell@timmons.com)>; Katie Bradley <[Katie.Bradley@timmons.com](mailto:Katie.Bradley@timmons.com)>  
**Subject:** RE: Miller Farm TIA Scoping Meeting

**WARNING: The email below is from an EXTERNAL source. Ensure you trust this sender before clicking on any links or attachments.**

---

All,

The Miller Farm site plan has been updated to include an overall reduced number of residential units:

- Approved 6/16/21 Scope: 360 residential units (215 single-family / 145 townhomes)
- Updated Land Use: 300 residential units (225 single-family / 75 townhomes)

Additionally, the client has requested that the updated TIA be phased (2 phases – 1 scoped) and Timmons Group is planning to conduct new turning movement traffic counts at each study area intersection (current counts vary in age from 2018 – 2021 and include several adjustment factors).

Timmons Group will provide an updated TIA Scoping Checklist summarizing all scoping changes. Is a new scoping meeting is required for the subject project based on the described changes?

Additionally, I wanted to follow up with the County to inquire about the project schedule for Pennies for Progress project along SC-51.

Thank You!  
Jeff

---

**From:** Wagner, Leah P <[lwagner@ncdot.gov](mailto:lwagner@ncdot.gov)>  
**Sent:** Thursday, July 8, 2021 4:26 PM  
**To:** Jeff Hochanadel <[Jeff.Hochanadel@timmons.com](mailto:Jeff.Hochanadel@timmons.com)>; Taylor, Wendy A <[wataylor1@ncdot.gov](mailto:wataylor1@ncdot.gov)>; Hamilton, Patrick <[Patrick.Hamilton@yorkcountygov.com](mailto:Patrick.Hamilton@yorkcountygov.com)>; Stephens, Christopher <[Christopher.Stephens@yorkcountygov.com](mailto:Christopher.Stephens@yorkcountygov.com)>; 'Love, Allison C.' <[LoveAC@scdot.org](mailto:LoveAC@scdot.org)>; Tagliaferri, Anthony <[atagliaferri@ncdot.gov](mailto:atagliaferri@ncdot.gov)>; Gamble, David D. <[GambleDD@scdot.org](mailto:GambleDD@scdot.org)>; [tmorgan@pinevillenc.gov](mailto:tmorgan@pinevillenc.gov)  
**Cc:** Chris Todd <[Chris.Todd@timmons.com](mailto:Chris.Todd@timmons.com)>; Cliff Lawson <[Cliff.Lawson@timmons.com](mailto:Cliff.Lawson@timmons.com)>; Trevor Darnell <[Trevor.Darnell@timmons.com](mailto:Trevor.Darnell@timmons.com)>  
**Subject:** RE: Miller Farm TIA Scoping Meeting

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Jeff,

The scope is acceptable; however, the RAB is too close to NC 51.

**Leah P. Wagner**  
Senior Assistant District Engineer  
North Carolina Department of Transportation  
Division 10 District 2

980 523-0000 office  
[lwagner@ncdot.gov](mailto:lwagner@ncdot.gov)

7605 District Drive  
Charlotte, NC 28213



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---

---

**From:** Jeff Hochanadel <[Jeff.Hochanadel@timmons.com](mailto:Jeff.Hochanadel@timmons.com)>  
**Sent:** Tuesday, July 6, 2021 4:02 PM  
**To:** Taylor, Wendy A <[wataylor1@ncdot.gov](mailto:wataylor1@ncdot.gov)>; Hamilton, Patrick <[Patrick.Hamilton@yorkcountygov.com](mailto:Patrick.Hamilton@yorkcountygov.com)>; Stephens, Christopher <[Christopher.Stephens@yorkcountygov.com](mailto:Christopher.Stephens@yorkcountygov.com)>; 'Love, Allison C.' <[LoveAC@scdot.org](mailto:LoveAC@scdot.org)>; Wagner, Leah P <[lwagner@ncdot.gov](mailto:lwagner@ncdot.gov)>; Tagliaferri, Anthony <[atagliaferri@ncdot.gov](mailto:atagliaferri@ncdot.gov)>; Gamble, David D. <[GambleDD@scdot.org](mailto:GambleDD@scdot.org)>; [tmorgan@pinevillenc.gov](mailto:tmorgan@pinevillenc.gov)  
**Cc:** Chris Todd <[Chris.Todd@timmons.com](mailto:Chris.Todd@timmons.com)>; Cliff Lawson <[cliff.lawson@timmons.com](mailto:cliff.lawson@timmons.com)>; Trevor Darnell <[Trevor.Darnell@timmons.com](mailto:Trevor.Darnell@timmons.com)>  
**Subject:** [External] RE: Miller Farm TIA Scoping Meeting

**CAUTION:** External email. Do not click links or open attachments unless you verify. Send all suspicious email as an attachment to [Report Spam](#).

All,

Were there any comments on the attached? If not, we will proceed forward with the study.

Thanks!  
Jeff

---

**From:** Jeff Hochanadel  
**Sent:** Wednesday, June 16, 2021 3:16 PM  
**To:** Taylor, Wendy A <[wataylor1@ncdot.gov](mailto:wataylor1@ncdot.gov)>; Hamilton, Patrick <[Patrick.Hamilton@yorkcountygov.com](mailto:Patrick.Hamilton@yorkcountygov.com)>; Stephens, Christopher <[Christopher.Stephens@yorkcountygov.com](mailto:Christopher.Stephens@yorkcountygov.com)>; 'Love, Allison C.' <[LoveAC@scdot.org](mailto:LoveAC@scdot.org)>; Wagner, Leah P <[lwagner@ncdot.gov](mailto:lwagner@ncdot.gov)>; Tagliaferri, Anthony <[atagliaferri@ncdot.gov](mailto:atagliaferri@ncdot.gov)>; Reese, Michael P <[mikereese@ncdot.gov](mailto:mikereese@ncdot.gov)>; Gallo, Robert S <[rsgallo@ncdot.gov](mailto:rsgallo@ncdot.gov)>; Gamble, David D. <[GambleDD@scdot.org](mailto:GambleDD@scdot.org)>; [tmorgan@pinevillenc.gov](mailto:tmorgan@pinevillenc.gov)  
**Cc:** Chris Todd <[Chris.Todd@timmons.com](mailto:Chris.Todd@timmons.com)>; Cliff Lawson <[Cliff.Lawson@timmons.com](mailto:Cliff.Lawson@timmons.com)>; Trevor Darnell

<[Trevor.Darnell@timmons.com](mailto:Trevor.Darnell@timmons.com)>

**Subject:** Miller Farm TIA Scoping Meeting

All,

The Miller Farm project has been updated with all commercial / office land uses removed from the project. The updated site plan includes 215 single-family and 145 townhome units. I have attached our updated NCDOT TIA Scoping Checklist to this email for your consideration.

Please note, due to the reduction in project scope / size, Timmons Group removed the US-21 / I-77 Ramps and US-21 / SC-51 intersections from the project study area.

I would like to set up a scoping meeting with all parties to discuss the subject project.

I am currently available Monday (6/21) afternoon, Wednesday (6/23), or Thursday (6/24).

Thank you!

Jeff

**Jeff Hochanadel, PE, PTOE**

North Carolina Transportation Group Leader

**TIMMONS GROUP** | [www.timmons.com](http://www.timmons.com)

5410 Trinity Rd, Suite 102 | Raleigh, NC 27607

Office: 919.866.4511 | Fax: 919.859.5663

Cell: 919.426.8405

[jeff.hochanadel@timmons.com](mailto:jeff.hochanadel@timmons.com)

*Your Vision Achieved Through Ours*

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INDEX OF SHEETS  
SEE SHEET I/I



**PROPOSED PLANS  
FOR  
YORK COUNTY, SOUTH CAROLINA  
US 21 NORTH PHASE 1 & SC 51  
YORK COUNTY PROJECT ID # 11149-004  
PROJECT ID # 0042332  
US 21 FROM SC 460 (SPRINGFIELD PKWY) TO  
700' SOUTH OF S-48 (SPRINGHILL FARM RD)  
& SC 51 FROM US 21 TO THE NC STATE LINE**

**SUBMITTED**  
April 5th, 2018

FINAL RAW PLANS  
SHEET NO. 1  
TOTAL SHEETS 474

Hydraulic Design Reference for these plans is the:  
**2009**  
Edition of SCDOT's "Requirements for Hydraulic Design Studies"

Design Reference for these plans is the:  
**2001**  
AASHTO "A Policy on Geometric Design of Highways and Streets"

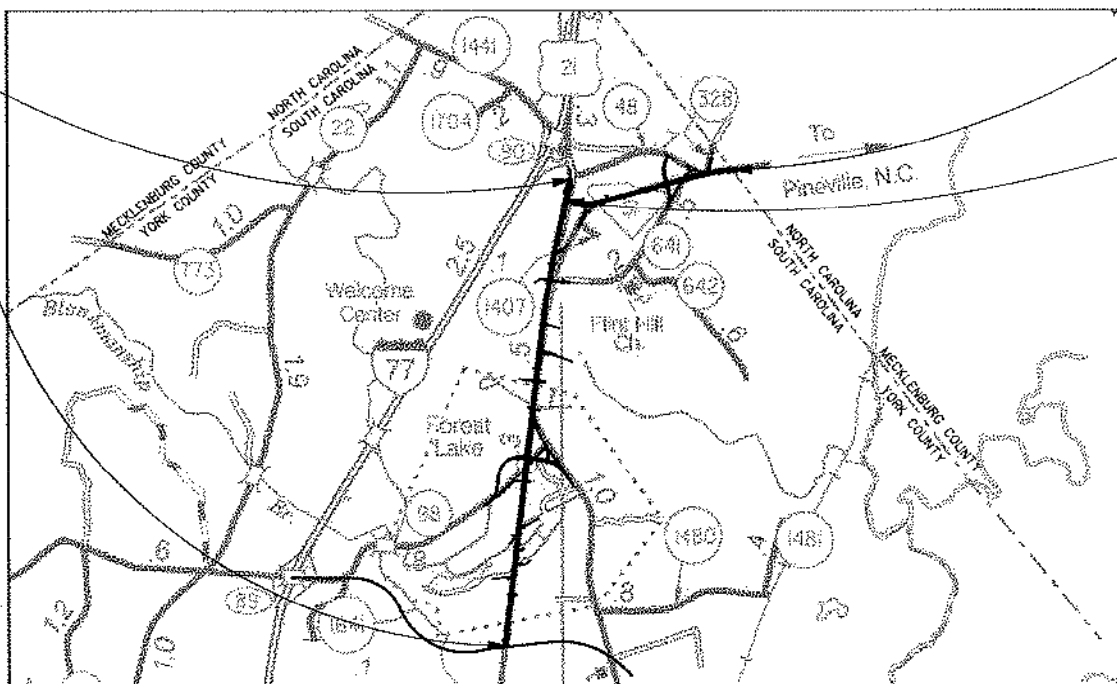
| NPDES PERMIT INFORMATION   |               |
|--|---------------|
| Disturbed Area =   | 43.4 Acre(s)  |
| Project Area =   | 46.4 Acre(s)  |
| Approximate Location of Roadway is                               |               |
| Begin  |               |
| Latitude   | 35° 03' 23" N |
| Longitude  | 80° 56' 16" W |
| End  |               |
| Latitude   | 35° 05' 20" N |
| Longitude  | 80° 55' 56" W |
| Hydraulic and NPDES Design provided by:                          |               |
| STV INCORPORATED   |               |
| Designs may be obtained from the SCDOT Regional Production Group |               |

SURVEY STA. 134+33.25 END  
PROJECT ID 0042332  
US 21

SURVEY STA. 14+78.91 BEGIN  
PROJECT ID 0042332  
US 21

SURVEY STA. 340+10.00 END  
PROJECT ID 0042332  
SC 51

SURVEY STA. 296+15.72 BEGIN  
PROJECT ID 0042332  
SC 51



YORK COUNTY MAP

| ENVIRONMENTAL PERMIT INFORMATION |   |  |  |
|----------------------------------|---|--|--|
| USACE PERMIT                     | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |  |
| NEPA DOCUMENT                    | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO |  |
| 401 CERTIFICATION                | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |  |
| OCRM CAP                         | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO |  |
| NAVIGABLE WATERS                 | <input type="checkbox"/> SC             | <input type="checkbox"/> USCG          | <input checked="" type="checkbox"/> USACE <input type="checkbox"/> N/A |

| SCDOT REVIEW                         | RIGHT-OF-WAY DATE |      | CONSTRUCTION DATE |      |
|--------------------------------------|-------------------|------|-------------------|------|
|                                      | INITIAL           | DATE | INITIAL           | DATE |
| PRECONSTRUCTION SUPPORT - ROAD       |                   |      |                   |      |
| PRECONSTRUCTION SUPPORT - STRUCTURES |                   |      |                   |      |
| RPG - DESIGN MANAGER                 |                   |      |                   |      |
| RPG - PROGRAM MANAGER                |                   |      |                   |      |

THE INITIALS ABOVE DO NOT RELIEVE THE ENGINEER OF RECORD OF THE RESPONSIBILITY TO DESIGN THIS PROJECT IN ACCORDANCE WITH ALL APPLICABLE CRITERIA.

For Right Of Way Acquisition:

*Mitchell Cooper* 4/5/18  
 Mitchell H Cooper  
 Consultant Engineer of Record  
 Date

*Thomas P. Swell* 4/9/18  
 Thomas P Swell  
 SCDOT Engineer  
 Regional Production Engineer  
 Date

3 DAYS BEFORE DIGGING IN  
SOUTH CAROLINA  
**CALL 811**  
SOUTH CAROLINA 811 (SC811)  
WWW.SC811.COM  
ALL UTILITIES MAY NOT BE A MEMBER OF SC811

RAILROAD INVOLVEMENT?  
YES / NO

| TRAFFIC DATA |        |
|--------------|--------|
| 2020 ADT     | 23,800 |
| 2040 ADT     | 33,900 |
| TRUCKS       | 8 %    |

LAYOUT  
SCALE 1 INCH = 2,300 FEET

|                         | Mainline US 21 | Mainline SC 51 | Sideroads | Total |       |
|-------------------------|----------------|----------------|-----------|-------|-------|
| Net Length of Roadway   | 2.264          | 0.832          | 2.011     | 5.107 | MILES |
| Net Length of Bridges   | 0.000          | 0.000          | 0.000     | 0.000 | MILES |
| Net Length of Project   | 2.264          | 0.832          | 2.011     | 5.107 | MILES |
| Length of Exceptions    | 0.000          | 0.000          | 0.000     | 0.000 | MILES |
| Gross Length of Project | 2.264          | 0.832          | 2.011     | 5.107 | MILES |

EQUALITIES IN STATIONING  
NONE

NOTE: EXCEPT AS MAY OTHERWISE BE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIALS AND WORKMANSHIP ON THIS PROJECT SHALL CONFORM TO THE SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2007 EDITION) AND THE STANDARD DRAWINGS FOR ROAD CONSTRUCTION IN EFFECT AT THE TIME OF LETTING.

CONSULTING ENGINEERING FIRM

**STV Incorporated**  
 ROCK HILL BUSINESS TECHNOLOGY CENTER, ETC. BY  
 44 S. ANDERSON ROAD, SUITE 1  
 ROCK HILL, SOUTH CAROLINA 29730

ENGINEER OF RECORD

FOR CONSTRUCTION: STV Incorporated DATE



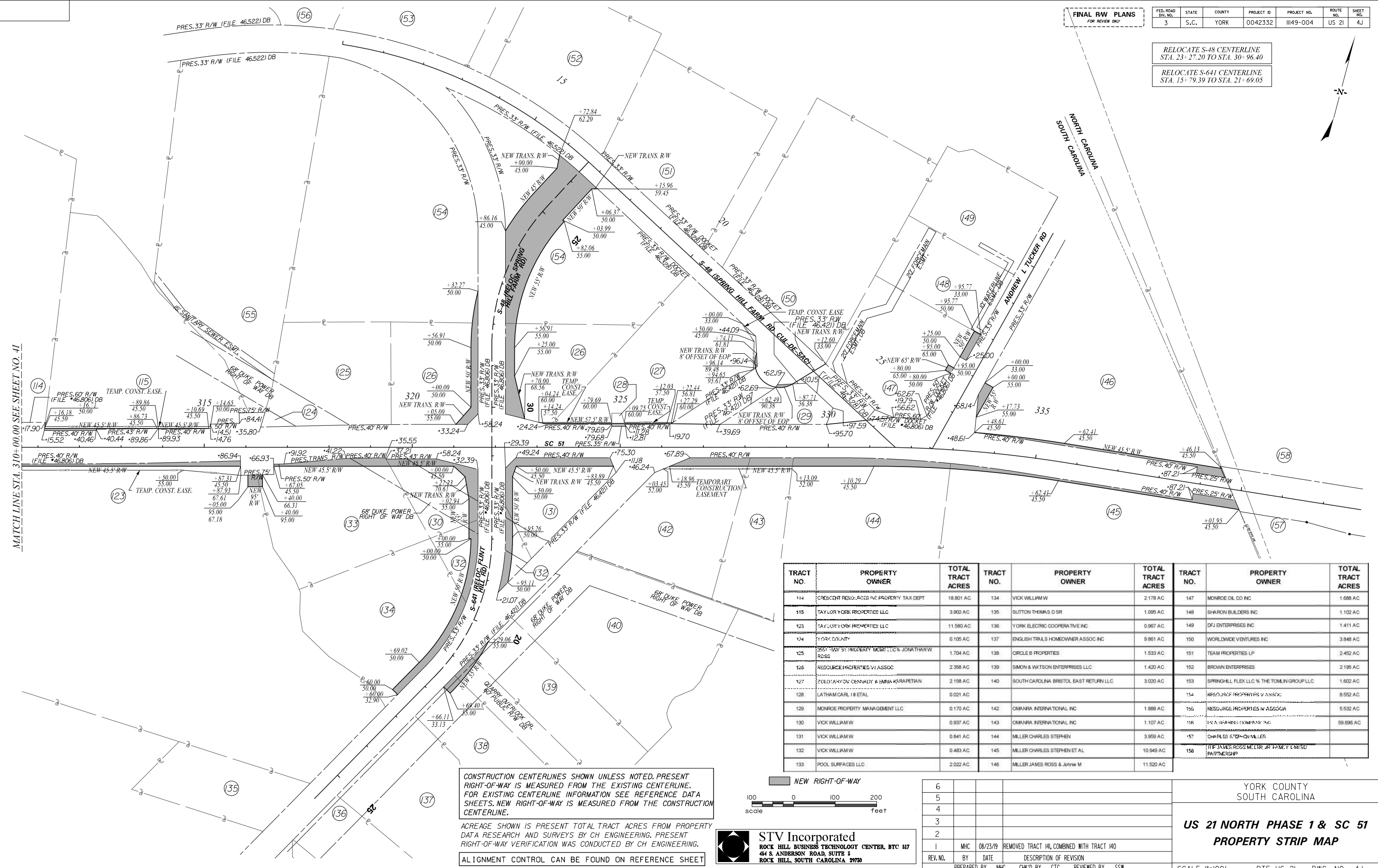
C:\Projects\255776\000\90\CAD Models and Sheets\04.ctb Transportation\Roadway\Plan Sheets\255776\_PLN\_SHT4.dgn  
 8/23/2019

| FED. ROAD DIV. NO. | STATE | COUNTY | PROJECT ID | PROJECT NO. | ROUTE NO. | SHEET NO. |
|--------------------|-------|--------|------------|-------------|-----------|-----------|
| 3                  | S.C.  | YORK   | 0042332    | III49-004   | US 21     | 4J        |

RELOCATE S-48 CENTERLINE  
 STA. 23+27.20 TO STA. 30+96.40  
  
 RELOCATE S-64I CENTERLINE  
 STA. 15+79.39 TO STA. 21+69.05

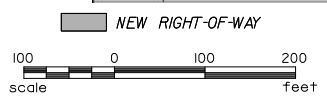
FINAL RW PLANS  
FOR REVIEW ONLY

NORTH CAROLINA  
 SOUTH CAROLINA



| TRACT NO. | PROPERTY OWNER                                    | TOTAL TRACT ACRES | TRACT NO. | PROPERTY OWNER                         | TOTAL TRACT ACRES | TRACT NO. | PROPERTY OWNER                                       | TOTAL TRACT ACRES |
|-----------|---|-------------------|-----------|--|-------------------|-----------|--|-------------------|
| 114       | CHESICENT RESOL. ROSS INC PROPERTY TAX DEPT       | 18.801 AC         | 134       | VICK WILLIAM W                         | 2.178 AC          | 147       | MONROE OIL CO INC                                    | 1.688 AC          |
| 115       | TAYLOR YORK PROPERTIES LLC                        | 3.802 AC          | 135       | SUTTON THOMAS D SR                     | 1.095 AC          | 148       | SHARON BUILDERS INC                                  | 1.102 AC          |
| 123       | TAYLOR YORK PROPERTIES LLC                        | 11.580 AC         | 136       | YORK ELECTRIC COOPERATIVE INC.         | 0.967 AC          | 149       | DFI ENTERPRISES INC                                  | 1.411 AC          |
| 124       | YORK COUNTY                                       | 0.105 AC          | 137       | ENGLISH TRAILS HOMEOWNER ASSOC INC     | 9.861 AC          | 150       | WORLDWIDE VENTURES INC                               | 3.848 AC          |
| 125       | 285' HWY 51 PROPERTY TRACT LLC W/ JONATHAN W ROSS | 1.704 AC          | 138       | CIRCLE B PROPERTIES                    | 1.533 AC          | 151       | TEAM PROPERTIES LP                                   | 2.452 AC          |
| 126       | RESOURCE PROPERTIES VA ASSOC                      | 2.358 AC          | 139       | SIMON & WATSON ENTERPRISES LLC         | 1.420 AC          | 152       | BROWN ENTERPRISES                                    | 2.195 AC          |
| 127       | ZOLODY ANYOV COMPANY & SARMA KRAPETIAN            | 2.198 AC          | 140       | SOUTH CAROLINA BRISTOL EAST RETURN LLC | 3.020 AC          | 153       | SPRINGHILL FLEX LLC % THE TOMLIN GROUP LLC           | 1.602 AC          |
| 128       | LATHAM CARL II ETAL                               | 0.021 AC          |           |  |                   | 154       | RESOURCE PROPERTIES VA ASSOC                         | 8.562 AC          |
| 129       | MONROE PROPERTY MANAGEMENT LLC                    | 0.170 AC          | 142       | OMANRA INTERNATIONAL INC               | 1.888 AC          | 155       | RESOURCE PROPERTIES VA ASSOC                         | 5.532 AC          |
| 130       | VICK WILLIAM W                                    | 0.937 AC          | 143       | OMANRA INTERNATIONAL INC               | 1.107 AC          | 156       | YORK COUNTY  | 59.686 AC         |
| 131       | VICK WILLIAM W                                    | 0.841 AC          | 144       | MILLER CHARLES STEPHEN                 | 3.959 AC          | 157       | CHARLES STEPHEN MILLER                               |                   |
| 132       | VICK WILLIAM W                                    | 0.483 AC          | 145       | MILLER CHARLES STEPHEN ETAL            | 10.948 AC         | 158       | TRIP JAMES ROSS MILLER JR FAMILY LIMITED PARTNERSHIP |                   |
| 133       | POOL SURFACES LLC                                 | 2.022 AC          | 146       | MILLER JAMES ROSS & Johnie M           | 11.520 AC         |           |  |                   |

CONSTRUCTION CENTERLINES SHOWN UNLESS NOTED. PRESENT RIGHT-OF-WAY IS MEASURED FROM THE EXISTING CENTERLINE. FOR EXISTING CENTERLINE INFORMATION SEE REFERENCE DATA SHEETS. NEW RIGHT-OF-WAY IS MEASURED FROM THE CONSTRUCTION CENTERLINE.  
  
 ACREAGE SHOWN IS PRESENT TOTAL TRACT ACRES FROM PROPERTY DATA RESEARCH AND SURVEYS BY CH ENGINEERING. PRESENT RIGHT-OF-WAY VERIFICATION WAS CONDUCTED BY CH ENGINEERING.  
  
 ALIGNMENT CONTROL CAN BE FOUND ON REFERENCE SHEET



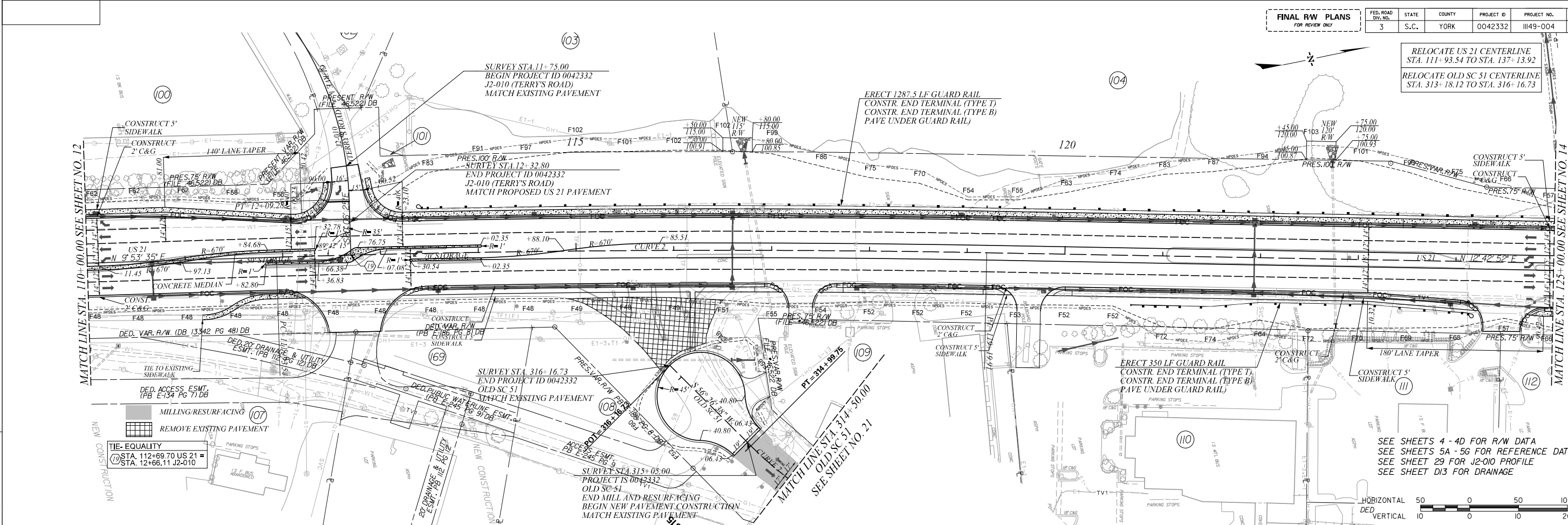
**STV Incorporated**  
 ROCK HILL BUSINESS TECHNOLOGY CENTER, BTC 517  
 484 S ANDERSON ROAD, SUITE 3  
 ROCK HILL, SOUTH CAROLINA 29730

| REV. NO. | BY  | DATE     | DESCRIPTION OF REVISION                    |
|----------|-----|----------|--|
| 6        |     |          |  |
| 5        |     |          |  |
| 4        |     |          |  |
| 3        |     |          |  |
| 2        |     |          |  |
| 1        | MHC | 08/23/19 | REMOVED TRACT 141, COMBINED WITH TRACT 140 |

PREPARED BY: MHC    CHK'D BY: CTC    REVIEWED BY: SSW

YORK COUNTY  
 SOUTH CAROLINA  
  
**US 21 NORTH PHASE 1 & SC 51  
 PROPERTY STRIP MAP**  
  
 SCALE 1"=100'    RTE. US 21    DWG. NO. 4J

RELOCATE US 21 CENTERLINE STA. 111+93.54 TO STA. 137+13.92  
 RELOCATE OLD SC 51 CENTERLINE STA. 313+18.12 TO STA. 316+16.73



SEE SHEETS 4 - 4D FOR R/W DATA  
 SEE SHEETS 5A - 5G FOR REFERENCE DATA  
 SEE SHEET 29 FOR J2-010 PROFILE  
 SEE SHEET D13 FOR DRAINAGE

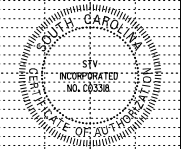
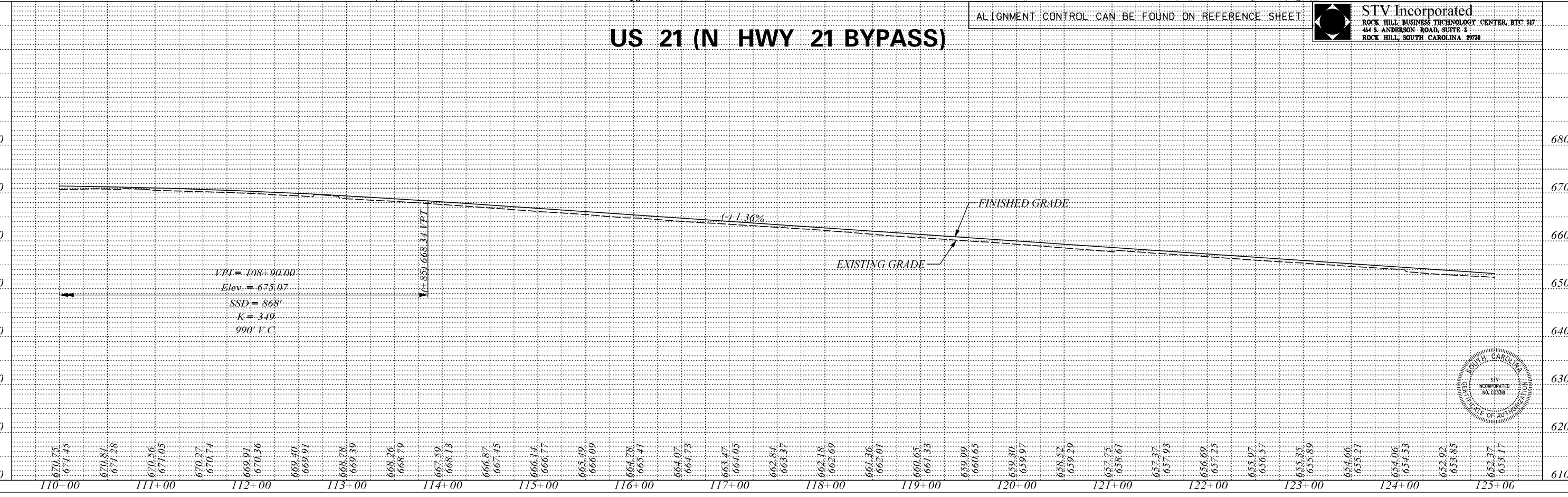


| REV. NO. | DATE       | BY  | DESCRIPTION OF REVISION                      |
|----------|------------|-----|--|
| 6        |            |     |  |
| 5        |            |     |  |
| 4        |            |     |  |
| 3        | 02/17/2020 | JDS | ADDED/EXTENDED DRIVEWAYS ON TRS, I09 AND I10 |
| 2        |            |     |  |
| 1        |            |     |  |

## US 21 (N HWY 21 BYPASS)

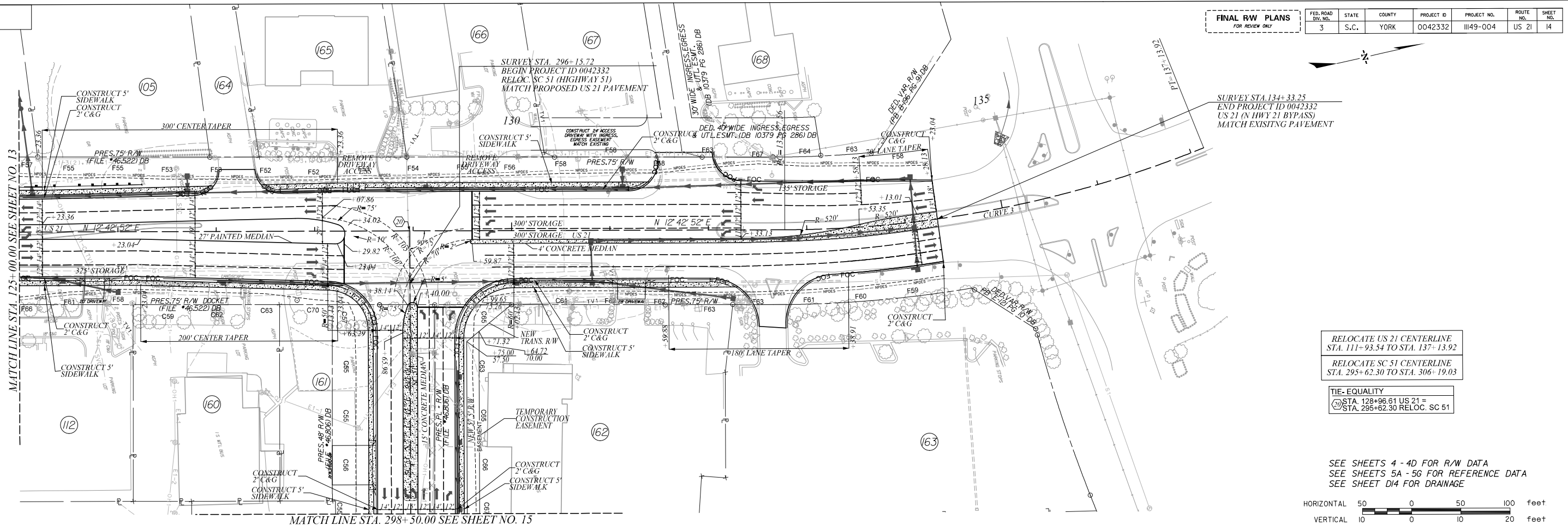
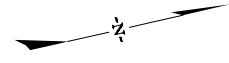
ALIGNMENT CONTROL CAN BE FOUND ON REFERENCE SHEET

**STV Incorporated**  
 ROCK HILL BUSINESS TECHNOLOGY CENTER, BTC #17  
 464 S. ANDERSON ROAD, SUITE 4  
 ROCK HILL, SOUTH CAROLINA 29730



FINAL R/W PLANS  
FOR REVIEW ONLY

| FED. ROAD DIV. NO. | STATE | COUNTY | PROJECT ID | PROJECT NO. | ROUTE NO. | SHEET NO. |
|--------------------|-------|--------|------------|-------------|-----------|-----------|
| 3                  | S.C.  | YORK   | 0042332    | 11149-004   | US 21     | 14        |



RELOCATE US 21 CENTERLINE  
STA. 111+93.54 TO STA. 137+13.92

RELOCATE SC 51 CENTERLINE  
STA. 295+62.30 TO STA. 306+19.03

TIE-EQUALITY  
 (E) STA. 128+96.61 US 21 =  
 (E) STA. 295+62.30 RELOC. SC 51

SEE SHEETS 4 - 4D FOR R/W DATA  
SEE SHEETS 5A - 5G FOR REFERENCE DATA  
SEE SHEET D14 FOR DRAINAGE



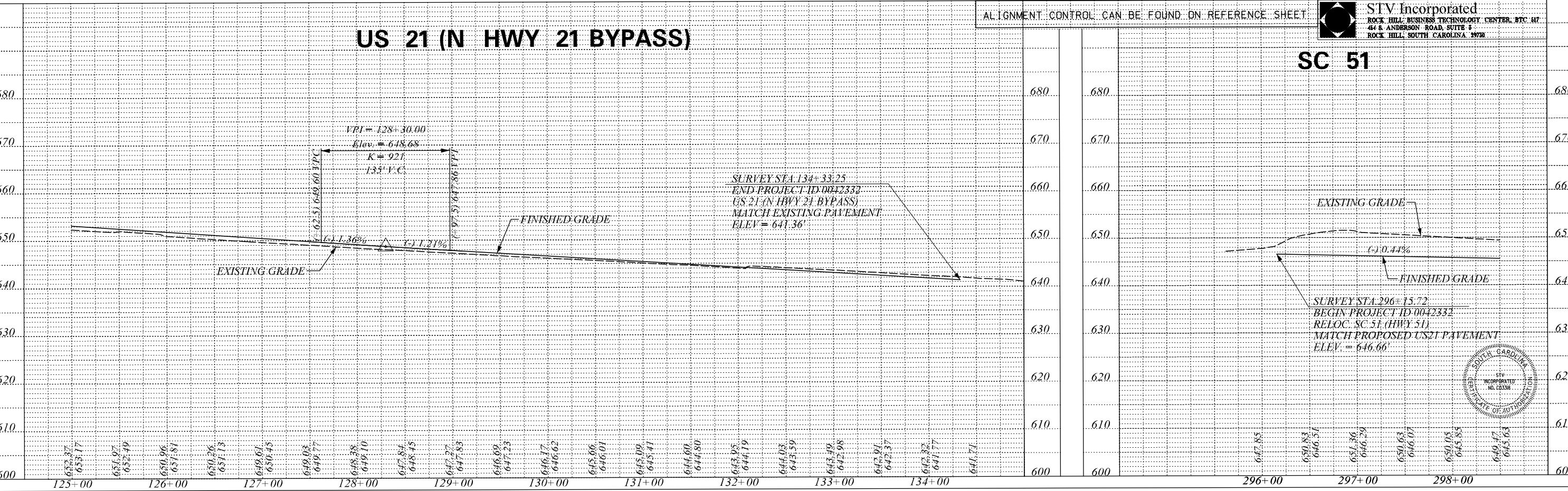
| REV. NO. | DATE      | BY  | DESCRIPTION OF REVISION   |
|----------|-----------|-----|---------------------------|
| 6        |           |     |                           |
| 5        |           |     |                           |
| 4        |           |     |                           |
| 3        |           |     |                           |
| 2        |           |     |                           |
| 1        | 5/25/2008 | JDS | TRACT 163 REMOVED NEW R/W |

### US 21 (N HWY 21 BYPASS)

ALIGNMENT CONTROL CAN BE FOUND ON REFERENCE SHEET

**STV Incorporated**  
 ROCK HILL BUSINESS TECHNOLOGY CENTER, BTC 417  
 464 S. ANDERSON ROAD, SUITE 2  
 ROCK HILL, SOUTH CAROLINA 29726

### SC 51



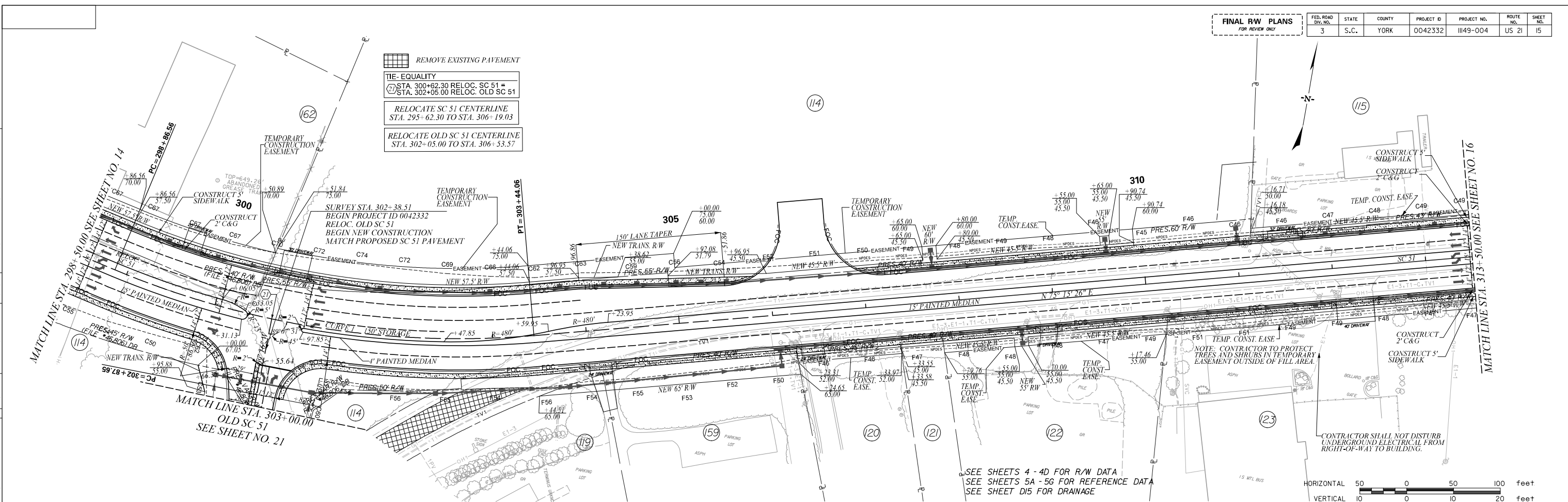
Cooper M  
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 4/19/2009

| FED. ROAD DIV. NO. | STATE | COUNTY | PROJECT ID | PROJECT NO. | ROUTE NO. | SHEET NO. |
|--------------------|-------|--------|------------|-------------|-----------|-----------|
| 3                  | S.C.  | YORK   | 0042332    | 1149-004    | US 21     | 15        |

| REV. NO. | DATE     | BY  | DESCRIPTION OF REVISION   |
|----------|----------|-----|---------------------------|
| 7        | 05/03/20 | JDS | ADDED DRIVEWAYS TO TR. 14 |

| REV. NO. | DATE     | BY  | DESCRIPTION OF REVISION                         |
|----------|----------|-----|---|
| 6        | 02/27/20 | JDS | ADDED TREE/SHRUB & ELECTRIC NOTES TO TR. 13     |
| 5        | 10/29/20 | MHC | REVISED TR. 14 OBTAIN, ADDED UNECONOMIC REMAIN. |
| 4        | 04/08/19 | MHC | ADDED TCE & REMOVED PERM. FOR TR. 15 & 23       |

| REV. NO. | DATE     | BY  | DESCRIPTION OF REVISION               |
|----------|----------|-----|---------------------------------------|
| 3        | 04/05/19 | MHC | ADDED TCE & REMOVED PERM. FOR TR. 120 |
| 2        | 02/01/19 | MHC | REVISED RW & ADDED TCE FOR TR. 122    |
| 1        | 10/19/18 | MHC | ADDED TCE & REMOVED PERM. FOR TR. 14  |



REMOVE EXISTING PAVEMENT

TIE-EQUALITY  
 (27) STA. 300+62.30 RELOC. SC 51 =  
 STA. 302+05.00 RELOC. OLD SC 51

RELOCATE SC 51 CENTERLINE  
 STA. 295+62.30 TO STA. 306+19.03

RELOCATE OLD SC 51 CENTERLINE  
 STA. 302+05.00 TO STA. 306+33.57

SEE SHEETS 4 - 4D FOR R/W DATA  
 SEE SHEETS 5A - 5G FOR REFERENCE DATA  
 SEE SHEET DIS FOR DRAINAGE

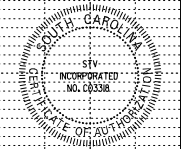
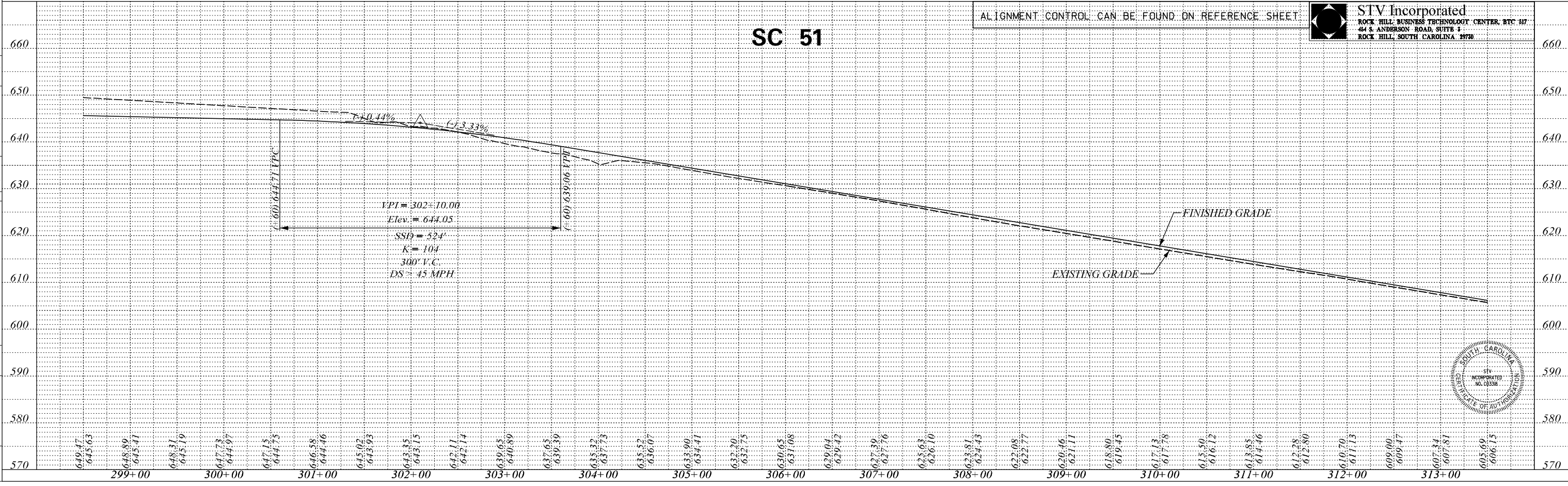
NOTE: CONTRACTOR TO PROTECT TREES AND SHRUBS IN TEMPORARY EASEMENT OUTSIDE OF FILL AREA.

CONTRACTOR SHALL NOT DISTURB UNDERGROUND ELECTRICAL FROM RIGHT-OF-WAY TO BUILDING.



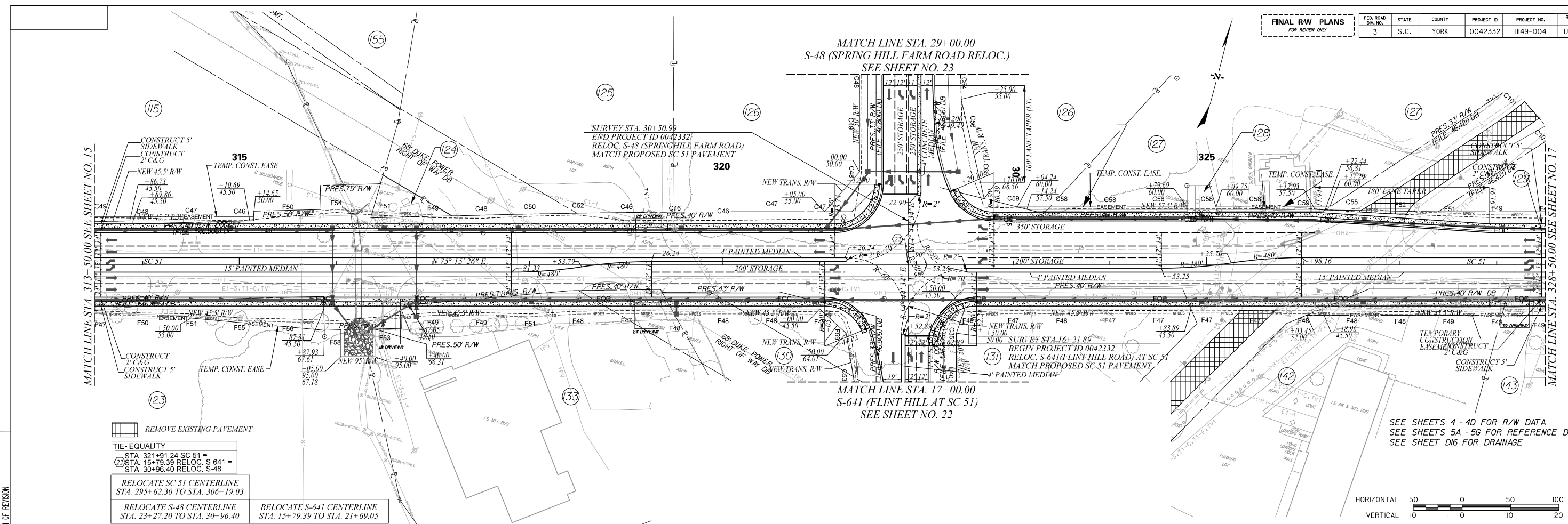
ALIGNMENT CONTROL CAN BE FOUND ON REFERENCE SHEET

**STV Incorporated**  
 ROCK HILL BUSINESS TECHNOLOGY CENTER, BTC #17  
 464 S. ANDERSON ROAD, SUITE 4  
 ROCK HILL, SOUTH CAROLINA 29730



**FINAL R/W PLANS**  
FOR REVIEW ONLY

| FED. ROAD DIV. NO. | STATE | COUNTY | PROJECT ID | PROJECT NO. | ROUTE NO. | SHEET NO. |
|--------------------|-------|--------|------------|-------------|-----------|-----------|
| 3                  | S.C.  | YORK   | 0042332    | 1149-004    | US 21     | 16        |



**TIE-EQUALITY**

① STA. 321+91.24 SC 51 =  
② STA. 15+79.39 RELOC. S-641 =  
③ STA. 30+96.40 RELOC. S-48

**REMOVE EXISTING PAVEMENT**

**HYDROLOGY DATA:**  
D.A. = 0.06sq.mi. = 38.5 ac.  
Q50 = 53 cfs  
Vel. = 9.44 ft/sec  
50 Year H.W. Elev. = 595.31 ft.  
Including 2.7 ft. Headwater  
Q100 = 59 cfs  
Vel. = 9.79 ft/sec  
100 Year H.W. Elev. = 595.52 ft.  
Including 2.9 ft. Headwater  
**OVERTOPPING FLOOD:**  
Q = 191.06 cfs  
Probability = less than 0.2%

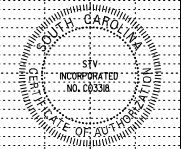
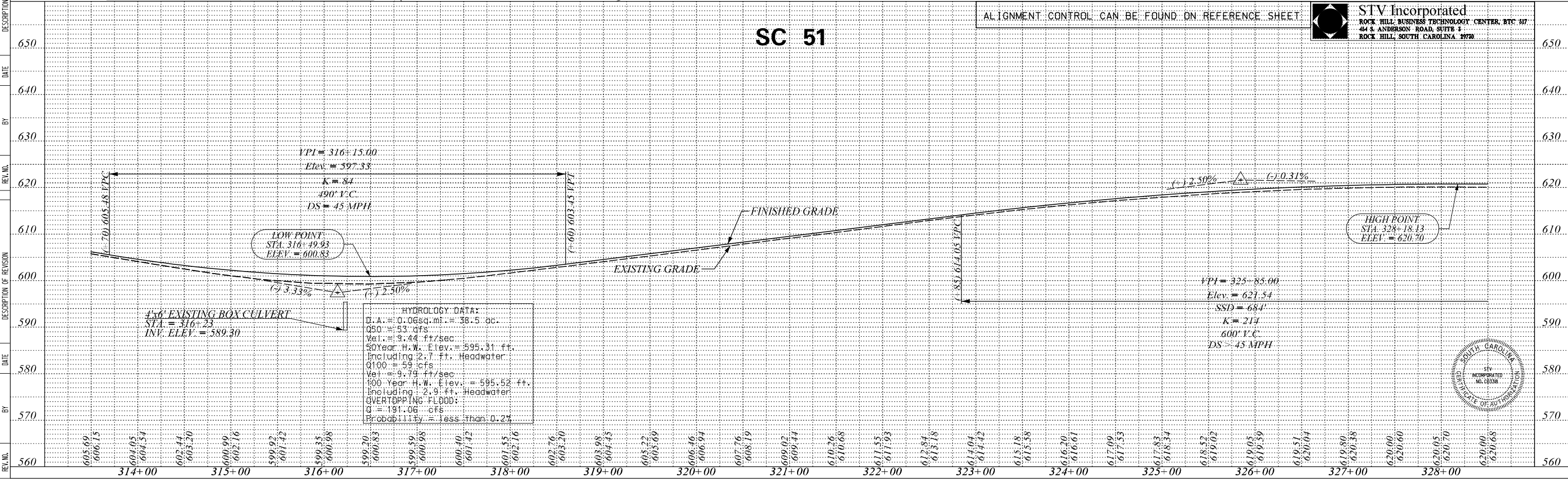


SEE SHEETS 4 - 4D FOR R/W DATA  
SEE SHEETS 5A - 5G FOR REFERENCE DATA  
SEE SHEET D16 FOR DRAINAGE

| REV. NO. | DATE       | DESCRIPTION OF REVISION                        | BY  |
|----------|------------|--|-----|
| 3        | 01/22/19   | ADDED TCE & REMOVED R/W PERM. FOR TR 142 & 143 | JDS |
| 2        | 02/14/2017 | ADDED TCE & REMOVED R/W PERM. FOR TR 27        | MHC |
| 1        | 02/14/2017 | TR. DSG. REDUCED R/W TRIANGLES                 | JDS |
| 6        | 03/27/20   | ADDED CONC. MEDIAN TO SPRING HILL FARM         | JDS |
| 5        | 04/08/19   | ADDED TCE & REMOVED R/W PERM. FOR TR 15 & 123  | MHC |
| 4        | 04/02/19   | ADDED TCE & REMOVED R/W PERM. FOR TR 126 & 127 | MHC |

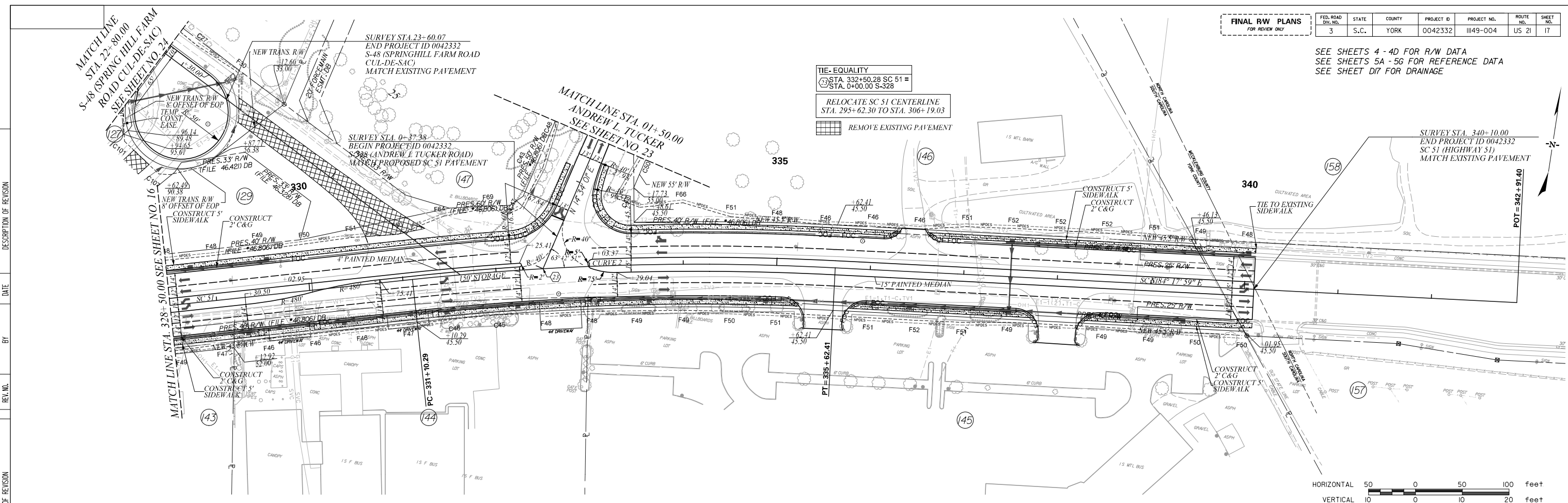
ALIGNMENT CONTROL CAN BE FOUND ON REFERENCE SHEET

**STV Incorporated**  
ROCK HILL BUSINESS TECHNOLOGY CENTER, BTC #17  
464 S. ANDERSON ROAD, SUITE 4  
ROCK HILL, SOUTH CAROLINA 29730



| FED. ROAD DIV. NO. | STATE | COUNTY | PROJECT ID | PROJECT NO. | ROUTE NO. | SHEET NO. |
|--------------------|-------|--------|------------|-------------|-----------|-----------|
| 3                  | S.C.  | YORK   | 0042332    | III49-004   | US 21     | 17        |

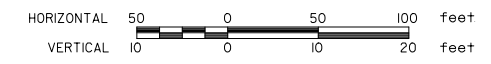
SEE SHEETS 4 - 4D FOR R/W DATA  
SEE SHEETS 5A - 5G FOR REFERENCE DATA  
SEE SHEET D17 FOR DRAINAGE



TIE - EQUALITY  
STA. 332+50.28 SC 51 =  
STA. 0+00.00 S-328

RELOCATE SC 51 CENTERLINE  
STA. 295+62.30 TO STA. 306+19.03

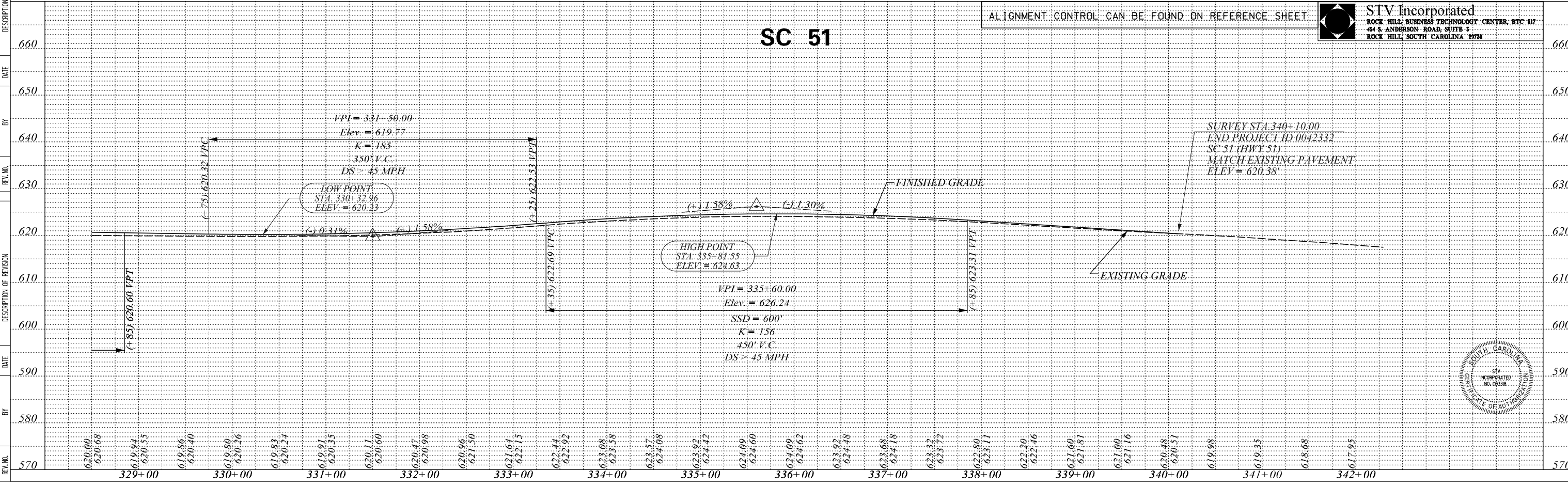
REMOVE EXISTING PAVEMENT



| REV. NO. | DATE     | BY  | DESCRIPTION OF REVISION                     |
|----------|----------|-----|---|
| 9        |          |     |   |
| 8        | 04/07/19 | MHC | ADDED TCE & REMOVED R/W PERM. FOR TRACT 127 |
| 7        |          |     |   |

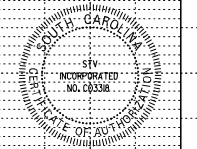
| REV. NO. | DATE     | BY  | DESCRIPTION OF REVISION                          |
|----------|----------|-----|--|
| 6        | 03/28/19 | MHC | REV. R/W LINE ACROSS EX. R/W ON TRACTS 127 & 129 |
| 5        | 02/07/19 | MHC | REVISED R/W TO TIE TO NEW STATE LINE             |
| 4        | 01/22/19 | MHC | ADDED TCE & REMOVED R/W PERM. FOR TRACT 143      |

| REV. NO. | DATE       | BY  | DESCRIPTION OF REVISION                     |
|----------|------------|-----|---|
| 3        | 09/10/2018 | MHC | ADDED R/W LINE ACROSS EX. R/W FOR TRACT 127 |
| 2        | 02/21/2018 | JDS | ADDED NEW STATE LINE                        |
| 1        | 5/25/2018  | JDS | MOVED IMPRES LINE OFF OF TRACT 158          |



ALIGNMENT CONTROL CAN BE FOUND ON REFERENCE SHEET

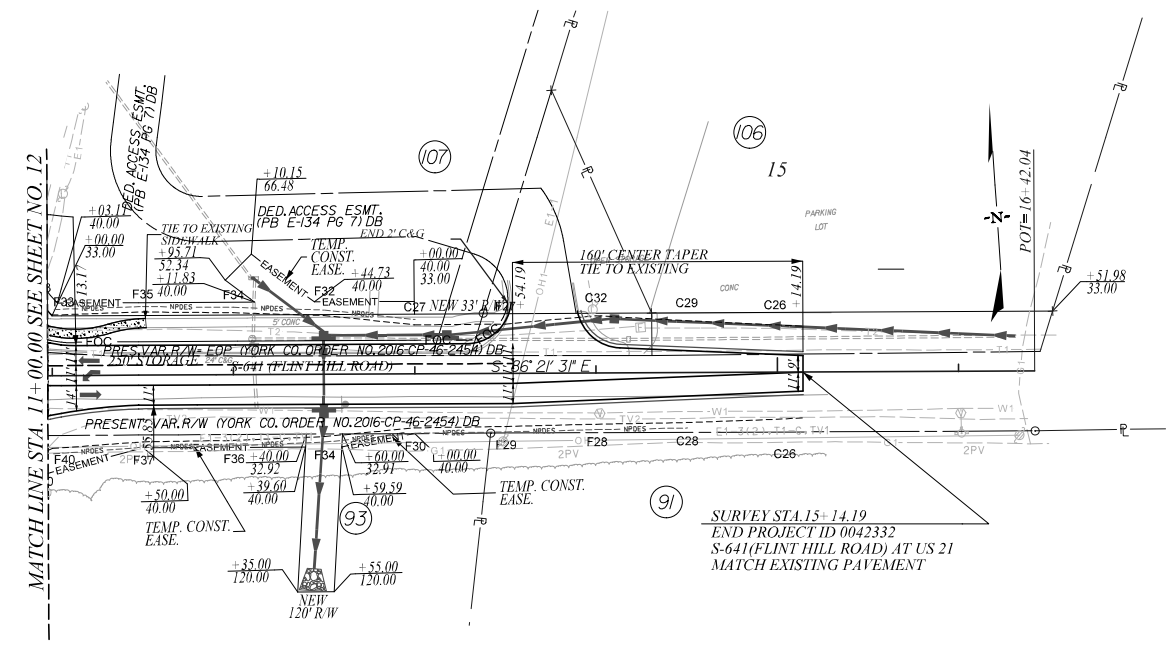
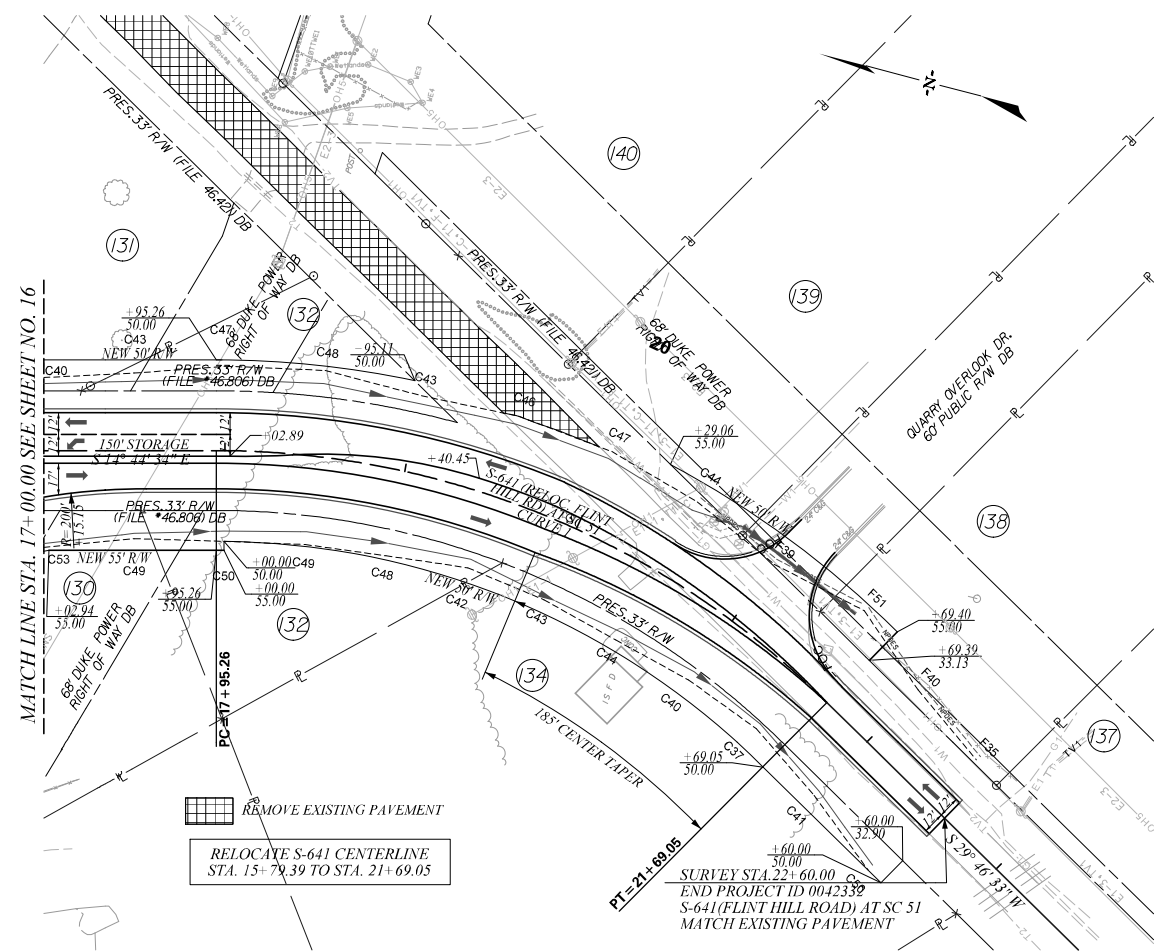
**STV Incorporated**  
ROCK HILL BUSINESS TECHNOLOGY CENTER, BTC #17  
464 S. ANDERSON ROAD, SUITE 4  
ROCK HILL, SOUTH CAROLINA 29730



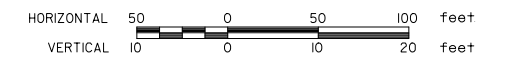
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 2/19/2019

**FINAL R/W PLANS**  
FOR REVIEW ONLY

| FED. ROAD DIV. NO. | STATE | COUNTY | PROJECT ID | PROJECT NO. | ROUTE NO. | SHEET NO. |
|--------------------|-------|--------|------------|-------------|-----------|-----------|
| 3                  | S.C.  | YORK   | 0042332    | 11149-004   | US 21     | 22        |



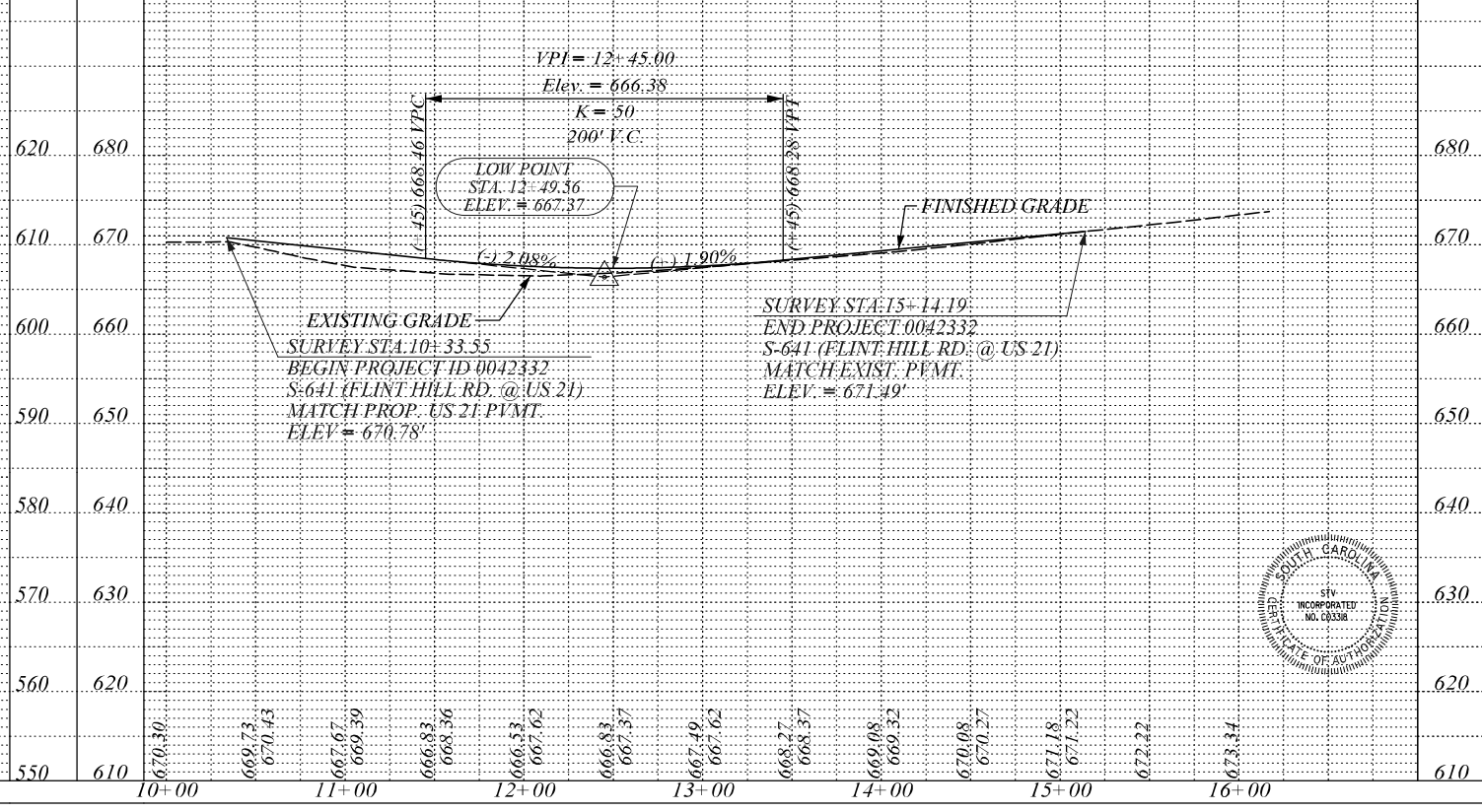
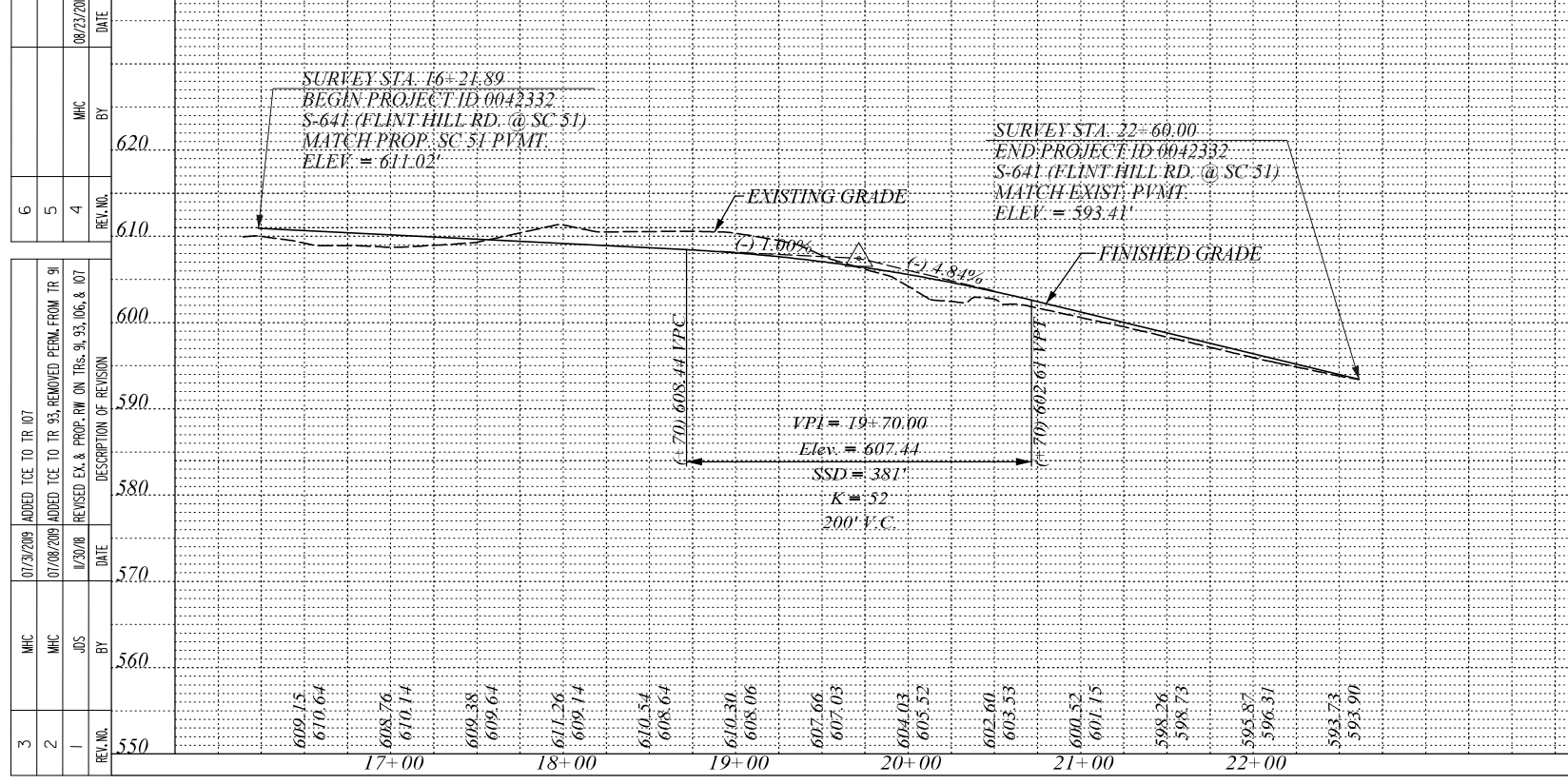
SEE SHEETS 4 - 4D FOR R/W DATA  
SEE SHEETS 5A - 5G FOR REFERENCE DATA  
SEE SHEET D22 FOR DRAINAGE



| REV. NO. | DATE       | BY  | DESCRIPTION OF REVISION                   |
|----------|------------|-----|---|
| 6        |            |     |   |
| 5        |            |     |   |
| 4        | 08/23/2009 | MHC | REMOVED TRACT 140 COMBINED WITH TRACT 140 |

**S-641 (FLINT HILL RD. AT SC 51)**

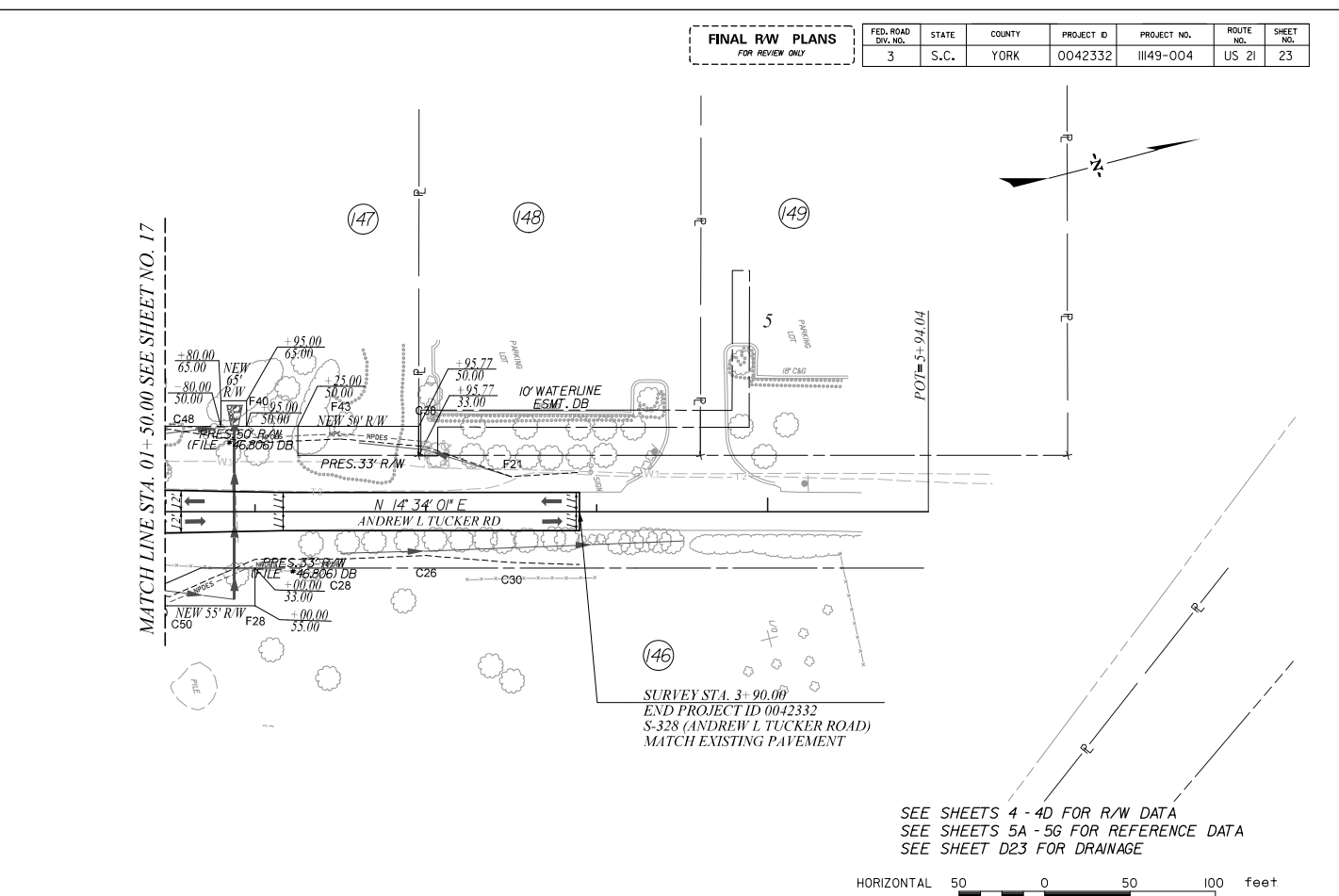
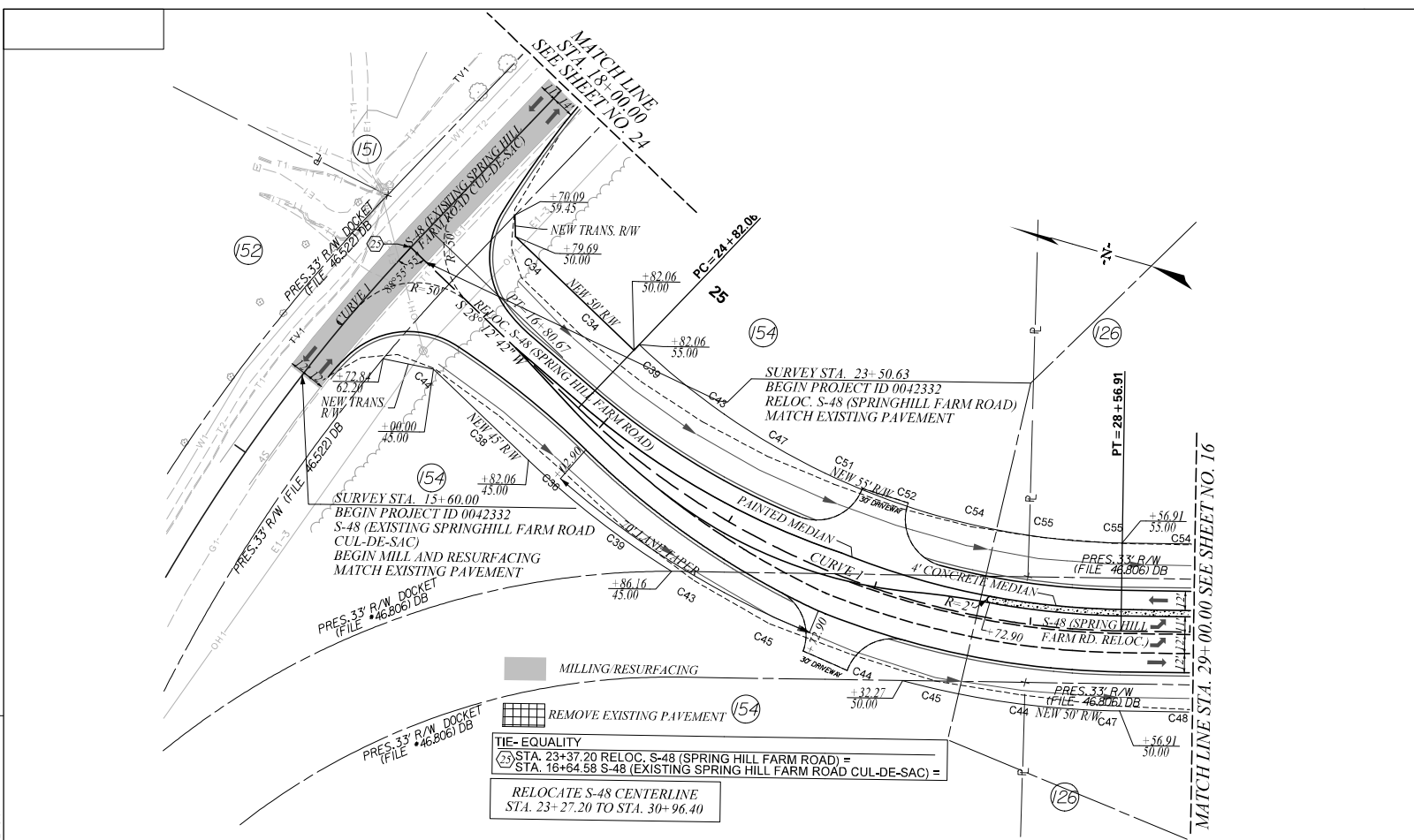
**S-641 (FLINT HILL RD. AT US 21)**



**STV Incorporated**  
 ROCK HILL BUSINESS TECHNOLOGY CENTER, BTC #17  
 464 S. ANDERSON ROAD, SUITE #  
 ROCK HILL, SOUTH CAROLINA 29730



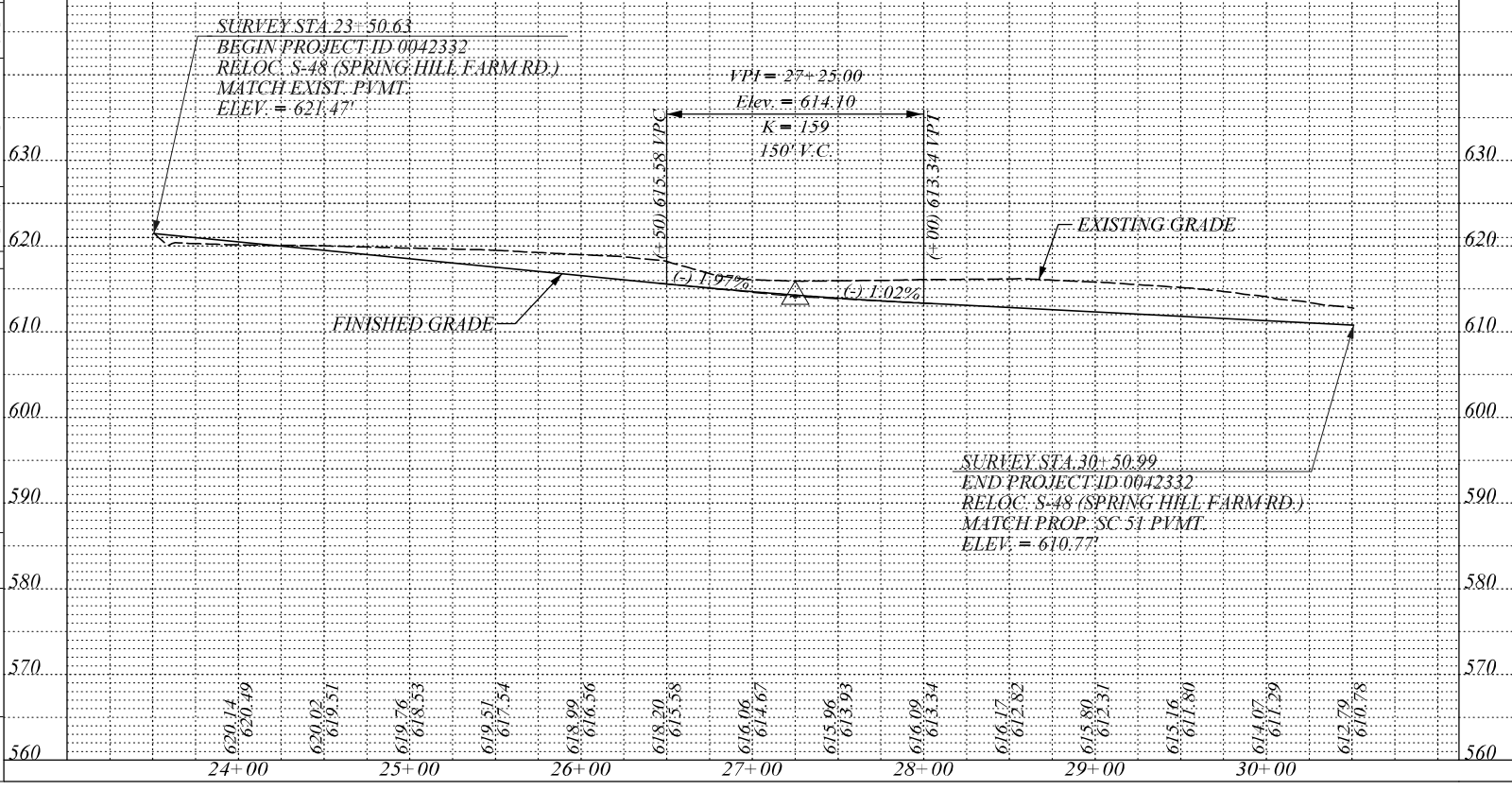
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 8/23/2009



SEE SHEETS 4 - 4D FOR R/W DATA  
SEE SHEETS 5A - 5G FOR REFERENCE DATA  
SEE SHEET D23 FOR DRAINAGE

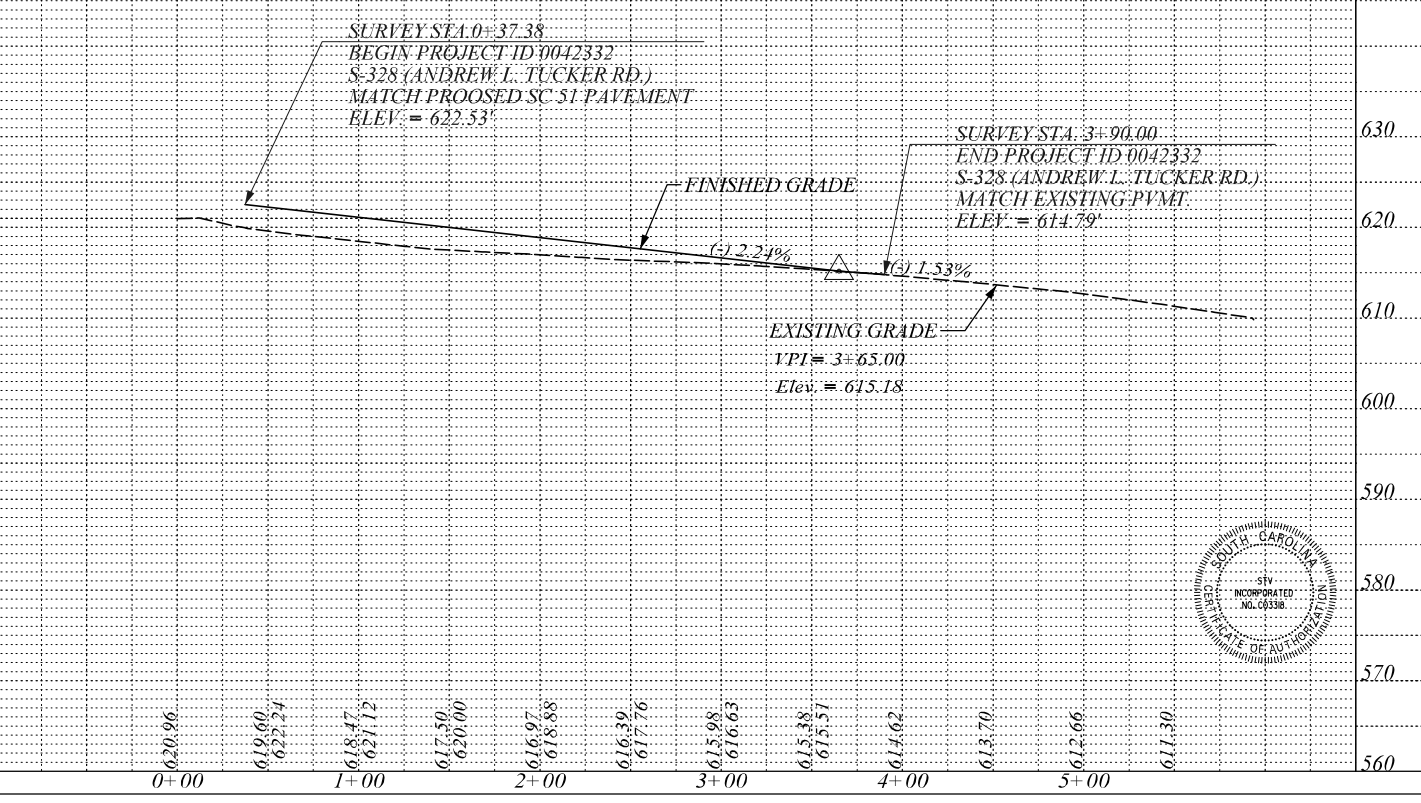
| REV. NO. | DATE       | BY  | DESCRIPTION OF REVISION                      |
|----------|------------|-----|--|
| 6        |            |     |  |
| 5        |            |     |  |
| 4        |            |     |  |
| 3        | 04/02/2020 | JDS | ADDED DRIVEWAYS TO TR F&I AND REVISED MEDIAN |

### S-48 (SPRING HILL FARM RD. RELOC.)

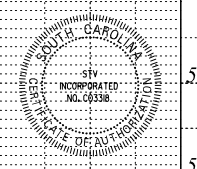


ALIGNMENT CONTROL CAN BE FOUND ON REFERENCE SHEET

### S-328 (ANDREW L. TUCKER RD.)



STV Incorporated  
ROCK HILL BUSINESS TECHNOLOGY CENTER, BTC, 517  
464 S. ANDERSON ROAD, SUITE 5  
ROCK HILL, SOUTH CAROLINA 29730





## **Appendix E – Signal Plans**

(90°)  
5.75'  
27.5'  
split  
↓

pm ←



SC 51 & Flint Hill

split  
←

→

#4842

**Phase Entries Table1**

*E13 NB SB WB*

| Param              | Phs 1 | Phs 2 | Phs 3 | Phs 4 | Phs 5 | Phs 6 | Phs 7 | Phs 8 | Phs 9 | Phs 10 | Phs 11 | Phs 12 | Phs 13 | Phs 14 | Phs 15 | Phs 16 |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| Walk               | 0     | 0     | 0     | 7     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Ped Clearance      | 0     | 0     | 0     | 16    | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Min Green          | 0     | 25    | 8     | 10    | 0     | 25    | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Passage            | 0     | 4     | 4     | 4.5   | 0     | 4     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Max1               | 0     | 40    | 20    | 45    | 0     | 40    | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Max2               | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Yellow             | 0     | 4.2   | 3.6   | 3.6   | 0     | 4.2   | 0     | 0     | 4     | 4      | 4      | 4      | 4      | 4      | 4      | 4      |
| Red                | 0     | 2.5   | 1.5   | 1.5   | 0     | 2.5   | 0     | 0     | 2     | 2      | 2      | 2      | 2      | 2      | 2      | 2      |
| Red Revert         | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Added Initial      | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Max Initial        | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Time Before Reduce | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Cars Before Reduce | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Time To Reduce     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Reduce By          | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Min Gap            | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Dynamic Max Limit  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Dynamic Max Step   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Startup            | RED   | GREEN | RED   | RED   | RED   | GREEN | RED   | RED   | RED   | RED    | RED    | RED    | RED    | RED    | RED    | RED    |
| Enable             | Off   | On    | On    | On    | Off   | On    | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Auto Entry         | Off   | Off   | Off   | On    | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Auto Exit          | Off   | On    | Off   | Off   | Off   | On    | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Non Act1           | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Non Act2           | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Lock Call          | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Min Recall         | Off   | On    | Off   | Off   | Off   | On    | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Max Recall         | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Ped Recall         | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Soft Recall        | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Dual Entry         | Off   | On    | Off   | Off   | Off   | On    | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Sim Gap Enable     | Off   | On    | Off   | Off   | Off   | On    | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Guar Passage       | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Rest In Walk       | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Cond Service       | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Add Init Calc      | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off   | Off    | Off    | Off    | Off    | Off    | Off    | Off    |
| Ring               | 1     | 1     | 1     | 1     | 2     | 2     | 2     | 2     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Concur 1           | 5     | 5     | 7     | 7     | 1     | 1     | 3     | 3     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Concur 2           | 6     | 6     | 8     | 8     | 2     | 2     | 4     | 4     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Concur 3           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Concur 4           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Concur 5           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Concur 6           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Concur 7           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |
| Concur 8           | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0      |

Lakemont East Site D  
2018 Existing Conditions

4: Flint Hill Rd. & SC 51  
Timing Plan: AM Peak

| Lane Group              | EBL  | EBT   | EBR  | WBL   | WBT   | WBR  | NBL   | NBT   | NBR  | SBL   | SBT   | SBR  |
|-------------------------|------|-------|------|-------|-------|------|-------|-------|------|-------|-------|------|
| Lane Configurations     |      |       |      |       |       |      |       |       |      |       |       |      |
| Traffic Volume (vph)    | 0    | 423   | 1    | 51    | 207   | 0    | 2     | 0     | 261  | 344   | 23    | 7    |
| Future Volume (vph)     | 0    | 423   | 1    | 51    | 207   | 0    | 2     | 0     | 261  | 344   | 23    | 7    |
| Ideal Flow (vphpl)      | 1900 | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 |
| Storage Length (ft)     | 0    |       | 0    | 0     |       | 0    | 0     |       | 0    | 275   |       | 0    |
| Storage Lanes           | 0    |       | 0    | 0     |       | 0    | 0     |       | 0    | 1     |       | 0    |
| Taper Length (ft)       | 25   |       |      | 25    |       |      | 25    |       |      | 90    |       |      |
| Satd. Flow (prot)       | 0    | 1863  | 0    | 0     | 1844  | 0    | 0     | 1613  | 0    | 1770  | 1798  | 0    |
| Fit Permitted           |      |       |      |       | 0.681 |      |       |       |      | 0.950 |       |      |
| Satd. Flow (perm)       | 0    | 1863  | 0    | 0     | 1269  | 0    | 0     | 1613  | 0    | 1770  | 1798  | 0    |
| Right Turn on Red       |      |       | Yes  |       |       | Yes  |       |       | Yes  |       |       | Yes  |
| Satd. Flow (RTOR)       |      |       |      |       |       |      |       | 220   |      |       | 8     |      |
| Link Speed (mph)        |      | 45    |      |       | 45    |      |       | 35    |      |       | 40    |      |
| Link Distance (ft)      |      | 1544  |      |       | 449   |      |       | 1096  |      |       | 326   |      |
| Travel Time (s)         |      | 23.4  |      |       | 6.8   |      |       | 21.4  |      |       | 5.6   |      |
| Peak Hour Factor        | 0.90 | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 |
| Shared Lane Traffic (%) |      |       |      |       |       |      |       |       |      |       |       |      |
| Lane Group Flow (vph)   | 0    | 471   | 0    | 0     | 287   | 0    | 0     | 292   | 0    | 382   | 34    | 0    |
| Turn Type               |      | NA    |      | Perm  | NA    |      | Split | NA    |      | Split | NA    |      |
| Protected Phases        |      | 2     |      |       | 6     |      | 3     | 3     |      | 4     | 4     |      |
| Permitted Phases        |      |       |      | 6     |       |      |       |       |      |       |       |      |
| Detector Phase          |      | 2     |      | 6     | 6     |      | 3     | 3     |      | 4     | 4     |      |
| Switch Phase            |      |       |      |       |       |      |       |       |      |       |       |      |
| Minimum Initial (s)     |      | 25.0  |      | 25.0  | 25.0  |      | 8.0   | 8.0   |      | 10.0  | 10.0  |      |
| Minimum Split (s)       |      | 31.7  |      | 31.7  | 31.7  |      | 15.1  | 15.1  |      | 15.1  | 15.1  |      |
| Total Split (s)         |      | 46.0  |      | 46.0  | 46.0  |      | 22.0  | 22.0  |      | 37.0  | 37.0  |      |
| Total Split (%)         |      | 43.8% |      | 43.8% | 43.8% |      | 21.0% | 21.0% |      | 35.2% | 35.2% |      |
| Yellow Time (s)         |      | 4.2   |      | 4.2   | 4.2   |      | 3.6   | 3.6   |      | 3.6   | 3.6   |      |
| All-Red Time (s)        |      | 2.5   |      | 2.5   | 2.5   |      | 1.5   | 1.5   |      | 1.5   | 1.5   |      |
| Lost Time Adjust (s)    |      | -1.7  |      |       | -1.7  |      |       | -0.1  |      | -0.1  | -0.1  |      |
| Total Lost Time (s)     |      | 5.0   |      |       | 5.0   |      |       | 5.0   |      | 5.0   | 5.0   |      |
| Lead/Lag                |      |       |      |       |       |      | Lead  | Lead  |      | Lag   | Lag   |      |
| Lead-Lag Optimize?      |      |       |      |       |       |      | Yes   | Yes   |      | Yes   | Yes   |      |
| Recall Mode             |      | Min   |      | Min   | Min   |      | None  | None  |      | None  | None  |      |
| Act Effct Green (s)     |      | 31.0  |      |       | 31.0  |      |       | 11.1  |      | 22.0  | 22.0  |      |
| Actuated g/C Ratio      |      | 0.39  |      |       | 0.39  |      |       | 0.14  |      | 0.28  | 0.28  |      |
| v/c Ratio               |      | 0.65  |      |       | 0.58  |      |       | 0.71  |      | 0.78  | 0.07  |      |
| Control Delay           |      | 26.6  |      |       | 26.9  |      |       | 20.7  |      | 39.7  | 19.4  |      |
| Queue Delay             |      | 0.0   |      |       | 0.0   |      |       | 0.0   |      | 0.0   | 0.0   |      |
| Total Delay             |      | 26.6  |      |       | 26.9  |      |       | 20.7  |      | 39.7  | 19.4  |      |
| LOS                     |      | C     |      |       | C     |      |       | C     |      | D     | B     |      |
| Approach Delay          |      | 26.6  |      |       | 26.9  |      |       | 20.7  |      |       | 38.0  |      |
| Approach LOS            |      | C     |      |       | C     |      |       | C     |      |       | D     |      |
| Queue Length 50th (ft)  |      | 176   |      |       | 104   |      |       | 30    |      | 153   | 8     |      |
| Queue Length 95th (ft)  |      | 367   |      |       | 240   |      |       | 134   |      | 336   | 35    |      |
| Internal Link Dist (ft) |      | 1464  |      |       | 369   |      |       | 1016  |      |       | 246   |      |
| Turn Bay Length (ft)    |      |       |      |       |       |      |       |       |      | 275   |       |      |
| Base Capacity (vph)     |      | 993   |      |       | 676   |      |       | 527   |      | 736   | 752   |      |
| Starvation Cap Reductn  |      | 0     |      |       | 0     |      |       | 0     |      | 0     | 0     |      |

Lakemont East Site D  
2018 Existing Conditions

4: Flint Hill Rd. & SC 51  
Timing Plan: AM Peak

| Lane Group            | EBL | EBT  | EBR | WBL | WBT  | WBR | NBL | NBT  | NBR | SBL  | SBT  | SBR |
|-----------------------|-----|------|-----|-----|------|-----|-----|------|-----|------|------|-----|
| Spillback Cap Reductn |     | 0    |     |     | 0    |     |     | 0    |     | 0    | 0    |     |
| Storage Cap Reductn   |     | 0    |     |     | 0    |     |     | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio     |     | 0.47 |     |     | 0.42 |     |     | 0.55 |     | 0.52 | 0.05 |     |

Intersection Summary

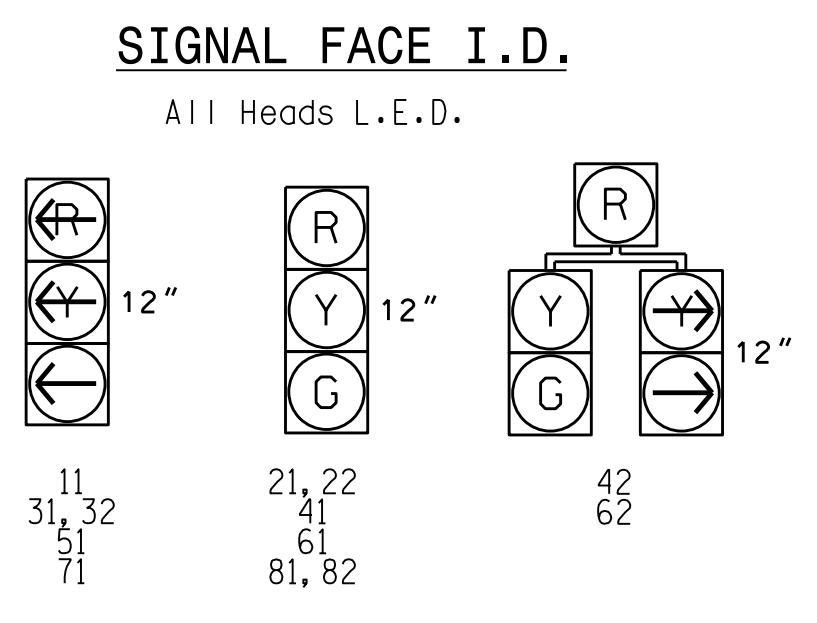
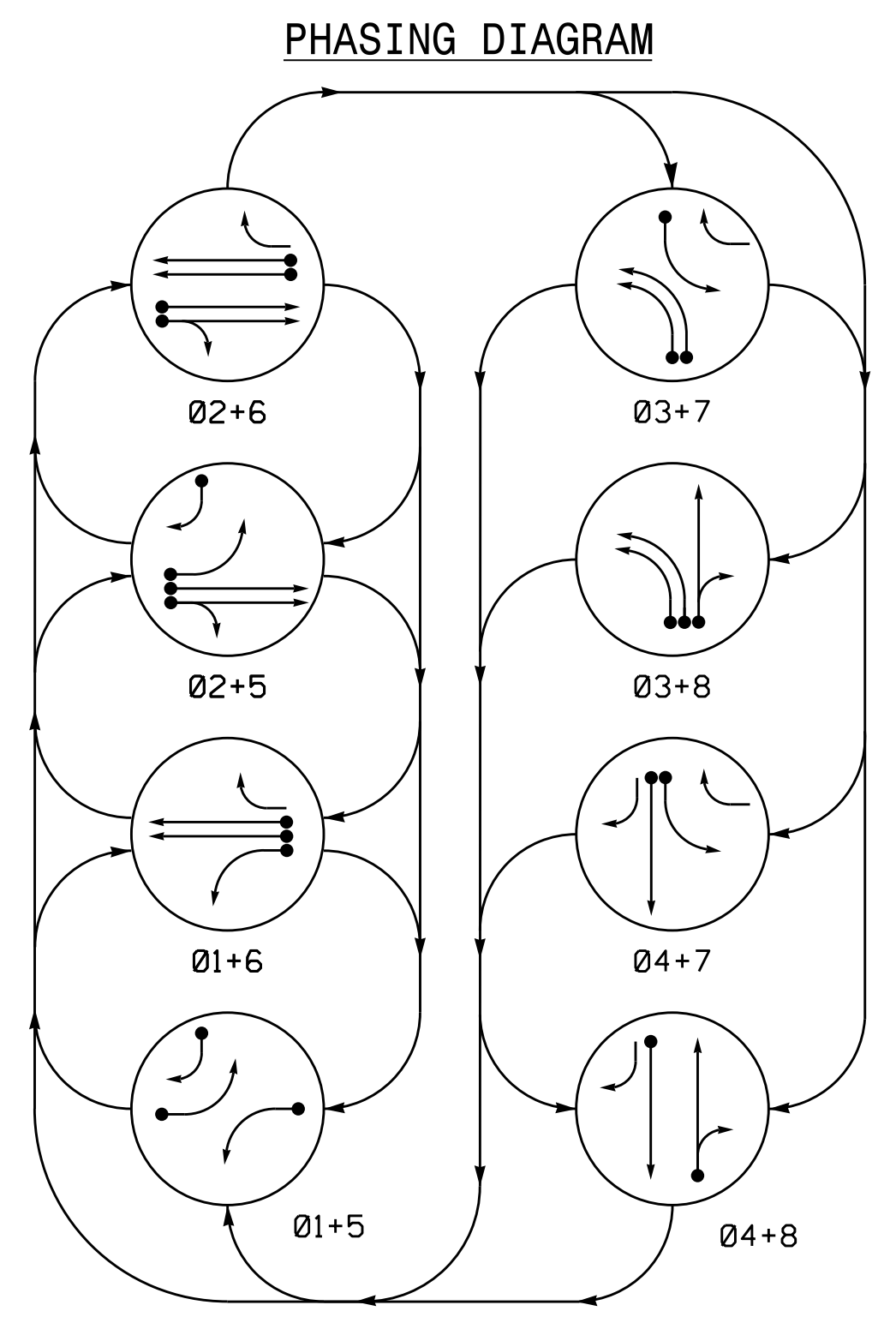
Area Type: Other  
 Cycle Length: 105  
 Actuated Cycle Length: 79.7  
 Natural Cycle: 70  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 28.7  
 Intersection Capacity Utilization 95.2%  
 Analysis Period (min) 15

Intersection LOS: C  
ICU Level of Service F

Splits and Phases: 4: Flint Hill Rd. & SC 51

|      |        |        |
|------|--------|--------|
| → Ø2 | ↖ ↗ Ø3 | ↘ ↙ Ø4 |
| 46 s | 22 s   | 37 s   |
| ← Ø5 |        |        |
| 46 s |        |        |





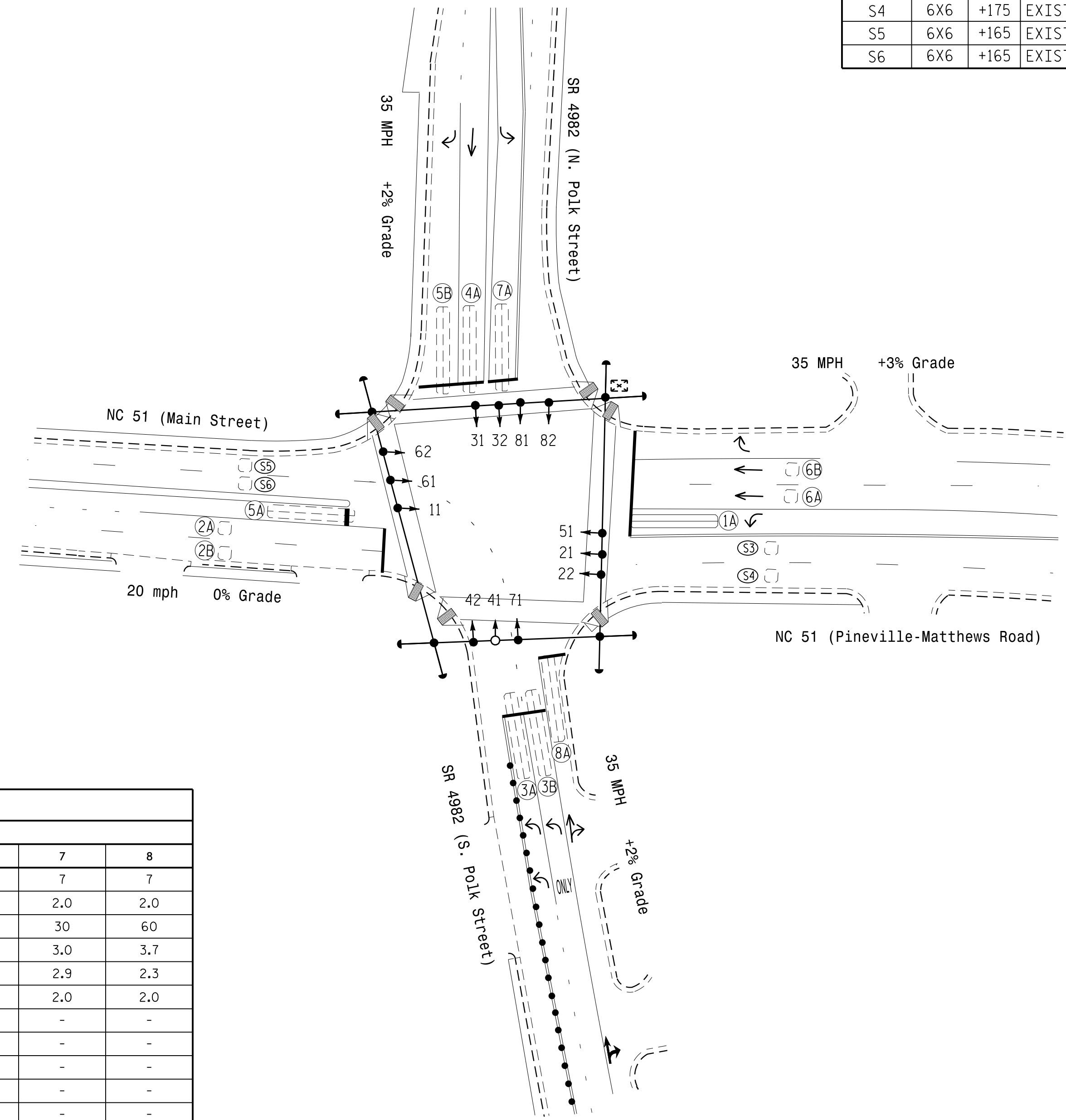
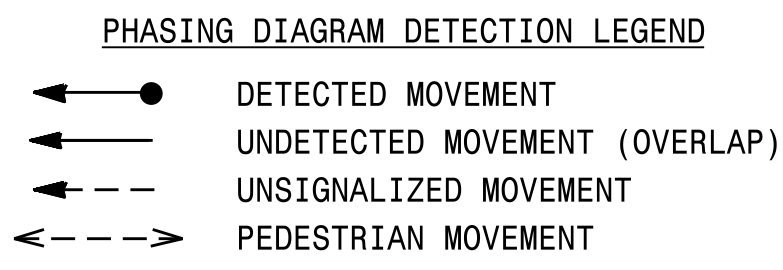
| SIGNAL FACE | PHASE |      |      |      |      |      |      |      |
|-------------|-------|------|------|------|------|------|------|------|
|             | 01+5  | 02+6 | 03+7 | 04+8 | 05+9 | 06+0 | 07+1 | 08+2 |
| 11          | -     | -    | -    | -    | -    | -    | -    | -    |
| 21, 22      | R     | R    | G    | G    | R    | R    | R    | Y    |
| 31, 32      | -     | -    | -    | -    | -    | -    | -    | -    |
| 41          | R     | R    | R    | R    | R    | R    | G    | G    |
| 42          | R     | R    | R    | R    | R    | R    | G    | G    |
| 51          | -     | -    | -    | -    | -    | -    | -    | -    |
| 61          | R     | G    | R    | G    | R    | R    | R    | Y    |
| 62          | R     | G    | R    | G    | R    | R    | R    | Y    |
| 71          | -     | -    | -    | -    | -    | -    | -    | -    |
| 81,82       | R     | R    | R    | R    | R    | G    | R    | G    |

| LOOP | SIZE (FT) | DISTANCE FROM STOPBAR (FT) | TURNS | NEW LOOP | DETECTOR PROGRAMMING |         |           |                 |              |            |             |          |
|------|-----------|----------------------------|-------|----------|----------------------|---------|-----------|-----------------|--------------|------------|-------------|----------|
|      |           |                            |       |          | PHASE                | CALLING | EXTENSION | FULL TIME DELAY | STRETCH TIME | DELAY TIME | SYSTEM LOOP | NEW CARD |
| 1A   | 6X40      | 0                          | 2-4-2 | Y        | 1                    | Y       | Y         | -               | -            | 3          | -           | -        |
| 2A   | 6X6       | 70                         | EXIST | -        | 2                    | Y       | Y         | -               | -            | -          | -           | -        |
| 2B   | 6X6       | 70                         | EXIST | -        | 2                    | Y       | Y         | -               | -            | -          | -           | -        |
| 3A   | 6X40      | +10                        | 2-4-2 | -        | 3                    | Y       | Y         | -               | -            | 3          | -           | -        |
| 3B   | 6X40      | +10                        | 2-4-2 | -        | 3                    | Y       | Y         | -               | -            | -          | -           | -        |
| 4A   | 6X40      | +5                         | 2-4-2 | -        | 4                    | Y       | Y         | -               | -            | -          | -           | -        |
| 5A   | 6X40      | +5                         | 2-4-2 | -        | 5                    | Y       | Y         | -               | -            | 3          | -           | -        |
| 5B   | 6X40      | +5                         | 2-4-2 | -        | 5                    | Y       | Y         | -               | -            | 15         | -           | -        |
| 6A   | 6X6       | 70                         | EXIST | -        | 6                    | Y       | Y         | -               | -            | -          | -           | -        |
| 6B   | 6X6       | 70                         | EXIST | -        | 6                    | Y       | Y         | -               | -            | -          | -           | -        |
| 7A   | 6X40      | +5                         | 2-4-2 | -        | 7                    | Y       | Y         | -               | -            | 3          | -           | -        |
| 8A   | 6X40      | +5                         | 2-4-2 | -        | 8                    | Y       | Y         | -               | -            | 10         | -           | -        |
| S3   | 6X6       | +175                       | EXIST | -        | -                    | -       | -         | -               | -            | -          | Y           | -        |
| S4   | 6X6       | +175                       | EXIST | -        | -                    | -       | -         | -               | -            | -          | Y           | -        |
| S5   | 6X6       | +165                       | EXIST | -        | -                    | -       | -         | -               | -            | -          | Y           | -        |
| S6   | 6X6       | +165                       | EXIST | -        | -                    | -       | -         | -               | -            | -          | Y           | -        |

8 Phase Fully Actuated W/Emergency Preemption NC 51 (Pineville) CLS

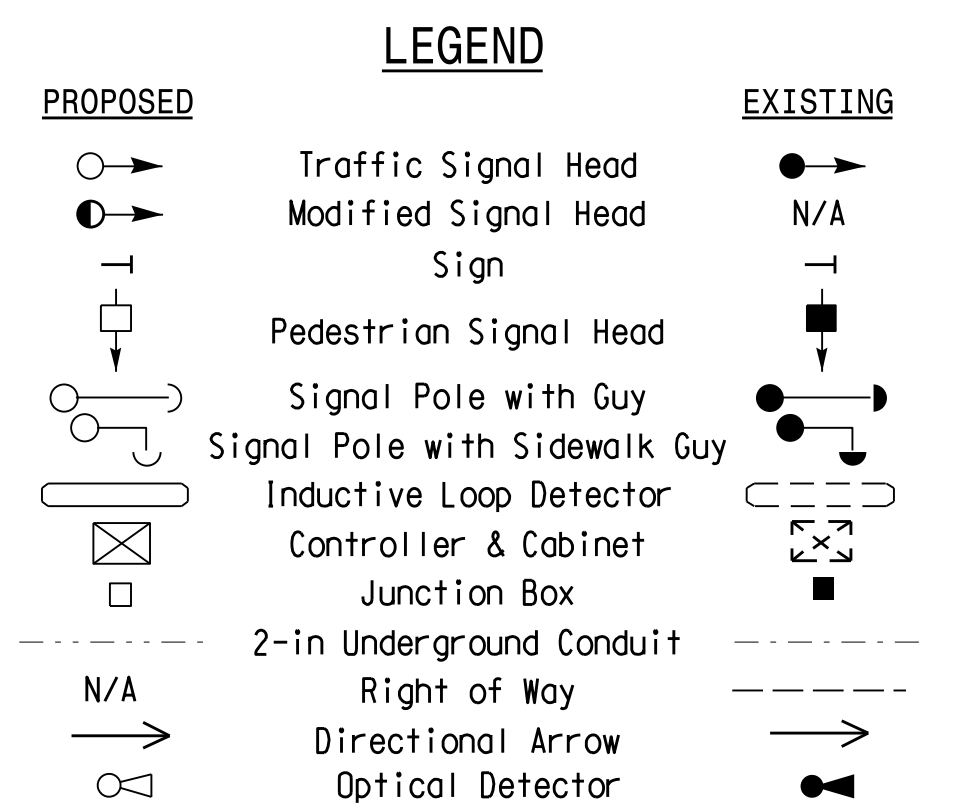
NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Set all detector units to presence mode.
6. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
7. Closed loop system data: Intersection Number # 254.



| FEATURE                 | PHASE |            |     |     |     |            |     |     |
|-------------------------|-------|------------|-----|-----|-----|------------|-----|-----|
|                         | 1     | 2          | 3   | 4   | 5   | 6          | 7   | 8   |
| Min Green 1 *           | 7     | 10         | 7   | 7   | 7   | 10         | 7   | 7   |
| Extension 1 *           | 2.0   | 3.0        | 2.0 | 2.0 | 2.0 | 3.0        | 2.0 | 2.0 |
| Max Green 1 *           | 25    | 90         | 25  | 60  | 15  | 90         | 30  | 60  |
| Yellow Clearance        | 3.0   | 3.0        | 3.0 | 3.7 | 3.0 | 3.7        | 3.0 | 3.7 |
| Red Clearance           | 2.8   | 3.2        | 3.6 | 2.0 | 3.2 | 2.0        | 2.9 | 2.3 |
| Red Revert              | 2.0   | 2.0        | 2.0 | 2.0 | 2.0 | 2.0        | 2.0 | 2.0 |
| Walk 1 *                | -     | -          | -   | -   | -   | -          | -   | -   |
| Don't Walk 1            | -     | -          | -   | -   | -   | -          | -   | -   |
| Seconds Per Actuation * | -     | -          | -   | -   | -   | -          | -   | -   |
| Max Variable Initial *  | -     | -          | -   | -   | -   | -          | -   | -   |
| Time Before Reduction * | -     | -          | -   | -   | -   | -          | -   | -   |
| Time To Reduce *        | -     | -          | -   | -   | -   | -          | -   | -   |
| Minimum Gap             | -     | -          | -   | -   | -   | -          | -   | -   |
| Recall Mode             | -     | MIN RECALL | -   | -   | -   | MIN RECALL | -   | -   |
| Vehicle Call Memory     | -     | YELLOW     | -   | -   | -   | YELLOW     | -   | -   |
| Dual Entry              | -     | -          | -   | -   | -   | -          | -   | -   |
| Simultaneous Gap        | ON    | ON         | ON  | ON  | ON  | ON         | ON  | ON  |

\* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



Signal Upgrade - Final Design

NC 51 (Main Street) /  
NC 51 (Pineville-Matthews Road)  
at  
SR 4982 (Polk Street)  
Pineville, Mecklenburg County

PLAN DATE: March 2015 REVIEWED BY: C. Pierce

SEAL

4/16/2015

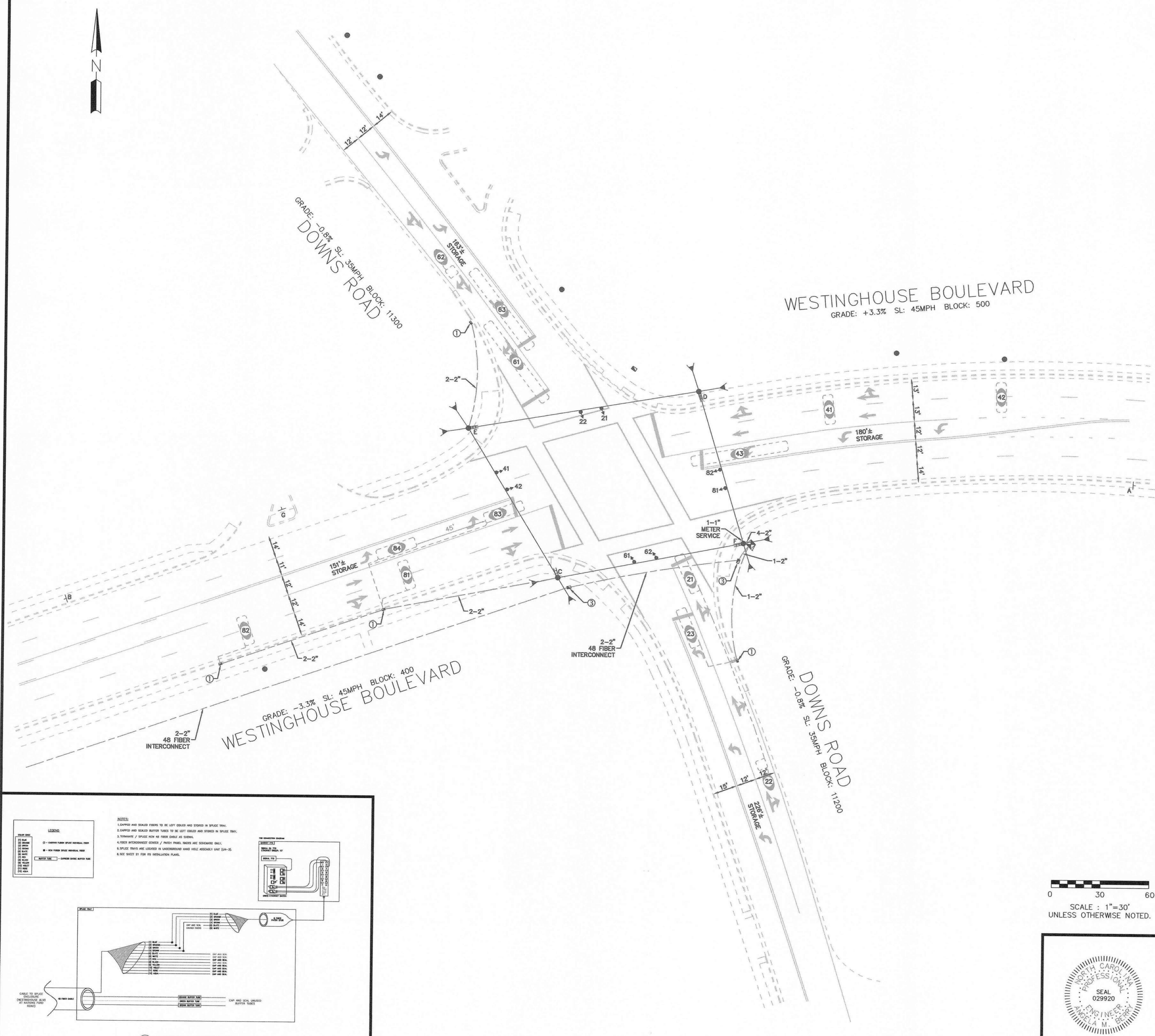
DATE

750 N. Greenfield Pkwy, Garner, NC 27529

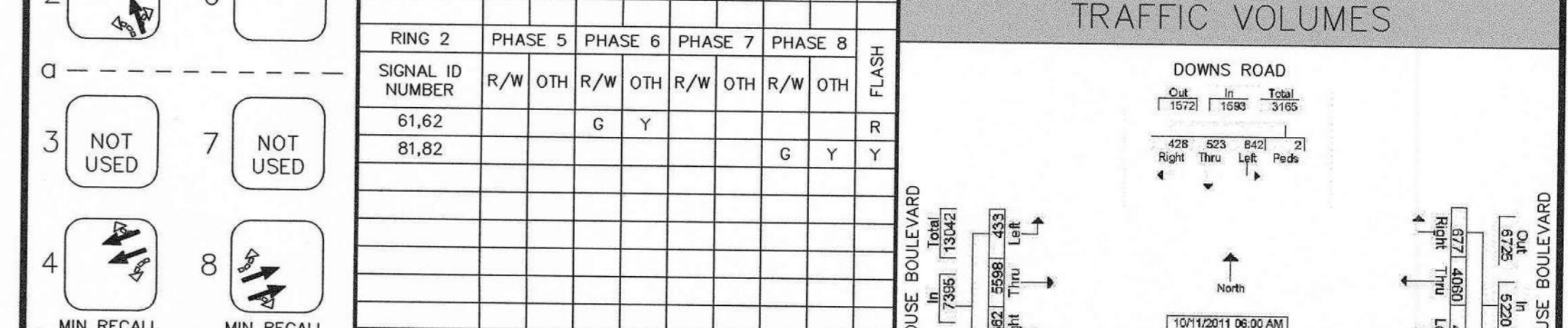
SCALE: 1" = 40'

SIG. INVENTORY NO. 10-0254

16-Apr-2015 09:27  
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 10-0254.dgn



| SIGNAL PHASING               |  | SIGNAL SEQUENCE  |  |         |     |         |     |         |     | CLEARANCE INTERVALS |     |                      |     |   |     |   |     |   |     |   |     |   |     |   |     |   |     |   |  |  |
|------------------------------|--|------------------|--|---------|-----|---------|-----|---------|-----|---------------------|-----|----------------------|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|-----|---|--|--|
| Ring Configuration 1,2,3,4,5 |  | RING 1           |  | PHASE 1 |     | PHASE 2 |     | PHASE 3 |     | PHASE 4             |     | Phase                |     | 1 |     | 2 |     | 3 |     | 4 |     | 5 |     | 6 |     | 7 |     | 8 |  |  |
| CONTROLLER TYPE: EAGLE 2070  |  | SIGNAL ID NUMBER |  | R/W     | OTH | R/W     | OTH | R/W     | OTH | R/W                 | OTH | % Grade              | 1   |   | 2   |   | 3   |   | 4   |   | 5   |   | 6   |   | 7   |   | 8   |   |  |  |
| 1 NOT USED                   |  | 5 NOT USED       |  | 21,22   |     |         |     | G       | Y   |                     |     | Distance             | 85  |   | 65  |   | 100 |   | 65  |   | 100 |   | 65  |   | 65  |   | 65  |   |  |  |
| 2                            |  | 6                |  | 41,42   |     |         |     |         |     | G                   | Y   | Approach Speed (mph) | 35  |   | 45  |   | 35  |   | 45  |   | 35  |   | 45  |   | 45  |   | 45  |   |  |  |
| 3 NOT USED                   |  | 7 NOT USED       |  |         |     |         |     |         |     |                     |     | Yellow               | 3.8 |   | 4.2 |   | 3.9 |   | 4.8 |   | 3.9 |   | 4.8 |   | 4.8 |   | 4.8 |   |  |  |
| 4                            |  | 8                |  |         |     |         |     |         |     |                     |     | All Red              | 1.7 |   | 1.0 |   | 1.9 |   | 1.0 |   | 1.9 |   | 1.0 |   | 1.0 |   | 1.0 |   |  |  |
| 9                            |  | 11               |  |         |     |         |     |         |     |                     |     | Total Clearance      | 5.5 |   | 5.2 |   | 5.8 |   | 5.8 |   | 5.8 |   | 5.8 |   | 5.8 |   | 5.8 |   |  |  |
| 10                           |  | 12               |  |         |     |         |     |         |     |                     |     |                      |     |   |     |   |     |   |     |   |     |   |     |   |     |   |     |   |  |  |



| OVERLAP - PHASE                         |  | SIGNAL ID NUMBER |  | R/W | OTH | R/W | OTH | R/W | OTH | R/W | OTH |
|---|--|------------------|--|-----|-----|-----|-----|-----|-----|-----|-----|
| OL-A/-+/- OL-B/-+/- OL-C/-+/- OL-D/-+/- |  | 61,62            |  |     |     | G   | Y   |     |     | G   | Y   |
| SIGNAL ID NUMBER                        |  | 81,82            |  |     |     |     |     |     |     | G   | Y   |

| PULLBOX ID    |                    | SIGNAL HEAD ID |           |
|---------------|--------------------|----------------|-----------|
| SIZE          | PULLBOX TYPE       | SIZE           | AMP. TYPE |
| 1 13"x24"x12" | LOOP               | 21             | 2 N       |
| 2 17"x30"x24" | FIBER OPTIC        | 22             | 2 S       |
| 3 24"x36"x24" | CONTROLLER / FIBER | 23             | 2 N       |
| 4 30"x48"x36" | CONTROLLER         | 4              | ---       |
| 5 24"x24"x12" | CONTROLLER         | 41,42          | 4 N       |
| 6 36"x36"x12" | CONTROLLER         | 43             | 4 N       |
|               |                    | 61             | 6 N       |
|               |                    | 62             | 6 S       |
|               |                    | 63             | 6 N       |
|               |                    | 63             | 6 N       |
|               |                    | 81,82          | 8 N       |
|               |                    | 83             | 8 N       |
|               |                    | 84             | 8 N       |

| DETECTOR INFORMATION |             | SIGNAL HEAD ID |                             |
|----------------------|-------------|----------------|-----------------------------|
| DETECTOR NUMBER      | SIZE / ZONE | AMP. TYPE      | DELAY                       |
| 21                   | 6'x25'      | 2 N            | ---                         |
| 22                   | 6'x6'       | 2 S            | ---                         |
| 23                   | 6'x25'      | 2 N            | ---                         |
| ---                  | ---         | ---            | ---                         |
| 41,42                | 6'x18'      | 4 N            | 110' AND 220' FROM STOP BAR |
| 43                   | 6'x60'      | 4 N            | STOP BAR                    |
| 61                   | 6'x60'      | 6 N            | STOP BAR                    |
| 62                   | 6'x6'       | 6 S            | 90' FROM STOP BAR           |
| 63                   | 6'x60'      | 6 N            | STOP BAR                    |
| 81,82                | 6'x18'      | 8 N            | 95' AND 200' FROM STOP BAR  |
| 83                   | 6'x60'      | 8 N            | STOP BAR                    |
| 84                   | 6'x25'      | 8 N            | 65' FROM STOP BAR           |

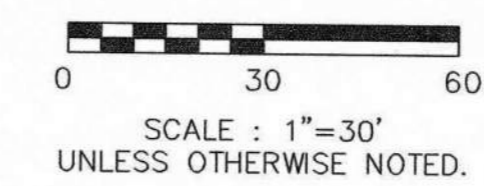
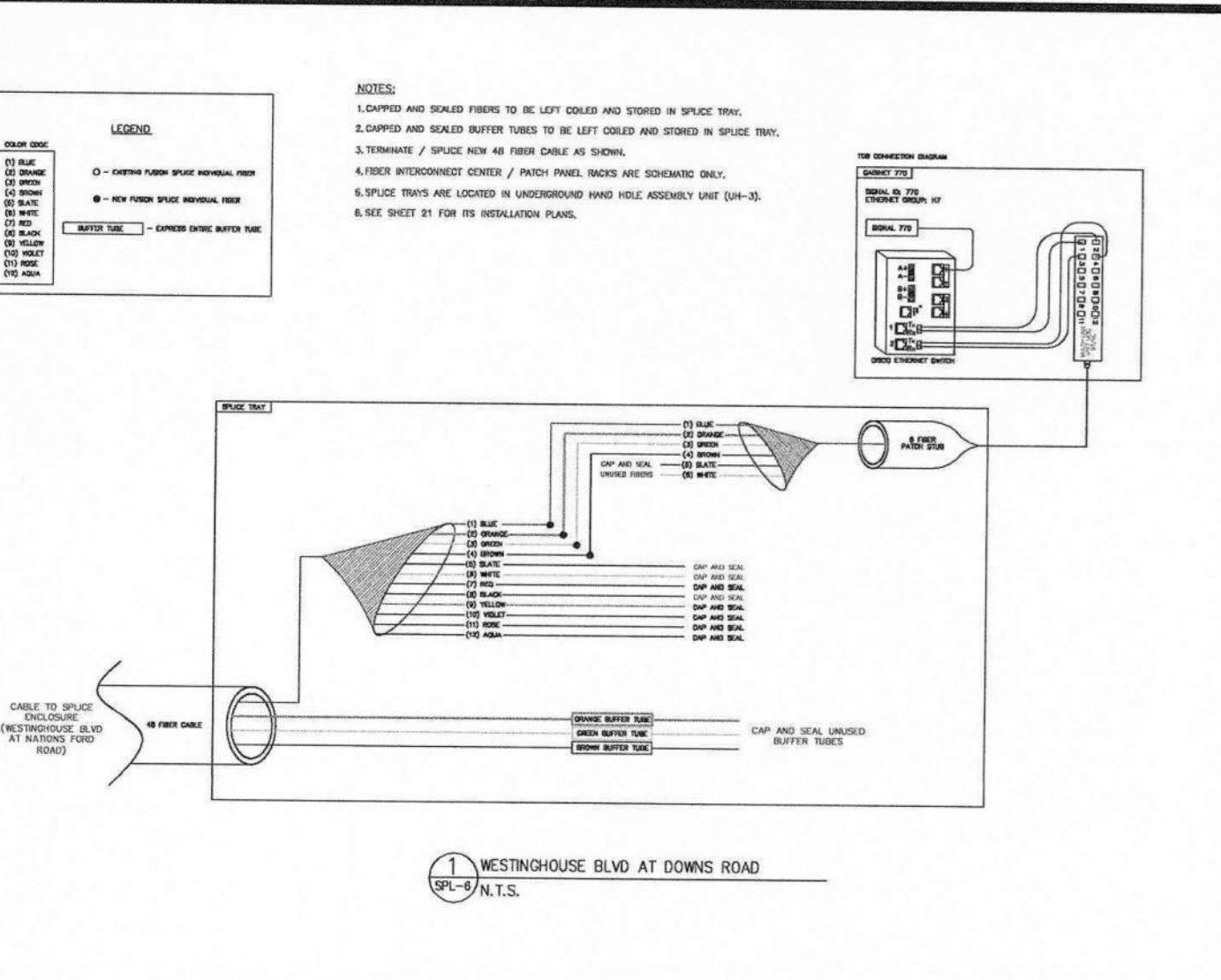
| SIGN ID           |                  | LEGEND          |                 |
|-------------------|------------------|-----------------|-----------------|
| A                 | B                | PROPOSED        | EXISTING        |
| SPEED LIMIT 45    | CENTER LANE ONLY | CONTROL BOX     | CONTROL BOX     |
| R2-1-45 24" x 30" | R3-9b 24" x 36"  | METER PEDESTAL  | METER PEDESTAL  |
|                   | R4-7 24" x 30"   | PULL BOX        | PULL BOX        |
|                   |                  | STEEL POLE      | STEEL POLE      |
|                   |                  | MAST ARM        | MAST ARM        |
|                   |                  | PED PEDESTAL    | PED PEDESTAL    |
|                   |                  | UTILITY POLE    | UTILITY POLE    |
|                   |                  | ANCHOR          | ANCHOR          |
|                   |                  | SIGNAL HEAD     | SIGNAL HEAD     |
|                   |                  | VIDEO CAMERA    | VIDEO CAMERA    |
|                   |                  | OPTICOM         | OPTICOM         |
|                   |                  | OBSERVATION CAM | OBSERVATION CAM |
|                   |                  | DETECTOR        | DETECTOR        |
|                   |                  | CONDUIT         | CONDUIT         |
|                   |                  | INTERCONNECT    | INTERCONNECT    |
|                   |                  | EDGE OF PMT.    | EDGE OF PMT.    |
|                   |                  | CURB & GUTTER   | CURB & GUTTER   |
|                   |                  | TUBULAR MARKER  | TUBULAR MARKER  |
|                   |                  | GROUND SIGN     | GROUND SIGN     |
|                   |                  | OVERHEAD SIGN   | OVERHEAD SIGN   |
|                   |                  | DOUBLE YELLOW   | DOUBLE YELLOW   |
|                   |                  | STOP BAR        | STOP BAR        |
|                   |                  | WHITE SKIP      | WHITE SKIP      |
|                   |                  | WHITE MINI      | WHITE MINI      |
|                   |                  | PAVEMENT ARROW  | PAVEMENT ARROW  |
|                   |                  | PROPERTY LINE   | PROPERTY LINE   |
|                   |                  | ROW             | ROW             |

| PLAN NOTES   |  |
|--|--|
| 1. ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.  |  |
| 2. SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE MAY 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS. |  |
| 3. PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22)  |  |
| 4. COUNTDOWN PEDESTRIAN SIGNALS SHALL COUNT DOWN FLASHING DON'T WALK ONLY.   |  |

| CITY OF CHARLOTTE   |  |
|---|--|
| DEPARTMENT OF TRANSPORTATION                                      |  |
| 600 E. 4TH ST. CHARLOTTE, NC 28202 704 336-4119 FAX: 704 336-4400 |  |
| WESTINGHOUSE BOULEVARD AND DOWNS ROAD                             |  |

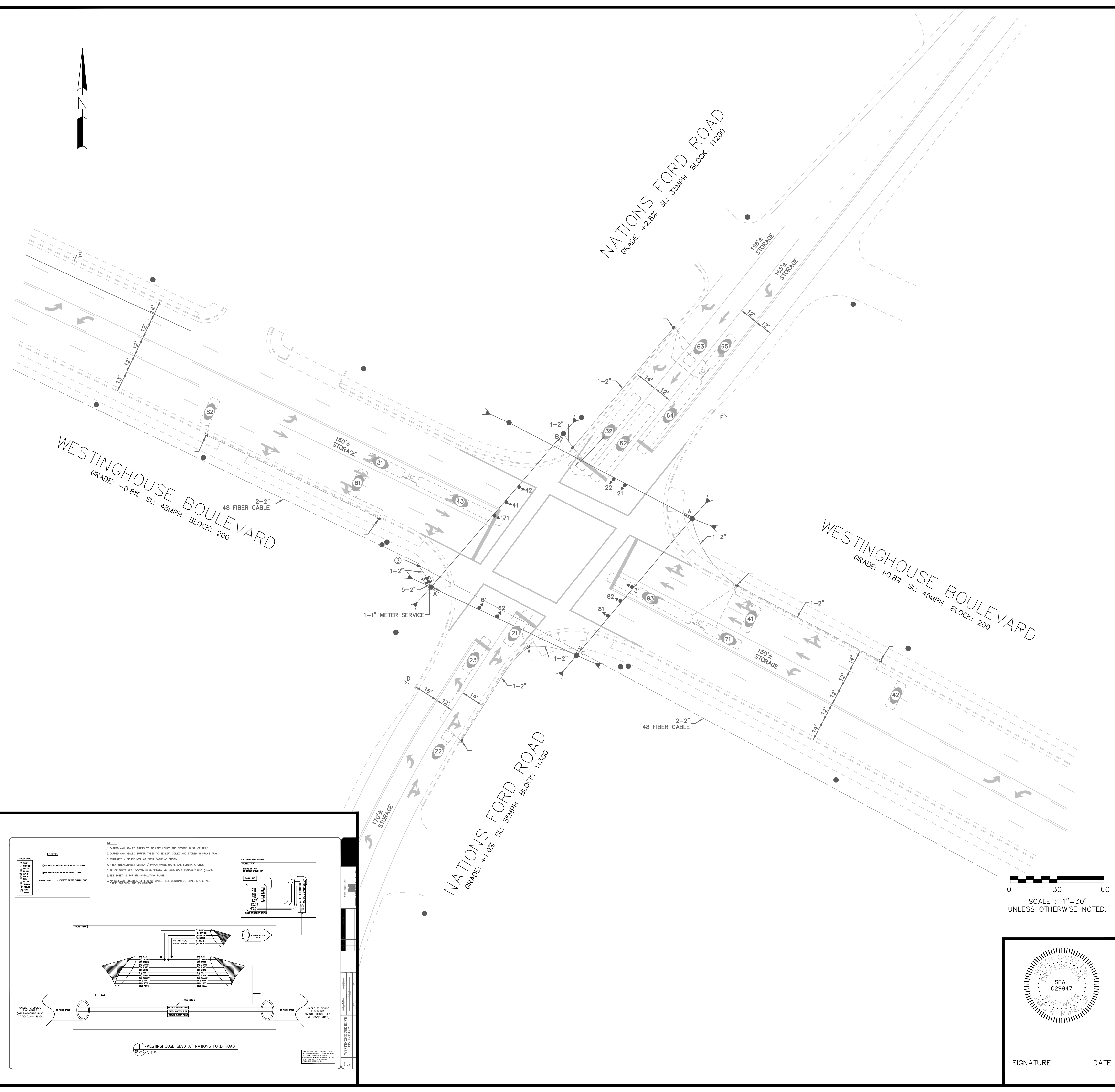
| # | BY: | DATE:      | REVISION:                       |
|---|-----|------------|---------------------------------|
| 1 | MKC | 08/19/98   | AS BUILT (ANA)                  |
| 2 | AEV | 05/25/2011 | STATE RECORD PLAN-TLB           |
| 3 | RA  | 8/12       | LOOPS 21,22,23                  |
| 4 | PM  | 04/11/2016 | ADDED CONDUITS/48F INTERCONNECT |

DESIGNED BY: MKC | DATE: 06/1996 | APPROVED BY: JRR | NCDOT# 10-1627 | UNIT ID: 23795 | SIGNAL ID: 00770



Professional Engineer Seal for North Carolina, No. 029920. Signature: *Andrew M. Bury*, Date: 5/24/16.





| SIGNAL PHASING                      |          | SIGNAL SEQUENCE  |         |            |         |            |         |            |         | CLEARANCE INTERVALS |                      |     |      |     |      |     |      |     |       |
|-------------------------------------|----------|------------------|---------|------------|---------|------------|---------|------------|---------|---------------------|----------------------|-----|------|-----|------|-----|------|-----|-------|
| Ring Configuration: 1,2,3,4,5,6,7,8 |          | RING 1           | PHASE 1 | PHASE 2    | PHASE 3 | PHASE 4    | PHASE 5 | PHASE 6    | PHASE 7 | PHASE 8             | Phase                | 1   | 2    | 3   | 4    | 5   | 6    | 7   | 8     |
| CONTROLLER TYPE: 2070 EOS           |          | SIGNAL ID NUMBER | R/W     | OTH        | R/W     | OTH        | R/W     | OTH        | R/W     | OTH                 | % Grade              |     | 1.0% |     | 0.8% |     | 2.8% |     | -0.8% |
| 1                                   | NOT USED | 21,22            |         |            | G       | Y          |         |            |         |                     | Distance             | 85  |      | 70  |      | 90  |      | 65  |       |
| 2                                   | NOT USED | 31               |         |            |         |            |         |            |         |                     | Approach Speed (mph) | 35  |      | 45  |      | 35  |      | 45  |       |
| 3                                   | NOT USED | 41,42            |         |            |         |            |         |            |         |                     | Yellow               | 3.7 |      | 4.4 |      | 3.6 |      | 4.5 |       |
| 4                                   | NOT USED | 61a              |         |            |         |            |         |            |         |                     | All Red              | 1.7 |      | 1.1 |      | 1.7 |      | 1.0 |       |
| MIN BECALL                          |          | MIN BECALL       |         | MIN BECALL |         | MIN BECALL |         | MIN BECALL |         | Total Clearance     |                      | 5.4 |      | 5.5 |      | 5.3 |      | 5.5 |       |

| TRAFFIC VOLUMES |           |
|-----------------|-----------|
| Diagram 1       | Diagram 2 |
| Diagram 3       | Diagram 4 |

| OVERLAP - PHASE  |                                       |
|------------------|---------------------------------------|
| OVERLAP PHASE    | OL-A/-+/- OL-B/3+4 OL-C/-+/- OL-D/7+8 |
| SIGNAL ID NUMBER | FYA FYA                               |
| 31a              |                                       |

| PULLBOX ID  |                    |
|-------------|--------------------|
| SIZE        | PULLBOX TYPE       |
| 13"x24"x12" | LOOP               |
| 17"x30"x24" | FIBER OPTIC        |
| 24"x36"x24" | CONTROLLER / FIBER |
| 30"x48"x36" | CONTROLLER         |
| 24"x24"x12" | CONTROLLER         |
| 36"x36"x12" | CONTROLLER         |

| DETECTOR INFORMATION |         |             |   |                |                            |                   |
|----------------------|---------|-------------|---|----------------|----------------------------|-------------------|
| DETECTOR NUMBER      | AMP NO. | SIZE / ZONE | # | AMP DELAY TYPE | COMMENTS                   |                   |
| 21                   | 1       | 6'x25'      | 2 | N              | STOP BAR                   |                   |
| 22                   | 2       | 6'x6'       | 2 | N              | 90' FROM STOP BAR          |                   |
| 23                   | 3       | 6'x25'      | 2 | N              | STOP BAR                   |                   |
| 41,42                | 4       | 6'x18'      | 4 | N              | 85' AND 190' FROM STOP BAR |                   |
| 43                   | 5       | 6'x60'      | 4 | N              | STOP BAR                   |                   |
| 31                   | 6       | 6'x25'      | 3 | D              | 3                          | 65' FROM STOP BAR |
| 32                   | 7       | 6'x60'      | 3 | D              | 3                          | STOP BAR          |
| 63                   | 8       | 6'x6'       | 6 | N              | 60' FROM STOP BAR          |                   |
| 64                   | 9       | 6'x60'      | 6 | N              | STOP BAR                   |                   |
| 65                   | 10      | 6'x25'      | 6 | N              | 65' FROM STOP BAR          |                   |
| 81,82                | 11      | 6'x18'      | 8 | N              | 85' AND 190' FROM STOP BAR |                   |
| 83                   | 12      | 6'x60'      | 8 | N              | STOP BAR                   |                   |
| 71                   | 13      | 6'x25'      | 7 | D              | 7                          | 65' FROM STOP BAR |
| 62                   | 14      | 6'x60'      | 6 | N              | STOP BAR                   |                   |

| SIGNAL HEAD ID |         |
|----------------|---------|
| 21,22          | 31a,71a |
| 41,42          | 31a,71a |
| 52             | 31a,71a |
| 81,82          | 31,71   |
|                | 61 61a  |

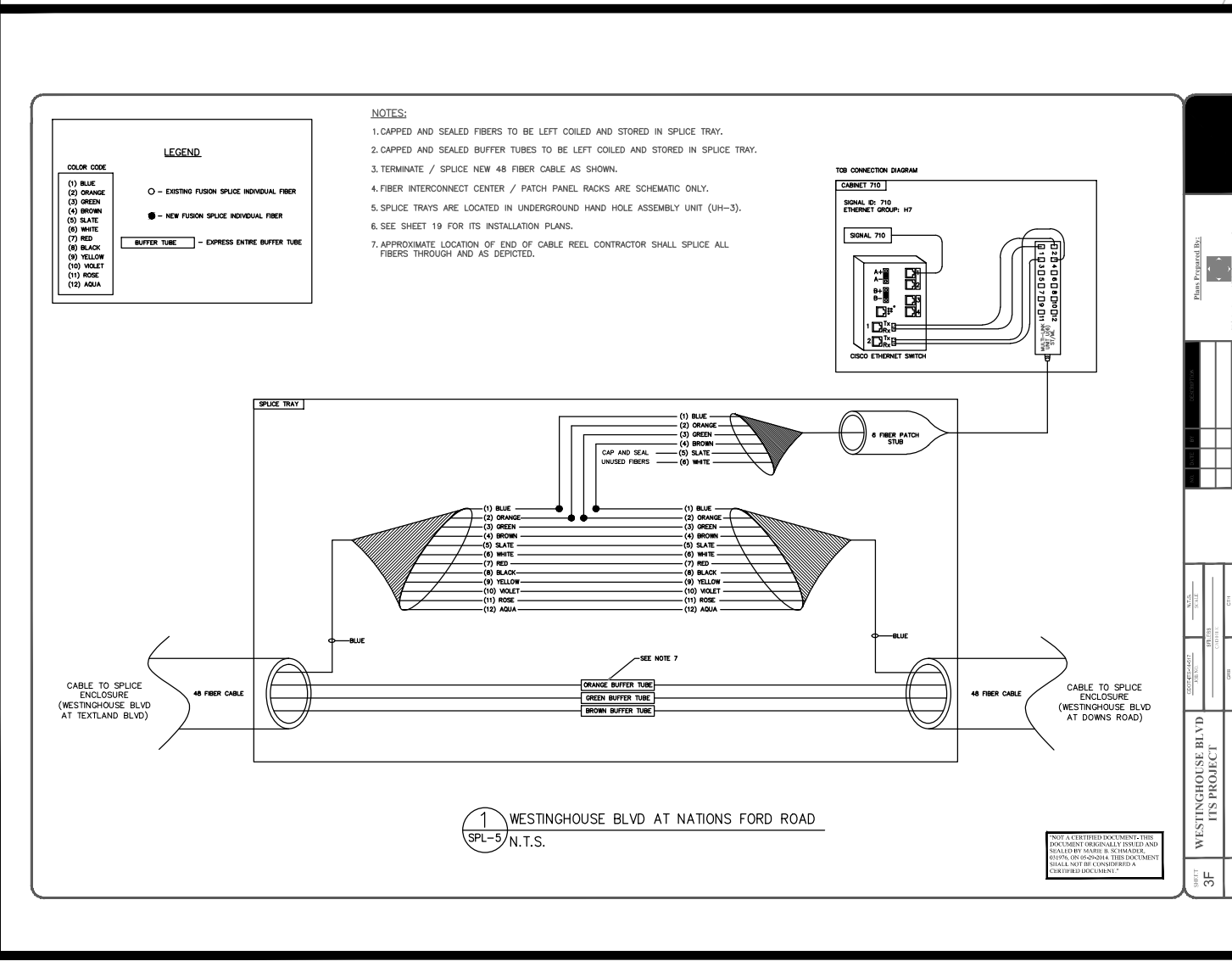
| SIGN ID                      |   | LEGEND          |                 |
|------------------------------|---|-----------------|-----------------|
| Westinghouse Blvd. Block 200 | A | PROPOSED        | EXISTING        |
| Nations Ford Rd. Block 1120  | B | CONTROL BOX     | CONTROL BOX     |
| Nations Ford Rd. Block 1180  | C | PULL BOX        | PULL BOX        |
|                              |   | STEEL POLE      | STEEL POLE      |
|                              |   | MAST ARM        | MAST ARM        |
|                              |   | PED PEDESTAL    | PED PEDESTAL    |
|                              |   | UTILITY POLE    | UTILITY POLE    |
|                              |   | ANCHOR          | ANCHOR          |
|                              |   | SIDWALK ANCHOR  | SIDWALK ANCHOR  |
|                              |   | SIGNAL HEAD     | SIGNAL HEAD     |
|                              |   | VIDEO CAMERA    | VIDEO CAMERA    |
|                              |   | OPTICOM         | OPTICOM         |
|                              |   | OBSERVATION CAM | OBSERVATION CAM |
|                              |   | DETECTOR        | DETECTOR        |
|                              |   | CONDUIT         | CONDUIT         |
|                              |   | INTERCONNECT    | INTERCONNECT    |
|                              |   | EDGE OF PVMT.   | EDGE OF PVMT.   |
|                              |   | CURB & GUTTER   | CURB & GUTTER   |
|                              |   | TUBULAR MARKER  | TUBULAR MARKER  |
|                              |   | GROUND SIGN     | GROUND SIGN     |
|                              |   | OVERHEAD SIGN   | OVERHEAD SIGN   |
|                              |   | DOUBLE YELLOW   | DOUBLE YELLOW   |
|                              |   | STOP BAR        | STOP BAR        |
|                              |   | WHITE SKIP      | WHITE SKIP      |
|                              |   | WHITE MINI      | WHITE MINI      |
|                              |   | PAVEMENT ARROW  | PAVEMENT ARROW  |
|                              |   | PROPERTY LINE   | PROPERTY LINE   |
|                              |   | ROW             | ROW             |

**PLAN NOTES**

- ALL PAVEMENT MARKING DIMENSIONS ARE APPROXIMATE.
- SIGNAL WILL BE INSTALLED IN ACCORDANCE WITH THE MAY 1998 CDOT TRAFFIC SIGNAL SPECIFICATIONS AND THE PROJECT SPECIAL PROVISIONS.
- PED SIGNALS WITH PUSHBUTTONS WILL BE LABELED "PB" (FOR EXAMPLE PB21, PB22).
- COUNTDOWN PEDESTRIAN SIGNALS SHOULD COUNT DOWN FLASHING DON'T WALK ONLY.
- LOOP #84 IS RENUMBERED #71 AND LOOP #44 IS RENUMBERED #31 FOR FYA.
- LOOP #83 IS RENUMBERED #43 AND LOOP #43 IS RENUMBERED #83.
- LOOP #61 IS RENUMBERED #32.
- FYA'S 31,71 WILL INITIALLY RUN PROTECTED-PERMITTED 24/7.

| # | BY: | DATE:   | REVISION:                                       |
|---|-----|---------|---|
| 1 | RA  | 9/06    | LOOP #23  |
| 2 | AV  | 5/11    | RECORD PLAN-TLB                                 |
| 3 | BG  | 1/19    | FYA 31,71, ADDED INTERCONNECT CONDUIT AND FIBER |
| 4 | BG  | 5/10/19 | RECORD PLAN                                     |

DESIGNED BY: MKC DATE: 9/96 APPROVED BY: JRR NCDOT# 101290 HANSEN: 23784 SIGNAL ID: 00710



SCALE: 1"=30'  
UNLESS OTHERWISE NOTED.

SEAL 029947

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

CITY OF CHARLOTTE  
DEPARTMENT OF TRANSPORTATION  
600 E. 4TH ST. CHARLOTTE, NC 28202 704 336-4119 FAX: 704 336-4400

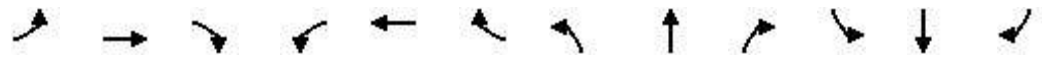
NATIONS FORD ROAD  
AND  
WESTINGHOUSE BOULEVARD

## **Appendix F – Synchro**

## **2021 Existing Traffic Volumes**

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/06/2021



| Lane Group                 | EBL  | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |      |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 0    | 302   | 4     | 48    | 117   | 0     | 4     | 0     | 200   | 336   | 32    | 12    |
| Future Volume (vph)        | 0    | 302   | 4     | 48    | 117   | 0     | 4     | 0     | 200   | 336   | 32    | 12    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |      | 0.998 |       |       |       |       |       | 0.867 |       |       | 0.960 |       |
| Flt Protected              |      |       |       |       | 0.986 |       |       | 0.999 |       | 0.950 |       |       |
| Satd. Flow (prot)          | 0    | 1859  | 0     | 0     | 1837  | 0     | 0     | 1613  | 0     | 1770  | 1788  | 0     |
| Flt Permitted              |      |       |       |       | 0.763 |       |       | 0.999 |       | 0.950 |       |       |
| Satd. Flow (perm)          | 0    | 1859  | 0     | 0     | 1421  | 0     | 0     | 1613  | 0     | 1770  | 1788  | 0     |
| Right Turn on Red          |      |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |      |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |      | 45    |       |       | 45    |       |       | 35    |       |       | 40    |       |
| Link Distance (ft)         |      | 2268  |       |       | 487   |       |       | 1176  |       |       | 370   |       |
| Travel Time (s)            |      | 34.4  |       |       | 7.4   |       |       | 22.9  |       |       | 6.3   |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 0    | 336   | 4     | 53    | 130   | 0     | 4     | 0     | 222   | 373   | 36    | 13    |
| Shared Lane Traffic (%)    |      |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 0    | 340   | 0     | 0     | 183   | 0     | 0     | 226   | 0     | 373   | 49    | 0     |
| Enter Blocked Intersection | No   | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |      | 0     |       |       | 0     |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |      | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |      | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |      |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  |      | NA    |       | Perm  |       | NA    |       | Split |       | NA    |       | Split |
| Protected Phases           |      | 2     |       |       | 6     |       | 3     | 3     |       | 4     | 4     |       |
| Permitted Phases           |      |       |       | 6     |       |       |       |       |       |       |       |       |
| Detector Phase             |      | 2     |       | 6     | 6     |       | 3     | 3     |       | 4     | 4     |       |
| Switch Phase               |      |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        |      | 25.0  |       | 25.0  | 25.0  |       | 8.0   | 8.0   |       | 10.0  | 10.0  |       |
| Minimum Split (s)          |      | 31.7  |       | 31.7  | 31.7  |       | 15.1  | 15.1  |       | 15.1  | 15.1  |       |
| Total Split (s)            |      | 33.0  |       | 33.0  | 33.0  |       | 25.0  | 25.0  |       | 32.0  | 32.0  |       |
| Total Split (%)            |      | 36.7% |       | 36.7% | 36.7% |       | 27.8% | 27.8% |       | 35.6% | 35.6% |       |
| Maximum Green (s)          |      | 26.3  |       | 26.3  | 26.3  |       | 19.9  | 19.9  |       | 26.9  | 26.9  |       |
| Yellow Time (s)            |      | 4.2   |       | 4.2   | 4.2   |       | 3.6   | 3.6   |       | 3.6   | 3.6   |       |
| All-Red Time (s)           |      | 2.5   |       | 2.5   | 2.5   |       | 1.5   | 1.5   |       | 1.5   | 1.5   |       |
| Lost Time Adjust (s)       |      | -1.7  |       |       | -1.7  |       |       | -0.1  |       | -0.1  | -2.0  |       |
| Total Lost Time (s)        |      | 5.0   |       |       | 5.0   |       |       | 5.0   |       | 5.0   | 3.1   |       |
| Lead/Lag                   |      |       |       |       |       |       | Lead  | Lead  |       | Lag   | Lag   |       |
| Lead-Lag Optimize?         |      |       |       |       |       |       | Yes   | Yes   |       | Yes   | Yes   |       |
| Vehicle Extension (s)      |      | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                |      | Min   |       | Min   | Min   |       | None  | None  |       | None  | None  |       |
| Act Effct Green (s)        |      | 27.3  |       |       | 27.3  |       |       | 15.6  |       | 21.0  | 22.9  |       |
| Actuated g/C Ratio         |      | 0.34  |       |       | 0.34  |       |       | 0.20  |       | 0.27  | 0.29  |       |
| v/c Ratio                  |      | 0.53  |       |       | 0.37  |       |       | 0.71  |       | 0.80  | 0.09  |       |
| Control Delay              |      | 26.7  |       |       | 24.9  |       |       | 43.7  |       | 40.9  | 21.5  |       |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/06/2021

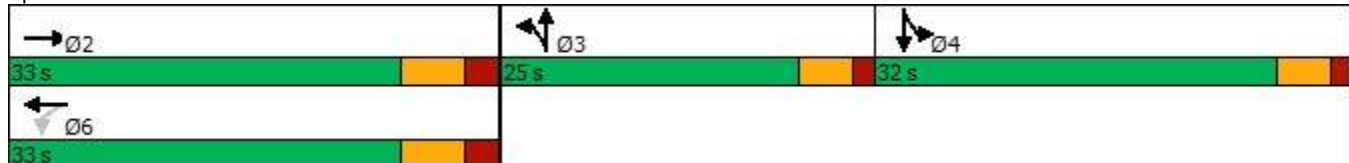


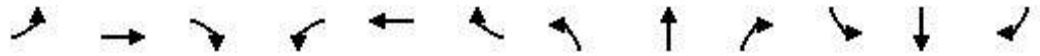
| Lane Group              | EBL | EBT  | EBR | WBL | WBT  | WBR | NBL | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|-----|------|-----|-----|------|-----|-----|------|-----|------|------|-----|
| Queue Delay             |     | 0.0  |     |     | 0.0  |     |     | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             |     | 26.7 |     |     | 24.9 |     |     | 43.7 |     | 40.9 | 21.5 |     |
| LOS                     |     | C    |     |     | C    |     |     | D    |     | D    | C    |     |
| Approach Delay          |     | 26.7 |     |     | 24.9 |     |     | 43.7 |     |      | 38.7 |     |
| Approach LOS            |     | C    |     |     | C    |     |     | D    |     |      | D    |     |
| Queue Length 50th (ft)  |     | 137  |     |     | 69   |     |     | 105  |     | 171  | 18   |     |
| Queue Length 95th (ft)  |     | 251  |     |     | 143  |     |     | 194  |     | 289  | 45   |     |
| Internal Link Dist (ft) |     | 2188 |     |     | 407  |     |     | 1096 |     |      | 290  |     |
| Turn Bay Length (ft)    |     |      |     |     |      |     |     |      |     |      |      |     |
| Base Capacity (vph)     |     | 667  |     |     | 510  |     |     | 413  |     | 612  | 662  |     |
| Starvation Cap Reductn  |     | 0    |     |     | 0    |     |     | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   |     | 0    |     |     | 0    |     |     | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     |     | 0    |     |     | 0    |     |     | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       |     | 0.51 |     |     | 0.36 |     |     | 0.55 |     | 0.61 | 0.07 |     |

Intersection Summary

|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 90                     |
| Actuated Cycle Length:             | 79.2                   |
| Natural Cycle:                     | 75                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.80                   |
| Intersection Signal Delay:         | 34.0                   |
| Intersection LOS:                  | C                      |
| Intersection Capacity Utilization: | 88.7%                  |
| ICU Level of Service:              | E                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 5: Flint Hill Road & SC-51





| Lane Group                 | EBL  | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|------|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |      | ↕     |       |      | ↕     |       |      | ↕     |       |      |      |       |
| Traffic Volume (vph)       | 40   | 751   | 6     | 19   | 169   | 340   | 4    | 9     | 14    | 0    | 0    | 0     |
| Future Volume (vph)        | 40   | 751   | 6     | 19   | 169   | 340   | 4    | 9     | 14    | 0    | 0    | 0     |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |      | 0.999 |       |      | 0.913 |       |      | 0.928 |       |      |      |       |
| Fl <sub>t</sub> Protected  |      | 0.998 |       |      | 0.998 |       |      | 0.993 |       |      |      |       |
| Satd. Flow (prot)          | 0    | 1857  | 0     | 0    | 1697  | 0     | 0    | 1717  | 0     | 0    | 0    | 0     |
| Fl <sub>t</sub> Permitted  |      | 0.998 |       |      | 0.998 |       |      | 0.993 |       |      |      |       |
| Satd. Flow (perm)          | 0    | 1857  | 0     | 0    | 1697  | 0     | 0    | 1717  | 0     | 0    | 0    | 0     |
| Link Speed (mph)           |      | 45    |       |      | 45    |       |      | 25    |       |      |      | 40    |
| Link Distance (ft)         |      | 487   |       |      | 161   |       |      | 1054  |       |      |      | 303   |
| Travel Time (s)            |      | 7.4   |       |      | 2.4   |       |      | 28.7  |       |      |      | 5.2   |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 44   | 834   | 7     | 21   | 188   | 378   | 4    | 10    | 16    | 0    | 0    | 0     |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 0    | 885   | 0     | 0    | 587   | 0     | 0    | 30    | 0     | 0    | 0    | 0     |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |      | 0     |       |      | 0     |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |      | 0     |       |      | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |      | 16    |       |      | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |      |       |       |      |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15   |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |      | Free  |       |      | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 66.0%        |
| ICU Level of Service              | C            |
| Analysis Period (min)             | 15           |

Miller Farm TIA  
 6: Business Driveway/Springhill Farm Road & SC-51

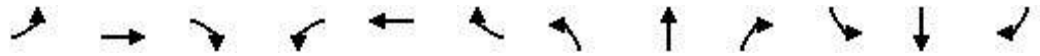
12/06/2021

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 0.7  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      |       |      |
| Traffic Vol, veh/h       | 40   | 751  | 6    | 19   | 169  | 340  | 4    | 9    | 14   | 0    | 0     | 0    |
| Future Vol, veh/h        | 40   | 751  | 6    | 19   | 169  | 340  | 4    | 9    | 14   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop  | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90    | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2     | 2    |
| Mvmt Flow                | 44   | 834  | 7    | 21   | 188  | 378  | 4    | 10   | 16   | 0    | 0     | 0    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|
| Conflicting Flow All | 566    | 0 | 0 | 841    | 0 | 0 | 1345   | 1534  | 838   |
| Stage 1              | -      | - | - | -      | - | - | 926    | 926   | -     |
| Stage 2              | -      | - | - | -      | - | - | 419    | 608   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 6.42   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 5.42   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 5.42   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1006   | - | - | 794    | - | - | 167    | 116   | 366   |
| Stage 1              | -      | - | - | -      | - | - | 386    | 347   | -     |
| Stage 2              | -      | - | - | -      | - | - | 664    | 486   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1006   | - | - | 794    | - | - | 147    | 0     | 366   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 147    | 0     | -     |
| Stage 1              | -      | - | - | -      | - | - | 354    | 0     | -     |
| Stage 2              | -      | - | - | -      | - | - | 637    | 0     | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|
| HCM Control Delay, s | 0.4 |  |  | 0.3 |  |  | 19.7 |  |  |
| HCM LOS              |     |  |  |     |  |  | C    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|
| Capacity (veh/h)      | 275   | 1006  | -   | -   | 794   | -   | -   |
| HCM Lane V/C Ratio    | 0.109 | 0.044 | -   | -   | 0.027 | -   | -   |
| HCM Control Delay (s) | 19.7  | 8.7   | 0   | -   | 9.7   | 0   | -   |
| HCM Lane LOS          | C     | A     | A   | -   | A     | A   | -   |
| HCM 95th %tile Q(veh) | 0.4   | 0.1   | -   | -   | 0.1   | -   | -   |



| Lane Group                 | EBL  | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|------|-------|-------|------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |      | ↕     |       |      | ↕     |       |      | ↕     |       |      | ↕     |       |
| Traffic Volume (vph)       | 233  | 532   | 4     | 4    | 449   | 45    | 6    | 4     | 19    | 17   | 4     | 74    |
| Future Volume (vph)        | 233  | 532   | 4     | 4    | 449   | 45    | 6    | 4     | 19    | 17   | 4     | 74    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Lane Util. Factor          | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Fr <sub>t</sub>            |      | 0.999 |       |      | 0.988 |       |      | 0.911 |       |      | 0.895 |       |
| Fl <sub>t</sub> Protected  |      | 0.985 |       |      |       |       |      | 0.989 |       |      | 0.991 |       |
| Satd. Flow (prot)          | 0    | 1833  | 0     | 0    | 1840  | 0     | 0    | 1678  | 0     | 0    | 1652  | 0     |
| Fl <sub>t</sub> Permitted  |      | 0.985 |       |      |       |       |      | 0.989 |       |      | 0.991 |       |
| Satd. Flow (perm)          | 0    | 1833  | 0     | 0    | 1840  | 0     | 0    | 1678  | 0     | 0    | 1652  | 0     |
| Link Speed (mph)           |      | 45    |       |      | 45    |       |      | 25    |       |      | 35    |       |
| Link Distance (ft)         |      | 161   |       |      | 1378  |       |      | 1091  |       |      | 1017  |       |
| Travel Time (s)            |      | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      | 19.8  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 259  | 591   | 4     | 4    | 499   | 50    | 7    | 4     | 21    | 19   | 4     | 82    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 0    | 854   | 0     | 0    | 553   | 0     | 0    | 32    | 0     | 0    | 105   | 0     |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |      | 0     |       |      | 0     |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |      | 0     |       |      | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |      | 16    |       |      | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |      | Free  |       |      | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 85.0%        |
| ICU Level of Service              | E            |
| Analysis Period (min)             | 15           |



| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.2  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 233  | 532  | 4    | 4    | 449  | 45   | 6    | 4    | 19   | 17   | 4    | 74   |
| Future Vol, veh/h        | 233  | 532  | 4    | 4    | 449  | 45   | 6    | 4    | 19   | 17   | 4    | 74   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 259  | 591  | 4    | 4    | 499  | 50   | 7    | 4    | 21   | 19   | 4    | 82   |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       | Minor2 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 549    | 0 | 0 | 595    | 0 | 0 | 1686   | 1668  | 593   | 1656   | 1645  | 524   |
| Stage 1              | -      | - | - | -      | - | - | 1111   | 1111  | -     | 532    | 532   | -     |
| Stage 2              | -      | - | - | -      | - | - | 575    | 557   | -     | 1124   | 1113  | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 7.12   | 6.52  | 6.22  | 7.12   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.12   | 5.52  | -     | 6.12   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 1021   | - | - | 981    | - | - | 74     | 96    | 506   | 78     | 99    | 553   |
| Stage 1              | -      | - | - | -      | - | - | 254    | 285   | -     | 531    | 526   | -     |
| Stage 2              | -      | - | - | -      | - | - | 503    | 512   | -     | 249    | 284   | -     |
| Platoon blocked, %   |        | - | - |        | - | - |        |       |       |        |       |       |
| Mov Cap-1 Maneuver   | 1021   | - | - | 981    | - | - | 42     | 59    | 506   | 50     | 61    | 553   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 42     | 59    | -     | 50     | 61    | -     |
| Stage 1              | -      | - | - | -      | - | - | 158    | 177   | -     | 330    | 523   | -     |
| Stage 2              | -      | - | - | -      | - | - | 422    | 509   | -     | 144    | 176   | -     |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 2.9 |  |  | 0.1 |  |  | 47.1 |  |  | 52.1 |  |  |
| HCM LOS              |     |  |  |     |  |  | E    |  |  | F    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 117   | 1021  | -   | -   | 981   | -   | -   | 176   |
| HCM Lane V/C Ratio    | 0.275 | 0.254 | -   | -   | 0.005 | -   | -   | 0.6   |
| HCM Control Delay (s) | 47.1  | 9.7   | 0   | -   | 8.7   | 0   | -   | 52.1  |
| HCM Lane LOS          |       | E     | A   | A   | -     | A   | -   | F     |
| HCM 95th %tile Q(veh) |       | 1     | 1   | -   | -     | 0   | -   | 3.3   |

Miller Farm TIA  
 9: Miller Road & NC-51

12/06/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↓     | ↑↑   | ↓     | ↓     |
| Traffic Volume (vph)       | 553  | 41    | 9     | 430  | 63    | 37    |
| Future Volume (vph)        | 553  | 41    | 9     | 430  | 63    | 37    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 370   | 335   |      | 0     | 185   |
| Storage Lanes              |      | 2     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 25    |       |
| Link Distance (ft)         | 1378 |       |       | 1912 | 1091  |       |
| Travel Time (s)            | 20.9 |       |       | 29.0 | 29.8  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 614  | 46    | 10    | 478  | 70    | 41    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 614  | 46    | 10    | 478  | 70    | 41    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 24   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 25.4%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.6  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 553  | 41   | 9    | 430  | 63   | 37   |
| Future Vol, veh/h        | 553  | 41   | 9    | 430  | 63   | 37   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 370  | 335  | -    | 0    | 185  |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 614  | 46   | 10   | 478  | 70   | 41   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |           |
|----------------------|--------|--------|--------|---|-----------|
| Conflicting Flow All | 0      | 0      | 660    | 0 | 873 307   |
| Stage 1              | -      | -      | -      | - | 614 -     |
| Stage 2              | -      | -      | -      | - | 259 -     |
| Critical Hdwy        | -      | -      | 4.14   | - | 6.84 6.94 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.84 -    |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.84 -    |
| Follow-up Hdwy       | -      | -      | 2.22   | - | 3.52 3.32 |
| Pot Cap-1 Maneuver   | -      | -      | 924    | - | 289 689   |
| Stage 1              | -      | -      | -      | - | 502 -     |
| Stage 2              | -      | -      | -      | - | 761 -     |
| Platoon blocked, %   | -      | -      | -      | - | -         |
| Mov Cap-1 Maneuver   | -      | -      | 924    | - | 286 689   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 286 -     |
| Stage 1              | -      | -      | -      | - | 502 -     |
| Stage 2              | -      | -      | -      | - | 753 -     |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.2 | 17.5 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 286   | 689   | -   | -   | 924   | -   |
| HCM Lane V/C Ratio    | 0.245 | 0.06  | -   | -   | 0.011 | -   |
| HCM Control Delay (s) | 21.6  | 10.6  | -   | -   | 8.9   | -   |
| HCM Lane LOS          | C     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 0.9   | 0.2   | -   | -   | 0     | -   |

Miller Farm TIA  
10: Marfield Lane & NC-51

12/06/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↵     | ↑↑   | ↵     | ↵     |
| Traffic Volume (vph)       | 602  | 10    | 49    | 410  | 44    | 87    |
| Future Volume (vph)        | 602  | 10    | 49    | 410  | 44    | 87    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 310   | 520   |      | 100   | 0     |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 15    |       |
| Link Distance (ft)         | 1912 |       |       | 1898 | 1372  |       |
| Travel Time (s)            | 29.0 |       |       | 28.8 | 62.4  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 669  | 11    | 54    | 456  | 49    | 97    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 669  | 11    | 54    | 456  | 49    | 97    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 12   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 33.3%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.1  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 602  | 10   | 49   | 410  | 44   | 87   |
| Future Vol, veh/h        | 602  | 10   | 49   | 410  | 44   | 87   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 310  | 520  | -    | 100  | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 669  | 11   | 54   | 456  | 49   | 97   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 680    | 0      | 1005   |
| Stage 1              | -      | -      | -      | -      | 669    |
| Stage 2              | -      | -      | -      | -      | 336    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 908    | -      | 238    |
| Stage 1              | -      | -      | -      | -      | 471    |
| Stage 2              | -      | -      | -      | -      | 696    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 908    | -      | 224    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 224    |
| Stage 1              | -      | -      | -      | -      | 471    |
| Stage 2              | -      | -      | -      | -      | 655    |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 1  | 16.1 |
| HCM LOS              |    |    | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 224   | 661   | -   | -   | 908  | -   |
| HCM Lane V/C Ratio    | 0.218 | 0.146 | -   | -   | 0.06 | -   |
| HCM Control Delay (s) | 25.5  | 11.4  | -   | -   | 9.2  | -   |
| HCM Lane LOS          | D     | B     | -   | -   | A    | -   |
| HCM 95th %tile Q(veh) | 0.8   | 0.5   | -   | -   | 0.2  | -   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/06/2021



| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 104   | 594   | 4     | 403   | 221   | 58    | 45    |
| Future Volume (vph)        | 104   | 594   | 4     | 403   | 221   | 58    | 45    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 100   |       | 100   |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 116   | 660   | 4     | 448   | 246   | 64    | 50    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 116   | 660   | 4     | 448   | 246   | 64    | 50    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 38.0  | 70.0  | 19.0  | 51.0  |       | 31.0  | 38.0  |
| Total Split (%)            | 31.7% | 58.3% | 15.8% | 42.5% |       | 25.8% | 31.7% |
| Maximum Green (s)          | 32.2  | 64.0  | 13.1  | 45.2  |       | 25.4  | 32.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |

Miller Farm TIA  
 11: NC-51 & Downs Road

12/06/2021

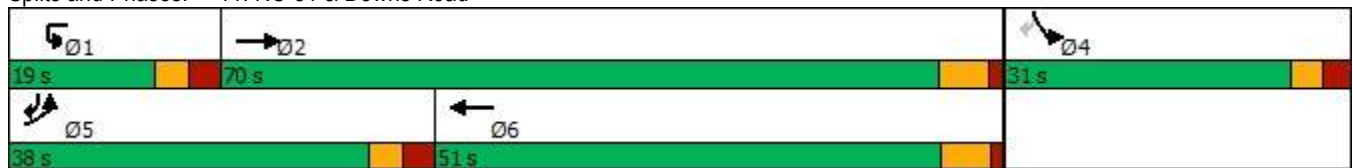


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effct Green (s)     | 9.1  | 29.6 | 8.2  | 19.1 | 41.1 | 8.2  | 16.0 |
| Actuated g/C Ratio      | 0.22 | 0.72 | 0.20 | 0.46 | 1.00 | 0.20 | 0.39 |
| v/c Ratio               | 0.30 | 0.26 | 0.01 | 0.27 | 0.16 | 0.18 | 0.08 |
| Control Delay           | 17.8 | 6.0  | 17.8 | 11.7 | 0.2  | 18.3 | 7.2  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 17.8 | 6.0  | 17.8 | 11.7 | 0.2  | 18.3 | 7.2  |
| LOS                     | B    | A    | B    | B    | A    | B    | A    |
| Approach Delay          |      | 7.7  |      | 7.7  |      | 13.4 |      |
| Approach LOS            |      | A    |      | A    |      | B    |      |
| Queue Length 50th (ft)  | 25   | 34   | 1    | 46   | 0    | 14   | 6    |
| Queue Length 95th (ft)  | 67   | 116  | 8    | 88   | 0    | 45   | 21   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 1455 | 3539 | 629  | 3445 | 1583 | 1162 | 1540 |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.08 | 0.19 | 0.01 | 0.13 | 0.16 | 0.06 | 0.03 |

Intersection Summary
























|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 41.1                   |
| Natural Cycle:                     | 55                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.30                   |
| Intersection Signal Delay:         | 8.1                    |
| Intersection LOS:                  | A                      |
| Intersection Capacity Utilization: | 40.6%                  |
| ICU Level of Service:              | A                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 11: NC-51 & Downs Road



Miller Farm TIA  
12: Polk Street & NC-51

12/06/2021

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations        |  |  |   |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)       | 119   | 520   | 107   | 32  | 365   | 121   | 212  | 446   | 21  | 74  | 251   | 73  |
| Future Volume (vph)        | 119   | 520   | 107   | 32  | 365   | 121   | 212  | 446   | 21  | 74  | 251   | 73  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900   | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |   | 0%  |   |   | 3%  |   |  | 2%  |   |   | 2%  |   |
| Storage Length (ft)        | 310   |   | 0   | 275   |   | 625   | 450  |   | 0   | 0   |   | 175   |
| Storage Lanes              | 1   |   | 0   | 1   |   | 1   | 2  |   | 0   | 1   |   | 1   |
| Taper Length (ft)          | 100   |   |   | 100   |   |   | 100  |   |   | 100   |   |   |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97   | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |   | 0.974   |   |   |   | 0.850   |  | 0.993   |   |   |   | 0.850   |
| Flt Protected              | 0.950   |   |   | 0.950   |   |   | 0.950  |   |   | 0.950   |   |   |
| Satd. Flow (prot)          | 1770  | 3447  | 0   | 1743  | 3486  | 1560  | 3399   | 1831  | 0   | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950   |   |   | 0.950   |   |   | 0.950  |   |   | 0.950   |   |   |
| Satd. Flow (perm)          | 1770  | 3447  | 0   | 1743  | 3486  | 1560  | 3399   | 1831  | 0   | 1752  | 1844  | 1567  |
| Right Turn on Red          |   |   | No  |   |   | No  |  |   | No  |   |   | No  |
| Satd. Flow (RTOR)          |   |   |   |   |   |   |  |   |   |   |   |   |
| Link Speed (mph)           |   | 20  |   |   | 35  |   |  | 35  |   |   | 35  |   |
| Link Distance (ft)         |   | 1511  |   |   | 1276  |   |  | 1022  |   |   | 1160  |   |
| Travel Time (s)            |   | 51.5  |   |   | 24.9  |   |  | 19.9  |   |   | 22.6  |   |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90   | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 132   | 578   | 119   | 36  | 406   | 134   | 236  | 496   | 23  | 82  | 279   | 81  |
| Shared Lane Traffic (%)    |   |   |   |   |   |   |  |   |   |   |   |   |
| Lane Group Flow (vph)      | 132   | 697   | 0   | 36  | 406   | 134   | 236  | 519   | 0   | 82  | 279   | 81  |
| Enter Blocked Intersection | No  | No  | No  | No  | No  | No  | No   | No  | No  | No  | No  | No  |
| Lane Alignment             | Left  | Left  | Right   | Left  | Left  | Right   | Left   | Left  | Right   | Left  | Left  | Right   |
| Median Width(ft)           |   | 12  |   |   | 12  |   |  | 24  |   |   | 24  |   |
| Link Offset(ft)            |   | 0   |   |   | 0   |   |  | 0   |   |   | 0   |   |
| Crosswalk Width(ft)        |   | 16  |   |   | 16  |   |  | 16  |   |   | 16  |   |
| Two way Left Turn Lane     |   |   |   |   |   |   |  |   |   |   |   |   |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01   | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15  |   | 9   | 15  |   | 9   | 15   |   | 9   | 15  |   | 9   |
| Turn Type                  | Prot  | NA  |   | Prot  | NA  | pm+ov   | Prot   | NA  |   | Prot  | NA  | pm+ov   |
| Protected Phases           | 5   | 2   |   | 1   | 6   | 7   | 3  | 8   |   | 7   | 4   | 5   |
| Permitted Phases           |   |   |   |   |   | 6   |  |   |   |   |   | 4   |
| Detector Phase             | 5   | 2   |   | 1   | 6   | 7   | 3  | 8   |   | 7   | 4   | 5   |
| Switch Phase               |   |   |   |   |   |   |  |   |   |   |   |   |
| Minimum Initial (s)        | 7.0   | 10.0  |   | 7.0   | 10.0  | 7.0   | 7.0  | 7.0   |   | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |   | 14.0  | 17.0  | 14.0  | 14.0   | 14.0  |   | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 21.0  | 38.0  |   | 14.0  | 31.0  | 16.0  | 19.0   | 52.0  |   | 16.0  | 49.0  | 21.0  |
| Total Split (%)            | 17.5%   | 31.7%   |   | 11.7%   | 25.8%   | 13.3%   | 15.8%  | 43.3%   |   | 13.3%   | 40.8%   | 17.5%   |
| Maximum Green (s)          | 14.8  | 31.8  |   | 8.2   | 25.3  | 10.1  | 12.4   | 46.0  |   | 10.1  | 43.3  | 14.8  |
| Yellow Time (s)            | 3.0   | 3.0   |   | 3.0   | 3.7   | 3.0   | 3.0  | 3.7   |   | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |   | 2.8   | 2.0   | 2.9   | 3.6  | 2.3   |   | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |   | -0.8  | -0.7  | -0.7  | -1.6   | -1.0  |   | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |   | 5.0   | 5.0   | 5.2   | 5.0  | 5.0   |   | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |   | Lead  | Lag   | Lead  | Lead   | Lag   |   | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |   | Yes   | Yes   | Yes   | Yes  | Yes   |   | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |   | 2.0   | 3.0   | 2.0   | 2.0  | 2.0   |   | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |   | None  | Min   | None  | None   | None  |   | None  | None  | None  |



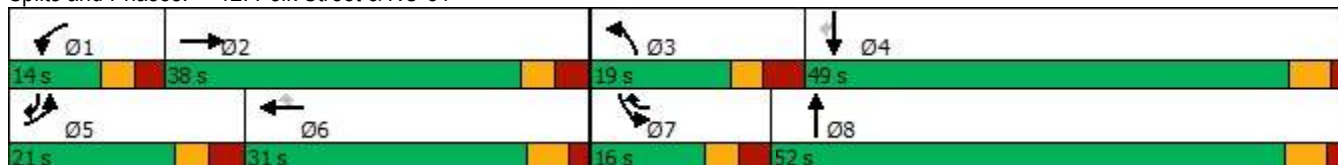


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|------|
| Act Effect Green (s)    | 12.7 | 28.5 |     | 8.5  | 17.6 | 32.5 | 12.3 | 32.1 |     | 9.8  | 29.6 | 47.5 |
| Actuated g/C Ratio      | 0.14 | 0.31 |     | 0.09 | 0.19 | 0.35 | 0.13 | 0.34 |     | 0.11 | 0.32 | 0.51 |
| v/c Ratio               | 0.55 | 0.66 |     | 0.23 | 0.62 | 0.25 | 0.52 | 0.82 |     | 0.45 | 0.48 | 0.10 |
| Control Delay           | 51.1 | 34.9 |     | 50.9 | 40.8 | 25.8 | 46.0 | 40.7 |     | 53.7 | 29.5 | 12.9 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 51.1 | 34.9 |     | 50.9 | 40.8 | 25.8 | 46.0 | 40.7 |     | 53.7 | 29.5 | 12.9 |
| LOS                     | D    | C    |     | D    | D    | C    | D    | D    |     | D    | C    | B    |
| Approach Delay          |      | 37.5 |     |      | 37.9 |      |      | 42.3 |     |      | 30.9 |      |
| Approach LOS            |      | D    |     |      | D    |      |      | D    |     |      | C    |      |
| Queue Length 50th (ft)  | 75   | 207  |     | 21   | 117  | 56   | 69   | 282  |     | 47   | 135  | 24   |
| Queue Length 95th (ft)  | 164  | 330  |     | 62   | 200  | 124  | 134  | 471  |     | 116  | 237  | 55   |
| Internal Link Dist (ft) |      | 1431 |     |      | 1196 |      |      | 942  |     |      | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275  |      | 625  | 450  |      |     |      |      | 175  |
| Base Capacity (vph)     | 319  | 1281 |     | 176  | 1021 | 572  | 536  | 969  |     | 217  | 914  | 867  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.41 | 0.54 |     | 0.20 | 0.40 | 0.23 | 0.44 | 0.54 |     | 0.38 | 0.31 | 0.09 |

Intersection Summary

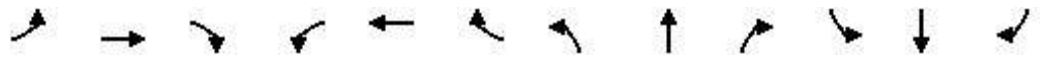
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 93.2  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.82  
 Intersection Signal Delay: 37.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 70.9%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
13: Downs Road & Westinghouse Boulevard

12/06/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 79    | 571   | 118   | 51    | 392   | 110   | 106   | 87    | 59    | 33    | 19    | 34    |
| Future Volume (vph)        | 79    | 571   | 118   | 51    | 392   | 110   | 106   | 87    | 59    | 33    | 19    | 34    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       | -1%   |       |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.974 |       |       | 0.967 |       |       | 0.939 |       |       | 0.903 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3499  | 0     | 1743  | 3371  | 0     | 1778  | 1758  | 0     | 1778  | 1690  | 0     |
| Flt Permitted              | 0.443 |       |       | 0.352 |       |       | 0.719 |       |       | 0.654 |       |       |
| Satd. Flow (perm)          | 838   | 3499  | 0     | 646   | 3371  | 0     | 1346  | 1758  | 0     | 1224  | 1690  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       | 1210  |       |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       | 23.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 88    | 634   | 131   | 57    | 436   | 122   | 118   | 97    | 66    | 37    | 21    | 38    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 88    | 765   | 0     | 57    | 558   | 0     | 118   | 163   | 0     | 37    | 59    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 36.0  | 36.0  |       | 36.0  | 36.0  |       | 24.0  | 24.0  |       | 24.0  | 24.0  |       |
| Total Split (%)            | 60.0% | 60.0% |       | 60.0% | 60.0% |       | 40.0% | 40.0% |       | 40.0% | 40.0% |       |
| Maximum Green (s)          | 30.2  | 30.2  |       | 30.8  | 30.8  |       | 18.5  | 18.5  |       | 18.2  | 18.2  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.8  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/06/2021

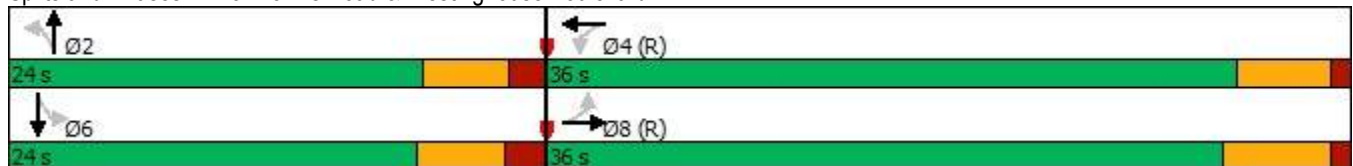


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effct Green (s)     | 41.0 | 41.0 |     | 41.0 | 41.0 |     | 13.5 | 13.5 |     | 13.6 | 13.6 |     |
| Actuated g/C Ratio      | 0.68 | 0.68 |     | 0.68 | 0.68 |     | 0.22 | 0.22 |     | 0.23 | 0.23 |     |
| v/c Ratio               | 0.15 | 0.32 |     | 0.13 | 0.24 |     | 0.39 | 0.41 |     | 0.13 | 0.15 |     |
| Control Delay           | 3.9  | 4.4  |     | 6.6  | 5.6  |     | 23.6 | 23.0 |     | 19.2 | 19.2 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 3.9  | 4.4  |     | 6.6  | 5.6  |     | 23.6 | 23.0 |     | 19.2 | 19.2 |     |
| LOS                     | A    | A    |     | A    | A    |     | C    | C    |     | B    | B    |     |
| Approach Delay          |      | 4.3  |     |      | 5.7  |     |      | 23.3 |     |      | 19.2 |     |
| Approach LOS            |      | A    |     |      | A    |     |      | C    |     |      | B    |     |
| Queue Length 50th (ft)  | 10   | 89   |     | 7    | 41   |     | 37   | 51   |     | 11   | 18   |     |
| Queue Length 95th (ft)  | 25   | 82   |     | 25   | 75   |     | 72   | 91   |     | 30   | 40   |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 572  | 2392 |     | 441  | 2304 |     | 426  | 556  |     | 387  | 535  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.15 | 0.32 |     | 0.13 | 0.24 |     | 0.28 | 0.29 |     | 0.10 | 0.11 |     |

Intersection Summary

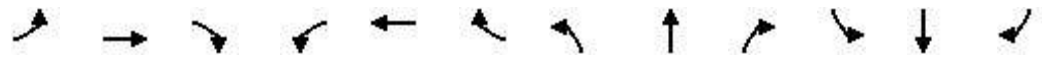
|                                   |   |
|-----------------------------------|---|
| Area Type:                        | Other   |
| Cycle Length:                     | 60  |
| Actuated Cycle Length:            | 60  |
| Offset:                           | 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green |
| Natural Cycle:                    | 40  |
| Control Type:                     | Actuated-Coordinated  |
| Maximum v/c Ratio:                | 0.41  |
| Intersection Signal Delay:        | 8.4   |
| Intersection LOS:                 | A   |
| Intersection Capacity Utilization | 62.0%   |
| ICU Level of Service              | B   |
| Analysis Period (min)             | 15  |

Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

12/06/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 198   | 766   | 100   | 40    | 430   | 13    | 65    | 112   | 61    | 13    | 44    | 124   |
| Future Volume (vph)        | 198   | 766   | 100   | 40    | 430   | 13    | 65    | 112   | 61    | 13    | 44    | 124   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.983 |       |       | 0.996 |       |       | 0.947 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3496  | 0     | 1761  | 3507  | 0     | 1761  | 1755  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.452 |       |       | 0.256 |       |       | 0.725 |       |       | 0.399 |       |       |
| Satd. Flow (perm)          | 846   | 3496  | 0     | 474   | 3507  | 0     | 1344  | 1755  | 0     | 732   | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 220   | 851   | 111   | 44    | 478   | 14    | 72    | 124   | 68    | 14    | 49    | 138   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 220   | 962   | 0     | 44    | 492   | 0     | 72    | 192   | 0     | 14    | 49    | 138   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | D.P+P | NA    |       | D.P+P | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           | 4     |       |       | 8     |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 24.0  | 68.0  |       | 16.0  | 60.0  |       | 36.0  | 36.0  |       | 36.0  | 36.0  | 24.0  |
| Total Split (%)            | 20.0% | 56.7% |       | 13.3% | 50.0% |       | 30.0% | 30.0% |       | 30.0% | 30.0% | 20.0% |
| Maximum Green (s)          | 17.0  | 62.5  |       | 9.0   | 54.5  |       | 30.6  | 30.6  |       | 30.7  | 30.7  | 17.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -0.5  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 6.5   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   |       |       |       |       |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

12/06/2021

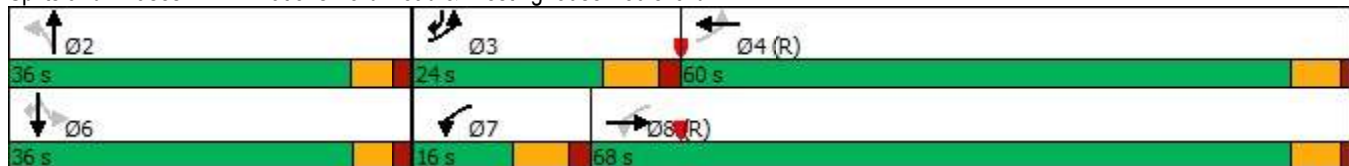


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effct Green (s)     | 86.1 | 79.8 |     | 87.1 | 71.9 |     | 18.9 | 18.9 |     | 18.9 | 18.9 | 36.6 |
| Actuated g/C Ratio      | 0.72 | 0.66 |     | 0.73 | 0.60 |     | 0.16 | 0.16 |     | 0.16 | 0.16 | 0.30 |
| v/c Ratio               | 0.31 | 0.41 |     | 0.10 | 0.23 |     | 0.34 | 0.70 |     | 0.12 | 0.17 | 0.29 |
| Control Delay           | 5.8  | 11.2 |     | 3.8  | 10.0 |     | 47.9 | 60.6 |     | 43.2 | 43.0 | 32.0 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 5.8  | 11.2 |     | 3.8  | 10.0 |     | 47.9 | 60.6 |     | 43.2 | 43.0 | 32.0 |
| LOS                     | A    | B    |     | A    | B    |     | D    | E    |     | D    | D    | C    |
| Approach Delay          |      | 10.2 |     |      | 9.5  |     |      | 57.2 |     |      | 35.4 |      |
| Approach LOS            |      | B    |     |      | A    |     |      | E    |     |      | D    |      |
| Queue Length 50th (ft)  | 40   | 178  |     | 5    | 64   |     | 50   | 143  |     | 9    | 33   | 81   |
| Queue Length 95th (ft)  | 79   | 262  |     | 14   | 140  |     | 91   | 210  |     | 28   | 66   | 122  |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 784  | 2325 |     | 467  | 2102 |     | 347  | 453  |     | 189  | 474  | 538  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.28 | 0.41 |     | 0.09 | 0.23 |     | 0.21 | 0.42 |     | 0.07 | 0.10 | 0.26 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:EBWB and 8:EBWB, Start of Green  
 Natural Cycle: 55  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.70  
 Intersection Signal Delay: 18.0  
 Intersection LOS: B  
 Intersection Capacity Utilization 53.5%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard



Miller Farm TIA  
 550: Flint Hill Road & Springhill Farm Road

12/06/2021



| Lane Group                 | EBT  | EBR   | WBL  | WBT  | NBL  | NBR   |
|----------------------------|------|-------|------|------|------|-------|
| Lane Configurations        |      |       |      |      |      |       |
| Traffic Volume (vph)       | 0    | 380   | 0    | 389  | 0    | 0     |
| Future Volume (vph)        | 0    | 380   | 0    | 389  | 0    | 0     |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900 | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |      | 0.865 |      |      |      |       |
| Flt Protected              |      |       |      |      |      |       |
| Satd. Flow (prot)          | 0    | 1611  | 0    | 1863 | 0    | 0     |
| Flt Permitted              |      |       |      |      |      |       |
| Satd. Flow (perm)          | 0    | 1611  | 0    | 1863 | 0    | 0     |
| Link Speed (mph)           | 40   |       |      | 40   | 40   |       |
| Link Distance (ft)         | 2463 |       |      | 303  | 370  |       |
| Travel Time (s)            | 42.0 |       |      | 5.2  | 6.3  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90 | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 0    | 422   | 0    | 432  | 0    | 0     |
| Shared Lane Traffic (%)    |      |       |      |      |      |       |
| Lane Group Flow (vph)      | 0    | 422   | 0    | 432  | 0    | 0     |
| Enter Blocked Intersection | No   | No    | No   | No   | No   | No    |
| Lane Alignment             | Left | Right | Left | Left | Left | Right |
| Median Width(ft)           | 0    |       |      | 0    | 0    |       |
| Link Offset(ft)            | 0    |       |      | 0    | 0    |       |
| Crosswalk Width(ft)        | 16   |       |      | 16   | 16   |       |
| Two way Left Turn Lane     |      |       |      |      |      |       |
| Headway Factor             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        |      | 9     | 15   |      | 15   | 9     |
| Sign Control               | Free |       |      | Free | Stop |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 26.9%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |



Queuing and Blocking Report  
 2021 Existing AM Peak Hour

12/06/2021

Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB   | WB  | NB   | SB  | SB  |
|-----------------------|------|-----|------|-----|-----|
| Directions Served     | TR   | LT  | LTR  | L   | TR  |
| Maximum Queue (ft)    | 256  | 211 | 233  | 266 | 104 |
| Average Queue (ft)    | 121  | 87  | 84   | 160 | 14  |
| 95th Queue (ft)       | 225  | 167 | 198  | 257 | 78  |
| Link Distance (ft)    | 2192 | 395 | 1105 | 282 | 282 |
| Upstream Blk Time (%) |      |     |      | 2   | 0   |
| Queuing Penalty (veh) |      |     |      | 4   | 1   |
| Storage Bay Dist (ft) |      |     |      |     |     |
| Storage Blk Time (%)  |      |     |      |     |     |
| Queuing Penalty (veh) |      |     |      |     |     |

Intersection: 6: Business Driveway/Springhill Farm Road & SC-51

| Movement              | EB  | WB  | NB   |
|-----------------------|-----|-----|------|
| Directions Served     | LTR | LTR | LTR  |
| Maximum Queue (ft)    | 415 | 108 | 66   |
| Average Queue (ft)    | 179 | 19  | 19   |
| 95th Queue (ft)       | 405 | 71  | 51   |
| Link Distance (ft)    | 395 | 103 | 1016 |
| Upstream Blk Time (%) | 3   | 1   |      |
| Queuing Penalty (veh) | 22  | 3   |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | NB   | SB  |
|-----------------------|-----|------|------|-----|
| Directions Served     | LTR | LTR  | LTR  | LTR |
| Maximum Queue (ft)    | 128 | 134  | 118  | 351 |
| Average Queue (ft)    | 105 | 11   | 31   | 113 |
| 95th Queue (ft)       | 146 | 63   | 90   | 343 |
| Link Distance (ft)    | 103 | 1292 | 1059 | 947 |
| Upstream Blk Time (%) | 16  |      |      |     |
| Queuing Penalty (veh) | 123 |      |      |     |
| Storage Bay Dist (ft) |     |      |      |     |
| Storage Blk Time (%)  |     |      |      |     |
| Queuing Penalty (veh) |     |      |      |     |



Queuing and Blocking Report  
2021 Existing AM Peak Hour

12/06/2021

Intersection: 9: Miller Road & NC-51

| Movement              | WB  | WB   | WB   | NB   | NB |
|-----------------------|-----|------|------|------|----|
| Directions Served     | L   | T    | T    | L    | R  |
| Maximum Queue (ft)    | 30  | 7    | 2    | 82   | 60 |
| Average Queue (ft)    | 3   | 0    | 0    | 33   | 18 |
| 95th Queue (ft)       | 18  | 5    | 2    | 63   | 43 |
| Link Distance (ft)    |     | 1846 | 1846 | 1024 |    |
| Upstream Blk Time (%) |     |      |      |      |    |
| Queuing Penalty (veh) |     |      |      |      |    |
| Storage Bay Dist (ft) | 335 |      |      | 185  |    |
| Storage Blk Time (%)  |     |      |      |      |    |
| Queuing Penalty (veh) |     |      |      |      |    |

Intersection: 10: Marfield Lane & NC-51

| Movement              | EB  | WB  | NB  | NB   |
|-----------------------|-----|-----|-----|------|
| Directions Served     | R   | L   | L   | R    |
| Maximum Queue (ft)    | 4   | 59  | 60  | 68   |
| Average Queue (ft)    | 0   | 17  | 24  | 29   |
| 95th Queue (ft)       | 3   | 46  | 49  | 54   |
| Link Distance (ft)    |     |     |     | 1311 |
| Upstream Blk Time (%) |     |     |     |      |
| Queuing Penalty (veh) |     |     |     |      |
| Storage Bay Dist (ft) | 310 | 520 | 100 |      |
| Storage Blk Time (%)  |     |     |     | 0    |
| Queuing Penalty (veh) |     |     |     | 0    |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | SB  | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|
| Directions Served     | L   | T    | T    | U   | T    | T    | R   | L   | R   |
| Maximum Queue (ft)    | 105 | 76   | 91   | 33  | 114  | 113  | 24  | 86  | 80  |
| Average Queue (ft)    | 46  | 18   | 34   | 4   | 38   | 43   | 2   | 37  | 27  |
| 95th Queue (ft)       | 85  | 56   | 79   | 20  | 86   | 89   | 23  | 74  | 63  |
| Link Distance (ft)    |     | 1836 | 1836 |     | 1076 | 1076 |     |     | 545 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |
| Storage Bay Dist (ft) | 310 |      |      | 210 |      |      | 335 | 275 |     |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |

Queuing and Blocking Report  
2021 Existing AM Peak Hour

12/06/2021

Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 152 | 250  | 271  | 76  | 183  | 172  | 136 | 153 | 172 | 374 | 105  | 230  |
| Average Queue (ft)    | 69  | 132  | 154  | 28  | 106  | 83   | 58  | 39  | 101 | 195 | 46   | 107  |
| 95th Queue (ft)       | 127 | 221  | 240  | 60  | 162  | 147  | 112 | 113 | 159 | 310 | 91   | 186  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |     |      |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |     |      |      |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 0    |      |     |      |      |     |     |     | 0   |      | 1    |
| Queuing Penalty (veh) |     | 0    |      |     |      |      |     |     |     | 0   |      | 1    |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 68  |
| Average Queue (ft)    | 21  |
| 95th Queue (ft)       | 53  |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 85  | 145  | 162  | 64  | 89   | 98   | 130 | 170  | 68  | 81   |
| Average Queue (ft)    | 26  | 46   | 64   | 21  | 40   | 37   | 53  | 73   | 19  | 29   |
| 95th Queue (ft)       | 61  | 102  | 129  | 50  | 76   | 77   | 101 | 136  | 49  | 64   |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |

Queuing and Blocking Report  
 2021 Existing AM Peak Hour

12/06/2021

Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 129 | 203  | 201  | 48  | 130  | 145  | 147 | 228  | 56  | 87   | 171 |
| Average Queue (ft)    | 58  | 97   | 96   | 17  | 65   | 76   | 48  | 113  | 10  | 25   | 58  |
| 95th Queue (ft)       | 102 | 178  | 179  | 41  | 115  | 132  | 104 | 202  | 35  | 63   | 124 |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |      | 2   |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      | 2   |      |     |

Intersection: 550: Flint Hill Road & Springhill Farm Road

| Movement              | EB   |
|-----------------------|------|
| Directions Served     | R    |
| Maximum Queue (ft)    | 51   |
| Average Queue (ft)    | 7    |
| 95th Queue (ft)       | 67   |
| Link Distance (ft)    | 2425 |
| Upstream Blk Time (%) |      |
| Queuing Penalty (veh) |      |
| Storage Bay Dist (ft) |      |
| Storage Blk Time (%)  |      |
| Queuing Penalty (veh) |      |

Network Summary

|                                   |
|-----------------------------------|
| Network wide Queuing Penalty: 154 |
|-----------------------------------|

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/06/2021



| Lane Group                 | EBL  | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |      |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 0    | 289   | 10    | 148   | 190   | 0     | 4     | 0     | 153   | 361   | 43    | 12    |
| Future Volume (vph)        | 0    | 289   | 10    | 148   | 190   | 0     | 4     | 0     | 153   | 361   | 43    | 12    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |      | 0.996 |       |       |       |       |       | 0.868 |       |       | 0.968 |       |
| Flt Protected              |      |       |       |       | 0.979 |       |       | 0.999 |       | 0.950 |       |       |
| Satd. Flow (prot)          | 0    | 1855  | 0     | 0     | 1824  | 0     | 0     | 1615  | 0     | 1770  | 1803  | 0     |
| Flt Permitted              |      |       |       |       | 0.586 |       |       | 0.999 |       | 0.950 |       |       |
| Satd. Flow (perm)          | 0    | 1855  | 0     | 0     | 1092  | 0     | 0     | 1615  | 0     | 1770  | 1803  | 0     |
| Right Turn on Red          |      |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |      |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |      | 45    |       |       | 45    |       |       | 35    |       |       | 40    |       |
| Link Distance (ft)         |      | 2268  |       |       | 487   |       |       | 1176  |       |       | 370   |       |
| Travel Time (s)            |      | 34.4  |       |       | 7.4   |       |       | 22.9  |       |       | 6.3   |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 0    | 321   | 11    | 164   | 211   | 0     | 4     | 0     | 170   | 401   | 48    | 13    |
| Shared Lane Traffic (%)    |      |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 0    | 332   | 0     | 0     | 375   | 0     | 0     | 174   | 0     | 401   | 61    | 0     |
| Enter Blocked Intersection | No   | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |      | 0     |       |       | 0     |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |      | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |      | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |      |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  |      | NA    |       | Perm  | NA    |       | Split | NA    |       | Split | NA    |       |
| Protected Phases           |      | 2     |       |       | 6     |       | 3     | 3     |       | 4     | 4     |       |
| Permitted Phases           |      |       |       | 6     |       |       |       |       |       |       |       |       |
| Detector Phase             |      | 2     |       | 6     | 6     |       | 3     | 3     |       | 4     | 4     |       |
| Switch Phase               |      |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        |      | 25.0  |       | 25.0  | 25.0  |       | 8.0   | 8.0   |       | 10.0  | 10.0  |       |
| Minimum Split (s)          |      | 31.7  |       | 31.7  | 31.7  |       | 15.1  | 15.1  |       | 15.1  | 15.1  |       |
| Total Split (s)            |      | 44.0  |       | 44.0  | 44.0  |       | 17.0  | 17.0  |       | 29.0  | 29.0  |       |
| Total Split (%)            |      | 48.9% |       | 48.9% | 48.9% |       | 18.9% | 18.9% |       | 32.2% | 32.2% |       |
| Maximum Green (s)          |      | 37.3  |       | 37.3  | 37.3  |       | 11.9  | 11.9  |       | 23.9  | 23.9  |       |
| Yellow Time (s)            |      | 4.2   |       | 4.2   | 4.2   |       | 3.6   | 3.6   |       | 3.6   | 3.6   |       |
| All-Red Time (s)           |      | 2.5   |       | 2.5   | 2.5   |       | 1.5   | 1.5   |       | 1.5   | 1.5   |       |
| Lost Time Adjust (s)       |      | -1.7  |       |       | -1.7  |       |       | -0.1  |       | -0.1  | -2.0  |       |
| Total Lost Time (s)        |      | 5.0   |       |       | 5.0   |       |       | 5.0   |       | 5.0   | 3.1   |       |
| Lead/Lag                   |      |       |       |       |       |       | Lead  | Lead  |       | Lag   | Lag   |       |
| Lead-Lag Optimize?         |      |       |       |       |       |       | Yes   | Yes   |       | Yes   | Yes   |       |
| Vehicle Extension (s)      |      | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                |      | Min   |       | Min   | Min   |       | None  | None  |       | None  | None  |       |
| Act Effct Green (s)        |      | 34.4  |       |       | 34.4  |       |       | 11.6  |       | 21.7  | 23.7  |       |
| Actuated g/C Ratio         |      | 0.41  |       |       | 0.41  |       |       | 0.14  |       | 0.26  | 0.29  |       |
| v/c Ratio                  |      | 0.43  |       |       | 0.83  |       |       | 0.77  |       | 0.86  | 0.12  |       |
| Control Delay              |      | 19.7  |       |       | 39.6  |       |       | 60.7  |       | 50.2  | 24.0  |       |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/06/2021

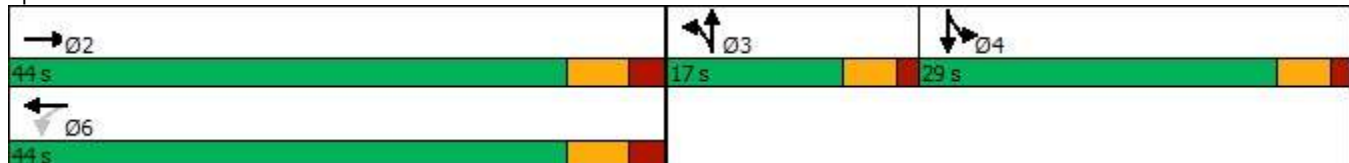


| Lane Group              | EBL | EBT  | EBR | WBL | WBT  | WBR | NBL | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|-----|------|-----|-----|------|-----|-----|------|-----|------|------|-----|
| Queue Delay             |     | 0.0  |     |     | 0.0  |     |     | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             |     | 19.7 |     |     | 39.6 |     |     | 60.7 |     | 50.2 | 24.0 |     |
| LOS                     |     | B    |     |     | D    |     |     | E    |     | D    | C    |     |
| Approach Delay          |     | 19.7 |     |     | 39.6 |     |     | 60.7 |     |      | 46.8 |     |
| Approach LOS            |     | B    |     |     | D    |     |     | E    |     |      | D    |     |
| Queue Length 50th (ft)  |     | 127  |     |     | 179  |     |     | 96   |     | 211  | 25   |     |
| Queue Length 95th (ft)  |     | 197  |     |     | #336 |     |     | #206 |     | #373 | 56   |     |
| Internal Link Dist (ft) |     | 2188 |     |     | 407  |     |     | 1096 |     |      | 290  |     |
| Turn Bay Length (ft)    |     |      |     |     |      |     |     |      |     |      |      |     |
| Base Capacity (vph)     |     | 884  |     |     | 520  |     |     | 236  |     | 519  | 570  |     |
| Starvation Cap Reductn  |     | 0    |     |     | 0    |     |     | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   |     | 0    |     |     | 0    |     |     | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     |     | 0    |     |     | 0    |     |     | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       |     | 0.38 |     |     | 0.72 |     |     | 0.74 |     | 0.77 | 0.11 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 82.9  
 Natural Cycle: 80  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 39.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 87.2%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

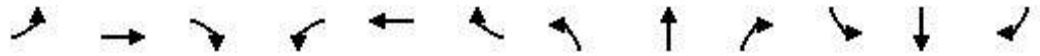
Splits and Phases: 5: Flint Hill Road & SC-51



Miller Farm TIA

6: Business Driveway/Springhill Farm Road & SC-51

12/06/2021



| Lane Group                 | EBL  | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|------|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |      | ↕     |       |      | ↕     |       |      | ↕     |       |      |      |       |
| Traffic Volume (vph)       | 28   | 686   | 11    | 26   | 363   | 428   | 4    | 8     | 20    | 0    | 0    | 0     |
| Future Volume (vph)        | 28   | 686   | 11    | 26   | 363   | 428   | 4    | 8     | 20    | 0    | 0    | 0     |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |      | 0.998 |       |      | 0.929 |       |      | 0.915 |       |      |      |       |
| Fl <sub>t</sub> Protected  |      | 0.998 |       |      | 0.998 |       |      | 0.994 |       |      |      |       |
| Satd. Flow (prot)          | 0    | 1855  | 0     | 0    | 1727  | 0     | 0    | 1694  | 0     | 0    | 0    | 0     |
| Fl <sub>t</sub> Permitted  |      | 0.998 |       |      | 0.998 |       |      | 0.994 |       |      |      |       |
| Satd. Flow (perm)          | 0    | 1855  | 0     | 0    | 1727  | 0     | 0    | 1694  | 0     | 0    | 0    | 0     |
| Link Speed (mph)           |      | 45    |       |      | 45    |       |      | 25    |       |      | 40   |       |
| Link Distance (ft)         |      | 487   |       |      | 161   |       |      | 1054  |       |      | 303  |       |
| Travel Time (s)            |      | 7.4   |       |      | 2.4   |       |      | 28.7  |       |      | 5.2  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 31   | 762   | 12    | 29   | 403   | 476   | 4    | 9     | 22    | 0    | 0    | 0     |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 0    | 805   | 0     | 0    | 908   | 0     | 0    | 35    | 0     | 0    | 0    | 0     |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |      | 0     |       |      | 0     |       |      | 0     |       |      | 0    |       |
| Link Offset(ft)            |      | 0     |       |      | 0     |       |      | 0     |       |      | 0    |       |
| Crosswalk Width(ft)        |      | 16    |       |      | 16    |       |      | 16    |       |      | 16   |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15   |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |      | Free  |       |      | Free  |       |      | Stop  |       |      | Stop |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 66.0%        |
| ICU Level of Service              | C            |
| Analysis Period (min)             | 15           |

Miller Farm TIA  
 6: Business Driveway/Springhill Farm Road & SC-51

12/06/2021

| Intersection             |      |      |      |      |      |      |      |      |      |      |       |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|-------|------|
| Int Delay, s/veh         | 0.7  |      |      |      |      |      |      |      |      |      |       |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      |       |      |
| Traffic Vol, veh/h       | 28   | 686  | 11   | 26   | 363  | 428  | 4    | 8    | 20   | 0    | 0     | 0    |
| Future Vol, veh/h        | 28   | 686  | 11   | 26   | 363  | 428  | 4    | 8    | 20   | 0    | 0     | 0    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop  | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -     | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -     | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 16965 | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0     | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90    | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2     | 2    |
| Mvmt Flow                | 31   | 762  | 12   | 29   | 403  | 476  | 4    | 9    | 22   | 0    | 0     | 0    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |       |       |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|
| Conflicting Flow All | 879    | 0 | 0 | 774    | 0 | 0 | 1529   | 1767  | 768   |
| Stage 1              | -      | - | - | -      | - | - | 830    | 830   | -     |
| Stage 2              | -      | - | - | -      | - | - | 699    | 937   | -     |
| Critical Hdwy        | 4.12   | - | - | 4.12   | - | - | 6.42   | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 5.42   | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 5.42   | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | - | 2.218  | - | - | 3.518  | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 769    | - | - | 842    | - | - | 129    | 84    | 402   |
| Stage 1              | -      | - | - | -      | - | - | 428    | 385   | -     |
| Stage 2              | -      | - | - | -      | - | - | 493    | 343   | -     |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -     | -     |
| Mov Cap-1 Maneuver   | 769    | - | - | 842    | - | - | 111    | 0     | 402   |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 111    | 0     | -     |
| Stage 1              | -      | - | - | -      | - | - | 398    | 0     | -     |
| Stage 2              | -      | - | - | -      | - | - | 456    | 0     | -     |

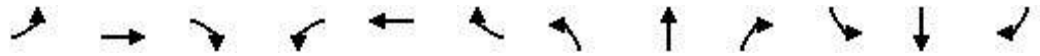
| Approach             | EB  |  |  | WB  |  |  | NB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|
| HCM Control Delay, s | 0.4 |  |  | 0.3 |  |  | 19.7 |  |  |
| HCM LOS              |     |  |  |     |  |  | C    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL  | EBT | EBR | WBL   | WBT | WBR |
|-----------------------|-------|------|-----|-----|-------|-----|-----|
| Capacity (veh/h)      | 280   | 769  | -   | -   | 842   | -   | -   |
| HCM Lane V/C Ratio    | 0.127 | 0.04 | -   | -   | 0.034 | -   | -   |
| HCM Control Delay (s) | 19.7  | 9.9  | 0   | -   | 9.4   | 0   | -   |
| HCM Lane LOS          | C     | A    | A   | -   | A     | A   | -   |
| HCM 95th %tile Q(veh) | 0.4   | 0.1  | -   | -   | 0.1   | -   | -   |

Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/06/2021



| Lane Group                 | EBL  | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|------|-------|-------|------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |      | ↕     |       |      | ↕     |       |      | ↕     |       |      | ↕     |       |
| Traffic Volume (vph)       | 90   | 616   | 4     | 9    | 604   | 13    | 7    | 6     | 12    | 22   | 4     | 203   |
| Future Volume (vph)        | 90   | 616   | 4     | 9    | 604   | 13    | 7    | 6     | 12    | 22   | 4     | 203   |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Lane Util. Factor          | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Fr <sub>t</sub>            |      | 0.999 |       |      | 0.997 |       |      | 0.937 |       |      | 0.880 |       |
| Fl <sub>t</sub> Protected  |      | 0.994 |       |      | 0.999 |       |      | 0.986 |       |      | 0.995 |       |
| Satd. Flow (prot)          | 0    | 1850  | 0     | 0    | 1855  | 0     | 0    | 1721  | 0     | 0    | 1631  | 0     |
| Fl <sub>t</sub> Permitted  |      | 0.994 |       |      | 0.999 |       |      | 0.986 |       |      | 0.995 |       |
| Satd. Flow (perm)          | 0    | 1850  | 0     | 0    | 1855  | 0     | 0    | 1721  | 0     | 0    | 1631  | 0     |
| Link Speed (mph)           |      | 45    |       |      | 45    |       |      | 25    |       |      | 35    |       |
| Link Distance (ft)         |      | 161   |       |      | 1378  |       |      | 1091  |       |      | 1017  |       |
| Travel Time (s)            |      | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      | 19.8  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 100  | 684   | 4     | 10   | 671   | 14    | 8    | 7     | 13    | 24   | 4     | 226   |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 0    | 788   | 0     | 0    | 695   | 0     | 0    | 28    | 0     | 0    | 254   | 0     |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |      | 0     |       |      | 0     |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |      | 0     |       |      | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |      | 16    |       |      | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |      | Free  |       |      | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 95.8%        |
| ICU Level of Service              | F            |
| Analysis Period (min)             | 15           |



| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 12.5 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕    |      |      | ↕    |      |      | ↕    |      |      | ↕    |      |
| Traffic Vol, veh/h       | 90   | 616  | 4    | 9    | 604  | 13   | 7    | 6    | 12   | 22   | 4    | 203  |
| Future Vol, veh/h        | 90   | 616  | 4    | 9    | 604  | 13   | 7    | 6    | 12   | 22   | 4    | 203  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 100  | 684  | 4    | 10   | 671  | 14   | 8    | 7    | 13   | 24   | 4    | 226  |

| Major/Minor          | Major1 |   | Major2 |       | Minor1 |   | Minor2 |       |       |       |       |       |
|----------------------|--------|---|--------|-------|--------|---|--------|-------|-------|-------|-------|-------|
| Conflicting Flow All | 685    | 0 | 0      | 688   | 0      | 0 | 1699   | 1591  | 686   | 1594  | 1586  | 678   |
| Stage 1              | -      | - | -      | -     | -      | - | 886    | 886   | -     | 698   | 698   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 813    | 705   | -     | 896   | 888   | -     |
| Critical Hdwy        | 4.12   | - | -      | 4.12  | -      | - | 7.12   | 6.52  | 6.22  | 7.12  | 6.52  | 6.22  |
| Critical Hdwy Stg 1  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Critical Hdwy Stg 2  | -      | - | -      | -     | -      | - | 6.12   | 5.52  | -     | 6.12  | 5.52  | -     |
| Follow-up Hdwy       | 2.218  | - | -      | 2.218 | -      | - | 3.518  | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver   | 908    | - | -      | 906   | -      | - | 73     | 107   | 447   | 86    | 108   | 452   |
| Stage 1              | -      | - | -      | -     | -      | - | 339    | 363   | -     | 431   | 442   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 372    | 439   | -     | 335   | 362   | -     |
| Platoon blocked, %   | -      | - | -      | -     | -      | - | -      | -     | -     | -     | -     | -     |
| Mov Cap-1 Maneuver   | 908    | - | -      | 906   | -      | - | 30     | 86    | 447   | 67    | 87    | 452   |
| Mov Cap-2 Maneuver   | -      | - | -      | -     | -      | - | 30     | 86    | -     | 67    | 87    | -     |
| Stage 1              | -      | - | -      | -     | -      | - | 278    | 298   | -     | 354   | 434   | -     |
| Stage 2              | -      | - | -      | -     | -      | - | 181    | 431   | -     | 261   | 297   | -     |

| Approach             | EB  |  | WB  |  | NB   |  | SB   |  |
|----------------------|-----|--|-----|--|------|--|------|--|
| HCM Control Delay, s | 1.2 |  | 0.1 |  | 77.5 |  | 74.4 |  |
| HCM LOS              |     |  |     |  | F    |  | F    |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL  | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 76    | 908  | -   | -   | 906   | -   | -   | 278   |
| HCM Lane V/C Ratio    | 0.365 | 0.11 | -   | -   | 0.011 | -   | -   | 0.915 |
| HCM Control Delay (s) | 77.5  | 9.5  | 0   | -   | 9     | 0   | -   | 74.4  |
| HCM Lane LOS          | F     | A    | A   | -   | A     | A   | -   | F     |
| HCM 95th %tile Q(veh) | 1.4   | 0.4  | -   | -   | 0     | -   | -   | 8.4   |

Miller Farm TIA  
9: Miller Road & NC-51

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| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↑     | ↑↑   | ↑     | ↑     |
| Traffic Volume (vph)       | 600  | 50    | 51    | 627  | 25    | 32    |
| Future Volume (vph)        | 600  | 50    | 51    | 627  | 25    | 32    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 370   | 335   |      | 0     | 185   |
| Storage Lanes              |      | 2     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 25    |       |
| Link Distance (ft)         | 1378 |       |       | 1912 | 1091  |       |
| Travel Time (s)            | 20.9 |       |       | 29.0 | 29.8  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 667  | 56    | 57    | 697  | 28    | 36    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 667  | 56    | 57    | 697  | 28    | 36    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 24   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 33.3%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.1  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↗    | ↘    | ↑↑   | ↘    | ↗    |
| Traffic Vol, veh/h       | 600  | 50   | 51   | 627  | 25   | 32   |
| Future Vol, veh/h        | 600  | 50   | 51   | 627  | 25   | 32   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 370  | 335  | -    | 0    | 185  |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 667  | 56   | 57   | 697  | 28   | 36   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 723    | 0      | 1130   |
| Stage 1              | -      | -      | -      | -      | 667    |
| Stage 2              | -      | -      | -      | -      | 463    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 875    | -      | 197    |
| Stage 1              | -      | -      | -      | -      | 472    |
| Stage 2              | -      | -      | -      | -      | 600    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 875    | -      | 184    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 184    |
| Stage 1              | -      | -      | -      | -      | 472    |
| Stage 2              | -      | -      | -      | -      | 561    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.7 | 18.3 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 184   | 662   | -   | -   | 875   | -   |
| HCM Lane V/C Ratio    | 0.151 | 0.054 | -   | -   | 0.065 | -   |
| HCM Control Delay (s) | 28    | 10.7  | -   | -   | 9.4   | -   |
| HCM Lane LOS          | D     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 0.5   | 0.2   | -   | -   | 0.2   | -   |

Miller Farm TIA  
10: Marfield Lane & NC-51

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| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↓     | ↑↑   | ↓     | ↓     |
| Traffic Volume (vph)       | 631  | 10    | 95    | 701  | 28    | 61    |
| Future Volume (vph)        | 631  | 10    | 95    | 701  | 28    | 61    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 310   | 520   |      | 100   | 0     |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 15    |       |
| Link Distance (ft)         | 1912 |       |       | 1898 | 1372  |       |
| Travel Time (s)            | 29.0 |       |       | 28.8 | 62.4  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 701  | 11    | 106   | 779  | 31    | 68    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 701  | 11    | 106   | 779  | 31    | 68    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 12   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 36.0%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.8  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 631  | 10   | 95   | 701  | 28   | 61   |
| Future Vol, veh/h        | 631  | 10   | 95   | 701  | 28   | 61   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 310  | 520  | -    | 100  | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 701  | 11   | 106  | 779  | 31   | 68   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 712    | 0      | 1303   |
| Stage 1              | -      | -      | -      | -      | 701    |
| Stage 2              | -      | -      | -      | -      | 602    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 884    | -      | 152    |
| Stage 1              | -      | -      | -      | -      | 453    |
| Stage 2              | -      | -      | -      | -      | 510    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 884    | -      | 134    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 134    |
| Stage 1              | -      | -      | -      | -      | 453    |
| Stage 2              | -      | -      | -      | -      | 449    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 1.1 | 20.2 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 134   | 645   | -   | -   | 884   | -   |
| HCM Lane V/C Ratio    | 0.232 | 0.105 | -   | -   | 0.119 | -   |
| HCM Control Delay (s) | 39.8  | 11.2  | -   | -   | 9.6   | -   |
| HCM Lane LOS          | E     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 0.9   | 0.4   | -   | -   | 0.4   | -   |

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| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 60    | 644   | 4     | 632   | 116   | 274   | 138   |
| Future Volume (vph)        | 60    | 644   | 4     | 632   | 116   | 274   | 138   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 100   |       | 100   |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 67    | 716   | 4     | 702   | 129   | 304   | 153   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 67    | 716   | 4     | 702   | 129   | 304   | 153   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 19.0  | 56.0  | 15.0  | 52.0  |       | 49.0  | 19.0  |
| Total Split (%)            | 15.8% | 46.7% | 12.5% | 43.3% |       | 40.8% | 15.8% |
| Maximum Green (s)          | 13.2  | 50.0  | 9.1   | 46.2  |       | 43.4  | 13.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |

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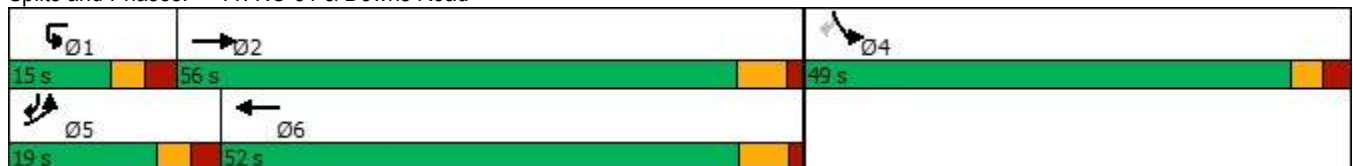


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effect Green (s)    | 8.8  | 31.5 | 8.2  | 19.5 | 60.2 | 16.3 | 30.3 |
| Actuated g/C Ratio      | 0.15 | 0.52 | 0.14 | 0.32 | 1.00 | 0.27 | 0.50 |
| v/c Ratio               | 0.26 | 0.39 | 0.02 | 0.61 | 0.08 | 0.64 | 0.19 |
| Control Delay           | 29.2 | 11.1 | 29.0 | 20.3 | 0.1  | 26.9 | 9.7  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 29.2 | 11.1 | 29.0 | 20.3 | 0.1  | 26.9 | 9.7  |
| LOS                     | C    | B    | C    | C    | A    | C    | A    |
| Approach Delay          |      | 12.7 |      | 17.2 |      | 21.1 |      |
| Approach LOS            |      | B    |      | B    |      | C    |      |
| Queue Length 50th (ft)  | 22   | 65   | 1    | 105  | 0    | 94   | 28   |
| Queue Length 95th (ft)  | 65   | 189  | 10   | 200  | 0    | 197  | 67   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 425  | 3019 | 303  | 2838 | 1583 | 1330 | 941  |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.16 | 0.24 | 0.01 | 0.25 | 0.08 | 0.23 | 0.16 |

Intersection Summary

|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 60.2                   |
| Natural Cycle:                     | 55                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.64                   |
| Intersection Signal Delay:         | 16.4                   |
| Intersection LOS:                  | B                      |
| Intersection Capacity Utilization: | 51.3%                  |
| ICU Level of Service:              | A                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 11: NC-51 & Downs Road



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| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 98    | 807   | 187   | 72    | 493   | 182   | 168   | 274   | 38    | 359   | 497   | 139   |
| Future Volume (vph)        | 98    | 807   | 187   | 72    | 493   | 182   | 168   | 274   | 38    | 359   | 497   | 139   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.972 |       |       |       | 0.850 |       | 0.982 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3440  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3440  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       | 1160  |       |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       | 22.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 109   | 897   | 208   | 80    | 548   | 202   | 187   | 304   | 42    | 399   | 552   | 154   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 109   | 1105  | 0     | 80    | 548   | 202   | 187   | 346   | 0     | 399   | 552   | 154   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       | 24    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 19.0  | 45.0  |       | 14.0  | 40.0  | 33.0  | 14.0  | 28.0  |       | 33.0  | 47.0  | 19.0  |
| Total Split (%)            | 15.8% | 37.5% |       | 11.7% | 33.3% | 27.5% | 11.7% | 23.3% |       | 27.5% | 39.2% | 15.8% |
| Maximum Green (s)          | 12.8  | 38.8  |       | 8.2   | 34.3  | 27.1  | 7.4   | 22.0  |       | 27.1  | 41.3  | 12.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.7  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.2   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |



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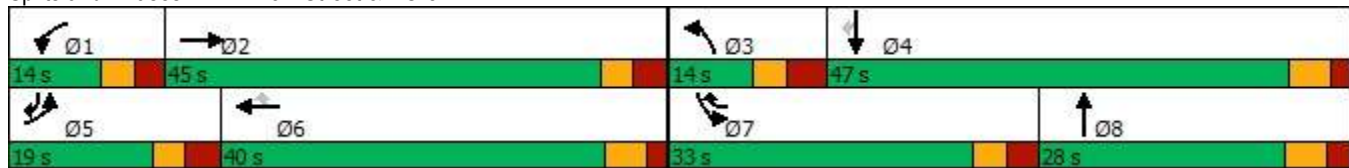


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|------|
| Act Effect Green (s)    | 12.0 | 38.8 |     | 8.8  | 32.6 | 65.5 | 9.1  | 23.1 |     | 28.1 | 42.2 | 59.2 |
| Actuated g/C Ratio      | 0.10 | 0.33 |     | 0.08 | 0.28 | 0.57 | 0.08 | 0.20 |     | 0.24 | 0.36 | 0.51 |
| v/c Ratio               | 0.60 | 0.96 |     | 0.61 | 0.56 | 0.23 | 0.71 | 0.96 |     | 0.94 | 0.82 | 0.19 |
| Control Delay           | 64.5 | 57.3 |     | 73.7 | 38.0 | 13.5 | 68.5 | 85.3 |     | 76.0 | 46.5 | 16.9 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 64.5 | 57.3 |     | 73.7 | 38.0 | 13.5 | 68.5 | 85.3 |     | 76.0 | 46.5 | 16.9 |
| LOS                     | E    | E    |     | E    | D    | B    | E    | F    |     | E    | D    | B    |
| Approach Delay          |      | 57.9 |     |      | 35.5 |      |      | 79.4 |     |      | 53.0 |      |
| Approach LOS            |      | E    |     |      | D    |      |      | E    |     |      | D    |      |
| Queue Length 50th (ft)  | 81   | 440  |     | 61   | 185  | 73   | 74   | 270  |     | 309  | 394  | 64   |
| Queue Length 95th (ft)  | 142  | #586 |     | #128 | 245  | 118  | #125 | #467 |     | #510 | #589 | 104  |
| Internal Link Dist (ft) |      | 1431 |     |      | 1196 |      |      | 942  |     |      | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275  |      | 625  | 450  |      |     |      |      | 175  |
| Base Capacity (vph)     | 215  | 1194 |     | 135  | 1080 | 882  | 265  | 361  |     | 425  | 672  | 828  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.51 | 0.93 |     | 0.59 | 0.51 | 0.23 | 0.71 | 0.96 |     | 0.94 | 0.82 | 0.19 |

Intersection Summary

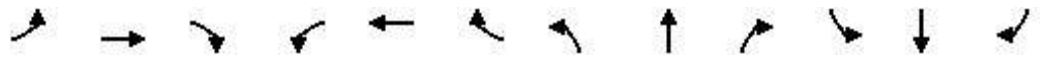
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 115.9  
 Natural Cycle: 110  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 54.5      Intersection LOS: D  
 Intersection Capacity Utilization 87.4%      ICU Level of Service E  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
13: Downs Road & Westinghouse Boulevard

12/06/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 20    | 619   | 193   | 66    | 605   | 46    | 151   | 51    | 72    | 95    | 107   | 98    |
| Future Volume (vph)        | 20    | 619   | 193   | 66    | 605   | 46    | 151   | 51    | 72    | 95    | 107   | 98    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       | -1%   |       |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.964 |       |       | 0.989 |       |       | 0.912 |       |       | 0.928 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3463  | 0     | 1743  | 3448  | 0     | 1778  | 1707  | 0     | 1778  | 1737  | 0     |
| Flt Permitted              | 0.356 |       |       | 0.277 |       |       | 0.561 |       |       | 0.669 |       |       |
| Satd. Flow (perm)          | 673   | 3463  | 0     | 508   | 3448  | 0     | 1050  | 1707  | 0     | 1252  | 1737  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       | 1210  |       |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       | 23.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 22    | 688   | 214   | 73    | 672   | 51    | 168   | 57    | 80    | 106   | 119   | 109   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 22    | 902   | 0     | 73    | 723   | 0     | 168   | 137   | 0     | 106   | 228   | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 34.0  | 34.0  |       | 34.0  | 34.0  |       | 26.0  | 26.0  |       | 26.0  | 26.0  |       |
| Total Split (%)            | 56.7% | 56.7% |       | 56.7% | 56.7% |       | 43.3% | 43.3% |       | 43.3% | 43.3% |       |
| Maximum Green (s)          | 28.2  | 28.2  |       | 28.8  | 28.8  |       | 20.5  | 20.5  |       | 20.2  | 20.2  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.8  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/06/2021

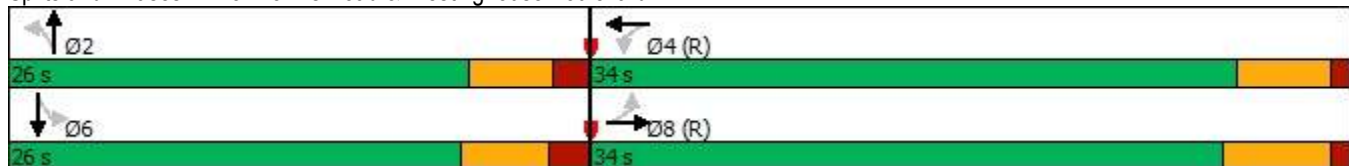


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effct Green (s)     | 34.2 | 34.2 |     | 34.2 | 34.2 |     | 15.8 | 15.8 |     | 15.8 | 15.8 |     |
| Actuated g/C Ratio      | 0.57 | 0.57 |     | 0.57 | 0.57 |     | 0.26 | 0.26 |     | 0.26 | 0.26 |     |
| v/c Ratio               | 0.06 | 0.46 |     | 0.25 | 0.37 |     | 0.61 | 0.31 |     | 0.32 | 0.50 |     |
| Control Delay           | 3.9  | 6.4  |     | 10.9 | 8.3  |     | 28.7 | 18.6 |     | 19.5 | 22.1 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 3.9  | 6.4  |     | 10.9 | 8.3  |     | 28.7 | 18.6 |     | 19.5 | 22.1 |     |
| LOS                     | A    | A    |     | B    | A    |     | C    | B    |     | B    | C    |     |
| Approach Delay          |      | 6.3  |     |      | 8.6  |     |      | 24.2 |     |      | 21.3 |     |
| Approach LOS            |      | A    |     |      | A    |     |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 3    | 74   |     | 11   | 62   |     | 55   | 41   |     | 32   | 71   |     |
| Queue Length 95th (ft)  | 10   | 122  |     | 42   | 121  |     | 96   | 69   |     | 59   | 111  |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 383  | 1975 |     | 289  | 1966 |     | 367  | 597  |     | 438  | 607  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.06 | 0.46 |     | 0.25 | 0.37 |     | 0.46 | 0.23 |     | 0.24 | 0.38 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.61  
 Intersection Signal Delay: 11.5  
 Intersection Capacity Utilization 67.4%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

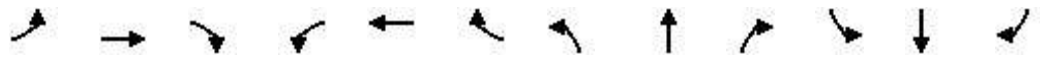
Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/06/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 149   | 747   | 64    | 53    | 808   | 13    | 103   | 72    | 43    | 31    | 70    | 311   |
| Future Volume (vph)        | 149   | 747   | 64    | 53    | 808   | 13    | 103   | 72    | 43    | 31    | 70    | 311   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.988 |       |       | 0.998 |       |       | 0.944 |       |       | 0.850 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3514  | 0     | 1761  | 3514  | 0     | 1761  | 1750  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.261 |       |       | 0.281 |       |       | 0.706 |       |       | 0.558 |       |       |
| Satd. Flow (perm)          | 489   | 3514  | 0     | 521   | 3514  | 0     | 1309  | 1750  | 0     | 1024  | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 166   | 830   | 71    | 59    | 898   | 14    | 114   | 80    | 48    | 34    | 78    | 346   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 166   | 901   | 0     | 59    | 912   | 0     | 114   | 128   | 0     | 34    | 78    | 346   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | D.P+P | NA    |       | D.P+P | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           | 4     |       |       | 8     |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 34.0  | 76.0  |       | 15.0  | 57.0  |       | 29.0  | 29.0  |       | 29.0  | 29.0  | 34.0  |
| Total Split (%)            | 28.3% | 63.3% |       | 12.5% | 47.5% |       | 24.2% | 24.2% |       | 24.2% | 24.2% | 28.3% |
| Maximum Green (s)          | 27.0  | 70.5  |       | 8.0   | 51.5  |       | 23.6  | 23.6  |       | 23.7  | 23.7  | 27.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -0.5  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 6.5   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   |       |       |       |       |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

12/06/2021

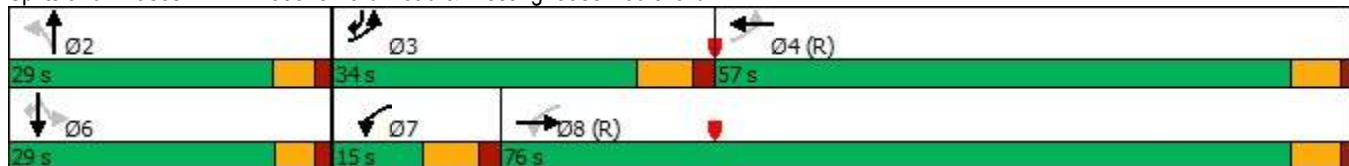


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effct Green (s)     | 88.2 | 81.9 |     | 89.2 | 72.4 |     | 16.8 | 16.8 |     | 16.8 | 16.8 | 36.1 |
| Actuated g/C Ratio      | 0.74 | 0.68 |     | 0.74 | 0.60 |     | 0.14 | 0.14 |     | 0.14 | 0.14 | 0.30 |
| v/c Ratio               | 0.31 | 0.38 |     | 0.12 | 0.43 |     | 0.62 | 0.52 |     | 0.24 | 0.30 | 0.74 |
| Control Delay           | 5.5  | 9.8  |     | 3.5  | 12.6 |     | 63.0 | 54.9 |     | 48.3 | 48.2 | 46.8 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 5.5  | 9.8  |     | 3.5  | 12.6 |     | 63.0 | 54.9 |     | 48.3 | 48.2 | 46.8 |
| LOS                     | A    | A    |     | A    | B    |     | E    | D    |     | D    | D    | D    |
| Approach Delay          |      | 9.1  |     |      | 12.0 |     |      | 58.7 |     |      | 47.1 |      |
| Approach LOS            |      | A    |     |      | B    |     |      | E    |     |      | D    |      |
| Queue Length 50th (ft)  | 26   | 151  |     | 5    | 186  |     | 85   | 94   |     | 24   | 55   | 246  |
| Queue Length 95th (ft)  | 55   | 228  |     | 18   | 291  |     | 140  | 149  |     | 53   | 97   | 303  |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 691  | 2397 |     | 493  | 2120 |     | 261  | 350  |     | 204  | 367  | 640  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.24 | 0.38 |     | 0.12 | 0.43 |     | 0.44 | 0.37 |     | 0.17 | 0.21 | 0.54 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:EBWB and 8:EBWB, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 20.9  
 Intersection LOS: C  
 Intersection Capacity Utilization 65.8%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard



Miller Farm TIA  
550: Flint Hill Road & Springhill Farm Road

12/06/2021



| Lane Group                 | EBT  | EBR   | WBL  | WBT  | NBL  | NBR   |
|----------------------------|------|-------|------|------|------|-------|
| Lane Configurations        |      | ↗     |      | ↖    |      |       |
| Traffic Volume (vph)       | 0    | 416   | 0    | 464  | 0    | 0     |
| Future Volume (vph)        | 0    | 416   | 0    | 464  | 0    | 0     |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900 | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |      | 0.865 |      |      |      |       |
| Flt Protected              |      |       |      |      |      |       |
| Satd. Flow (prot)          | 0    | 1611  | 0    | 1863 | 0    | 0     |
| Flt Permitted              |      |       |      |      |      |       |
| Satd. Flow (perm)          | 0    | 1611  | 0    | 1863 | 0    | 0     |
| Link Speed (mph)           | 40   |       |      | 40   | 40   |       |
| Link Distance (ft)         | 2463 |       |      | 303  | 370  |       |
| Travel Time (s)            | 42.0 |       |      | 5.2  | 6.3  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90 | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 0    | 462   | 0    | 516  | 0    | 0     |
| Shared Lane Traffic (%)    |      |       |      |      |      |       |
| Lane Group Flow (vph)      | 0    | 462   | 0    | 516  | 0    | 0     |
| Enter Blocked Intersection | No   | No    | No   | No   | No   | No    |
| Lane Alignment             | Left | Right | Left | Left | Left | Right |
| Median Width(ft)           | 0    |       |      | 0    | 0    |       |
| Link Offset(ft)            | 0    |       |      | 0    | 0    |       |
| Crosswalk Width(ft)        | 16   |       |      | 16   | 16   |       |
| Two way Left Turn Lane     |      |       |      |      |      |       |
| Headway Factor             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        |      | 9     | 15   |      | 15   | 9     |
| Sign Control               | Free |       |      | Free | Stop |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 29.1%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |



Queuing and Blocking Report  
2021 Existing PM Peak Hour

12/06/2021

Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB   | WB  | NB   | SB  | SB  |
|-----------------------|------|-----|------|-----|-----|
| Directions Served     | TR   | LT  | LTR  | L   | TR  |
| Maximum Queue (ft)    | 207  | 408 | 152  | 295 | 178 |
| Average Queue (ft)    | 101  | 255 | 58   | 172 | 21  |
| 95th Queue (ft)       | 180  | 450 | 122  | 272 | 108 |
| Link Distance (ft)    | 2192 | 395 | 1105 | 282 | 282 |
| Upstream Blk Time (%) |      | 10  |      | 3   | 1   |
| Queuing Penalty (veh) |      | 35  |      | 6   | 1   |
| Storage Bay Dist (ft) |      |     |      |     |     |
| Storage Blk Time (%)  |      |     |      |     |     |
| Queuing Penalty (veh) |      |     |      |     |     |

Intersection: 6: Business Driveway/Springhill Farm Road & SC-51

| Movement              | EB  | WB  | NB   |
|-----------------------|-----|-----|------|
| Directions Served     | LTR | LTR | LTR  |
| Maximum Queue (ft)    | 420 | 119 | 107  |
| Average Queue (ft)    | 160 | 49  | 30   |
| 95th Queue (ft)       | 392 | 131 | 76   |
| Link Distance (ft)    | 395 | 103 | 1016 |
| Upstream Blk Time (%) | 3   | 7   |      |
| Queuing Penalty (veh) | 20  | 61  |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | NB   | SB   | B15  |
|-----------------------|-----|------|------|------|------|
| Directions Served     | LTR | LTR  | LTR  | LTR  | T    |
| Maximum Queue (ft)    | 124 | 392  | 96   | 828  | 125  |
| Average Queue (ft)    | 79  | 70   | 25   | 488  | 23   |
| 95th Queue (ft)       | 153 | 300  | 69   | 1006 | 153  |
| Link Distance (ft)    | 103 | 1292 | 1059 | 947  | 5316 |
| Upstream Blk Time (%) | 10  |      |      | 12   |      |
| Queuing Penalty (veh) | 72  |      |      | 22   |      |
| Storage Bay Dist (ft) |     |      |      |      |      |
| Storage Blk Time (%)  |     |      |      |      |      |
| Queuing Penalty (veh) |     |      |      |      |      |



Queuing and Blocking Report  
2021 Existing PM Peak Hour

12/06/2021

Intersection: 9: Miller Road & NC-51

| Movement              | EB  | WB  | WB   | WB   | NB   | NB  |
|-----------------------|-----|-----|------|------|------|-----|
| Directions Served     | R   | L   | T    | T    | L    | R   |
| Maximum Queue (ft)    | 4   | 58  | 28   | 25   | 54   | 50  |
| Average Queue (ft)    | 0   | 20  | 1    | 1    | 16   | 18  |
| 95th Queue (ft)       | 4   | 49  | 14   | 12   | 44   | 42  |
| Link Distance (ft)    |     |     | 1846 | 1846 | 1024 |     |
| Upstream Blk Time (%) |     |     |      |      |      |     |
| Queuing Penalty (veh) |     |     |      |      |      |     |
| Storage Bay Dist (ft) | 370 | 335 |      |      |      | 185 |
| Storage Blk Time (%)  |     |     |      |      |      |     |
| Queuing Penalty (veh) |     |     |      |      |      |     |

Intersection: 10: Marfield Lane & NC-51

| Movement              | EB  | WB  | NB  | NB   |
|-----------------------|-----|-----|-----|------|
| Directions Served     | R   | L   | L   | R    |
| Maximum Queue (ft)    | 6   | 82  | 56  | 59   |
| Average Queue (ft)    | 0   | 30  | 18  | 23   |
| 95th Queue (ft)       | 4   | 65  | 43  | 47   |
| Link Distance (ft)    |     |     |     | 1311 |
| Upstream Blk Time (%) |     |     |     |      |
| Queuing Penalty (veh) |     |     |     |      |
| Storage Bay Dist (ft) | 310 | 520 | 100 |      |
| Storage Blk Time (%)  |     |     |     | 0    |
| Queuing Penalty (veh) |     |     |     | 0    |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | SB  | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|-----|
| Directions Served     | L   | T    | T    | U   | T    | T    | L   | R   |
| Maximum Queue (ft)    | 88  | 127  | 132  | 30  | 189  | 199  | 195 | 135 |
| Average Queue (ft)    | 39  | 54   | 63   | 4   | 80   | 80   | 111 | 56  |
| 95th Queue (ft)       | 77  | 106  | 112  | 21  | 151  | 156  | 177 | 103 |
| Link Distance (ft)    |     | 1836 | 1836 |     | 1076 | 1076 |     | 545 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |
| Storage Bay Dist (ft) | 310 |      |      | 210 |      |      | 275 |     |
| Storage Blk Time (%)  |     |      |      |     |      |      |     | 0   |
| Queuing Penalty (veh) |     |      |      |     |      |      |     | 0   |

Queuing and Blocking Report  
 2021 Existing PM Peak Hour

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Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | B1170 | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   |
|-----------------------|-----|------|------|-------|-----|------|------|-----|-----|-----|-----|------|
| Directions Served     | L   | T    | TR   | T     | L   | T    | T    | R   | L   | L   | TR  | L    |
| Maximum Queue (ft)    | 380 | 531  | 556  | 3     | 128 | 227  | 213  | 152 | 178 | 268 | 463 | 458  |
| Average Queue (ft)    | 105 | 322  | 347  | 0     | 58  | 148  | 124  | 63  | 66  | 125 | 251 | 274  |
| 95th Queue (ft)       | 275 | 498  | 522  | 3     | 111 | 210  | 196  | 127 | 160 | 238 | 428 | 455  |
| Link Distance (ft)    |     | 1432 | 1432 | 2898  |     | 1229 | 1229 |     |     |     | 970 | 1099 |
| Upstream Blk Time (%) |     |      |      |       |     |      |      |     |     |     |     |      |
| Queuing Penalty (veh) |     |      |      |       |     |      |      |     |     |     |     |      |
| Storage Bay Dist (ft) | 310 |      |      |       | 275 |      |      | 625 | 450 | 450 |     |      |
| Storage Blk Time (%)  |     | 12   |      |       |     | 0    |      |     |     |     |     | 2    |
| Queuing Penalty (veh) |     | 12   |      |       |     | 0    |      |     |     |     |     | 3    |

Intersection: 12: Polk Street & NC-51

| Movement              | SB   | SB  |
|-----------------------|------|-----|
| Directions Served     | T    | R   |
| Maximum Queue (ft)    | 636  | 275 |
| Average Queue (ft)    | 296  | 111 |
| 95th Queue (ft)       | 519  | 290 |
| Link Distance (ft)    | 1099 |     |
| Upstream Blk Time (%) | 0    |     |
| Queuing Penalty (veh) | 0    |     |
| Storage Bay Dist (ft) |      | 175 |
| Storage Blk Time (%)  | 27   | 0   |
| Queuing Penalty (veh) | 38   | 0   |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 43  | 178  | 218  | 89  | 131  | 129  | 155 | 118  | 111 | 198  |
| Average Queue (ft)    | 9   | 74   | 101  | 35  | 72   | 56   | 74  | 51   | 39  | 80   |
| 95th Queue (ft)       | 29  | 145  | 182  | 72  | 118  | 107  | 132 | 99   | 82  | 149  |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |      |     | 0    |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     | 0    |

Queuing and Blocking Report  
 2021 Existing PM Peak Hour

12/06/2021

Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 122 | 211  | 201  | 58  | 295  | 312  | 160 | 170  | 84  | 203  | 304 |
| Average Queue (ft)    | 57  | 101  | 97   | 20  | 155  | 164  | 70  | 74   | 24  | 44   | 141 |
| 95th Queue (ft)       | 103 | 185  | 181  | 45  | 244  | 255  | 131 | 142  | 66  | 118  | 257 |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      | 0   | 0    |     |      | 1   |
| Queuing Penalty (veh) |     |      |      |     |      |      | 0   | 0    |     |      | 1   |

Intersection: 550: Flint Hill Road & Springhill Farm Road

| Movement              | EB   |
|-----------------------|------|
| Directions Served     | R    |
| Maximum Queue (ft)    | 137  |
| Average Queue (ft)    | 11   |
| 95th Queue (ft)       | 92   |
| Link Distance (ft)    | 2425 |
| Upstream Blk Time (%) |      |
| Queuing Penalty (veh) |      |
| Storage Bay Dist (ft) |      |
| Storage Blk Time (%)  |      |
| Queuing Penalty (veh) |      |

Network Summary

|                                   |
|-----------------------------------|
| Network wide Queuing Penalty: 271 |
|-----------------------------------|

## **2023 Background Traffic Volumes**

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 27    | 298   | 4     | 52    | 126   | 377   | 4     | 15    | 199   | 387   | 33    | 12    |
| Future Volume (vph)        | 27    | 298   | 4     | 52    | 126   | 377   | 4     | 15    | 199   | 387   | 33    | 12    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 2%    |       |       | -2%   |       |       | 1%    |       |       | -1%   |       |
| Storage Length (ft)        | 200   |       | 0     | 200   |       | 350   | 150   |       | 0     | 250   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 1     |       | 0     | 2     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 0.97  | 1.00  | 1.00  |
| Frt                        |       | 0.998 |       |       |       | 0.850 |       | 0.861 |       |       | 0.961 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1752  | 3497  | 0     | 1787  | 3575  | 1599  | 1761  | 1596  | 0     | 3450  | 1799  | 0     |
| Flt Permitted              | 0.663 |       |       | 0.533 |       |       | 0.233 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1223  | 3497  | 0     | 1003  | 3575  | 1599  | 432   | 1596  | 0     | 3450  | 1799  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |       | 40    |
| Link Distance (ft)         |       | 1952  |       |       | 838   |       |       | 985   |       |       |       | 691   |
| Travel Time (s)            |       | 29.6  |       |       | 12.7  |       |       | 19.2  |       |       |       | 11.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 30    | 331   | 4     | 58    | 140   | 419   | 4     | 17    | 221   | 430   | 37    | 13    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 30    | 335   | 0     | 58    | 140   | 419   | 4     | 238   | 0     | 430   | 50    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    | pm+ov | Perm  | NA    |       | Split | NA    |       |
| Protected Phases           |       | 2     |       |       | 6     | 4     |       | 3     |       | 4     | 4     |       |
| Permitted Phases           | 2     |       |       | 6     |       | 6     | 3     |       |       |       |       |       |
| Detector Phase             | 2     | 2     |       | 6     | 6     | 4     | 3     | 3     |       | 4     | 4     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 15.0  | 15.0  |       | 15.0  | 15.0  | 8.0   | 8.0   | 8.0   |       | 8.0   | 8.0   |       |
| Minimum Split (s)          | 22.0  | 22.0  |       | 22.0  | 22.0  | 15.0  | 15.0  | 15.0  |       | 15.0  | 15.0  |       |
| Total Split (s)            | 27.0  | 27.0  |       | 27.0  | 27.0  | 30.0  | 33.0  | 33.0  |       | 30.0  | 30.0  |       |
| Total Split (%)            | 30.0% | 30.0% |       | 30.0% | 30.0% | 33.3% | 36.7% | 36.7% |       | 33.3% | 33.3% |       |
| Maximum Green (s)          | 20.4  | 20.4  |       | 20.4  | 20.4  | 23.8  | 26.8  | 26.8  |       | 23.8  | 23.8  |       |
| Yellow Time (s)            | 4.5   | 4.5   |       | 4.5   | 4.5   | 3.7   | 3.7   | 3.7   |       | 3.7   | 3.7   |       |
| All-Red Time (s)           | 2.1   | 2.1   |       | 2.1   | 2.1   | 2.5   | 2.5   | 2.5   |       | 2.5   | 2.5   |       |
| Lost Time Adjust (s)       | -1.6  | -1.6  |       | -1.6  | -1.6  | -1.2  | -1.2  | -1.2  |       | -1.2  | -1.2  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       | Lag   | Lead  | Lead  |       | Lag   | Lag   |       |
| Lead-Lag Optimize?         |       |       |       |       |       | Yes   | Yes   | Yes   |       | Yes   | Yes   |       |
| Vehicle Extension (s)      | 3.8   | 3.8   |       | 3.8   | 3.8   | 3.8   | 3.8   | 3.8   |       | 3.8   | 3.8   |       |
| Recall Mode                | Min   | Min   |       | Min   | Min   | None  | None  | None  |       | None  | None  |       |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

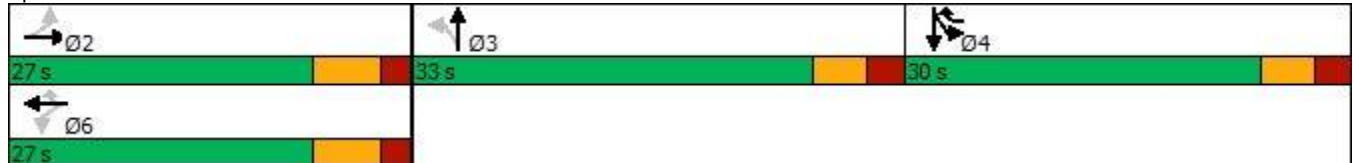


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 17.0 | 17.0 |     | 17.0 | 17.0 | 40.6 | 17.2 | 17.2 |     | 18.5 | 18.5 |     |
| Actuated g/C Ratio      | 0.25 | 0.25 |     | 0.25 | 0.25 | 0.60 | 0.25 | 0.25 |     | 0.27 | 0.27 |     |
| v/c Ratio               | 0.10 | 0.38 |     | 0.23 | 0.16 | 0.44 | 0.04 | 0.59 |     | 0.46 | 0.10 |     |
| Control Delay           | 25.2 | 25.1 |     | 27.4 | 23.7 | 10.0 | 21.0 | 29.5 |     | 22.6 | 19.8 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 25.2 | 25.1 |     | 27.4 | 23.7 | 10.0 | 21.0 | 29.5 |     | 22.6 | 19.8 |     |
| LOS                     | C    | C    |     | C    | C    | B    | C    | C    |     | C    | B    |     |
| Approach Delay          |      | 25.1 |     |      | 14.8 |      |      | 29.4 |     |      | 22.3 |     |
| Approach LOS            |      | C    |     |      | B    |      |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 10   | 61   |     | 19   | 24   | 83   | 1    | 87   |     | 75   | 15   |     |
| Queue Length 95th (ft)  | 36   | 121  |     | 60   | 56   | 184  | 9    | 166  |     | 129  | 43   |     |
| Internal Link Dist (ft) |      | 1872 |     |      | 758  |      |      | 905  |     |      | 611  |     |
| Turn Bay Length (ft)    | 200  |      |     | 200  |      | 350  | 150  |      |     | 250  |      |     |
| Base Capacity (vph)     | 404  | 1156 |     | 331  | 1181 | 938  | 181  | 671  |     | 1295 | 675  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.07 | 0.29 |     | 0.18 | 0.12 | 0.45 | 0.02 | 0.35 |     | 0.33 | 0.07 |     |

Intersection Summary

|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 90                     |
| Actuated Cycle Length:             | 68                     |
| Natural Cycle:                     | 55                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.59                   |
| Intersection Signal Delay:         | 21.2                   |
| Intersection LOS:                  | C                      |
| Intersection Capacity Utilization: | 65.8%                  |
| ICU Level of Service:              | C                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 5: Flint Hill Road & SC-51



Miller Farm TIA  
6: Business Driveway & SC-51

12/21/2021



| Lane Group                 | EBT   | EBR   | WBL  | WBT   | NBL   | NBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        | ↑↑    |       |      | ↑↑    | ↑↑    |       |
| Traffic Volume (vph)       | 834   | 6     | 20   | 550   | 14    | 15    |
| Future Volume (vph)        | 834   | 6     | 20   | 550   | 14    | 15    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 0.95  | 0.95  | 0.95 | 0.95  | 1.00  | 1.00  |
| Fr <sub>t</sub>            | 0.999 |       |      | 0.930 |       |       |
| Fl <sub>t</sub> Protected  |       |       |      | 0.998 | 0.976 |       |
| Satd. Flow (prot)          | 3536  | 0     | 0    | 3532  | 1691  | 0     |
| Fl <sub>t</sub> Permitted  |       |       |      | 0.998 | 0.976 |       |
| Satd. Flow (perm)          | 3536  | 0     | 0    | 3532  | 1691  | 0     |
| Link Speed (mph)           | 45    |       |      | 45    | 25    |       |
| Link Distance (ft)         | 838   |       |      | 161   | 1054  |       |
| Travel Time (s)            | 12.7  |       |      | 2.4   | 28.7  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 927   | 7     | 22   | 611   | 16    | 17    |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 934   | 0     | 0    | 633   | 33    | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Right | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 12    |       |      | 12    | 12    |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 9     |       | 15   | 15    |       | 9     |
| Sign Control               | Free  |       |      | Free  | Stop  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 39.8%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.6  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 834  | 6    | 20   | 550  | 14   | 15   |
| Future Vol, veh/h        | 834  | 6    | 20   | 550  | 14   | 15   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 927  | 7    | 22   | 611  | 16   | 17   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 934    | 0      | 1281   |
| Stage 1              | -      | -      | -      | -      | 931    |
| Stage 2              | -      | -      | -      | -      | 350    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 729    | -      | 157    |
| Stage 1              | -      | -      | -      | -      | 344    |
| Stage 2              | -      | -      | -      | -      | 684    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 729    | -      | 150    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 150    |
| Stage 1              | -      | -      | -      | -      | 344    |
| Stage 2              | -      | -      | -      | -      | 653    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.5 | 22.3 |
| HCM LOS              |    |     | C    |

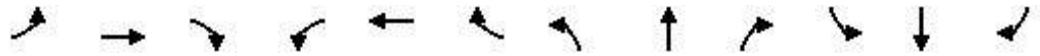
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 240   | -   | -   | 729  | -   |
| HCM Lane V/C Ratio    | 0.134 | -   | -   | 0.03 | -   |
| HCM Control Delay (s) | 22.3  | -   | -   | 10.1 | 0.2 |
| HCM Lane LOS          | C     | -   | -   | B    | A   |
| HCM 95th %tile Q(veh) | 0.5   | -   | -   | 0.1  | -   |



Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |       |       |       |      |       |       |      |       |       |      |      |       |
| Traffic Volume (vph)       | 277   | 571   | 4     | 4    | 474   | 47    | 6    | 4     | 20    | 18   | 4    | 90    |
| Future Volume (vph)        | 277   | 571   | 4     | 4    | 474   | 47    | 6    | 4     | 20    | 18   | 4    | 90    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 0.95 | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |       | 0.999 |       |      | 0.987 |       |      | 0.910 |       |      |      | 0.891 |
| Fl <sub>t</sub> Protected  | 0.950 |       |       |      |       |       |      | 0.990 |       |      |      | 0.992 |
| Satd. Flow (prot)          | 1770  | 3536  | 0     | 0    | 3493  | 0     | 0    | 1678  | 0     | 0    | 1646 | 0     |
| Fl <sub>t</sub> Permitted  | 0.950 |       |       |      |       |       |      | 0.990 |       |      |      | 0.992 |
| Satd. Flow (perm)          | 1770  | 3536  | 0     | 0    | 3493  | 0     | 0    | 1678  | 0     | 0    | 1646 | 0     |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |      | 25    |       |      |      | 35    |
| Link Distance (ft)         |       | 161   |       |      | 1378  |       |      | 1091  |       |      |      | 1017  |
| Travel Time (s)            |       | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      |      | 19.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 308   | 634   | 4     | 4    | 527   | 52    | 7    | 4     | 22    | 20   | 4    | 100   |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 308   | 638   | 0     | 0    | 583   | 0     | 0    | 33    | 0     | 0    | 124  | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 12    |       |      | 12    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |       | Free  |       |      | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 49.1%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.8  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 277  | 571  | 4    | 4    | 474  | 47   | 6    | 4    | 20   | 18   | 4    | 90   |
| Future Vol, veh/h        | 277  | 571  | 4    | 4    | 474  | 47   | 6    | 4    | 20   | 18   | 4    | 90   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 308  | 634  | 4    | 4    | 527  | 52   | 7    | 4    | 22   | 20   | 4    | 100  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 579    | 0 | 0 | 638    | 0 | 0 | 1526   | 1839 | 319  | 1496   | 1815 | 290  |
| Stage 1              | -      | - | - | -      | - | - | 1252   | 1252 | -    | 561    | 561  | -    |
| Stage 2              | -      | - | - | -      | - | - | 274    | 587  | -    | 935    | 1254 | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 991    | - | - | 942    | - | - | 81     | 75   | 677  | 85     | 77   | 707  |
| Stage 1              | -      | - | - | -      | - | - | 182    | 242  | -    | 480    | 508  | -    |
| Stage 2              | -      | - | - | -      | - | - | 709    | 495  | -    | 285    | 242  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 991    | - | - | 942    | - | - | 49     | 51   | 677  | 58     | 53   | 707  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 49     | 51   | -    | 58     | 53   | -    |
| Stage 1              | -      | - | - | -      | - | - | 125    | 167  | -    | 331    | 505  | -    |
| Stage 2              | -      | - | - | -      | - | - | 600    | 492  | -    | 185    | 167  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 3.3 |  |  | 0.1 |  |  | 42 |  |  | 41.4 |  |  |
| HCM LOS              |     |  |  |     |  |  | E  |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 130   | 991   | -   | -   | 942   | -   | -   | 218   |
| HCM Lane V/C Ratio    | 0.256 | 0.311 | -   | -   | 0.005 | -   | -   | 0.571 |
| HCM Control Delay (s) | 42    | 10.3  | -   | -   | 8.8   | 0   | -   | 41.4  |
| HCM Lane LOS          | E     | B     | -   | -   | A     | A   | -   | E     |
| HCM 95th %tile Q(veh) | 1     | 1.3   | -   | -   | 0     | -   | -   | 3.1   |

Miller Farm TIA  
 9: Miller Road & NC-51

12/21/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↓     | ↑↑   | ↓     | ↑     |
| Traffic Volume (vph)       | 593  | 43    | 9     | 454  | 66    | 38    |
| Future Volume (vph)        | 593  | 43    | 9     | 454  | 66    | 38    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 370   | 335   |      | 0     | 185   |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 25    |       |
| Link Distance (ft)         | 1378 |       |       | 1912 | 1091  |       |
| Travel Time (s)            | 20.9 |       |       | 29.0 | 29.8  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 659  | 48    | 10    | 504  | 73    | 42    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 659  | 48    | 10    | 504  | 73    | 42    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 24   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 26.7%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.7  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 593  | 43   | 9    | 454  | 66   | 38   |
| Future Vol, veh/h        | 593  | 43   | 9    | 454  | 66   | 38   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 370  | 335  | -    | 0    | 185  |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 659  | 48   | 10   | 504  | 73   | 42   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 707    | 0      | 931    |
| Stage 1              | -      | -      | -      | -      | 659    |
| Stage 2              | -      | -      | -      | -      | 272    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 887    | -      | 266    |
| Stage 1              | -      | -      | -      | -      | 476    |
| Stage 2              | -      | -      | -      | -      | 749    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 887    | -      | 263    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 263    |
| Stage 1              | -      | -      | -      | -      | 476    |
| Stage 2              | -      | -      | -      | -      | 741    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.2 | 19.1 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 263   | 666   | -   | -   | 887   | -   |
| HCM Lane V/C Ratio    | 0.279 | 0.063 | -   | -   | 0.011 | -   |
| HCM Control Delay (s) | 23.9  | 10.8  | -   | -   | 9.1   | -   |
| HCM Lane LOS          | C     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 1.1   | 0.2   | -   | -   | 0     | -   |

Miller Farm TIA  
10: Marfield Lane & NC-51

12/21/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↑     | ↑↑   | ↑     | ↑     |
| Traffic Volume (vph)       | 644  | 10    | 51    | 434  | 46    | 91    |
| Future Volume (vph)        | 644  | 10    | 51    | 434  | 46    | 91    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 310   | 520   |      | 100   | 0     |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 15    |       |
| Link Distance (ft)         | 1912 |       |       | 1898 | 1372  |       |
| Travel Time (s)            | 29.0 |       |       | 28.8 | 62.4  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 716  | 11    | 57    | 482  | 51    | 101   |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 716  | 11    | 57    | 482  | 51    | 101   |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 12   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 34.5%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 644  | 10   | 51   | 434  | 46   | 91   |
| Future Vol, veh/h        | 644  | 10   | 51   | 434  | 46   | 91   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 310  | 520  | -    | 100  | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 716  | 11   | 57   | 482  | 51   | 101  |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 727    | 0      | 1071   |
| Stage 1              | -      | -      | -      | -      | 716    |
| Stage 2              | -      | -      | -      | -      | 355    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 872    | -      | 216    |
| Stage 1              | -      | -      | -      | -      | 445    |
| Stage 2              | -      | -      | -      | -      | 681    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 872    | -      | 202    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 202    |
| Stage 1              | -      | -      | -      | -      | 445    |
| Stage 2              | -      | -      | -      | -      | 637    |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 1  | 17.4 |
| HCM LOS              |    |    | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 202   | 638   | -   | -   | 872   | -   |
| HCM Lane V/C Ratio    | 0.253 | 0.158 | -   | -   | 0.065 | -   |
| HCM Control Delay (s) | 28.8  | 11.7  | -   | -   | 9.4   | -   |
| HCM Lane LOS          | D     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 1     | 0.6   | -   | -   | 0.2   | -   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021



| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 126   | 618   | 4     | 419   | 248   | 66    | 54    |
| Future Volume (vph)        | 126   | 618   | 4     | 419   | 248   | 66    | 54    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 100   |       | 100   |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 140   | 687   | 4     | 466   | 276   | 73    | 60    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 140   | 687   | 4     | 466   | 276   | 73    | 60    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 39.0  | 71.0  | 19.0  | 51.0  |       | 30.0  | 39.0  |
| Total Split (%)            | 32.5% | 59.2% | 15.8% | 42.5% |       | 25.0% | 32.5% |
| Maximum Green (s)          | 33.2  | 65.0  | 13.1  | 45.2  |       | 24.4  | 33.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |

Miller Farm TIA  
11: NC-51 & Downs Road

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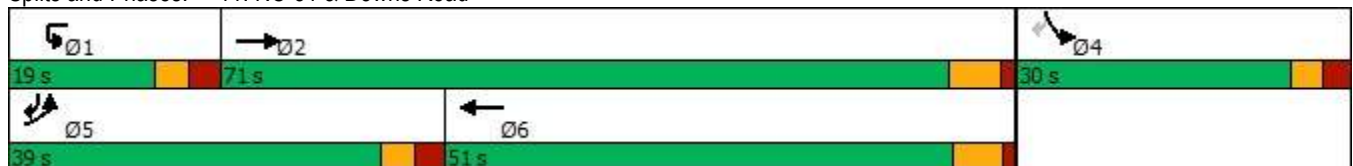


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effct Green (s)     | 9.7  | 30.5 | 8.3  | 19.4 | 42.0 | 8.4  | 16.7 |
| Actuated g/C Ratio      | 0.23 | 0.73 | 0.20 | 0.46 | 1.00 | 0.20 | 0.40 |
| v/c Ratio               | 0.34 | 0.27 | 0.01 | 0.29 | 0.17 | 0.21 | 0.10 |
| Control Delay           | 18.4 | 6.0  | 18.8 | 12.4 | 0.2  | 19.0 | 7.2  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 18.4 | 6.0  | 18.8 | 12.4 | 0.2  | 19.0 | 7.2  |
| LOS                     | B    | A    | B    | B    | A    | B    | A    |
| Approach Delay          |      | 8.1  |      | 7.9  |      | 13.7 |      |
| Approach LOS            |      | A    |      | A    |      | B    |      |
| Queue Length 50th (ft)  | 31   | 36   | 1    | 50   | 0    | 16   | 7    |
| Queue Length 95th (ft)  | 79   | 123  | 8    | 97   | 0    | 51   | 24   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 1453 | 3539 | 618  | 3406 | 1583 | 1099 | 1539 |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.10 | 0.19 | 0.01 | 0.14 | 0.17 | 0.07 | 0.04 |

Intersection Summary

|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 42                     |
| Natural Cycle:                     | 55                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.34                   |
| Intersection Signal Delay:         | 8.5                    |
| Intersection LOS:                  | A                      |
| Intersection Capacity Utilization: | 41.2%                  |
| ICU Level of Service:              | A                      |
| Analysis Period (min):             | 15                     |

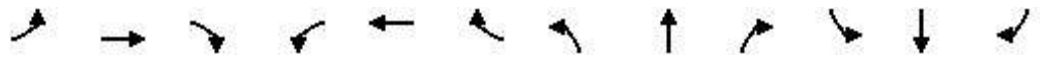
Splits and Phases: 11: NC-51 & Downs Road





Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 126   | 543   | 113   | 33    | 388   | 126   | 226   | 464   | 22    | 77    | 261   | 81    |
| Future Volume (vph)        | 126   | 543   | 113   | 33    | 388   | 126   | 226   | 464   | 22    | 77    | 261   | 81    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.974 |       |       |       | 0.850 |       | 0.993 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3447  | 0     | 1743  | 3486  | 1560  | 3399  | 1831  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3447  | 0     | 1743  | 3486  | 1560  | 3399  | 1831  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       | 1160  |       |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       | 22.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 140   | 603   | 126   | 37    | 431   | 140   | 251   | 516   | 24    | 86    | 290   | 90    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 140   | 729   | 0     | 37    | 431   | 140   | 251   | 540   | 0     | 86    | 290   | 90    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       | 24    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 22.0  | 39.0  |       | 14.0  | 31.0  | 15.0  | 19.0  | 52.0  |       | 15.0  | 48.0  | 22.0  |
| Total Split (%)            | 18.3% | 32.5% |       | 11.7% | 25.8% | 12.5% | 15.8% | 43.3% |       | 12.5% | 40.0% | 18.3% |
| Maximum Green (s)          | 15.8  | 32.8  |       | 8.2   | 25.3  | 9.1   | 12.4  | 46.0  |       | 9.1   | 42.3  | 15.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.7  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.2   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |



Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 82    | 594   | 158   | 71    | 408   | 114   | 123   | 91    | 67    | 34    | 20    | 35    |
| Future Volume (vph)        | 82    | 594   | 158   | 71    | 408   | 114   | 123   | 91    | 67    | 34    | 20    | 35    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       | -1%   |       |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.968 |       |       | 0.967 |       |       | 0.937 |       |       | 0.904 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3477  | 0     | 1743  | 3371  | 0     | 1778  | 1754  | 0     | 1778  | 1692  | 0     |
| Flt Permitted              | 0.434 |       |       | 0.312 |       |       | 0.717 |       |       | 0.647 |       |       |
| Satd. Flow (perm)          | 821   | 3477  | 0     | 572   | 3371  | 0     | 1342  | 1754  | 0     | 1211  | 1692  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       | 1210  |       |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       | 23.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 91    | 660   | 176   | 79    | 453   | 127   | 137   | 101   | 74    | 38    | 22    | 39    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 91    | 836   | 0     | 79    | 580   | 0     | 137   | 175   | 0     | 38    | 61    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 37.0  | 37.0  |       | 37.0  | 37.0  |       | 23.0  | 23.0  |       | 23.0  | 23.0  |       |
| Total Split (%)            | 61.7% | 61.7% |       | 61.7% | 61.7% |       | 38.3% | 38.3% |       | 38.3% | 38.3% |       |
| Maximum Green (s)          | 31.2  | 31.2  |       | 31.8  | 31.8  |       | 17.5  | 17.5  |       | 17.2  | 17.2  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.5  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.3   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021

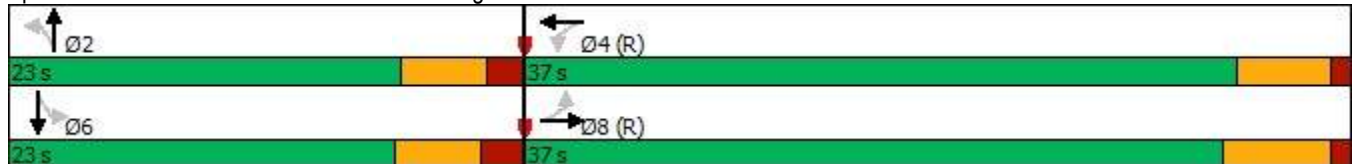


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effct Green (s)     | 36.1 | 36.1 |     | 36.1 | 36.1 |     | 13.9 | 13.9 |     | 13.7 | 14.0 |     |
| Actuated g/C Ratio      | 0.60 | 0.60 |     | 0.60 | 0.60 |     | 0.23 | 0.23 |     | 0.23 | 0.23 |     |
| v/c Ratio               | 0.18 | 0.40 |     | 0.23 | 0.29 |     | 0.44 | 0.43 |     | 0.14 | 0.15 |     |
| Control Delay           | 6.6  | 6.7  |     | 8.4  | 6.5  |     | 24.2 | 22.9 |     | 18.9 | 18.6 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 6.6  | 6.7  |     | 8.4  | 6.5  |     | 24.2 | 22.9 |     | 18.9 | 18.6 |     |
| LOS                     | A    | A    |     | A    | A    |     | C    | C    |     | B    | B    |     |
| Approach Delay          |      | 6.7  |     |      | 6.8  |     |      | 23.4 |     |      | 18.7 |     |
| Approach LOS            |      | A    |     |      | A    |     |      | C    |     |      | B    |     |
| Queue Length 50th (ft)  | 11   | 60   |     | 11   | 43   |     | 44   | 56   |     | 11   | 18   |     |
| Queue Length 95th (ft)  | 63   | 230  |     | 37   | 82   |     | 80   | 95   |     | 29   | 40   |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 494  | 2093 |     | 344  | 2029 |     | 402  | 526  |     | 357  | 507  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.18 | 0.40 |     | 0.23 | 0.29 |     | 0.34 | 0.33 |     | 0.11 | 0.12 |     |

Intersection Summary

|                                   |   |
|-----------------------------------|---|
| Area Type:                        | Other   |
| Cycle Length:                     | 60  |
| Actuated Cycle Length:            | 60  |
| Offset:                           | 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green |
| Natural Cycle:                    | 40  |
| Control Type:                     | Actuated-Coordinated  |
| Maximum v/c Ratio:                | 0.44  |
| Intersection Signal Delay:        | 9.9   |
| Intersection LOS:                 | A   |
| Intersection Capacity Utilization | 64.0%   |
| ICU Level of Service              | B   |
| Analysis Period (min)             | 15  |

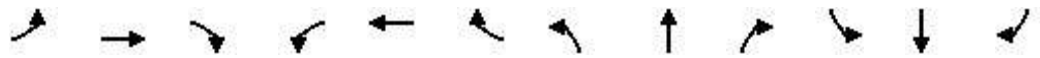
Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 206   | 832   | 157   | 42    | 460   | 14    | 87    | 117   | 63    | 14    | 46    | 129   |
| Future Volume (vph)        | 206   | 832   | 157   | 42    | 460   | 14    | 87    | 117   | 63    | 14    | 46    | 129   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.976 |       |       | 0.995 |       |       | 0.947 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3472  | 0     | 1761  | 3504  | 0     | 1761  | 1755  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.724 |       |       | 0.385 |       |       |
| Satd. Flow (perm)          | 1778  | 3472  | 0     | 1761  | 3504  | 0     | 1342  | 1755  | 0     | 706   | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 229   | 924   | 174   | 47    | 511   | 16    | 97    | 130   | 70    | 16    | 51    | 143   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 229   | 1098  | 0     | 47    | 527   | 0     | 97    | 200   | 0     | 16    | 51    | 143   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           |       |       |       |       |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 36.0  | 69.0  |       | 16.0  | 49.0  |       | 35.0  | 35.0  |       | 35.0  | 35.0  | 36.0  |
| Total Split (%)            | 30.0% | 57.5% |       | 13.3% | 40.8% |       | 29.2% | 29.2% |       | 29.2% | 29.2% | 30.0% |
| Maximum Green (s)          | 29.0  | 63.5  |       | 9.0   | 43.5  |       | 29.6  | 29.6  |       | 29.7  | 29.7  | 29.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -0.5  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 6.5   |
| Lead/Lag                   | Lag   | Lag   |       | Lead  | Lead  |       |       |       |       |       |       | Lag   |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

12/21/2021

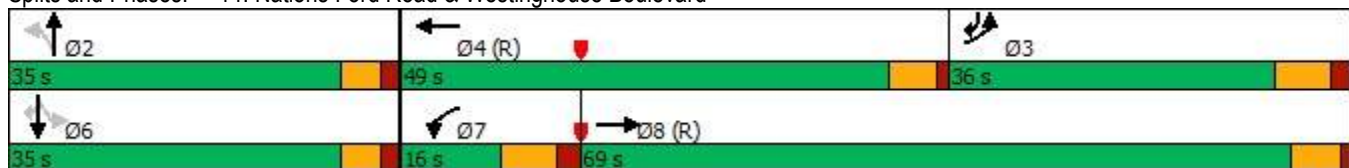


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effct Green (s)     | 24.6 | 77.5 |     | 10.9 | 61.0 |     | 19.4 | 19.4 |     | 19.4 | 19.4 | 47.5 |
| Actuated g/C Ratio      | 0.20 | 0.65 |     | 0.09 | 0.51 |     | 0.16 | 0.16 |     | 0.16 | 0.16 | 0.40 |
| v/c Ratio               | 0.63 | 0.49 |     | 0.29 | 0.30 |     | 0.45 | 0.70 |     | 0.14 | 0.17 | 0.23 |
| Control Delay           | 50.5 | 13.7 |     | 52.0 | 20.1 |     | 50.8 | 60.5 |     | 43.4 | 42.5 | 22.9 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 50.5 | 13.7 |     | 52.0 | 20.1 |     | 50.8 | 60.5 |     | 43.4 | 42.5 | 22.9 |
| LOS                     | D    | B    |     | D    | C    |     | D    | E    |     | D    | D    | C    |
| Approach Delay          |      | 20.1 |     |      | 22.7 |     |      | 57.3 |     |      | 29.2 |      |
| Approach LOS            |      | C    |     |      | C    |     |      | E    |     |      | C    |      |
| Queue Length 50th (ft)  | 162  | 229  |     | 36   | 117  |     | 69   | 148  |     | 11   | 34   | 72   |
| Queue Length 95th (ft)  | 228  | 352  |     | 62   | 221  |     | 117  | 216  |     | 31   | 67   | 95   |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 464  | 2241 |     | 172  | 1780 |     | 335  | 438  |     | 176  | 458  | 608  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.49 | 0.49 |     | 0.27 | 0.30 |     | 0.29 | 0.46 |     | 0.09 | 0.11 | 0.24 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:WBT and 8:EBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.70  
 Intersection Signal Delay: 26.1      Intersection LOS: C  
 Intersection Capacity Utilization 58.0%      ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard



Miller Farm TIA  
550: Flint Hill Road & Springhill Farm Road

12/21/2021



| Lane Group                 | EBL   | EBR   | NBL  | NBT   | SBT   | SBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        |       |       |      |       |       |       |
| Traffic Volume (vph)       | 419   | 4     | 4    | 4     | 4     | 432   |
| Future Volume (vph)        | 419   | 4     | 4    | 4     | 4     | 432   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.999 |       |      |       | 0.866 |       |
| Flt Protected              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (prot)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Flt Permitted              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (perm)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Link Speed (mph)           | 40    |       |      | 45    | 40    |       |
| Link Distance (ft)         | 691   |       |      | 657   | 1957  |       |
| Travel Time (s)            | 11.8  |       |      | 10.0  | 33.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 466   | 4     | 4    | 4     | 4     | 480   |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 470   | 0     | 0    | 8     | 484   | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 36    |       |      | 0     | 0     |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     | 15   |       |       | 9     |
| Sign Control               | Stop  |       |      | Free  | Free  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 57.1%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service B |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 9    |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 419  | 4    | 4    | 4    | 4    | 432  |
| Future Vol, veh/h        | 419  | 4    | 4    | 4    | 4    | 432  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 466  | 4    | 4    | 4    | 4    | 480  |

| Major/Minor          | Minor2 | Major1 |       | Major2 |   |
|----------------------|--------|--------|-------|--------|---|
| Conflicting Flow All | 256    | 244    | 484   | 0      | 0 |
| Stage 1              | 244    | -      | -     | -      | - |
| Stage 2              | 12     | -      | -     | -      | - |
| Critical Hdwy        | 6.42   | 6.22   | 4.12  | -      | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -     | -      | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -     | -      | - |
| Follow-up Hdwy       | 3.518  | 3.318  | 2.218 | -      | - |
| Pot Cap-1 Maneuver   | 733    | 795    | 1079  | -      | - |
| Stage 1              | 797    | -      | -     | -      | - |
| Stage 2              | 1011   | -      | -     | -      | - |
| Platoon blocked, %   |        |        |       | -      | - |
| Mov Cap-1 Maneuver   | 730    | 795    | 1079  | -      | - |
| Mov Cap-2 Maneuver   | 730    | -      | -     | -      | - |
| Stage 1              | 794    | -      | -     | -      | - |
| Stage 2              | 1011   | -      | -     | -      | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 18.4 | 4.2 | 0  |
| HCM LOS              | C    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1079  | -   | 731   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | 0.643 | -   | -   |
| HCM Control Delay (s) | 8.3   | 0   | 18.4  | -   | -   |
| HCM Lane LOS          | A     | A   | C     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | 4.7   | -   | -   |



Queuing and Blocking Report  
 2023 Background AM Peak Hour

12/06/2021

Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB  | EB   | EB   | WB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | T   | T   | R   | L   | TR  | L   | L   | TR  |
| Maximum Queue (ft)    | 70  | 172  | 130  | 89  | 67  | 77  | 197 | 25  | 202 | 157 | 141 | 51  |
| Average Queue (ft)    | 19  | 84   | 48   | 35  | 23  | 33  | 96  | 2   | 96  | 82  | 74  | 14  |
| 95th Queue (ft)       | 50  | 139  | 99   | 73  | 54  | 68  | 165 | 13  | 170 | 134 | 119 | 38  |
| Link Distance (ft)    |     | 1904 | 1904 |     | 746 | 746 |     |     | 932 |     |     | 586 |
| Upstream Blk Time (%) |     |      |      |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 200 |      |      | 200 |     |     | 350 | 150 |     | 250 | 250 |     |
| Storage Blk Time (%)  |     | 0    |      |     |     |     |     | 2   |     |     |     |     |
| Queuing Penalty (veh) |     | 0    |      |     |     |     |     | 0   |     |     |     |     |

Intersection: 6: Business Driveway & SC-51

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | T   | LT  | LR  |
| Maximum Queue (ft)    | 59  | 56  | 66  |
| Average Queue (ft)    | 5   | 12  | 22  |
| 95th Queue (ft)       | 32  | 40  | 55  |
| Link Distance (ft)    | 746 | 105 | 996 |
| Upstream Blk Time (%) |     |     |     |
| Queuing Penalty (veh) |     |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|------|------|------|-----|
| Directions Served     | L   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 112 | 33   | 31   | 58   | 166 |
| Average Queue (ft)    | 58  | 2    | 2    | 20   | 50  |
| 95th Queue (ft)       | 105 | 16   | 16   | 47   | 116 |
| Link Distance (ft)    | 105 | 1285 | 1285 | 1037 | 928 |
| Upstream Blk Time (%) | 1   |      |      |      |     |
| Queuing Penalty (veh) | 4   |      |      |      |     |
| Storage Bay Dist (ft) |     |      |      |      |     |
| Storage Blk Time (%)  |     |      |      |      |     |
| Queuing Penalty (veh) |     |      |      |      |     |

Queuing and Blocking Report  
 2023 Background AM Peak Hour

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Intersection: 9: Miller Road & NC-51

| Movement              | WB   | NB  | NB |
|-----------------------|------|-----|----|
| Directions Served     | L    | L   | R  |
| Maximum Queue (ft)    | 32   | 94  | 58 |
| Average Queue (ft)    | 4    | 33  | 19 |
| 95th Queue (ft)       | 19   | 66  | 44 |
| Link Distance (ft)    | 1024 |     |    |
| Upstream Blk Time (%) |      |     |    |
| Queuing Penalty (veh) |      |     |    |
| Storage Bay Dist (ft) | 335  | 185 |    |
| Storage Blk Time (%)  |      |     |    |
| Queuing Penalty (veh) |      |     |    |

Intersection: 10: Marfield Lane & NC-51

| Movement              | EB   | WB  | NB  | NB |
|-----------------------|------|-----|-----|----|
| Directions Served     | R    | L   | L   | R  |
| Maximum Queue (ft)    | 2    | 60  | 81  | 72 |
| Average Queue (ft)    | 0    | 19  | 27  | 29 |
| 95th Queue (ft)       | 2    | 50  | 58  | 57 |
| Link Distance (ft)    | 1311 |     |     |    |
| Upstream Blk Time (%) |      |     |     |    |
| Queuing Penalty (veh) |      |     |     |    |
| Storage Bay Dist (ft) | 310  | 520 | 100 |    |
| Storage Blk Time (%)  |      |     | 0   | 0  |
| Queuing Penalty (veh) |      |     | 0   | 0  |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB   | EB  | EB   | WB   | WB  | WB   | WB   | B1130 | SB  | SB |
|-----------------------|------|-----|------|------|-----|------|------|-------|-----|----|
| Directions Served     | L    | T   | T    | U    | T   | T    | R    | T     | L   | R  |
| Maximum Queue (ft)    | 117  | 82  | 86   | 28   | 100 | 117  | 14   | 7     | 84  | 79 |
| Average Queue (ft)    | 55   | 17  | 37   | 3    | 43  | 51   | 0    | 0     | 37  | 29 |
| 95th Queue (ft)       | 98   | 56  | 77   | 16   | 87  | 98   | 14   | 5     | 72  | 64 |
| Link Distance (ft)    | 1836 |     | 1836 | 1076 |     | 1076 | 2898 |       | 545 |    |
| Upstream Blk Time (%) |      |     |      |      |     |      |      |       |     |    |
| Queuing Penalty (veh) |      |     |      |      |     |      |      |       |     |    |
| Storage Bay Dist (ft) | 310  | 210 |      |      | 335 |      |      | 275   |     |    |
| Storage Blk Time (%)  |      |     |      |      |     |      |      |       |     |    |
| Queuing Penalty (veh) |      |     |      |      |     |      |      |       |     |    |

Queuing and Blocking Report  
 2023 Background AM Peak Hour

12/06/2021

Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 152 | 254  | 259  | 80  | 191  | 172  | 131 | 158 | 204 | 357 | 117  | 213  |
| Average Queue (ft)    | 71  | 134  | 153  | 27  | 110  | 91   | 60  | 48  | 109 | 205 | 48   | 113  |
| 95th Queue (ft)       | 124 | 223  | 234  | 65  | 165  | 152  | 112 | 127 | 176 | 320 | 96   | 187  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |     |      |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |     |      |      |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 0    |      |     |      |      |     |     |     |     |      | 1    |
| Queuing Penalty (veh) |     | 0    |      |     |      |      |     |     |     |     |      | 1    |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 78  |
| Average Queue (ft)    | 24  |
| 95th Queue (ft)       | 59  |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 87  | 137  | 162  | 78  | 97   | 93   | 161 | 173  | 66  | 91   |
| Average Queue (ft)    | 28  | 46   | 65   | 30  | 41   | 39   | 60  | 73   | 17  | 32   |
| 95th Queue (ft)       | 63  | 103  | 129  | 64  | 79   | 79   | 120 | 136  | 47  | 70   |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |

Queuing and Blocking Report  
 2023 Background AM Peak Hour

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Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 268 | 261  | 281  | 90  | 212  | 234  | 183 | 282  | 52  | 97   | 132 |
| Average Queue (ft)    | 129 | 128  | 139  | 32  | 105  | 120  | 67  | 124  | 10  | 26   | 47  |
| 95th Queue (ft)       | 232 | 224  | 240  | 73  | 176  | 195  | 136 | 220  | 35  | 70   | 112 |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  | 0   |      |      |     |      |      | 0   | 3    |     |      | 0   |
| Queuing Penalty (veh) | 0   |      |      |     |      |      | 0   | 2    |     |      | 0   |

Intersection: 550: Flint Hill Road & Springhill Farm Road

| Movement              | EB  | NB  | SB   |
|-----------------------|-----|-----|------|
| Directions Served     | LR  | LT  | TR   |
| Maximum Queue (ft)    | 158 | 21  | 10   |
| Average Queue (ft)    | 53  | 2   | 0    |
| 95th Queue (ft)       | 110 | 12  | 7    |
| Link Distance (ft)    | 586 | 625 | 1902 |
| Upstream Blk Time (%) |     |     |      |
| Queuing Penalty (veh) |     |     |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

Network Summary

|                                 |
|---------------------------------|
| Network wide Queuing Penalty: 7 |
|---------------------------------|

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 19    | 287   | 10    | 160   | 209   | 492   | 4     | 10    | 151   | 393   | 45    | 12    |
| Future Volume (vph)        | 19    | 287   | 10    | 160   | 209   | 492   | 4     | 10    | 151   | 393   | 45    | 12    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 2%    |       |       | -2%   |       |       | 1%    |       |       | -1%   |       |
| Storage Length (ft)        | 200   |       | 0     | 200   |       | 350   | 150   |       | 0     | 250   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 1     |       | 0     | 2     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 0.97  | 1.00  | 1.00  |
| Frt                        |       | 0.995 |       |       |       | 0.850 |       | 0.859 |       |       | 0.969 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1752  | 3486  | 0     | 1787  | 3575  | 1599  | 1761  | 1592  | 0     | 3450  | 1814  | 0     |
| Flt Permitted              | 0.607 |       |       | 0.544 |       |       | 0.276 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1119  | 3486  | 0     | 1023  | 3575  | 1599  | 512   | 1592  | 0     | 3450  | 1814  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |       | 40    |
| Link Distance (ft)         |       | 1952  |       |       | 838   |       |       | 985   |       |       |       | 691   |
| Travel Time (s)            |       | 29.6  |       |       | 12.7  |       |       | 19.2  |       |       |       | 11.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 21    | 319   | 11    | 178   | 232   | 547   | 4     | 11    | 168   | 437   | 50    | 13    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 21    | 330   | 0     | 178   | 232   | 547   | 4     | 179   | 0     | 437   | 63    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    | pm+ov | Perm  | NA    |       | Split | NA    |       |
| Protected Phases           |       | 2     |       |       | 6     | 4     |       | 3     |       | 4     | 4     |       |
| Permitted Phases           | 2     |       |       | 6     |       | 6     | 3     |       |       |       |       |       |
| Detector Phase             | 2     | 2     |       | 6     | 6     | 4     | 3     | 3     |       | 4     | 4     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 15.0  | 15.0  |       | 15.0  | 15.0  | 8.0   | 8.0   | 8.0   |       | 8.0   | 8.0   |       |
| Minimum Split (s)          | 22.0  | 22.0  |       | 22.0  | 22.0  | 15.0  | 15.0  | 15.0  |       | 15.0  | 15.0  |       |
| Total Split (s)            | 38.0  | 38.0  |       | 38.0  | 38.0  | 28.0  | 24.0  | 24.0  |       | 28.0  | 28.0  |       |
| Total Split (%)            | 42.2% | 42.2% |       | 42.2% | 42.2% | 31.1% | 26.7% | 26.7% |       | 31.1% | 31.1% |       |
| Maximum Green (s)          | 31.4  | 31.4  |       | 31.4  | 31.4  | 21.8  | 17.8  | 17.8  |       | 21.8  | 21.8  |       |
| Yellow Time (s)            | 4.5   | 4.5   |       | 4.5   | 4.5   | 3.7   | 3.7   | 3.7   |       | 3.7   | 3.7   |       |
| All-Red Time (s)           | 2.1   | 2.1   |       | 2.1   | 2.1   | 2.5   | 2.5   | 2.5   |       | 2.5   | 2.5   |       |
| Lost Time Adjust (s)       | -1.6  | -1.6  |       | -1.6  | -1.6  | -1.2  | -1.2  | -1.2  |       | -1.2  | -1.2  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       | Lag   | Lead  | Lead  |       | Lag   | Lag   |       |
| Lead-Lag Optimize?         |       |       |       |       |       | Yes   | Yes   | Yes   |       | Yes   | Yes   |       |
| Vehicle Extension (s)      | 3.8   | 3.8   |       | 3.8   | 3.8   | 3.8   | 3.8   | 3.8   |       | 3.8   | 3.8   |       |
| Recall Mode                | Min   | Min   |       | Min   | Min   | None  | None  | None  |       | None  | None  |       |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

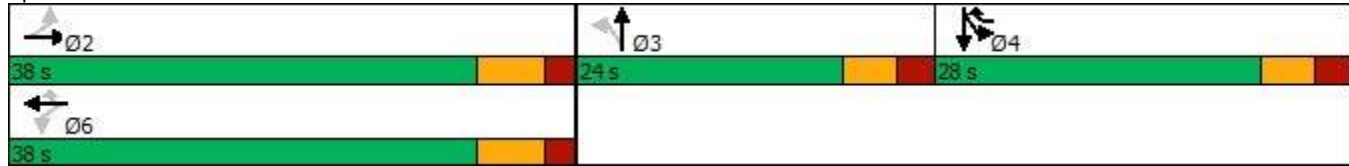


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Act Effct Green (s)     | 19.9 | 19.9 |     | 19.9 | 19.9 | 45.4 | 14.5 | 14.5 |     | 20.3 | 20.3 |     |
| Actuated g/C Ratio      | 0.28 | 0.28 |     | 0.28 | 0.28 | 0.65 | 0.21 | 0.21 |     | 0.29 | 0.29 |     |
| v/c Ratio               | 0.07 | 0.33 |     | 0.61 | 0.23 | 0.53 | 0.04 | 0.54 |     | 0.44 | 0.12 |     |
| Control Delay           | 20.6 | 21.8 |     | 33.5 | 20.8 | 9.2  | 26.2 | 33.2 |     | 22.9 | 21.2 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 20.6 | 21.8 |     | 33.5 | 20.8 | 9.2  | 26.2 | 33.2 |     | 22.9 | 21.2 |     |
| LOS                     | C    | C    |     | C    | C    | A    | C    | C    |     | C    | C    |     |
| Approach Delay          |      | 21.7 |     |      | 16.5 |      |      | 33.1 |     |      | 22.7 |     |
| Approach LOS            |      | C    |     |      | B    |      |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 7    | 62   |     | 70   | 42   | 107  | 1    | 68   |     | 72   | 18   |     |
| Queue Length 95th (ft)  | 24   | 101  |     | 142  | 73   | 208  | 10   | 150  |     | 146  | 57   |     |
| Internal Link Dist (ft) |      | 1872 |     |      | 758  |      |      | 905  |     |      | 611  |     |
| Turn Bay Length (ft)    | 200  |      |     | 200  |      | 350  | 150  |      |     | 250  |      |     |
| Base Capacity (vph)     | 538  | 1679 |     | 492  | 1722 | 1030 | 142  | 441  |     | 1158 | 608  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.04 | 0.20 |     | 0.36 | 0.13 | 0.53 | 0.03 | 0.41 |     | 0.38 | 0.10 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 70.1  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.61  
 Intersection Signal Delay: 20.5  
 Intersection LOS: C  
 Intersection Capacity Utilization 65.3%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 5: Flint Hill Road & SC-51



Miller Farm TIA  
6: Business Driveway & SC-51

12/21/2021



| Lane Group                 | EBT   | EBR   | WBL  | WBT   | NBL   | NBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        | ↑↑    |       |      | ↑↑    | ↑↑    |       |
| Traffic Volume (vph)       | 738   | 11    | 27   | 878   | 12    | 21    |
| Future Volume (vph)        | 738   | 11    | 27   | 878   | 12    | 21    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 0.95  | 0.95  | 0.95 | 0.95  | 1.00  | 1.00  |
| Fr <sub>t</sub>            | 0.998 |       |      |       | 0.914 |       |
| Fl <sub>t</sub> Protected  |       |       |      | 0.999 | 0.982 |       |
| Satd. Flow (prot)          | 3532  | 0     | 0    | 3536  | 1672  | 0     |
| Fl <sub>t</sub> Permitted  |       |       |      | 0.999 | 0.982 |       |
| Satd. Flow (perm)          | 3532  | 0     | 0    | 3536  | 1672  | 0     |
| Link Speed (mph)           | 45    |       |      | 45    | 25    |       |
| Link Distance (ft)         | 838   |       |      | 161   | 1054  |       |
| Travel Time (s)            | 12.7  |       |      | 2.4   | 28.7  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 820   | 12    | 30   | 976   | 13    | 23    |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 832   | 0     | 0    | 1006  | 36    | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Right | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 12    |       |      | 12    | 12    |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        |       | 9     | 15   |       | 15    | 9     |
| Sign Control               | Free  |       |      | Free  | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 53.8%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.8  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 738  | 11   | 27   | 878  | 12   | 21   |
| Future Vol, veh/h        | 738  | 11   | 27   | 878  | 12   | 21   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 820  | 12   | 30   | 976  | 13   | 23   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 832    | 0      | 1374   |
| Stage 1              | -      | -      | -      | -      | 826    |
| Stage 2              | -      | -      | -      | -      | 548    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 796    | -      | 137    |
| Stage 1              | -      | -      | -      | -      | 390    |
| Stage 2              | -      | -      | -      | -      | 543    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 796    | -      | 126    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 126    |
| Stage 1              | -      | -      | -      | -      | 390    |
| Stage 2              | -      | -      | -      | -      | 498    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.7 | 21.7 |
| HCM LOS              |    |     | C    |

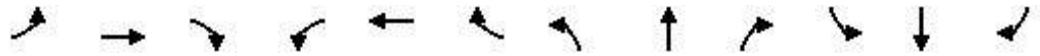
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 252   | -   | -   | 796   | -   |
| HCM Lane V/C Ratio    | 0.146 | -   | -   | 0.038 | -   |
| HCM Control Delay (s) | 21.7  | -   | -   | 9.7   | 0.4 |
| HCM Lane LOS          | C     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.5   | -   | -   | 0.1   | -   |



Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |       |       |       |      |       |       |      |       |       |      |      |       |
| Traffic Volume (vph)       | 110   | 649   | 4     | 9    | 647   | 14    | 7    | 6     | 12    | 23   | 4    | 247   |
| Future Volume (vph)        | 110   | 649   | 4     | 9    | 647   | 14    | 7    | 6     | 12    | 23   | 4    | 247   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 0.95 | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |       | 0.999 |       |      | 0.997 |       |      | 0.937 |       |      |      | 0.878 |
| Fl <sub>t</sub> Protected  | 0.950 |       |       |      | 0.999 |       |      | 0.986 |       |      |      | 0.996 |
| Satd. Flow (prot)          | 1770  | 3536  | 0     | 0    | 3525  | 0     | 0    | 1721  | 0     | 0    | 1629 | 0     |
| Fl <sub>t</sub> Permitted  | 0.950 |       |       |      | 0.999 |       |      | 0.986 |       |      |      | 0.996 |
| Satd. Flow (perm)          | 1770  | 3536  | 0     | 0    | 3525  | 0     | 0    | 1721  | 0     | 0    | 1629 | 0     |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |      | 25    |       |      |      | 35    |
| Link Distance (ft)         |       | 161   |       |      | 1378  |       |      | 1091  |       |      |      | 1017  |
| Travel Time (s)            |       | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      |      | 19.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 122   | 721   | 4     | 10   | 719   | 16    | 8    | 7     | 13    | 26   | 4    | 274   |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 122   | 725   | 0     | 0    | 745   | 0     | 0    | 28    | 0     | 0    | 304  | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 12    |       |      | 12    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |       | Free  |       |      | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 64.5%        |
| ICU Level of Service              | C            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 8    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 110  | 649  | 4    | 9    | 647  | 14   | 7    | 6    | 12   | 23   | 4    | 247  |
| Future Vol, veh/h        | 110  | 649  | 4    | 9    | 647  | 14   | 7    | 6    | 12   | 23   | 4    | 247  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 122  | 721  | 4    | 10   | 719  | 16   | 8    | 7    | 13   | 26   | 4    | 274  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 735    | 0 | 0 | 725    | 0 | 0 | 1349   | 1722 | 363  | 1355   | 1716 | 368  |
| Stage 1              | -      | - | - | -      | - | - | 967    | 967  | -    | 747    | 747  | -    |
| Stage 2              | -      | - | - | -      | - | - | 382    | 755  | -    | 608    | 969  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 866    | - | - | 874    | - | - | 109    | 88   | 634  | 108    | 89   | 629  |
| Stage 1              | -      | - | - | -      | - | - | 273    | 331  | -    | 371    | 418  | -    |
| Stage 2              | -      | - | - | -      | - | - | 612    | 415  | -    | 450    | 330  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 866    | - | - | 874    | - | - | 52     | 74   | 634  | 87     | 75   | 629  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 52     | 74   | -    | 87     | 75   | -    |
| Stage 1              | -      | - | - | -      | - | - | 235    | 284  | -    | 319    | 410  | -    |
| Stage 2              | -      | - | - | -      | - | - | 335    | 407  | -    | 370    | 283  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 1.4 |  |  | 0.2 |  |  | 50.1 |  |  | 41.4 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 107   | 866   | -   | -   | 874   | -   | -   | 386   |
| HCM Lane V/C Ratio    | 0.26  | 0.141 | -   | -   | 0.011 | -   | -   | 0.789 |
| HCM Control Delay (s) | 50.1  | 9.8   | -   | -   | 9.2   | 0.1 | -   | 41.4  |
| HCM Lane LOS          | F     | A     | -   | -   | A     | A   | -   | E     |
| HCM 95th %tile Q(veh) | 1     | 0.5   | -   | -   | 0     | -   | -   | 6.7   |

Miller Farm TIA  
9: Miller Road & NC-51

12/21/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↓     | ↑↑   | ↓     | ↓     |
| Traffic Volume (vph)       | 632  | 52    | 53    | 671  | 26    | 33    |
| Future Volume (vph)        | 632  | 52    | 53    | 671  | 26    | 33    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 370   | 335   |      | 0     | 185   |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 25    |       |
| Link Distance (ft)         | 1378 |       |       | 1912 | 1091  |       |
| Travel Time (s)            | 20.9 |       |       | 29.0 | 29.8  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 702  | 58    | 59    | 746  | 29    | 37    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 702  | 58    | 59    | 746  | 29    | 37    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 24   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 34.1%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.1  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 632  | 52   | 53   | 671  | 26   | 33   |
| Future Vol, veh/h        | 632  | 52   | 53   | 671  | 26   | 33   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 370  | 335  | -    | 0    | 185  |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 702  | 58   | 59   | 746  | 29   | 37   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 760    | 0      | 1193   |
| Stage 1              | -      | -      | -      | -      | 702    |
| Stage 2              | -      | -      | -      | -      | 491    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 848    | -      | 180    |
| Stage 1              | -      | -      | -      | -      | 453    |
| Stage 2              | -      | -      | -      | -      | 581    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 848    | -      | 167    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 167    |
| Stage 1              | -      | -      | -      | -      | 453    |
| Stage 2              | -      | -      | -      | -      | 540    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.7 | 19.8 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 167   | 645   | -   | -   | 848   | -   |
| HCM Lane V/C Ratio    | 0.173 | 0.057 | -   | -   | 0.069 | -   |
| HCM Control Delay (s) | 31    | 10.9  | -   | -   | 9.6   | -   |
| HCM Lane LOS          | D     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 0.6   | 0.2   | -   | -   | 0.2   | -   |

Miller Farm TIA  
10: Marfield Lane & NC-51

12/21/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↵     | ↑↑   | ↵     | ↵     |
| Traffic Volume (vph)       | 664  | 10    | 99    | 748  | 29    | 63    |
| Future Volume (vph)        | 664  | 10    | 99    | 748  | 29    | 63    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 310   | 520   |      | 100   | 0     |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 15    |       |
| Link Distance (ft)         | 1912 |       |       | 1898 | 1372  |       |
| Travel Time (s)            | 29.0 |       |       | 28.8 | 62.4  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 738  | 11    | 110   | 831  | 32    | 70    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 738  | 11    | 110   | 831  | 32    | 70    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 12   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

Area Type: Other  
 Control Type: Unsignalized  
 Intersection Capacity Utilization 37.2% ICU Level of Service A  
 Analysis Period (min) 15

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.9  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↗    | ↘    | ↑↑   | ↘    | ↗    |
| Traffic Vol, veh/h       | 664  | 10   | 99   | 748  | 29   | 63   |
| Future Vol, veh/h        | 664  | 10   | 99   | 748  | 29   | 63   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 310  | 520  | -    | 100  | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 738  | 11   | 110  | 831  | 32   | 70   |

| Major/Minor          | Major1 | Major2 | Minor1 |   |           |
|----------------------|--------|--------|--------|---|-----------|
| Conflicting Flow All | 0      | 0      | 749    | 0 | 1374 369  |
| Stage 1              | -      | -      | -      | - | 738 -     |
| Stage 2              | -      | -      | -      | - | 636 -     |
| Critical Hdwy        | -      | -      | 4.14   | - | 6.84 6.94 |
| Critical Hdwy Stg 1  | -      | -      | -      | - | 5.84 -    |
| Critical Hdwy Stg 2  | -      | -      | -      | - | 5.84 -    |
| Follow-up Hdwy       | -      | -      | 2.22   | - | 3.52 3.32 |
| Pot Cap-1 Maneuver   | -      | -      | 856    | - | 137 628   |
| Stage 1              | -      | -      | -      | - | 434 -     |
| Stage 2              | -      | -      | -      | - | 489 -     |
| Platoon blocked, %   | -      | -      | -      | - | -         |
| Mov Cap-1 Maneuver   | -      | -      | 856    | - | 119 628   |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | 119 -     |
| Stage 1              | -      | -      | -      | - | 434 -     |
| Stage 2              | -      | -      | -      | - | 426 -     |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 1.1 | 22.4 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 119   | 628   | -   | -   | 856   | -   |
| HCM Lane V/C Ratio    | 0.271 | 0.111 | -   | -   | 0.129 | -   |
| HCM Control Delay (s) | 46.1  | 11.5  | -   | -   | 9.8   | -   |
| HCM Lane LOS          | E     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 1     | 0.4   | -   | -   | 0.4   | -   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021



| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 70    | 670   | 4     | 658   | 129   | 303   | 163   |
| Future Volume (vph)        | 70    | 670   | 4     | 658   | 129   | 303   | 163   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 100   |       | 100   |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 78    | 744   | 4     | 731   | 143   | 337   | 181   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 78    | 744   | 4     | 731   | 143   | 337   | 181   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 20.0  | 57.0  | 14.0  | 51.0  |       | 49.0  | 20.0  |
| Total Split (%)            | 16.7% | 47.5% | 11.7% | 42.5% |       | 40.8% | 16.7% |
| Maximum Green (s)          | 14.2  | 51.0  | 8.1   | 45.2  |       | 43.4  | 14.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |

Miller Farm TIA  
 11: NC-51 & Downs Road

12/21/2021

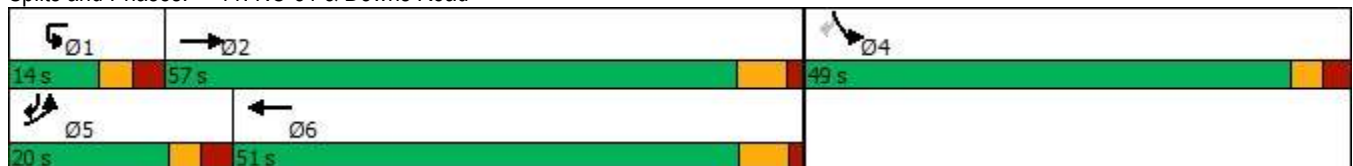


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effect Green (s)    | 9.3  | 33.3 | 8.2  | 20.8 | 64.0 | 18.3 | 32.8 |
| Actuated g/C Ratio      | 0.15 | 0.52 | 0.13 | 0.32 | 1.00 | 0.29 | 0.51 |
| v/c Ratio               | 0.30 | 0.40 | 0.02 | 0.64 | 0.09 | 0.67 | 0.22 |
| Control Delay           | 31.8 | 12.0 | 32.0 | 22.0 | 0.1  | 28.3 | 10.1 |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 31.8 | 12.0 | 32.0 | 22.0 | 0.1  | 28.3 | 10.1 |
| LOS                     | C    | B    | C    | C    | A    | C    | B    |
| Approach Delay          |      | 13.9 |      | 18.5 |      | 22.0 |      |
| Approach LOS            |      | B    |      | B    |      | C    |      |
| Queue Length 50th (ft)  | 27   | 74   | 1    | 117  | 0    | 112  | 36   |
| Queue Length 95th (ft)  | 79   | 211  | 12   | 227  | 0    | 232  | 83   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 432  | 2923 | 258  | 2648 | 1583 | 1260 | 962  |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.18 | 0.25 | 0.02 | 0.28 | 0.09 | 0.27 | 0.19 |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Cycle Length:                     | 120                    |
| Actuated Cycle Length:            | 64                     |
| Natural Cycle:                    | 60                     |
| Control Type:                     | Actuated-Uncoordinated |
| Maximum v/c Ratio:                | 0.67                   |
| Intersection Signal Delay:        | 17.6                   |
| Intersection LOS:                 | B                      |
| Intersection Capacity Utilization | 53.6%                  |
| ICU Level of Service              | A                      |
| Analysis Period (min)             | 15                     |

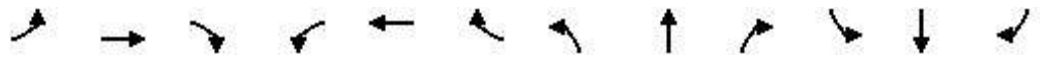
Splits and Phases: 11: NC-51 & Downs Road





Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 107   | 848   | 200   | 75    | 517   | 189   | 177   | 285   | 40    | 374   | 517   | 147   |
| Future Volume (vph)        | 107   | 848   | 200   | 75    | 517   | 189   | 177   | 285   | 40    | 374   | 517   | 147   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.971 |       |       |       | 0.850 |       | 0.982 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3437  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3437  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       |       | 1160  |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       |       | 22.6  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 119   | 942   | 222   | 83    | 574   | 210   | 197   | 317   | 44    | 416   | 574   | 163   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 119   | 1164  | 0     | 83    | 574   | 210   | 197   | 361   | 0     | 416   | 574   | 163   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 21.0  | 51.0  |       | 14.0  | 44.0  | 35.0  | 14.0  | 30.0  |       | 35.0  | 51.0  | 21.0  |
| Total Split (%)            | 16.2% | 39.2% |       | 10.8% | 33.8% | 26.9% | 10.8% | 23.1% |       | 26.9% | 39.2% | 16.2% |
| Maximum Green (s)          | 14.8  | 44.8  |       | 8.2   | 38.3  | 29.1  | 7.4   | 24.0  |       | 29.1  | 45.3  | 14.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.7  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.2   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |

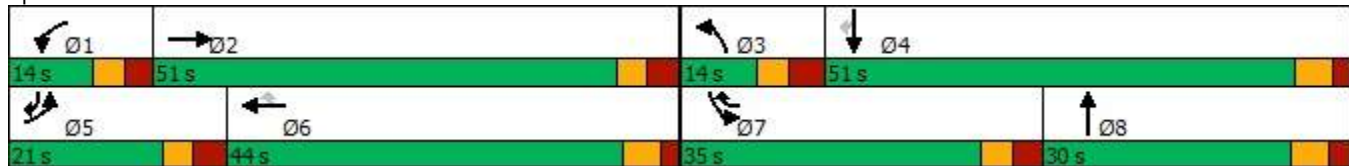


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT   | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|------|------|-------|-----|------|------|------|
| Act Effct Green (s)     | 13.5 | 45.2 |     | 8.8  | 40.4 | 75.2 | 9.0  | 25.0  |     | 30.0 | 46.0 | 64.5 |
| Actuated g/C Ratio      | 0.10 | 0.35 |     | 0.07 | 0.31 | 0.58 | 0.07 | 0.19  |     | 0.23 | 0.36 | 0.50 |
| v/c Ratio               | 0.64 | 0.97 |     | 0.70 | 0.53 | 0.23 | 0.83 | 1.03  |     | 1.02 | 0.87 | 0.21 |
| Control Delay           | 71.4 | 60.5 |     | 89.3 | 38.9 | 14.2 | 87.0 | 106.4 |     | 98.9 | 54.6 | 18.6 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 71.4 | 60.5 |     | 89.3 | 38.9 | 14.2 | 87.0 | 106.4 |     | 98.9 | 54.6 | 18.6 |
| LOS                     | E    | E    |     | F    | D    | B    | F    | F     |     | F    | D    | B    |
| Approach Delay          |      | 61.5 |     |      | 37.7 |      |      | 99.5  |     |      | 65.5 |      |
| Approach LOS            |      | E    |     |      | D    |      |      | F     |     |      | E    |      |
| Queue Length 50th (ft)  | 97   | 502  |     | 70   | 209  | 82   | 86   | ~327  |     | ~374 | 451  | 74   |
| Queue Length 95th (ft)  | 162  | #649 |     | #150 | 273  | 131  | #153 | #523  |     | #581 | #660 | 116  |
| Internal Link Dist (ft) |      | 1431 |     |      | 1196 |      |      | 942   |     |      | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275  |      | 625  | 450  |       |     |      |      | 175  |
| Base Capacity (vph)     | 219  | 1226 |     | 121  | 1092 | 909  | 237  | 351   |     | 407  | 658  | 814  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0     |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0     |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0     |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.54 | 0.95 |     | 0.69 | 0.53 | 0.23 | 0.83 | 1.03  |     | 1.02 | 0.87 | 0.20 |

Intersection Summary

Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 128.9  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 62.8      Intersection LOS: E  
 Intersection Capacity Utilization 90.5%      ICU Level of Service E  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 21    | 644   | 217   | 76    | 629   | 48    | 194   | 53    | 94    | 99    | 111   | 102   |
| Future Volume (vph)        | 21    | 644   | 217   | 76    | 629   | 48    | 194   | 53    | 94    | 99    | 111   | 102   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       |       | -1%   |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.962 |       |       | 0.989 |       |       | 0.904 |       |       |       | 0.928 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3456  | 0     | 1743  | 3448  | 0     | 1778  | 1692  | 0     | 1778  | 1737  | 0     |
| Flt Permitted              | 0.334 |       |       | 0.246 |       |       | 0.564 |       |       | 0.654 |       |       |
| Satd. Flow (perm)          | 631   | 3456  | 0     | 451   | 3448  | 0     | 1056  | 1692  | 0     | 1224  | 1737  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       |       | 1210  |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       |       | 23.6  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 23    | 716   | 241   | 84    | 699   | 53    | 216   | 59    | 104   | 110   | 123   | 113   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 23    | 957   | 0     | 84    | 752   | 0     | 216   | 163   | 0     | 110   | 236   | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       |       | 12    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       |       | 6     |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 32.2  | 32.2  |       | 32.2  | 32.2  |       | 27.8  | 27.8  |       | 27.8  | 27.8  |       |
| Total Split (%)            | 53.7% | 53.7% |       | 53.7% | 53.7% |       | 46.3% | 46.3% |       | 46.3% | 46.3% |       |
| Maximum Green (s)          | 26.4  | 26.4  |       | 27.0  | 27.0  |       | 22.3  | 22.3  |       | 22.0  | 22.0  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.5  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.3   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021



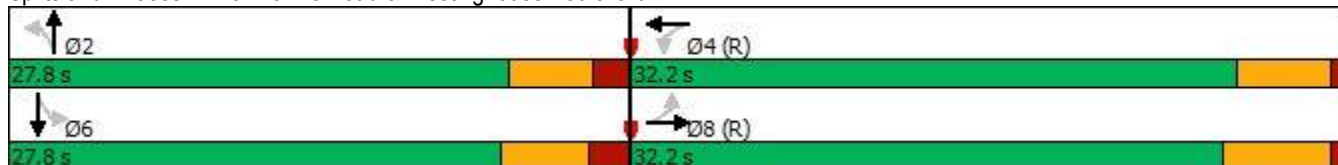
| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 32.3 | 32.3 |     | 32.3 | 32.3 |     | 17.7 | 17.7 |     | 17.4 | 17.7 |     |
| Actuated g/C Ratio      | 0.54 | 0.54 |     | 0.54 | 0.54 |     | 0.30 | 0.30 |     | 0.29 | 0.30 |     |
| v/c Ratio               | 0.07 | 0.51 |     | 0.35 | 0.40 |     | 0.70 | 0.33 |     | 0.31 | 0.46 |     |
| Control Delay           | 14.1 | 18.7 |     | 15.1 | 9.8  |     | 30.5 | 17.2 |     | 17.7 | 19.4 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 14.1 | 18.7 |     | 15.1 | 9.8  |     | 30.5 | 17.2 |     | 17.7 | 19.4 |     |
| LOS                     | B    | B    |     | B    | A    |     | C    | B    |     | B    | B    |     |
| Approach Delay          |      | 18.6 |     |      | 10.4 |     |      | 24.8 |     |      | 18.9 |     |
| Approach LOS            |      | B    |     |      | B    |     |      | C    |     |      | B    |     |
| Queue Length 50th (ft)  | 7    | 185  |     | 15   | 75   |     | 69   | 46   |     | 31   | 69   |     |
| Queue Length 95th (ft)  | m28  | 416  |     | 56   | 136  |     | 120  | 77   |     | 59   | 109  |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 340  | 1862 |     | 243  | 1858 |     | 401  | 642  |     | 459  | 660  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.07 | 0.51 |     | 0.35 | 0.40 |     | 0.54 | 0.25 |     | 0.24 | 0.36 |     |

Intersection Summary

|                                    |   |
|------------------------------------|---|
| Area Type:                         | Other   |
| Cycle Length:                      | 60  |
| Actuated Cycle Length:             | 60  |
| Offset:                            | 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green |
| Natural Cycle:                     | 40  |
| Control Type:                      | Actuated-Coordinated  |
| Maximum v/c Ratio:                 | 0.70  |
| Intersection Signal Delay:         | 16.9  |
| Intersection LOS:                  | B   |
| Intersection Capacity Utilization: | 70.1%   |
| ICU Level of Service:              | C   |
| Analysis Period (min):             | 15  |

m Volume for 95th percentile queue is metered by upstream signal.

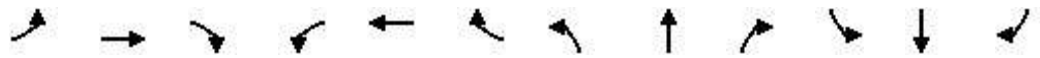
Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 155   | 793   | 90    | 55    | 878   | 14    | 163   | 75    | 45    | 32    | 73    | 324   |
| Future Volume (vph)        | 155   | 793   | 90    | 55    | 878   | 14    | 163   | 75    | 45    | 32    | 73    | 324   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.985 |       |       | 0.998 |       |       | 0.944 |       |       | 0.850 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3504  | 0     | 1761  | 3514  | 0     | 1761  | 1750  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.704 |       |       | 0.588 |       |       |
| Satd. Flow (perm)          | 1778  | 3504  | 0     | 1761  | 3514  | 0     | 1305  | 1750  | 0     | 1079  | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 172   | 881   | 100   | 61    | 976   | 16    | 181   | 83    | 50    | 36    | 81    | 360   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 172   | 981   | 0     | 61    | 992   | 0     | 181   | 133   | 0     | 36    | 81    | 360   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           |       |       |       |       |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 28.0  | 70.0  |       | 14.0  | 56.0  |       | 36.0  | 36.0  |       | 36.0  | 36.0  | 28.0  |
| Total Split (%)            | 23.3% | 58.3% |       | 11.7% | 46.7% |       | 30.0% | 30.0% |       | 30.0% | 30.0% | 23.3% |
| Maximum Green (s)          | 21.0  | 64.5  |       | 7.0   | 50.5  |       | 30.6  | 30.6  |       | 30.7  | 30.7  | 21.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -0.5  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 6.5   |
| Lead/Lag                   | Lag   | Lag   |       | Lead  | Lead  |       |       |       |       |       |       | Lag   |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



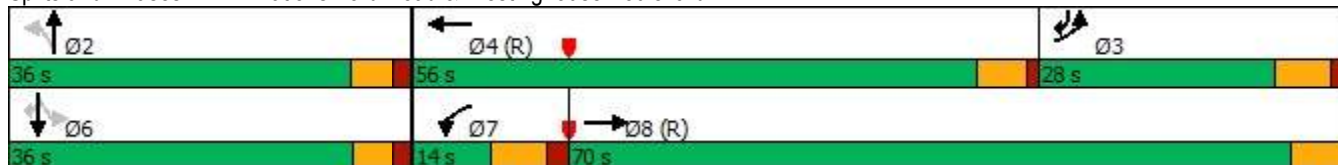
| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effect Green (s)    | 26.4 | 74.9 |     | 10.6 | 56.3 |     | 22.3 | 22.3 |     | 22.3 | 22.3 | 52.2 |
| Actuated g/C Ratio      | 0.22 | 0.62 |     | 0.09 | 0.47 |     | 0.19 | 0.19 |     | 0.19 | 0.19 | 0.44 |
| v/c Ratio               | 0.44 | 0.45 |     | 0.39 | 0.60 |     | 0.75 | 0.41 |     | 0.18 | 0.24 | 0.53 |
| Control Delay           | 44.1 | 14.4 |     | 56.1 | 30.1 |     | 64.0 | 45.3 |     | 40.4 | 41.2 | 27.0 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 44.1 | 14.4 |     | 56.1 | 30.1 |     | 64.0 | 45.3 |     | 40.4 | 41.2 | 27.0 |
| LOS                     | D    | B    |     | E    | C    |     | E    | D    |     | D    | D    | C    |
| Approach Delay          |      | 18.8 |     |      | 31.6 |     |      | 56.1 |     |      |      | 30.4 |
| Approach LOS            |      | B    |     |      | C    |     |      | E    |     |      |      | C    |
| Queue Length 50th (ft)  | 113  | 213  |     | 44   | 330  |     | 134  | 92   |     | 24   | 54   | 194  |
| Queue Length 95th (ft)  | 189  | 301  |     | m93  | 413  |     | 199  | 140  |     | 51   | 92   | 263  |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 394  | 2187 |     | 155  | 1678 |     | 337  | 452  |     | 278  | 474  | 665  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.44 | 0.45 |     | 0.39 | 0.59 |     | 0.54 | 0.29 |     | 0.13 | 0.17 | 0.54 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:WBT and 8:EBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 29.0 Intersection LOS: C  
 Intersection Capacity Utilization 68.5% ICU Level of Service C  
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard



Miller Farm TIA  
 550: Flint Hill Road & Springhill Farm Road

12/21/2021



| Lane Group                 | EBL   | EBR   | NBL  | NBT   | SBT   | SBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        |       |       |      |       |       |       |
| Traffic Volume (vph)       | 521   | 4     | 4    | 4     | 4     | 450   |
| Future Volume (vph)        | 521   | 4     | 4    | 4     | 4     | 450   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.999 |       |      |       | 0.866 |       |
| Flt Protected              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (prot)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Flt Permitted              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (perm)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Link Speed (mph)           | 40    |       |      | 45    | 40    |       |
| Link Distance (ft)         | 691   |       |      | 657   | 1957  |       |
| Travel Time (s)            | 11.8  |       |      | 10.0  | 33.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 579   | 4     | 4    | 4     | 4     | 500   |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 583   | 0     | 0    | 8     | 504   | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 36    |       |      | 0     | 0     |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     | 15   |       |       | 9     |
| Sign Control               | Stop  |       |      | Free  | Free  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 63.8%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service B |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 14.8 |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 521  | 4    | 4    | 4    | 4    | 450  |
| Future Vol, veh/h        | 521  | 4    | 4    | 4    | 4    | 450  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 579  | 4    | 4    | 4    | 4    | 500  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 266    | 254    | 504    | 0 | - | 0 |
| Stage 1              | 254    | -      | -      | - | - | - |
| Stage 2              | 12     | -      | -      | - | - | - |
| Critical Hdwy        | 6.42   | 6.22   | 4.12   | - | - | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | - | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | - | - |
| Follow-up Hdwy       | 3.518  | 3.318  | 2.218  | - | - | - |
| Pot Cap-1 Maneuver   | 723    | 785    | 1061   | - | - | - |
| Stage 1              | 788    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | 720    | 785    | 1061   | - | - | - |
| Mov Cap-2 Maneuver   | 720    | -      | -      | - | - | - |
| Stage 1              | 785    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 27.7 | 4.2 | 0  |
| HCM LOS              | D    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1061  | -   | 720   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | 0.81  | -   | -   |
| HCM Control Delay (s) | 8.4   | 0   | 27.7  | -   | -   |
| HCM Lane LOS          | A     | A   | D     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | 8.5   | -   | -   |



Queuing and Blocking Report  
 2023 Background PM Peak Hour

12/06/2021

Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB  | EB   | EB   | WB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | T   | T   | R   | L   | TR  | L   | L   | TR  |
| Maximum Queue (ft)    | 54  | 131  | 113  | 184 | 94  | 103 | 247 | 27  | 193 | 160 | 157 | 78  |
| Average Queue (ft)    | 13  | 71   | 45   | 84  | 31  | 50  | 111 | 3   | 83  | 83  | 88  | 23  |
| 95th Queue (ft)       | 39  | 116  | 91   | 148 | 69  | 88  | 197 | 15  | 152 | 136 | 138 | 58  |
| Link Distance (ft)    |     | 1904 | 1904 |     | 746 | 746 |     |     | 932 |     |     | 586 |
| Upstream Blk Time (%) |     |      |      |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 200 |      |      | 200 |     |     | 350 | 150 |     | 250 | 250 |     |
| Storage Blk Time (%)  |     |      |      | 0   | 0   |     | 0   |     | 1   |     |     |     |
| Queuing Penalty (veh) |     |      |      | 0   | 0   |     | 0   |     | 0   |     |     |     |

Intersection: 6: Business Driveway & SC-51

| Movement              | EB  | WB  | WB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | TR  | LT  | T   | LR  |
| Maximum Queue (ft)    | 5   | 83  | 3   | 53  |
| Average Queue (ft)    | 0   | 17  | 0   | 23  |
| 95th Queue (ft)       | 3   | 58  | 3   | 52  |
| Link Distance (ft)    | 746 | 105 | 105 | 996 |
| Upstream Blk Time (%) |     | 0   |     |     |
| Queuing Penalty (veh) |     | 0   |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|------|------|------|-----|
| Directions Served     | L   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 78  | 44   | 10   | 45   | 329 |
| Average Queue (ft)    | 31  | 5    | 1    | 16   | 118 |
| 95th Queue (ft)       | 62  | 26   | 6    | 40   | 249 |
| Link Distance (ft)    | 105 | 1285 | 1285 | 1037 | 928 |
| Upstream Blk Time (%) | 0   |      |      |      |     |
| Queuing Penalty (veh) | 0   |      |      |      |     |
| Storage Bay Dist (ft) |     |      |      |      |     |
| Storage Blk Time (%)  |     |      |      |      |     |
| Queuing Penalty (veh) |     |      |      |      |     |

Queuing and Blocking Report  
2023 Background PM Peak Hour

12/06/2021

Intersection: 9: Miller Road & NC-51

| Movement              | EB  | WB  | NB   | NB  |
|-----------------------|-----|-----|------|-----|
| Directions Served     | R   | L   | L    | R   |
| Maximum Queue (ft)    | 6   | 60  | 68   | 46  |
| Average Queue (ft)    | 0   | 19  | 20   | 17  |
| 95th Queue (ft)       | 4   | 47  | 50   | 39  |
| Link Distance (ft)    |     |     | 1024 |     |
| Upstream Blk Time (%) |     |     |      |     |
| Queuing Penalty (veh) |     |     |      |     |
| Storage Bay Dist (ft) | 370 | 335 |      | 185 |
| Storage Blk Time (%)  |     |     |      |     |
| Queuing Penalty (veh) |     |     |      |     |

Intersection: 10: Marfield Lane & NC-51

| Movement              | EB  | WB  | NB  | NB   |
|-----------------------|-----|-----|-----|------|
| Directions Served     | R   | L   | L   | R    |
| Maximum Queue (ft)    | 4   | 80  | 62  | 63   |
| Average Queue (ft)    | 0   | 34  | 21  | 25   |
| 95th Queue (ft)       | 3   | 67  | 50  | 49   |
| Link Distance (ft)    |     |     |     | 1311 |
| Upstream Blk Time (%) |     |     |     |      |
| Queuing Penalty (veh) |     |     |     |      |
| Storage Bay Dist (ft) | 310 | 520 | 100 |      |
| Storage Blk Time (%)  |     |     | 0   | 0    |
| Queuing Penalty (veh) |     |     | 0   | 0    |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | SB  | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|-----|
| Directions Served     | L   | T    | T    | U   | T    | T    | L   | R   |
| Maximum Queue (ft)    | 98  | 150  | 149  | 31  | 180  | 182  | 231 | 133 |
| Average Queue (ft)    | 42  | 59   | 67   | 4   | 86   | 85   | 130 | 60  |
| 95th Queue (ft)       | 82  | 120  | 123  | 20  | 154  | 151  | 206 | 112 |
| Link Distance (ft)    |     | 1836 | 1836 |     | 1076 | 1076 |     | 545 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |
| Storage Bay Dist (ft) | 310 |      |      | 210 |      |      | 275 |     |
| Storage Blk Time (%)  |     |      |      |     | 0    |      | 0   |     |
| Queuing Penalty (veh) |     |      |      |     | 0    |      | 0   |     |

Queuing and Blocking Report  
2023 Background PM Peak Hour

12/06/2021

Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 386 | 553  | 584  | 149 | 269  | 259  | 152 | 190 | 347 | 480 | 623  | 648  |
| Average Queue (ft)    | 117 | 349  | 374  | 69  | 166  | 147  | 71  | 94  | 147 | 300 | 333  | 316  |
| 95th Queue (ft)       | 292 | 514  | 540  | 132 | 243  | 229  | 131 | 195 | 272 | 495 | 569  | 533  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |     |      | 0    |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |     |      | 0    |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 14   |      |     | 0    |      |     |     |     | 4   |      | 30   |
| Queuing Penalty (veh) |     | 15   |      |     | 0    |      |     |     |     | 8   |      | 44   |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 275 |
| Average Queue (ft)    | 126 |
| 95th Queue (ft)       | 307 |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  | 0   |
| Queuing Penalty (veh) | 1   |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 38  | 220  | 258  | 104 | 143  | 133  | 201 | 144  | 95  | 179  |
| Average Queue (ft)    | 9   | 84   | 115  | 43  | 73   | 61   | 89  | 60   | 38  | 82   |
| 95th Queue (ft)       | 27  | 171  | 208  | 88  | 120  | 114  | 159 | 115  | 77  | 144  |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     | 0    |      | 0   |      |     | 0    |
| Queuing Penalty (veh) |     |      |      |     | 0    |      | 0   |      |     | 0    |

Queuing and Blocking Report  
 2023 Background PM Peak Hour

12/06/2021

Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 209 | 246  | 274  | 128 | 369  | 385  | 236 | 236  | 76  | 134  | 288 |
| Average Queue (ft)    | 107 | 133  | 138  | 41  | 199  | 217  | 112 | 82   | 25  | 45   | 135 |
| 95th Queue (ft)       | 176 | 225  | 235  | 94  | 316  | 341  | 188 | 166  | 61  | 99   | 238 |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      | 2   | 1    |     | 0    | 0   |
| Queuing Penalty (veh) |     |      |      |     |      |      | 2   | 1    |     | 0    | 0   |

Intersection: 550: Flint Hill Road & Springhill Farm Road

| Movement              | EB  | NB  | SB   |
|-----------------------|-----|-----|------|
| Directions Served     | LR  | LT  | TR   |
| Maximum Queue (ft)    | 194 | 21  | 2    |
| Average Queue (ft)    | 70  | 2   | 0    |
| 95th Queue (ft)       | 137 | 12  | 2    |
| Link Distance (ft)    | 586 | 625 | 1902 |
| Upstream Blk Time (%) |     |     |      |
| Queuing Penalty (veh) |     |     |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

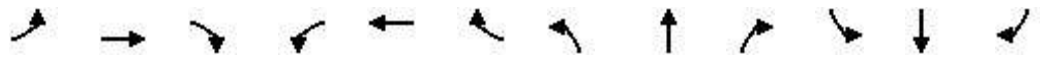
Network Summary

|                                  |
|----------------------------------|
| Network wide Queuing Penalty: 73 |
|----------------------------------|

## **2025 Background Traffic Volumes**

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 28    | 310   | 4     | 54    | 131   | 392   | 4     | 15    | 206   | 401   | 35    | 13    |
| Future Volume (vph)        | 28    | 310   | 4     | 54    | 131   | 392   | 4     | 15    | 206   | 401   | 35    | 13    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 2%    |       |       | -2%   |       |       | 1%    |       |       | -1%   |       |
| Storage Length (ft)        | 200   |       | 0     | 200   |       | 350   | 150   |       | 0     | 250   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 1     |       | 0     | 2     |       | 0     |
| Taper Length (ft)          | 25    |       |       | 25    |       |       | 25    |       |       | 25    |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 0.97  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       | 0.998 |       |       |       | 0.850 |       | 0.860 |       |       | 0.960 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1752  | 3497  | 0     | 1787  | 3575  | 1599  | 1761  | 1594  | 0     | 3450  | 1797  | 0     |
| Flt Permitted              | 0.659 |       |       | 0.515 |       |       | 0.226 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1215  | 3497  | 0     | 969   | 3575  | 1599  | 419   | 1594  | 0     | 3450  | 1797  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |       | 40    |
| Link Distance (ft)         |       | 1952  |       |       | 838   |       |       | 985   |       |       |       | 691   |
| Travel Time (s)            |       | 29.6  |       |       | 12.7  |       |       | 19.2  |       |       |       | 11.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 31    | 344   | 4     | 60    | 146   | 436   | 4     | 17    | 229   | 446   | 39    | 14    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 31    | 348   | 0     | 60    | 146   | 436   | 4     | 246   | 0     | 446   | 53    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    | pm+ov | Perm  | NA    |       | Split | NA    |       |
| Protected Phases           |       | 2     |       |       | 6     | 4     |       | 3     |       | 4     | 4     |       |
| Permitted Phases           | 2     |       |       | 6     |       | 6     | 3     |       |       |       |       |       |
| Detector Phase             | 2     | 2     |       | 6     | 6     | 4     | 3     | 3     |       | 4     | 4     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 15.0  | 15.0  |       | 15.0  | 15.0  | 8.0   | 8.0   | 8.0   |       | 8.0   | 8.0   |       |
| Minimum Split (s)          | 22.0  | 22.0  |       | 22.0  | 22.0  | 15.0  | 15.0  | 15.0  |       | 15.0  | 15.0  |       |
| Total Split (s)            | 27.0  | 27.0  |       | 27.0  | 27.0  | 30.0  | 33.0  | 33.0  |       | 30.0  | 30.0  |       |
| Total Split (%)            | 30.0% | 30.0% |       | 30.0% | 30.0% | 33.3% | 36.7% | 36.7% |       | 33.3% | 33.3% |       |
| Maximum Green (s)          | 20.4  | 20.4  |       | 20.4  | 20.4  | 23.8  | 26.8  | 26.8  |       | 23.8  | 23.8  |       |
| Yellow Time (s)            | 4.5   | 4.5   |       | 4.5   | 4.5   | 3.7   | 3.7   | 3.7   |       | 3.7   | 3.7   |       |
| All-Red Time (s)           | 2.1   | 2.1   |       | 2.1   | 2.1   | 2.5   | 2.5   | 2.5   |       | 2.5   | 2.5   |       |
| Lost Time Adjust (s)       | -1.6  | -1.6  |       | -1.6  | -1.6  | -1.2  | -1.2  | -1.2  |       | -1.2  | -1.2  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       | Lag   | Lead  | Lead  |       | Lag   | Lag   |       |
| Lead-Lag Optimize?         |       |       |       |       |       | Yes   | Yes   | Yes   |       | Yes   | Yes   |       |
| Vehicle Extension (s)      | 3.8   | 3.8   |       | 3.8   | 3.8   | 3.8   | 3.8   | 3.8   |       | 3.8   | 3.8   |       |
| Recall Mode                | Min   | Min   |       | Min   | Min   | None  | None  | None  |       | None  | None  |       |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

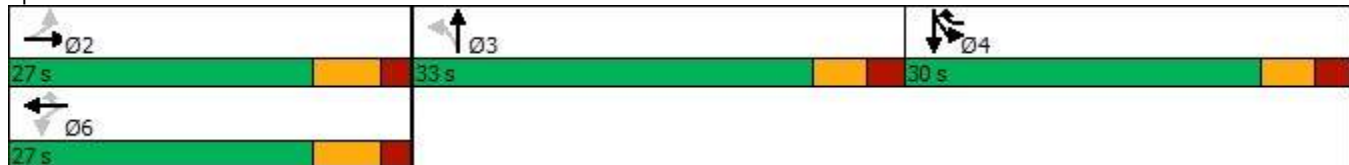


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 17.0 | 17.0 |     | 17.0 | 17.0 | 41.1 | 17.7 | 17.7 |     | 19.1 | 19.1 |     |
| Actuated g/C Ratio      | 0.25 | 0.25 |     | 0.25 | 0.25 | 0.59 | 0.26 | 0.26 |     | 0.28 | 0.28 |     |
| v/c Ratio               | 0.10 | 0.41 |     | 0.25 | 0.17 | 0.46 | 0.04 | 0.60 |     | 0.47 | 0.11 |     |
| Control Delay           | 25.8 | 25.9 |     | 28.5 | 24.3 | 10.5 | 21.2 | 30.0 |     | 22.9 | 20.0 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 25.8 | 25.9 |     | 28.5 | 24.3 | 10.5 | 21.2 | 30.0 |     | 22.9 | 20.0 |     |
| LOS                     | C    | C    |     | C    | C    | B    | C    | C    |     | C    | C    |     |
| Approach Delay          |      | 25.9 |     |      | 15.3 |      |      | 29.8 |     |      | 22.6 |     |
| Approach LOS            |      | C    |     |      | B    |      |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 10   | 65   |     | 21   | 25   | 90   | 1    | 92   |     | 78   | 16   |     |
| Queue Length 95th (ft)  | 37   | 126  |     | 63   | 58   | 198  | 9    | 172  |     | 136  | 46   |     |
| Internal Link Dist (ft) |      | 1872 |     |      | 758  |      |      | 905  |     |      | 611  |     |
| Turn Bay Length (ft)    | 200  |      |     | 200  |      | 350  | 150  |      |     | 250  |      |     |
| Base Capacity (vph)     | 395  | 1138 |     | 315  | 1163 | 932  | 173  | 660  |     | 1275 | 664  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.08 | 0.31 |     | 0.19 | 0.13 | 0.47 | 0.02 | 0.37 |     | 0.35 | 0.08 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 69.1  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 21.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 66.6%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 5: Flint Hill Road & SC-51



Miller Farm TIA  
 6: Business Driveway & SC-51

12/21/2021



| Lane Group                 | EBT   | EBR   | WBL  | WBT   | NBL   | NBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        | ↑↑    |       |      | ↑↑    | ↑↑    |       |
| Traffic Volume (vph)       | 866   | 6     | 21   | 571   | 14    | 15    |
| Future Volume (vph)        | 866   | 6     | 21   | 571   | 14    | 15    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 0.95  | 0.95  | 0.95 | 0.95  | 1.00  | 1.00  |
| Fr <sub>t</sub>            | 0.999 |       |      | 0.930 |       |       |
| Fl <sub>t</sub> Protected  |       |       |      | 0.998 | 0.976 |       |
| Satd. Flow (prot)          | 3536  | 0     | 0    | 3532  | 1691  | 0     |
| Fl <sub>t</sub> Permitted  |       |       |      | 0.998 | 0.976 |       |
| Satd. Flow (perm)          | 3536  | 0     | 0    | 3532  | 1691  | 0     |
| Link Speed (mph)           | 45    |       |      | 45    | 25    |       |
| Link Distance (ft)         | 838   |       |      | 161   | 1054  |       |
| Travel Time (s)            | 12.7  |       |      | 2.4   | 28.7  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 962   | 7     | 23   | 634   | 16    | 17    |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 969   | 0     | 0    | 657   | 33    | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 12    |       |      | 12    | 12    |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 9     |       | 15   | 15    |       | 9     |
| Sign Control               | Free  |       |      | Free  | Stop  |       |

Intersection Summary

|                                   |                              |
|-----------------------------------|------------------------------|
| Area Type:                        | Other                        |
| Control Type:                     | Unsignalized                 |
| Intersection Capacity Utilization | 41.1% ICU Level of Service A |
| Analysis Period (min)             | 15                           |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.7  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 866  | 6    | 21   | 571  | 14   | 15   |
| Future Vol, veh/h        | 866  | 6    | 21   | 571  | 14   | 15   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 962  | 7    | 23   | 634  | 16   | 17   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 969    | 0      | 1329   |
| Stage 1              | -      | -      | -      | -      | 966    |
| Stage 2              | -      | -      | -      | -      | 363    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 707    | -      | 146    |
| Stage 1              | -      | -      | -      | -      | 330    |
| Stage 2              | -      | -      | -      | -      | 674    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 707    | -      | 139    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 139    |
| Stage 1              | -      | -      | -      | -      | 330    |
| Stage 2              | -      | -      | -      | -      | 640    |

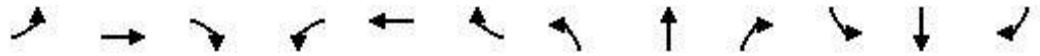
| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.6 | 23.7 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 225   | -   | -   | 707   | -   |
| HCM Lane V/C Ratio    | 0.143 | -   | -   | 0.033 | -   |
| HCM Control Delay (s) | 23.7  | -   | -   | 10.3  | 0.2 |
| HCM Lane LOS          | C     | -   | -   | B     | A   |
| HCM 95th %tile Q(veh) | 0.5   | -   | -   | 0.1   | -   |

Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |       |       |      |       |       |      |       |       |      |       |       |
| Traffic Volume (vph)       | 287   | 594   | 4     | 4    | 493   | 49    | 6    | 4     | 21    | 18   | 4     | 93    |
| Future Volume (vph)        | 287   | 594   | 4     | 4    | 493   | 49    | 6    | 4     | 21    | 18   | 4     | 93    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 0.95 | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       | 0.999 |       |      | 0.987 |       |      | 0.909 |       |      | 0.891 |       |
| Fl <sub>t</sub> Protected  | 0.950 |       |       |      |       |       |      | 0.990 |       |      | 0.992 |       |
| Satd. Flow (prot)          | 1770  | 3536  | 0     | 0    | 3493  | 0     | 0    | 1676  | 0     | 0    | 1646  | 0     |
| Fl <sub>t</sub> Permitted  | 0.950 |       |       |      |       |       |      | 0.990 |       |      | 0.992 |       |
| Satd. Flow (perm)          | 1770  | 3536  | 0     | 0    | 3493  | 0     | 0    | 1676  | 0     | 0    | 1646  | 0     |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |      | 25    |       |      | 35    |       |
| Link Distance (ft)         |       | 161   |       |      | 1378  |       |      | 1091  |       |      | 1017  |       |
| Travel Time (s)            |       | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      | 19.8  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 319   | 660   | 4     | 4    | 548   | 54    | 7    | 4     | 23    | 20   | 4     | 103   |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 319   | 664   | 0     | 0    | 606   | 0     | 0    | 34    | 0     | 0    | 127   | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 12    |       |      | 12    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |       |       |      |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free  |       |      | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 50.6%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.5  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 287  | 594  | 4    | 4    | 493  | 49   | 6    | 4    | 21   | 18   | 4    | 93   |
| Future Vol, veh/h        | 287  | 594  | 4    | 4    | 493  | 49   | 6    | 4    | 21   | 18   | 4    | 93   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 319  | 660  | 4    | 4    | 548  | 54   | 7    | 4    | 23   | 20   | 4    | 103  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 602    | 0 | 0 | 664    | 0 | 0 | 1584   | 1910 | 332  | 1553   | 1885 | 301  |
| Stage 1              | -      | - | - | -      | - | - | 1300   | 1300 | -    | 583    | 583  | -    |
| Stage 2              | -      | - | - | -      | - | - | 284    | 610  | -    | 970    | 1302 | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 971    | - | - | 921    | - | - | 73     | 67   | 664  | 77     | 70   | 695  |
| Stage 1              | -      | - | - | -      | - | - | 170    | 230  | -    | 465    | 497  | -    |
| Stage 2              | -      | - | - | -      | - | - | 699    | 483  | -    | 272    | 229  | -    |
| Platoon blocked, %   |        | - | - |        | - | - |        |      |      |        |      |      |
| Mov Cap-1 Maneuver   | 971    | - | - | 921    | - | - | 43     | 45   | 664  | 51     | 47   | 695  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 43     | 45   | -    | 51     | 47   | -    |
| Stage 1              | -      | - | - | -      | - | - | 114    | 154  | -    | 312    | 494  | -    |
| Stage 2              | -      | - | - | -      | - | - | 586    | 480  | -    | 171    | 154  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 3.4 |  |  | 0.1 |  |  | 47.1 |  |  | 49.8 |  |  |
| HCM LOS              |     |  |  |     |  |  | E    |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 119   | 971   | -   | -   | 921   | -   | -   | 201   |
| HCM Lane V/C Ratio    | 0.289 | 0.328 | -   | -   | 0.005 | -   | -   | 0.636 |
| HCM Control Delay (s) | 47.1  | 10.5  | -   | -   | 8.9   | 0   | -   | 49.8  |
| HCM Lane LOS          | E     | B     | -   | -   | A     | A   | -   | E     |
| HCM 95th %tile Q(veh) | 1.1   | 1.4   | -   | -   | 0     | -   | -   | 3.7   |

Miller Farm TIA  
9: Miller Road & NC-51

12/21/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↓     | ↑↑   | ↓     | ↑     |
| Traffic Volume (vph)       | 617  | 44    | 10    | 472  | 68    | 40    |
| Future Volume (vph)        | 617  | 44    | 10    | 472  | 68    | 40    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 370   | 335   |      | 0     | 185   |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 25    |      | 25    |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 25    |       |
| Link Distance (ft)         | 1378 |       |       | 1912 | 1091  |       |
| Travel Time (s)            | 20.9 |       |       | 29.0 | 29.8  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 686  | 49    | 11    | 524  | 76    | 44    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 686  | 49    | 11    | 524  | 76    | 44    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 24   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 29.2%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.8  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 617  | 44   | 10   | 472  | 68   | 40   |
| Future Vol, veh/h        | 617  | 44   | 10   | 472  | 68   | 40   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 370  | 335  | -    | 0    | 185  |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 686  | 49   | 11   | 524  | 76   | 44   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 735    | 0      | 970    |
| Stage 1              | -      | -      | -      | -      | 686    |
| Stage 2              | -      | -      | -      | -      | 284    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 866    | -      | 251    |
| Stage 1              | -      | -      | -      | -      | 461    |
| Stage 2              | -      | -      | -      | -      | 739    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 866    | -      | 248    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 248    |
| Stage 1              | -      | -      | -      | -      | 461    |
| Stage 2              | -      | -      | -      | -      | 729    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.2 | 20.3 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 248   | 653   | -   | -   | 866   | -   |
| HCM Lane V/C Ratio    | 0.305 | 0.068 | -   | -   | 0.013 | -   |
| HCM Control Delay (s) | 25.8  | 10.9  | -   | -   | 9.2   | -   |
| HCM Lane LOS          | D     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 1.2   | 0.2   | -   | -   | 0     | -   |

Miller Farm TIA  
10: Marfield Lane & NC-51

12/21/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↓     | ↑↑   | ↓     | ↓     |
| Traffic Volume (vph)       | 670  | 11    | 53    | 451  | 48    | 94    |
| Future Volume (vph)        | 670  | 11    | 53    | 451  | 48    | 94    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 310   | 520   |      | 100   | 0     |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 25    |      | 25    |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 15    |       |
| Link Distance (ft)         | 1912 |       |       | 1898 | 1372  |       |
| Travel Time (s)            | 29.0 |       |       | 28.8 | 62.4  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 744  | 12    | 59    | 501  | 53    | 104   |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 744  | 12    | 59    | 501  | 53    | 104   |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 12   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 36.9%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.4  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 670  | 11   | 53   | 451  | 48   | 94   |
| Future Vol, veh/h        | 670  | 11   | 53   | 451  | 48   | 94   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 310  | 520  | -    | 100  | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 744  | 12   | 59   | 501  | 53   | 104  |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 756    | 0      | 1113   |
| Stage 1              | -      | -      | -      | -      | 744    |
| Stage 2              | -      | -      | -      | -      | 369    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 851    | -      | 203    |
| Stage 1              | -      | -      | -      | -      | 431    |
| Stage 2              | -      | -      | -      | -      | 670    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 851    | -      | 189    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 189    |
| Stage 1              | -      | -      | -      | -      | 431    |
| Stage 2              | -      | -      | -      | -      | 624    |

| Approach             | EB | WB | NB   |
|----------------------|----|----|------|
| HCM Control Delay, s | 0  | 1  | 18.5 |
| HCM LOS              |    |    | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 189   | 625   | -   | -   | 851   | -   |
| HCM Lane V/C Ratio    | 0.282 | 0.167 | -   | -   | 0.069 | -   |
| HCM Control Delay (s) | 31.4  | 11.9  | -   | -   | 9.5   | -   |
| HCM Lane LOS          | D     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 1.1   | 0.6   | -   | -   | 0.2   | -   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021



| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 131   | 643   | 4     | 436   | 257   | 69    | 56    |
| Future Volume (vph)        | 131   | 643   | 4     | 436   | 257   | 69    | 56    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 25    |       | 25    |       |       | 25    |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 146   | 714   | 4     | 484   | 286   | 77    | 62    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 146   | 714   | 4     | 484   | 286   | 77    | 62    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 39.0  | 74.0  | 17.0  | 52.0  |       | 29.0  | 39.0  |
| Total Split (%)            | 32.5% | 61.7% | 14.2% | 43.3% |       | 24.2% | 32.5% |
| Maximum Green (s)          | 33.2  | 68.0  | 11.1  | 46.2  |       | 23.4  | 33.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |



Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021

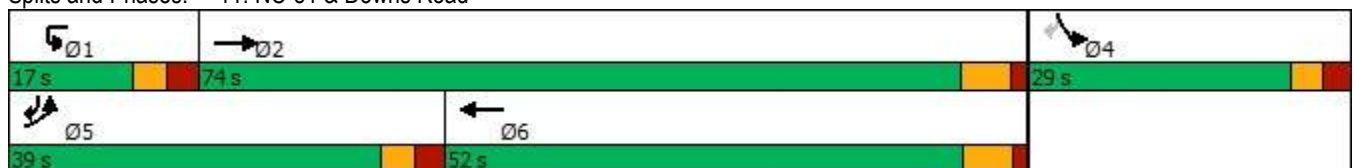


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effct Green (s)     | 10.0 | 31.3 | 8.3  | 19.9 | 42.9 | 8.5  | 17.0 |
| Actuated g/C Ratio      | 0.23 | 0.73 | 0.19 | 0.46 | 1.00 | 0.20 | 0.40 |
| v/c Ratio               | 0.35 | 0.28 | 0.01 | 0.29 | 0.18 | 0.22 | 0.10 |
| Control Delay           | 18.9 | 6.0  | 19.5 | 12.5 | 0.2  | 19.7 | 7.5  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 18.9 | 6.0  | 19.5 | 12.5 | 0.2  | 19.7 | 7.5  |
| LOS                     | B    | A    | B    | B    | A    | B    | A    |
| Approach Delay          |      | 8.2  |      | 8.0  |      | 14.2 |      |
| Approach LOS            |      | A    |      | A    |      | B    |      |
| Queue Length 50th (ft)  | 32   | 37   | 1    | 53   | 0    | 17   | 8    |
| Queue Length 95th (ft)  | 84   | 130  | 8    | 103  | 0    | 54   | 25   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 1435 | 3539 | 522  | 3390 | 1583 | 1040 | 1522 |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.10 | 0.20 | 0.01 | 0.14 | 0.18 | 0.07 | 0.04 |

Intersection Summary

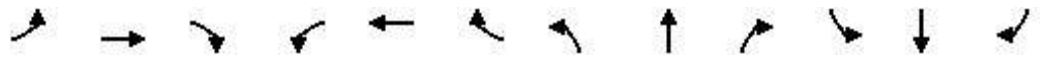
|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 42.9                   |
| Natural Cycle:                     | 55                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.35                   |
| Intersection Signal Delay:         | 8.6                    |
| Intersection LOS:                  | A                      |
| Intersection Capacity Utilization: | 41.9%                  |
| ICU Level of Service:              | A                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 11: NC-51 & Downs Road



Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 131   | 565   | 118   | 35    | 403   | 131   | 234   | 483   | 23    | 80    | 272   | 84    |
| Future Volume (vph)        | 131   | 565   | 118   | 35    | 403   | 131   | 234   | 483   | 23    | 80    | 272   | 84    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 25    |       |       | 25    |       |       | 25    |       |       | 25    |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.974 |       |       |       | 0.850 |       | 0.993 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3447  | 0     | 1743  | 3486  | 1560  | 3399  | 1831  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3447  | 0     | 1743  | 3486  | 1560  | 3399  | 1831  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       |       | 1160  |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       |       | 22.6  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 146   | 628   | 131   | 39    | 448   | 146   | 260   | 537   | 26    | 89    | 302   | 93    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 146   | 759   | 0     | 39    | 448   | 146   | 260   | 563   | 0     | 89    | 302   | 93    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 23.0  | 39.0  |       | 14.0  | 30.0  | 15.0  | 20.0  | 52.0  |       | 15.0  | 47.0  | 23.0  |
| Total Split (%)            | 19.2% | 32.5% |       | 11.7% | 25.0% | 12.5% | 16.7% | 43.3% |       | 12.5% | 39.2% | 19.2% |
| Maximum Green (s)          | 16.8  | 32.8  |       | 8.2   | 24.3  | 9.1   | 13.4  | 46.0  |       | 9.1   | 41.3  | 16.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.9  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |

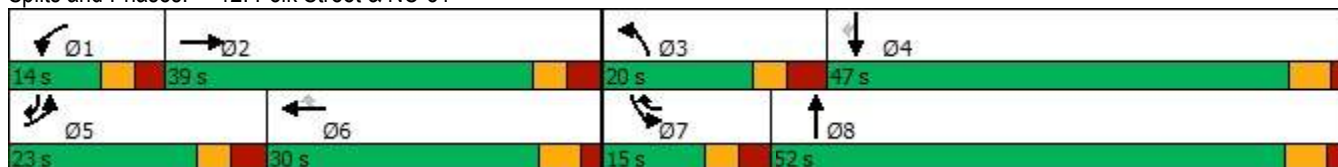


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|------|
| Act Effect Green (s)    | 13.8 | 30.9 |     | 8.6  | 18.9 | 33.7 | 13.2 | 35.5 |     | 9.6  | 31.9 | 50.9 |
| Actuated g/C Ratio      | 0.14 | 0.31 |     | 0.09 | 0.19 | 0.34 | 0.13 | 0.36 |     | 0.10 | 0.32 | 0.52 |
| v/c Ratio               | 0.59 | 0.71 |     | 0.26 | 0.67 | 0.27 | 0.57 | 0.86 |     | 0.52 | 0.51 | 0.12 |
| Control Delay           | 53.9 | 37.0 |     | 54.1 | 44.1 | 28.1 | 48.9 | 43.9 |     | 60.6 | 31.6 | 13.5 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 53.9 | 37.0 |     | 54.1 | 44.1 | 28.1 | 48.9 | 43.9 |     | 60.6 | 31.6 | 13.5 |
| LOS                     | D    | D    |     | D    | D    | C    | D    | D    |     | E    | C    | B    |
| Approach Delay          |      | 39.7 |     |      | 41.0 |      |      | 45.5 |     |      | 33.5 |      |
| Approach LOS            |      | D    |     |      | D    |      |      | D    |     |      | C    |      |
| Queue Length 50th (ft)  | 91   | 246  |     | 25   | 142  | 68   | 82   | 333  |     | 56   | 159  | 30   |
| Queue Length 95th (ft)  | 176  | 359  |     | 66   | 223  | 139  | 144  | 526  |     | #135 | 266  | 62   |
| Internal Link Dist (ft) |      | 1431 |     |      | 1196 |      |      | 942  |     |      | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275  |      | 625  | 450  |      |     |      |      | 175  |
| Base Capacity (vph)     | 337  | 1241 |     | 166  | 923  | 546  | 540  | 911  |     | 185  | 820  | 887  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.43 | 0.61 |     | 0.23 | 0.49 | 0.27 | 0.48 | 0.62 |     | 0.48 | 0.37 | 0.10 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 98.8  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 40.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 74.5%  
 ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

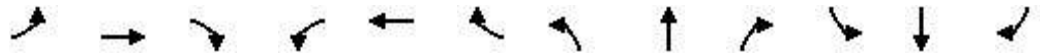
12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 86    | 618   | 163   | 73    | 424   | 119   | 128   | 94    | 70    | 36    | 21    | 37    |
| Future Volume (vph)        | 86    | 618   | 163   | 73    | 424   | 119   | 128   | 94    | 70    | 36    | 21    | 37    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       | -1%   |       |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 25    |       |       | 25    |       |       | 25    |       |       | 25    |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.969 |       |       | 0.967 |       |       | 0.936 |       |       | 0.904 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3481  | 0     | 1743  | 3371  | 0     | 1778  | 1752  | 0     | 1778  | 1692  | 0     |
| Flt Permitted              | 0.422 |       |       | 0.298 |       |       | 0.715 |       |       | 0.634 |       |       |
| Satd. Flow (perm)          | 798   | 3481  | 0     | 547   | 3371  | 0     | 1339  | 1752  | 0     | 1187  | 1692  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       | 1210  |       |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       | 23.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 96    | 687   | 181   | 81    | 471   | 132   | 142   | 104   | 78    | 40    | 23    | 41    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 96    | 868   | 0     | 81    | 603   | 0     | 142   | 182   | 0     | 40    | 64    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 37.0  | 37.0  |       | 37.0  | 37.0  |       | 23.0  | 23.0  |       | 23.0  | 23.0  |       |
| Total Split (%)            | 61.7% | 61.7% |       | 61.7% | 61.7% |       | 38.3% | 38.3% |       | 38.3% | 38.3% |       |
| Maximum Green (s)          | 31.2  | 31.2  |       | 31.8  | 31.8  |       | 17.5  | 17.5  |       | 17.2  | 17.2  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.5  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.3   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021

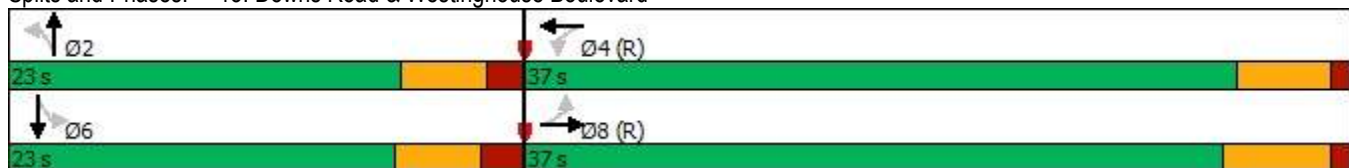


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effct Green (s)     | 36.0 | 36.0 |     | 36.0 | 36.0 |     | 14.0 | 14.0 |     | 13.8 | 14.1 |     |
| Actuated g/C Ratio      | 0.60 | 0.60 |     | 0.60 | 0.60 |     | 0.23 | 0.23 |     | 0.23 | 0.24 |     |
| v/c Ratio               | 0.20 | 0.42 |     | 0.25 | 0.30 |     | 0.46 | 0.45 |     | 0.15 | 0.16 |     |
| Control Delay           | 7.6  | 7.7  |     | 8.9  | 6.7  |     | 24.4 | 23.0 |     | 18.9 | 18.5 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 7.6  | 7.7  |     | 8.9  | 6.7  |     | 24.4 | 23.0 |     | 18.9 | 18.5 |     |
| LOS                     | A    | A    |     | A    | A    |     | C    | C    |     | B    | B    |     |
| Approach Delay          |      | 7.7  |     |      | 6.9  |     |      | 23.6 |     |      | 18.7 |     |
| Approach LOS            |      | A    |     |      | A    |     |      | C    |     |      | B    |     |
| Queue Length 50th (ft)  | 12   | 63   |     | 11   | 45   |     | 45   | 58   |     | 12   | 19   |     |
| Queue Length 95th (ft)  | 75   | 266  |     | 40   | 87   |     | 83   | 98   |     | 30   | 41   |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 478  | 2089 |     | 328  | 2023 |     | 401  | 525  |     | 350  | 507  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.20 | 0.42 |     | 0.25 | 0.30 |     | 0.35 | 0.35 |     | 0.11 | 0.13 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.46  
 Intersection Signal Delay: 10.5  
 Intersection Capacity Utilization 64.8%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

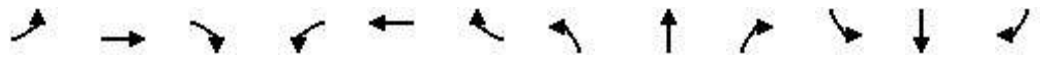
Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 214   | 864   | 161   | 43    | 478   | 14    | 89    | 121   | 66    | 14    | 48    | 134   |
| Future Volume (vph)        | 214   | 864   | 161   | 43    | 478   | 14    | 89    | 121   | 66    | 14    | 48    | 134   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 25    |       |       | 25    |       |       | 25    |       |       | 25    |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.976 |       |       | 0.996 |       |       | 0.947 |       |       | 0.850 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3472  | 0     | 1761  | 3507  | 0     | 1761  | 1755  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.722 |       |       | 0.375 |       |       |
| Satd. Flow (perm)          | 1778  | 3472  | 0     | 1761  | 3507  | 0     | 1338  | 1755  | 0     | 688   | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 238   | 960   | 179   | 48    | 531   | 16    | 99    | 134   | 73    | 16    | 53    | 149   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 238   | 1139  | 0     | 48    | 547   | 0     | 99    | 207   | 0     | 16    | 53    | 149   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           |       |       |       |       |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 37.0  | 69.0  |       | 16.0  | 48.0  |       | 35.0  | 35.0  |       | 35.0  | 35.0  | 37.0  |
| Total Split (%)            | 30.8% | 57.5% |       | 13.3% | 40.0% |       | 29.2% | 29.2% |       | 29.2% | 29.2% | 30.8% |
| Maximum Green (s)          | 30.0  | 63.5  |       | 9.0   | 42.5  |       | 29.6  | 29.6  |       | 29.7  | 29.7  | 30.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -2.0  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lag   | Lag   |       | Lead  | Lead  |       |       |       |       |       |       | Lag   |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

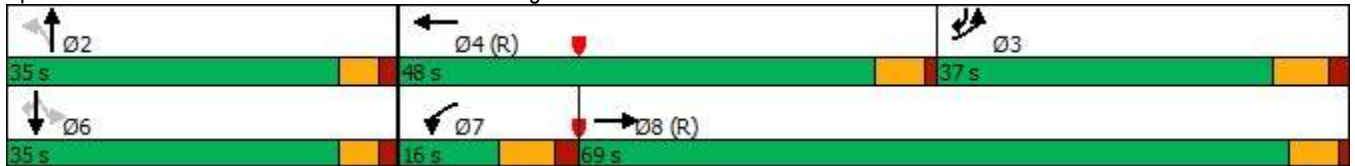
12/21/2021

|                         | ↖    | →    | ↘   | ↙    | ←    | ↖   | ↙    | ↑    | ↘   | ↙    | ↓    | ↙    |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
| Act Effct Green (s)     | 25.8 | 77.0 |     | 11.0 | 59.3 |     | 19.9 | 19.9 |     | 19.9 | 19.9 | 50.7 |
| Actuated g/C Ratio      | 0.22 | 0.64 |     | 0.09 | 0.49 |     | 0.17 | 0.17 |     | 0.17 | 0.17 | 0.42 |
| v/c Ratio               | 0.62 | 0.51 |     | 0.30 | 0.32 |     | 0.45 | 0.71 |     | 0.14 | 0.17 | 0.23 |
| Control Delay           | 49.1 | 14.4 |     | 51.3 | 21.7 |     | 50.3 | 60.5 |     | 43.0 | 42.2 | 20.9 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 49.1 | 14.4 |     | 51.3 | 21.7 |     | 50.3 | 60.5 |     | 43.0 | 42.2 | 20.9 |
| LOS                     | D    | B    |     | D    | C    |     | D    | E    |     | D    | D    | C    |
| Approach Delay          |      | 20.4 |     |      | 24.1 |     |      | 57.2 |     |      | 27.7 |      |
| Approach LOS            |      | C    |     |      | C    |     |      | E    |     |      | C    |      |
| Queue Length 50th (ft)  | 168  | 245  |     | 33   | 121  |     | 70   | 153  |     | 11   | 36   | 73   |
| Queue Length 95th (ft)  | 230  | 375  |     | 62   | 236  |     | 118  | 222  |     | 31   | 69   | 91   |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 482  | 2226 |     | 172  | 1733 |     | 334  | 438  |     | 172  | 458  | 655  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.49 | 0.51 |     | 0.28 | 0.32 |     | 0.30 | 0.47 |     | 0.09 | 0.12 | 0.23 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:WBT and 8:EBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 26.4 Intersection LOS: C  
 Intersection Capacity Utilization 59.0% ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard



Miller Farm TIA  
550: Flint Hill Road & Springhill Farm Road

12/21/2021



| Lane Group                 | EBL   | EBR   | NBL  | NBT   | SBT   | SBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        |       |       |      |       |       |       |
| Traffic Volume (vph)       | 435   | 4     | 4    | 4     | 4     | 449   |
| Future Volume (vph)        | 435   | 4     | 4    | 4     | 4     | 449   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.999 |       |      |       | 0.866 |       |
| Flt Protected              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (prot)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Flt Permitted              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (perm)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Link Speed (mph)           | 40    |       |      | 45    | 40    |       |
| Link Distance (ft)         | 691   |       |      | 657   | 1957  |       |
| Travel Time (s)            | 11.8  |       |      | 10.0  | 33.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 483   | 4     | 4    | 4     | 4     | 499   |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 487   | 0     | 0    | 8     | 503   | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 36    |       |      | 0     | 0     |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     | 15   |       |       | 9     |
| Sign Control               | Stop  |       |      | Free  | Free  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 59.0%        |
| ICU Level of Service              | B            |
| Analysis Period (min)             | 15           |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 9.7  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 435  | 4    | 4    | 4    | 4    | 449  |
| Future Vol, veh/h        | 435  | 4    | 4    | 4    | 4    | 449  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 483  | 4    | 4    | 4    | 4    | 499  |

| Major/Minor          | Minor2 | Major1 |       | Major2 |   |
|----------------------|--------|--------|-------|--------|---|
| Conflicting Flow All | 266    | 254    | 503   | 0      | 0 |
| Stage 1              | 254    | -      | -     | -      | - |
| Stage 2              | 12     | -      | -     | -      | - |
| Critical Hdwy        | 6.42   | 6.22   | 4.12  | -      | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -     | -      | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -     | -      | - |
| Follow-up Hdwy       | 3.518  | 3.318  | 2.218 | -      | - |
| Pot Cap-1 Maneuver   | 723    | 785    | 1061  | -      | - |
| Stage 1              | 788    | -      | -     | -      | - |
| Stage 2              | 1011   | -      | -     | -      | - |
| Platoon blocked, %   |        |        |       | -      | - |
| Mov Cap-1 Maneuver   | 720    | 785    | 1061  | -      | - |
| Mov Cap-2 Maneuver   | 720    | -      | -     | -      | - |
| Stage 1              | 785    | -      | -     | -      | - |
| Stage 2              | 1011   | -      | -     | -      | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 19.8 | 4.2 | 0  |
| HCM LOS              | C    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1061  | -   | 721   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | 0.677 | -   | -   |
| HCM Control Delay (s) | 8.4   | 0   | 19.8  | -   | -   |
| HCM Lane LOS          | A     | A   | C     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | 5.3   | -   | -   |

Queuing and Blocking Report  
 2025 Background AM Peak Hour

12/06/2021

Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB  | EB   | EB   | WB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | T   | T   | R   | L   | TR  | L   | L   | TR  |
| Maximum Queue (ft)    | 70  | 121  | 150  | 91  | 72  | 86  | 198 | 42  | 211 | 157 | 171 | 126 |
| Average Queue (ft)    | 20  | 60   | 78   | 32  | 26  | 37  | 93  | 3   | 101 | 73  | 89  | 21  |
| 95th Queue (ft)       | 52  | 105  | 133  | 69  | 55  | 72  | 162 | 23  | 175 | 127 | 146 | 69  |
| Link Distance (ft)    |     | 1904 | 1904 |     | 746 | 746 |     |     | 932 |     |     | 586 |
| Upstream Blk Time (%) |     |      |      |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 200 |      |      | 200 |     |     | 350 | 150 |     | 250 | 250 |     |
| Storage Blk Time (%)  |     |      |      |     |     |     |     |     |     | 3   |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     | 0   |     |     |

Intersection: 6: Business Driveway & SC-51

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | T   | LT  | LR  |
| Maximum Queue (ft)    | 52  | 69  | 62  |
| Average Queue (ft)    | 4   | 17  | 22  |
| 95th Queue (ft)       | 28  | 52  | 53  |
| Link Distance (ft)    | 746 | 105 | 996 |
| Upstream Blk Time (%) | 0   |     |     |
| Queuing Penalty (veh) | 0   |     |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|------|------|------|-----|
| Directions Served     | L   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 107 | 26   | 32   | 69   | 123 |
| Average Queue (ft)    | 58  | 2    | 3    | 21   | 44  |
| 95th Queue (ft)       | 103 | 14   | 18   | 51   | 100 |
| Link Distance (ft)    | 105 | 1285 | 1285 | 1037 | 928 |
| Upstream Blk Time (%) | 1   |      |      |      |     |
| Queuing Penalty (veh) | 3   |      |      |      |     |
| Storage Bay Dist (ft) |     |      |      |      |     |
| Storage Blk Time (%)  |     |      |      |      |     |
| Queuing Penalty (veh) |     |      |      |      |     |

Queuing and Blocking Report  
2025 Background AM Peak Hour

12/06/2021

Intersection: 9: Miller Road & NC-51

| Movement              | EB  | WB  | NB   | NB  |
|-----------------------|-----|-----|------|-----|
| Directions Served     | R   | L   | L    | R   |
| Maximum Queue (ft)    | 2   | 30  | 90   | 54  |
| Average Queue (ft)    | 0   | 4   | 38   | 19  |
| 95th Queue (ft)       | 2   | 21  | 72   | 41  |
| Link Distance (ft)    |     |     | 1024 |     |
| Upstream Blk Time (%) |     |     |      |     |
| Queuing Penalty (veh) |     |     |      |     |
| Storage Bay Dist (ft) | 370 | 335 |      | 185 |
| Storage Blk Time (%)  |     |     |      |     |
| Queuing Penalty (veh) |     |     |      |     |

Intersection: 10: Marfield Lane & NC-51

| Movement              | WB  | NB  | NB   |
|-----------------------|-----|-----|------|
| Directions Served     | L   | L   | R    |
| Maximum Queue (ft)    | 58  | 64  | 73   |
| Average Queue (ft)    | 19  | 27  | 31   |
| 95th Queue (ft)       | 48  | 53  | 58   |
| Link Distance (ft)    |     |     | 1311 |
| Upstream Blk Time (%) |     |     |      |
| Queuing Penalty (veh) |     |     |      |
| Storage Bay Dist (ft) | 520 | 100 |      |
| Storage Blk Time (%)  |     | 0   | 0    |
| Queuing Penalty (veh) |     | 0   | 0    |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | SB  | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|
| Directions Served     | L   | T    | T    | U   | T    | T    | R   | L   | R   |
| Maximum Queue (ft)    | 120 | 87   | 89   | 25  | 109  | 114  | 29  | 94  | 74  |
| Average Queue (ft)    | 56  | 19   | 38   | 2   | 44   | 50   | 1   | 43  | 26  |
| 95th Queue (ft)       | 100 | 59   | 82   | 12  | 92   | 98   | 24  | 81  | 60  |
| Link Distance (ft)    |     | 1836 | 1836 |     | 1076 | 1076 |     |     | 545 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |
| Storage Bay Dist (ft) | 310 |      |      | 210 |      |      | 335 | 275 |     |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |

Queuing and Blocking Report  
 2025 Background AM Peak Hour

12/06/2021

Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 188 | 280  | 291  | 93  | 188  | 185  | 150 | 164 | 218 | 432 | 141  | 252  |
| Average Queue (ft)    | 83  | 154  | 172  | 31  | 119  | 99   | 65  | 55  | 110 | 233 | 57   | 119  |
| 95th Queue (ft)       | 152 | 245  | 260  | 71  | 182  | 167  | 121 | 139 | 182 | 375 | 115  | 208  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |     |      |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |     |      |      |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 0    |      |     |      |      |     |     |     | 0   |      | 3    |
| Queuing Penalty (veh) |     | 0    |      |     |      |      |     |     |     | 0   |      | 2    |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 159 |
| Average Queue (ft)    | 31  |
| 95th Queue (ft)       | 94  |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  | 0   |
| Queuing Penalty (veh) | 0   |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 95  | 151  | 180  | 87  | 95   | 106  | 135 | 168  | 67  | 81   |
| Average Queue (ft)    | 32  | 53   | 73   | 32  | 44   | 46   | 58  | 75   | 20  | 32   |
| 95th Queue (ft)       | 70  | 114  | 149  | 69  | 81   | 90   | 110 | 137  | 50  | 67   |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |

Queuing and Blocking Report  
 2025 Background AM Peak Hour

12/06/2021

Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 279 | 254  | 308  | 100 | 223  | 232  | 206 | 300  | 44  | 93   | 143 |
| Average Queue (ft)    | 137 | 132  | 144  | 30  | 109  | 122  | 70  | 126  | 11  | 30   | 49  |
| 95th Queue (ft)       | 237 | 233  | 257  | 72  | 182  | 197  | 144 | 231  | 34  | 73   | 112 |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      | 0   | 4    |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      | 0   | 3    |     |      |     |

Intersection: 550: Flint Hill Road & Springhill Farm Road























| Movement              | EB  | NB  |
|-----------------------|-----|-----|
| Directions Served     | LR  | LT  |
| Maximum Queue (ft)    | 143 | 24  |
| Average Queue (ft)    | 52  | 1   |
| 95th Queue (ft)       | 102 | 11  |
| Link Distance (ft)    | 586 | 625 |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Network Summary

|                                 |
|---------------------------------|
| Network wide Queuing Penalty: 9 |
|---------------------------------|

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations        |  |  |   |  |  |  |  |  |   |  |  |  |
| Traffic Volume (vph)       | 19  | 298   | 11  | 166   | 217   | 510   | 4  | 11  | 157   | 408   | 47  | 13  |
| Future Volume (vph)        | 19  | 298   | 11  | 166   | 217   | 510   | 4  | 11  | 157   | 408   | 47  | 13  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900   | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |   | 2%  |   |   | -2%   |   |  | 1%  |   |   | -1%   |   |
| Storage Length (ft)        | 200   |   | 0   | 200   |   | 350   | 150  |   | 0   | 250   |   | 0   |
| Storage Lanes              | 1   |   | 0   | 1   |   | 1   | 1  |   | 0   | 2   |   | 0   |
| Taper Length (ft)          | 100   |   |   | 100   |   |   | 100  |   |   | 100   |   |   |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00   | 1.00  | 1.00  | 0.97  | 1.00  | 1.00  |
| Frt                        |   | 0.995   |   |   |   | 0.850   |  | 0.860   |   |   | 0.968   |   |
| Flt Protected              | 0.950   |   |   | 0.950   |   |   | 0.950  |   |   | 0.950   |   |   |
| Satd. Flow (prot)          | 1752  | 3486  | 0   | 1787  | 3575  | 1599  | 1761   | 1594  | 0   | 3450  | 1812  | 0   |
| Flt Permitted              | 0.602   |   |   | 0.533   |   |   | 0.272  |   |   | 0.950   |   |   |
| Satd. Flow (perm)          | 1110  | 3486  | 0   | 1003  | 3575  | 1599  | 504  | 1594  | 0   | 3450  | 1812  | 0   |
| Right Turn on Red          |   |   | No  |   |   | No  |  |   | No  |   |   | No  |
| Satd. Flow (RTOR)          |   |   |   |   |   |   |  |   |   |   |   |   |
| Link Speed (mph)           |   | 45  |   |   | 45  |   |  | 35  |   |   |   | 40  |
| Link Distance (ft)         |   | 1952  |   |   | 838   |   |  | 985   |   |   |   | 691   |
| Travel Time (s)            |   | 29.6  |   |   | 12.7  |   |  | 19.2  |   |   |   | 11.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90   | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 21  | 331   | 12  | 184   | 241   | 567   | 4  | 12  | 174   | 453   | 52  | 14  |
| Shared Lane Traffic (%)    |   |   |   |   |   |   |  |   |   |   |   |   |
| Lane Group Flow (vph)      | 21  | 343   | 0   | 184   | 241   | 567   | 4  | 186   | 0   | 453   | 66  | 0   |
| Enter Blocked Intersection | No  | No  | No  | No  | No  | No  | No   | No  | No  | No  | No  | No  |
| Lane Alignment             | Left  | Left  | Right   | Left  | Left  | Right   | Left   | Left  | Right   | Left  | Left  | Right   |
| Median Width(ft)           |   | 12  |   |   | 12  |   |  | 24  |   |   |   | 24  |
| Link Offset(ft)            |   | 0   |   |   | 0   |   |  | 0   |   |   |   | 0   |
| Crosswalk Width(ft)        |   | 16  |   |   | 16  |   |  | 16  |   |   |   | 16  |
| Two way Left Turn Lane     |   |   |   |   |   |   |  |   |   |   |   |   |
| Headway Factor             | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  | 1.01   | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15  |   | 9   | 15  |   | 9   | 15   |   | 9   | 15  |   | 9   |
| Turn Type                  | Perm  | NA  |   | Perm  | NA  | pm+ov   | Perm   | NA  |   | Split   | NA  |   |
| Protected Phases           |   | 2   |   |   | 6   | 4   |  | 3   |   | 4   | 4   |   |
| Permitted Phases           | 2   |   |   | 6   |   | 6   | 3  |   |   |   |   |   |
| Detector Phase             | 2   | 2   |   | 6   | 6   | 4   | 3  | 3   |   | 4   | 4   |   |
| Switch Phase               |   |   |   |   |   |   |  |   |   |   |   |   |
| Minimum Initial (s)        | 15.0  | 15.0  |   | 15.0  | 15.0  | 8.0   | 8.0  | 8.0   |   | 8.0   | 8.0   |   |
| Minimum Split (s)          | 22.0  | 22.0  |   | 22.0  | 22.0  | 15.0  | 15.0   | 15.0  |   | 15.0  | 15.0  |   |
| Total Split (s)            | 40.0  | 40.0  |   | 40.0  | 40.0  | 26.0  | 24.0   | 24.0  |   | 26.0  | 26.0  |   |
| Total Split (%)            | 44.4%   | 44.4%   |   | 44.4%   | 44.4%   | 28.9%   | 26.7%  | 26.7%   |   | 28.9%   | 28.9%   |   |
| Maximum Green (s)          | 33.4  | 33.4  |   | 33.4  | 33.4  | 19.8  | 17.8   | 17.8  |   | 19.8  | 19.8  |   |
| Yellow Time (s)            | 4.5   | 4.5   |   | 4.5   | 4.5   | 3.7   | 3.7  | 3.7   |   | 3.7   | 3.7   |   |
| All-Red Time (s)           | 2.1   | 2.1   |   | 2.1   | 2.1   | 2.5   | 2.5  | 2.5   |   | 2.5   | 2.5   |   |
| Lost Time Adjust (s)       | -1.6  | -1.6  |   | -1.6  | -1.6  | -1.2  | -1.2   | -1.2  |   | -1.2  | -1.2  |   |
| Total Lost Time (s)        | 5.0   | 5.0   |   | 5.0   | 5.0   | 5.0   | 5.0  | 5.0   |   | 5.0   | 5.0   |   |
| Lead/Lag                   |   |   |   |   |   | Lag   | Lead   | Lead  |   | Lag   | Lag   |   |
| Lead-Lag Optimize?         |   |   |   |   |   | Yes   | Yes  | Yes   |   | Yes   | Yes   |   |
| Vehicle Extension (s)      | 3.8   | 3.8   |   | 3.8   | 3.8   | 3.8   | 3.8  | 3.8   |   | 3.8   | 3.8   |   |
| Recall Mode                | Min   | Min   |   | Min   | Min   | None  | None   | None  |   | None  | None  |   |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

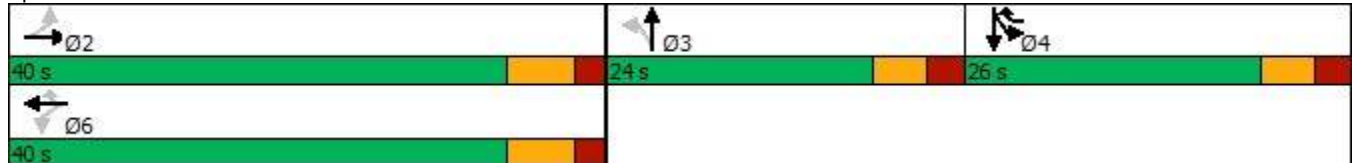


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 20.1 | 20.1 |     | 20.1 | 20.1 | 44.7 | 14.7 | 14.7 |     | 19.5 | 19.5 |     |
| Actuated g/C Ratio      | 0.29 | 0.29 |     | 0.29 | 0.29 | 0.64 | 0.21 | 0.21 |     | 0.28 | 0.28 |     |
| v/c Ratio               | 0.07 | 0.34 |     | 0.64 | 0.23 | 0.55 | 0.04 | 0.55 |     | 0.47 | 0.13 |     |
| Control Delay           | 19.6 | 21.1 |     | 33.7 | 20.2 | 9.7  | 25.2 | 32.7 |     | 24.0 | 22.1 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 19.6 | 21.1 |     | 33.7 | 20.2 | 9.7  | 25.2 | 32.7 |     | 24.0 | 22.1 |     |
| LOS                     | B    | C    |     | C    | C    | A    | C    | C    |     | C    | C    |     |
| Approach Delay          |      | 21.0 |     |      | 16.7 |      |      | 32.6 |     |      | 23.8 |     |
| Approach LOS            |      | C    |     |      | B    |      |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 7    | 62   |     | 70   | 42   | 116  | 1    | 69   |     | 76   | 20   |     |
| Queue Length 95th (ft)  | 23   | 101  |     | 143  | 73   | 220  | 10   | 153  |     | 154  | 60   |     |
| Internal Link Dist (ft) |      | 1872 |     |      | 758  |      |      | 905  |     |      | 611  |     |
| Turn Bay Length (ft)    | 200  |      |     | 200  |      | 350  | 150  |      |     | 250  |      |     |
| Base Capacity (vph)     | 569  | 1788 |     | 514  | 1834 | 1009 | 140  | 443  |     | 1061 | 557  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.04 | 0.19 |     | 0.36 | 0.13 | 0.56 | 0.03 | 0.42 |     | 0.43 | 0.12 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 69.6  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.64  
 Intersection Signal Delay: 20.7  
 Intersection LOS: C  
 Intersection Capacity Utilization 66.9%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 5: Flint Hill Road & SC-51



Miller Farm TIA  
6: Business Driveway & SC-51

12/21/2021



| Lane Group                 | EBT   | EBR   | WBL  | WBT   | NBL   | NBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        | ↑↑    |       |      | ↑↑    | ↑↑    |       |
| Traffic Volume (vph)       | 767   | 12    | 28   | 911   | 13    | 22    |
| Future Volume (vph)        | 767   | 12    | 28   | 911   | 13    | 22    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 0.95  | 0.95  | 0.95 | 0.95  | 1.00  | 1.00  |
| Fr <sub>t</sub>            | 0.998 |       |      |       | 0.915 |       |
| Fl <sub>t</sub> Protected  |       |       |      | 0.999 | 0.982 |       |
| Satd. Flow (prot)          | 3532  | 0     | 0    | 3536  | 1674  | 0     |
| Fl <sub>t</sub> Permitted  |       |       |      | 0.999 | 0.982 |       |
| Satd. Flow (perm)          | 3532  | 0     | 0    | 3536  | 1674  | 0     |
| Link Speed (mph)           | 45    |       |      | 45    | 25    |       |
| Link Distance (ft)         | 838   |       |      | 161   | 1054  |       |
| Travel Time (s)            | 12.7  |       |      | 2.4   | 28.7  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 852   | 13    | 31   | 1012  | 14    | 24    |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 865   | 0     | 0    | 1043  | 38    | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Right | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 12    |       |      | 12    | 12    |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        |       | 9     | 15   |       | 15    | 9     |
| Sign Control               | Free  |       |      | Free  | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 55.4%        |
| ICU Level of Service              | B            |
| Analysis Period (min)             | 15           |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.9  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑↑   | ↑    |      |
| Traffic Vol, veh/h       | 767  | 12   | 28   | 911  | 13   | 22   |
| Future Vol, veh/h        | 767  | 12   | 28   | 911  | 13   | 22   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 852  | 13   | 31   | 1012 | 14   | 24   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 865    | 0      | 1427   |
| Stage 1              | -      | -      | -      | -      | 859    |
| Stage 2              | -      | -      | -      | -      | 568    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 774    | -      | 126    |
| Stage 1              | -      | -      | -      | -      | 375    |
| Stage 2              | -      | -      | -      | -      | 530    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 774    | -      | 114    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 114    |
| Stage 1              | -      | -      | -      | -      | 375    |
| Stage 2              | -      | -      | -      | -      | 481    |

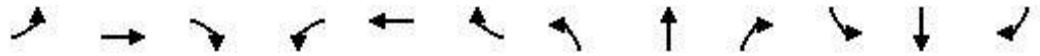
| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.7 | 23.9 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL  | WBT |
|-----------------------|-------|-----|-----|------|-----|
| Capacity (veh/h)      | 229   | -   | -   | 774  | -   |
| HCM Lane V/C Ratio    | 0.17  | -   | -   | 0.04 | -   |
| HCM Control Delay (s) | 23.9  | -   | -   | 9.8  | 0.4 |
| HCM Lane LOS          | C     | -   | -   | A    | A   |
| HCM 95th %tile Q(veh) | 0.6   | -   | -   | 0.1  | -   |

Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |       |       |       |      |       |       |      |       |       |      |      |       |
| Traffic Volume (vph)       | 113   | 675   | 4     | 10   | 673   | 14    | 8    | 6     | 13    | 24   | 4    | 256   |
| Future Volume (vph)        | 113   | 675   | 4     | 10   | 673   | 14    | 8    | 6     | 13    | 24   | 4    | 256   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 0.95 | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |       | 0.999 |       |      | 0.997 |       |      | 0.937 |       |      |      | 0.878 |
| Fl <sub>t</sub> Protected  | 0.950 |       |       |      | 0.999 |       |      | 0.985 |       |      |      | 0.996 |
| Satd. Flow (prot)          | 1770  | 3536  | 0     | 0    | 3525  | 0     | 0    | 1719  | 0     | 0    | 1629 | 0     |
| Fl <sub>t</sub> Permitted  | 0.950 |       |       |      | 0.999 |       |      | 0.985 |       |      |      | 0.996 |
| Satd. Flow (perm)          | 1770  | 3536  | 0     | 0    | 3525  | 0     | 0    | 1719  | 0     | 0    | 1629 | 0     |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |      | 25    |       |      |      | 35    |
| Link Distance (ft)         |       | 161   |       |      | 1378  |       |      | 1091  |       |      |      | 1017  |
| Travel Time (s)            |       | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      |      | 19.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 126   | 750   | 4     | 11   | 748   | 16    | 9    | 7     | 14    | 27   | 4    | 284   |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 126   | 754   | 0     | 0    | 775   | 0     | 0    | 30    | 0     | 0    | 315  | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 12    |       |      | 12    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |       | Free  |       |      | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 66.5%        |
| ICU Level of Service              | C            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 10.2 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↵    | ↑↑   |      |      | ↑↑   |      |      | ↵    |      |      | ↵    |      |
| Traffic Vol, veh/h       | 113  | 675  | 4    | 10   | 673  | 14   | 8    | 6    | 13   | 24   | 4    | 256  |
| Future Vol, veh/h        | 113  | 675  | 4    | 10   | 673  | 14   | 8    | 6    | 13   | 24   | 4    | 256  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 126  | 750  | 4    | 11   | 748  | 16   | 9    | 7    | 14   | 27   | 4    | 284  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 764    | 0 | 0 | 754    | 0 | 0 | 1402   | 1790 | 377  | 1409   | 1784 | 382  |
| Stage 1              | -      | - | - | -      | - | - | 1004   | 1004 | -    | 778    | 778  | -    |
| Stage 2              | -      | - | - | -      | - | - | 398    | 786  | -    | 631    | 1006 | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 845    | - | - | 852    | - | - | 100    | 80   | 621  | 99     | 81   | 616  |
| Stage 1              | -      | - | - | -      | - | - | 259    | 318  | -    | 355    | 405  | -    |
| Stage 2              | -      | - | - | -      | - | - | 599    | 401  | -    | 436    | 317  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 845    | - | - | 852    | - | - | 45     | 67   | 621  | 78     | 67   | 616  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 45     | 67   | -    | 78     | 67   | -    |
| Stage 1              | -      | - | - | -      | - | - | 220    | 271  | -    | 302    | 396  | -    |
| Stage 2              | -      | - | - | -      | - | - | 312    | 392  | -    | 353    | 270  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 1.4 |  |  | 0.2 |  |  | 60.3 |  |  | 54.4 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | F    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 94    | 845   | -   | -   | 852   | -   | -   | 363   |
| HCM Lane V/C Ratio    | 0.319 | 0.149 | -   | -   | 0.013 | -   | -   | 0.869 |
| HCM Control Delay (s) | 60.3  | 10    | -   | -   | 9.3   | 0.1 | -   | 54.4  |
| HCM Lane LOS          | F     | B     | -   | -   | A     | A   | -   | F     |
| HCM 95th %tile Q(veh) | 1.2   | 0.5   | -   | -   | 0     | -   | -   | 8.3   |

Miller Farm TIA  
 9: Miller Road & NC-51

12/21/2021



| Lane Group                 | EBT  | EBR   | WBL   | WBT  | NBL   | NBR   |
|----------------------------|------|-------|-------|------|-------|-------|
| Lane Configurations        | ↑↑   | ↑     | ↓     | ↑↑   | ↓     | ↑     |
| Traffic Volume (vph)       | 657  | 54    | 55    | 698  | 27    | 35    |
| Future Volume (vph)        | 657  | 54    | 55    | 698  | 27    | 35    |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        |      | 370   | 335   |      | 0     | 185   |
| Storage Lanes              |      | 1     | 1     |      | 1     | 1     |
| Taper Length (ft)          |      |       | 100   |      | 100   |       |
| Lane Util. Factor          | 0.95 | 1.00  | 1.00  | 0.95 | 1.00  | 1.00  |
| Frt                        |      | 0.850 |       |      |       | 0.850 |
| Flt Protected              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (prot)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Flt Permitted              |      |       | 0.950 |      | 0.950 |       |
| Satd. Flow (perm)          | 3539 | 1583  | 1770  | 3539 | 1770  | 1583  |
| Link Speed (mph)           | 45   |       |       | 45   | 25    |       |
| Link Distance (ft)         | 1378 |       |       | 1912 | 1091  |       |
| Travel Time (s)            | 20.9 |       |       | 29.0 | 29.8  |       |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 730  | 60    | 61    | 776  | 30    | 39    |
| Shared Lane Traffic (%)    |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 730  | 60    | 61    | 776  | 30    | 39    |
| Enter Blocked Intersection | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Right | Left  | Left | Left  | Right |
| Median Width(ft)           | 12   |       |       | 24   | 12    |       |
| Link Offset(ft)            | 0    |       |       | 0    | 0     |       |
| Crosswalk Width(ft)        | 16   |       |       | 16   | 16    |       |
| Two way Left Turn Lane     |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        |      | 9     | 15    |      | 15    | 9     |
| Sign Control               | Free |       |       | Free | Stop  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 34.8%                  |
|                                   | ICU Level of Service A |
| Analysis Period (min)             | 15                     |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↗    | ↘    | ↑↑   | ↘    | ↗    |
| Traffic Vol, veh/h       | 657  | 54   | 55   | 698  | 27   | 35   |
| Future Vol, veh/h        | 657  | 54   | 55   | 698  | 27   | 35   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 370  | 335  | -    | 0    | 185  |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 730  | 60   | 61   | 776  | 30   | 39   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 790    | 0      | 1240   |
| Stage 1              | -      | -      | -      | -      | 730    |
| Stage 2              | -      | -      | -      | -      | 510    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 826    | -      | 167    |
| Stage 1              | -      | -      | -      | -      | 438    |
| Stage 2              | -      | -      | -      | -      | 568    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 826    | -      | 155    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 155    |
| Stage 1              | -      | -      | -      | -      | 438    |
| Stage 2              | -      | -      | -      | -      | 526    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.7 | 20.9 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 155   | 632   | -   | -   | 826   | -   |
| HCM Lane V/C Ratio    | 0.194 | 0.062 | -   | -   | 0.074 | -   |
| HCM Control Delay (s) | 33.7  | 11.1  | -   | -   | 9.7   | -   |
| HCM Lane LOS          | D     | B     | -   | -   | A     | -   |
| HCM 95th %tile Q(veh) | 0.7   | 0.2   | -   | -   | 0.2   | -   |

Miller Farm TIA  
10: Marfield Lane & NC-51

12/21/2021

|                                   | →            | ↘     | ↙     | ←                      | ↖     | ↗     |
|-----------------------------------|--------------|-------|-------|------------------------|-------|-------|
| Lane Group                        | EBT          | EBR   | WBL   | WBT                    | NBL   | NBR   |
| Lane Configurations               | ↑↑           | ↗     | ↙     | ↑↑                     | ↖     | ↗     |
| Traffic Volume (vph)              | 691          | 11    | 103   | 778                    | 30    | 66    |
| Future Volume (vph)               | 691          | 11    | 103   | 778                    | 30    | 66    |
| Ideal Flow (vphpl)                | 1900         | 1900  | 1900  | 1900                   | 1900  | 1900  |
| Storage Length (ft)               |              | 310   | 520   |                        | 100   | 0     |
| Storage Lanes                     |              | 1     | 1     |                        | 1     | 1     |
| Taper Length (ft)                 |              |       | 100   |                        | 100   |       |
| Lane Util. Factor                 | 0.95         | 1.00  | 1.00  | 0.95                   | 1.00  | 1.00  |
| Frt                               |              | 0.850 |       |                        |       | 0.850 |
| Flt Protected                     |              |       | 0.950 |                        | 0.950 |       |
| Satd. Flow (prot)                 | 3539         | 1583  | 1770  | 3539                   | 1770  | 1583  |
| Flt Permitted                     |              |       | 0.950 |                        | 0.950 |       |
| Satd. Flow (perm)                 | 3539         | 1583  | 1770  | 3539                   | 1770  | 1583  |
| Link Speed (mph)                  | 45           |       |       | 45                     | 15    |       |
| Link Distance (ft)                | 1912         |       |       | 1898                   | 1372  |       |
| Travel Time (s)                   | 29.0         |       |       | 28.8                   | 62.4  |       |
| Peak Hour Factor                  | 0.90         | 0.90  | 0.90  | 0.90                   | 0.90  | 0.90  |
| Adj. Flow (vph)                   | 768          | 12    | 114   | 864                    | 33    | 73    |
| Shared Lane Traffic (%)           |              |       |       |                        |       |       |
| Lane Group Flow (vph)             | 768          | 12    | 114   | 864                    | 33    | 73    |
| Enter Blocked Intersection        | No           | No    | No    | No                     | No    | No    |
| Lane Alignment                    | Left         | Right | Left  | Left                   | Left  | Right |
| Median Width(ft)                  | 12           |       |       | 12                     | 12    |       |
| Link Offset(ft)                   | 0            |       |       | 0                      | 0     |       |
| Crosswalk Width(ft)               | 16           |       |       | 16                     | 16    |       |
| Two way Left Turn Lane            |              |       |       |                        |       |       |
| Headway Factor                    | 1.00         | 1.00  | 1.00  | 1.00                   | 1.00  | 1.00  |
| Turning Speed (mph)               |              | 9     | 15    |                        | 15    | 9     |
| Sign Control                      | Free         |       |       | Free                   | Stop  |       |
| <b>Intersection Summary</b>       |              |       |       |                        |       |       |
| Area Type:                        | Other        |       |       |                        |       |       |
| Control Type:                     | Unsignalized |       |       |                        |       |       |
| Intersection Capacity Utilization | 38.1%        |       |       | ICU Level of Service A |       |       |
| Analysis Period (min)             | 15           |       |       |                        |       |       |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2    |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   | ↑    | ↑    | ↑↑   | ↑    | ↑    |
| Traffic Vol, veh/h       | 691  | 11   | 103  | 778  | 30   | 66   |
| Future Vol, veh/h        | 691  | 11   | 103  | 778  | 30   | 66   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | 310  | 520  | -    | 100  | 0    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 768  | 12   | 114  | 864  | 33   | 73   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 780    | 0      | 1428   |
| Stage 1              | -      | -      | -      | -      | 768    |
| Stage 2              | -      | -      | -      | -      | 660    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 833    | -      | 126    |
| Stage 1              | -      | -      | -      | -      | 418    |
| Stage 2              | -      | -      | -      | -      | 476    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 833    | -      | 109    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 109    |
| Stage 1              | -      | -      | -      | -      | 418    |
| Stage 2              | -      | -      | -      | -      | 411    |

| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 1.2 | 24.3 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 109   | 614   | -   | -   | 833   | -   |
| HCM Lane V/C Ratio    | 0.306 | 0.119 | -   | -   | 0.137 | -   |
| HCM Control Delay (s) | 52    | 11.7  | -   | -   | 10    | -   |
| HCM Lane LOS          | F     | B     | -   | -   | B     | -   |
| HCM 95th %tile Q(veh) | 1.2   | 0.4   | -   | -   | 0.5   | -   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021



| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 73    | 697   | 4     | 684   | 134   | 315   | 168   |
| Future Volume (vph)        | 73    | 697   | 4     | 684   | 134   | 315   | 168   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 100   |       | 100   |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 81    | 774   | 4     | 760   | 149   | 350   | 187   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 81    | 774   | 4     | 760   | 149   | 350   | 187   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 20.0  | 56.0  | 14.0  | 50.0  |       | 50.0  | 20.0  |
| Total Split (%)            | 16.7% | 46.7% | 11.7% | 41.7% |       | 41.7% | 16.7% |
| Maximum Green (s)          | 14.2  | 50.0  | 8.1   | 44.2  |       | 44.4  | 14.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |



Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021

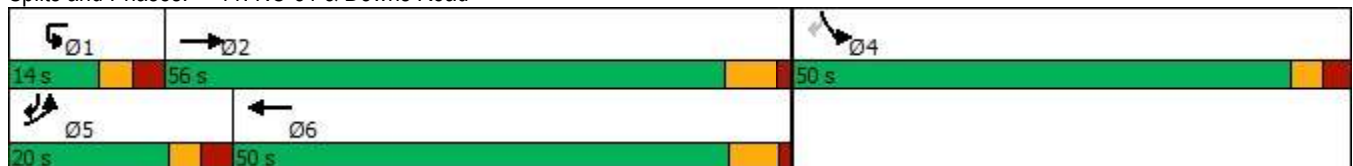


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effct Green (s)     | 9.5  | 35.0 | 8.2  | 22.2 | 66.7 | 19.3 | 34.1 |
| Actuated g/C Ratio      | 0.14 | 0.52 | 0.12 | 0.33 | 1.00 | 0.29 | 0.51 |
| v/c Ratio               | 0.32 | 0.42 | 0.02 | 0.65 | 0.09 | 0.69 | 0.23 |
| Control Delay           | 33.4 | 12.4 | 33.5 | 22.6 | 0.1  | 29.5 | 10.5 |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 33.4 | 12.4 | 33.5 | 22.6 | 0.1  | 29.5 | 10.5 |
| LOS                     | C    | B    | C    | C    | A    | C    | B    |
| Approach Delay          |      | 14.4 |      | 19.0 |      | 22.9 |      |
| Approach LOS            |      | B    |      | B    |      | C    |      |
| Queue Length 50th (ft)  | 29   | 82   | 1    | 128  | 0    | 121  | 39   |
| Queue Length 95th (ft)  | 84   | 227  | 12   | 246  | 0    | 249  | 88   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 414  | 2795 | 248  | 2488 | 1583 | 1238 | 948  |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.20 | 0.28 | 0.02 | 0.31 | 0.09 | 0.28 | 0.20 |

Intersection Summary

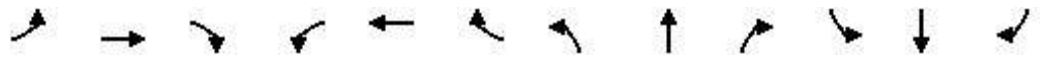
|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 66.7                   |
| Natural Cycle:                     | 60                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.69                   |
| Intersection Signal Delay:         | 18.2                   |
| Intersection LOS:                  | B                      |
| Intersection Capacity Utilization: | 55.1%                  |
| ICU Level of Service:              | B                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 11: NC-51 & Downs Road



Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 111   | 882   | 207   | 78    | 538   | 197   | 184   | 297   | 41    | 389   | 538   | 152   |
| Future Volume (vph)        | 111   | 882   | 207   | 78    | 538   | 197   | 184   | 297   | 41    | 389   | 538   | 152   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.971 |       |       |       | 0.850 |       | 0.982 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3437  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3437  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       |       | 1160  |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       |       | 22.6  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 123   | 980   | 230   | 87    | 598   | 219   | 204   | 330   | 46    | 432   | 598   | 169   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 123   | 1210  | 0     | 87    | 598   | 219   | 204   | 376   | 0     | 432   | 598   | 169   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 22.0  | 55.0  |       | 14.0  | 47.0  | 38.0  | 14.0  | 33.0  |       | 38.0  | 57.0  | 22.0  |
| Total Split (%)            | 15.7% | 39.3% |       | 10.0% | 33.6% | 27.1% | 10.0% | 23.6% |       | 27.1% | 40.7% | 15.7% |
| Maximum Green (s)          | 15.8  | 48.8  |       | 8.2   | 41.3  | 32.1  | 7.4   | 27.0  |       | 32.1  | 51.3  | 15.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.7  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.2   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |

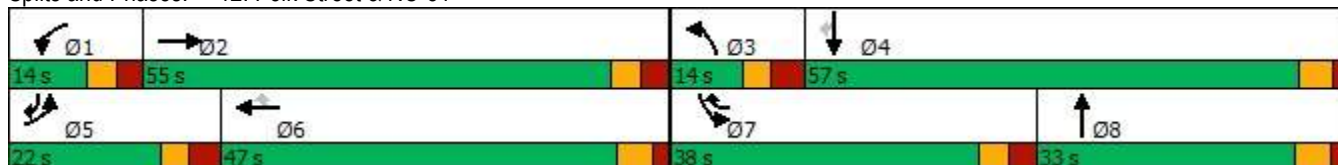


| Lane Group              | EBL  | EBT  | EBR | WBL   | WBT  | WBR  | NBL   | NBT   | NBR | SBL   | SBT  | SBR  |
|-------------------------|------|------|-----|-------|------|------|-------|-------|-----|-------|------|------|
| Act Effct Green (s)     | 14.5 | 50.0 |     | 8.9   | 44.4 | 82.2 | 9.0   | 28.0  |     | 33.0  | 52.0 | 71.5 |
| Actuated g/C Ratio      | 0.10 | 0.36 |     | 0.06  | 0.32 | 0.59 | 0.06  | 0.20  |     | 0.24  | 0.37 | 0.51 |
| v/c Ratio               | 0.68 | 0.99 |     | 0.79  | 0.54 | 0.24 | 0.94  | 1.04  |     | 1.05  | 0.87 | 0.21 |
| Control Delay           | 78.4 | 66.8 |     | 106.7 | 42.0 | 15.1 | 110.5 | 110.9 |     | 108.1 | 55.9 | 19.2 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   |     | 0.0   | 0.0  | 0.0  |
| Total Delay             | 78.4 | 66.8 |     | 106.7 | 42.0 | 15.1 | 110.5 | 110.9 |     | 108.1 | 55.9 | 19.2 |
| LOS                     | E    | E    |     | F     | D    | B    | F     | F     |     | F     | E    | B    |
| Approach Delay          |      | 67.9 |     |       | 41.7 |      |       | 110.8 |     |       | 69.5 |      |
| Approach LOS            |      | E    |     |       | D    |      |       | F     |     |       | E    |      |
| Queue Length 50th (ft)  | 109  | 573  |     | 80    | 238  | 93   | 96    | ~368  |     | ~426  | 504  | 81   |
| Queue Length 95th (ft)  | 177  | #732 |     | #176  | 306  | 145  | #176  | #572  |     | #640  | #717 | 123  |
| Internal Link Dist (ft) |      | 1431 |     |       | 1196 |      |       | 942   |     |       | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275   |      | 625  | 450   |       |     |       |      | 175  |
| Base Capacity (vph)     | 214  | 1228 |     | 112   | 1106 | 917  | 218   | 362   |     | 413   | 685  | 829  |
| Starvation Cap Reductn  | 0    | 0    |     | 0     | 0    | 0    | 0     | 0     |     | 0     | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0     | 0    | 0    | 0     | 0     |     | 0     | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0     | 0    | 0    | 0     | 0     |     | 0     | 0    | 0    |
| Reduced v/c Ratio       | 0.57 | 0.99 |     | 0.78  | 0.54 | 0.24 | 0.94  | 1.04  |     | 1.05  | 0.87 | 0.20 |

Intersection Summary

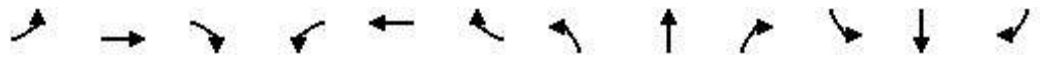
Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 139.9  
 Natural Cycle: 140  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.05  
 Intersection Signal Delay: 68.7      Intersection LOS: E  
 Intersection Capacity Utilization 93.2%      ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
13: Downs Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 22    | 670   | 225   | 78    | 655   | 50    | 200   | 55    | 97    | 103   | 116   | 106   |
| Future Volume (vph)        | 22    | 670   | 225   | 78    | 655   | 50    | 200   | 55    | 97    | 103   | 116   | 106   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       | -1%   |       |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.962 |       |       | 0.989 |       |       | 0.904 |       |       | 0.928 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3456  | 0     | 1743  | 3448  | 0     | 1778  | 1692  | 0     | 1778  | 1737  | 0     |
| Flt Permitted              | 0.319 |       |       | 0.232 |       |       | 0.547 |       |       | 0.650 |       |       |
| Satd. Flow (perm)          | 603   | 3456  | 0     | 426   | 3448  | 0     | 1024  | 1692  | 0     | 1217  | 1737  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       | 1210  |       |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       | 23.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 24    | 744   | 250   | 87    | 728   | 56    | 222   | 61    | 108   | 114   | 129   | 118   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 24    | 994   | 0     | 87    | 784   | 0     | 222   | 169   | 0     | 114   | 247   | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 34.0  | 34.0  |       | 34.0  | 34.0  |       | 26.0  | 26.0  |       | 26.0  | 26.0  |       |
| Total Split (%)            | 56.7% | 56.7% |       | 56.7% | 56.7% |       | 43.3% | 43.3% |       | 43.3% | 43.3% |       |
| Maximum Green (s)          | 28.2  | 28.2  |       | 28.8  | 28.8  |       | 20.5  | 20.5  |       | 20.2  | 20.2  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.5  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.3   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021

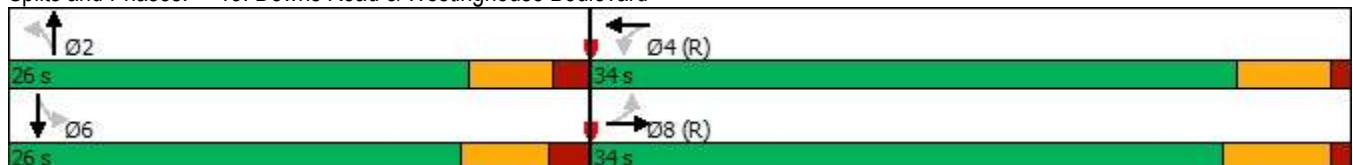


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 32.3 | 32.3 |     | 32.3 | 32.3 |     | 17.7 | 17.7 |     | 17.4 | 17.7 |     |
| Actuated g/C Ratio      | 0.54 | 0.54 |     | 0.54 | 0.54 |     | 0.30 | 0.30 |     | 0.29 | 0.30 |     |
| v/c Ratio               | 0.07 | 0.53 |     | 0.38 | 0.42 |     | 0.74 | 0.34 |     | 0.32 | 0.48 |     |
| Control Delay           | 14.0 | 19.5 |     | 16.0 | 9.9  |     | 34.1 | 17.6 |     | 18.2 | 20.0 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 14.0 | 19.5 |     | 16.0 | 9.9  |     | 34.1 | 17.6 |     | 18.2 | 20.0 |     |
| LOS                     | B    | B    |     | B    | A    |     | C    | B    |     | B    | C    |     |
| Approach Delay          |      | 19.4 |     |      | 10.5 |     |      | 27.0 |     |      | 19.5 |     |
| Approach LOS            |      | B    |     |      | B    |     |      | C    |     |      | B    |     |
| Queue Length 50th (ft)  | 8    | 221  |     | 17   | 82   |     | 71   | 47   |     | 32   | 72   |     |
| Queue Length 95th (ft)  | m0   | 436  |     | 57   | 133  |     | #141 | 84   |     | 64   | 120  |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 326  | 1869 |     | 230  | 1865 |     | 360  | 596  |     | 422  | 611  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.07 | 0.53 |     | 0.38 | 0.42 |     | 0.62 | 0.28 |     | 0.27 | 0.40 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.74  
 Intersection Signal Delay: 17.6 Intersection LOS: B  
 Intersection Capacity Utilization 71.9% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

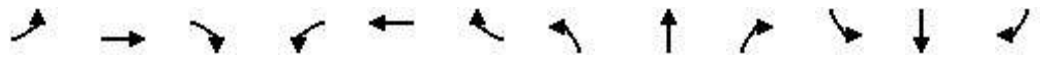
Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 161   | 825   | 92    | 57    | 912   | 14    | 167   | 78    | 47    | 34    | 76    | 337   |
| Future Volume (vph)        | 161   | 825   | 92    | 57    | 912   | 14    | 167   | 78    | 47    | 34    | 76    | 337   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.985 |       |       | 0.998 |       |       | 0.944 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3504  | 0     | 1761  | 3514  | 0     | 1761  | 1750  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.702 |       |       | 0.574 |       |       |
| Satd. Flow (perm)          | 1778  | 3504  | 0     | 1761  | 3514  | 0     | 1301  | 1750  | 0     | 1053  | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 179   | 917   | 102   | 63    | 1013  | 16    | 186   | 87    | 52    | 38    | 84    | 374   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 179   | 1019  | 0     | 63    | 1029  | 0     | 186   | 139   | 0     | 38    | 84    | 374   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           |       |       |       |       |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 29.0  | 70.0  |       | 15.0  | 56.0  |       | 35.0  | 35.0  |       | 35.0  | 35.0  | 29.0  |
| Total Split (%)            | 24.2% | 58.3% |       | 12.5% | 46.7% |       | 29.2% | 29.2% |       | 29.2% | 29.2% | 24.2% |
| Maximum Green (s)          | 22.0  | 64.5  |       | 8.0   | 50.5  |       | 29.6  | 29.6  |       | 29.7  | 29.7  | 22.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -0.5  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 6.5   |
| Lead/Lag                   | Lag   | Lag   |       | Lead  | Lead  |       |       |       |       |       |       | Lag   |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

12/21/2021

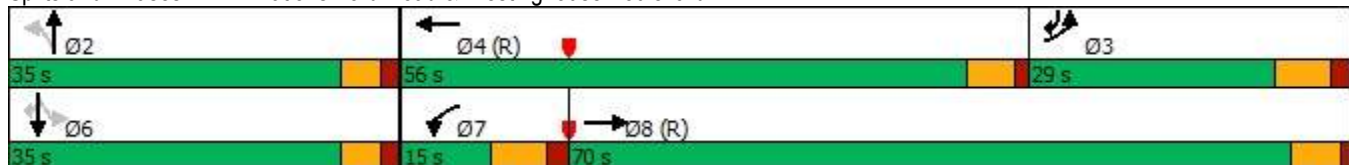


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effect Green (s)    | 26.7 | 74.5 |     | 10.8 | 55.7 |     | 22.5 | 22.5 |     | 22.5 | 22.5 | 52.8 |
| Actuated g/C Ratio      | 0.22 | 0.62 |     | 0.09 | 0.46 |     | 0.19 | 0.19 |     | 0.19 | 0.19 | 0.44 |
| v/c Ratio               | 0.45 | 0.47 |     | 0.40 | 0.63 |     | 0.76 | 0.42 |     | 0.19 | 0.24 | 0.55 |
| Control Delay           | 44.3 | 14.8 |     | 55.4 | 31.9 |     | 65.3 | 45.6 |     | 40.8 | 41.3 | 27.2 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 44.3 | 14.8 |     | 55.4 | 31.9 |     | 65.3 | 45.6 |     | 40.8 | 41.3 | 27.2 |
| LOS                     | D    | B    |     | E    | C    |     | E    | D    |     | D    | D    | C    |
| Approach Delay          |      | 19.2 |     |      | 33.3 |     |      | 56.9 |     |      |      | 30.6 |
| Approach LOS            |      | B    |     |      | C    |     |      | E    |     |      |      | C    |
| Queue Length 50th (ft)  | 118  | 228  |     | 46   | 360  |     | 137  | 96   |     | 25   | 56   | 201  |
| Queue Length 95th (ft)  | 198  | 316  |     | m94  | 409  |     | 206  | 148  |     | 54   | 95   | 282  |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 401  | 2175 |     | 161  | 1659 |     | 325  | 437  |     | 263  | 458  | 674  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.45 | 0.47 |     | 0.39 | 0.62 |     | 0.57 | 0.32 |     | 0.14 | 0.18 | 0.55 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:WBT and 8:EBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 29.9 Intersection LOS: C  
 Intersection Capacity Utilization 71.2% ICU Level of Service C  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard



Miller Farm TIA  
550: Flint Hill Road & Springhill Farm Road

12/21/2021



| Lane Group                 | EBL   | EBR   | NBL  | NBT   | SBT   | SBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        |       |       |      |       |       |       |
| Traffic Volume (vph)       | 540   | 4     | 4    | 4     | 4     | 468   |
| Future Volume (vph)        | 540   | 4     | 4    | 4     | 4     | 468   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.999 |       |      |       | 0.866 |       |
| Flt Protected              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (prot)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Flt Permitted              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (perm)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Link Speed (mph)           | 40    |       |      | 45    | 40    |       |
| Link Distance (ft)         | 691   |       |      | 657   | 1957  |       |
| Travel Time (s)            | 11.8  |       |      | 10.0  | 33.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 600   | 4     | 4    | 4     | 4     | 520   |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 604   | 0     | 0    | 8     | 524   | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 36    |       |      | 0     | 0     |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     | 15   |       |       | 9     |
| Sign Control               | Stop  |       |      | Free  | Free  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 66.0%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service C |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 16.9 |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 540  | 4    | 4    | 4    | 4    | 468  |
| Future Vol, veh/h        | 540  | 4    | 4    | 4    | 4    | 468  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 600  | 4    | 4    | 4    | 4    | 520  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 276    | 264    | 524    | 0 | - | 0 |
| Stage 1              | 264    | -      | -      | - | - | - |
| Stage 2              | 12     | -      | -      | - | - | - |
| Critical Hdwy        | 6.42   | 6.22   | 4.12   | - | - | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | - | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | - | - |
| Follow-up Hdwy       | 3.518  | 3.318  | 2.218  | - | - | - |
| Pot Cap-1 Maneuver   | 714    | 775    | 1043   | - | - | - |
| Stage 1              | 780    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | 711    | 775    | 1043   | - | - | - |
| Mov Cap-2 Maneuver   | 711    | -      | -      | - | - | - |
| Stage 1              | 777    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 31.8 | 4.2 | 0  |
| HCM LOS              | D    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1043  | -   | 711   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | 0.85  | -   | -   |
| HCM Control Delay (s) | 8.5   | 0   | 31.8  | -   | -   |
| HCM Lane LOS          | A     | A   | D     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | 9.8   | -   | -   |

Queuing and Blocking Report  
 2025 Background PM Peak Hour

12/06/2021

Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB  | EB   | EB   | WB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | T   | T   | R   | L   | TR  | L   | L   | TR  |
| Maximum Queue (ft)    | 56  | 130  | 111  | 184 | 80  | 96  | 242 | 26  | 174 | 163 | 147 | 83  |
| Average Queue (ft)    | 16  | 72   | 50   | 90  | 32  | 51  | 118 | 3   | 90  | 81  | 86  | 21  |
| 95th Queue (ft)       | 42  | 116  | 94   | 159 | 66  | 87  | 208 | 16  | 158 | 132 | 130 | 55  |
| Link Distance (ft)    |     | 1904 | 1904 |     | 746 | 746 |     |     | 932 |     |     | 586 |
| Upstream Blk Time (%) |     |      |      |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 200 |      |      | 200 |     |     | 350 | 150 |     | 250 | 250 |     |
| Storage Blk Time (%)  |     |      |      | 0   |     |     |     |     | 2   |     |     |     |
| Queuing Penalty (veh) |     |      |      | 0   |     |     |     |     | 0   |     |     |     |

Intersection: 6: Business Driveway & SC-51

| Movement              | WB  | NB  |
|-----------------------|-----|-----|
| Directions Served     | LT  | LR  |
| Maximum Queue (ft)    | 76  | 58  |
| Average Queue (ft)    | 16  | 25  |
| 95th Queue (ft)       | 53  | 52  |
| Link Distance (ft)    | 105 | 996 |
| Upstream Blk Time (%) | 0   |     |
| Queuing Penalty (veh) | 0   |     |
| Storage Bay Dist (ft) |     |     |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|-----|------|------|------|-----|
| Directions Served     | L   | T   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 82  | 3   | 40   | 21   | 68   | 303 |
| Average Queue (ft)    | 30  | 0   | 4    | 1    | 20   | 111 |
| 95th Queue (ft)       | 61  | 3   | 22   | 9    | 51   | 228 |
| Link Distance (ft)    | 105 | 105 | 1285 | 1285 | 1037 | 928 |
| Upstream Blk Time (%) | 0   |     |      |      |      |     |
| Queuing Penalty (veh) | 0   |     |      |      |      |     |
| Storage Bay Dist (ft) |     |     |      |      |      |     |
| Storage Blk Time (%)  |     |     |      |      |      |     |
| Queuing Penalty (veh) |     |     |      |      |      |     |

Queuing and Blocking Report  
 2025 Background PM Peak Hour

12/06/2021

Intersection: 9: Miller Road & NC-51

| Movement              | EB  | WB  | NB   | NB  |
|-----------------------|-----|-----|------|-----|
| Directions Served     | R   | L   | L    | R   |
| Maximum Queue (ft)    | 9   | 69  | 74   | 52  |
| Average Queue (ft)    | 0   | 22  | 20   | 19  |
| 95th Queue (ft)       | 5   | 53  | 53   | 42  |
| Link Distance (ft)    |     |     | 1024 |     |
| Upstream Blk Time (%) |     |     |      |     |
| Queuing Penalty (veh) |     |     |      |     |
| Storage Bay Dist (ft) | 370 | 335 |      | 185 |
| Storage Blk Time (%)  |     |     |      |     |
| Queuing Penalty (veh) |     |     |      |     |

Intersection: 10: Marfield Lane & NC-51

| Movement              | EB   | EB   | EB  | WB  | NB  | NB   |
|-----------------------|------|------|-----|-----|-----|------|
| Directions Served     | T    | T    | R   | L   | L   | R    |
| Maximum Queue (ft)    | 2    | 2    | 4   | 86  | 62  | 64   |
| Average Queue (ft)    | 0    | 0    | 0   | 33  | 19  | 26   |
| 95th Queue (ft)       | 2    | 2    | 3   | 66  | 47  | 53   |
| Link Distance (ft)    | 1846 | 1846 |     |     |     | 1311 |
| Upstream Blk Time (%) |      |      |     |     |     |      |
| Queuing Penalty (veh) |      |      |     |     |     |      |
| Storage Bay Dist (ft) |      |      | 310 | 520 | 100 |      |
| Storage Blk Time (%)  |      |      |     |     | 0   | 0    |
| Queuing Penalty (veh) |      |      |     |     | 0   | 0    |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | SB  | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|-----|
| Directions Served     | L   | T    | T    | U   | T    | T    | L   | R   |
| Maximum Queue (ft)    | 108 | 159  | 158  | 31  | 209  | 208  | 221 | 143 |
| Average Queue (ft)    | 45  | 67   | 72   | 5   | 94   | 93   | 125 | 63  |
| 95th Queue (ft)       | 88  | 128  | 126  | 22  | 172  | 172  | 194 | 116 |
| Link Distance (ft)    |     | 1836 | 1836 |     | 1076 | 1076 |     | 545 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |
| Storage Bay Dist (ft) | 310 |      |      | 210 |      |      | 275 |     |
| Storage Blk Time (%)  |     |      |      |     |      | 0    |     |     |
| Queuing Penalty (veh) |     |      |      |     |      | 0    |     |     |

Queuing and Blocking Report  
 2025 Background PM Peak Hour

12/06/2021

Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 410 | 598  | 607  | 185 | 297  | 284  | 157 | 206 | 395 | 627 | 594  | 582  |
| Average Queue (ft)    | 142 | 391  | 414  | 78  | 183  | 165  | 72  | 113 | 199 | 369 | 340  | 330  |
| 95th Queue (ft)       | 344 | 569  | 585  | 152 | 268  | 252  | 138 | 204 | 419 | 707 | 560  | 528  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     | 2   |      |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     | 0   |      |      |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 19   |      |     | 1    |      |     |     |     | 12  |      | 31   |
| Queuing Penalty (veh) |     | 22   |      |     | 1    |      |     |     |     | 23  |      | 48   |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 275 |
| Average Queue (ft)    | 128 |
| 95th Queue (ft)       | 311 |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  | 0   |
| Queuing Penalty (veh) | 0   |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 46  | 219  | 263  | 117 | 134  | 136  | 188 | 148  | 118 | 166  |
| Average Queue (ft)    | 11  | 96   | 127  | 42  | 75   | 63   | 90  | 65   | 42  | 80   |
| 95th Queue (ft)       | 32  | 184  | 219  | 87  | 120  | 114  | 155 | 120  | 87  | 139  |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      | 0    |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      | 0    |     |      |     |      |

Queuing and Blocking Report  
 2025 Background PM Peak Hour

12/06/2021

Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 216 | 261  | 270  | 117 | 397  | 401  | 239 | 232  | 80  | 166  | 287 |
| Average Queue (ft)    | 108 | 136  | 147  | 41  | 215  | 232  | 122 | 87   | 24  | 49   | 146 |
| 95th Queue (ft)       | 186 | 228  | 245  | 92  | 347  | 361  | 205 | 176  | 61  | 122  | 245 |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      | 3   | 0    |     |      | 1   |
| Queuing Penalty (veh) |     |      |      |     |      |      | 4   | 1    |     |      | 1   |

Intersection: 550: Flint Hill Road & Springhill Farm Road

| Movement              | EB  | NB  | SB   |
|-----------------------|-----|-----|------|
| Directions Served     | LR  | LT  | TR   |
| Maximum Queue (ft)    | 178 | 21  | 6    |
| Average Queue (ft)    | 71  | 1   | 0    |
| 95th Queue (ft)       | 128 | 11  | 4    |
| Link Distance (ft)    | 586 | 625 | 1902 |
| Upstream Blk Time (%) |     |     |      |
| Queuing Penalty (veh) |     |     |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |























Network Summary

|                                  |
|----------------------------------|
| Network wide Queuing Penalty: 99 |
|----------------------------------|

## **2023 Build Traffic Volumes**

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations        |  |  |   |  |  |  |  |  |   |  |  |  |
| Traffic Volume (vph)       | 27  | 299   | 4   | 54  | 130   | 383   | 4  | 15  | 200   | 389   | 33  | 12  |
| Future Volume (vph)        | 27  | 299   | 4   | 54  | 130   | 383   | 4  | 15  | 200   | 389   | 33  | 12  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900   | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |   | 2%  |   |   | -2%   |   |  | 1%  |   |   | -1%   |   |
| Storage Length (ft)        | 200   |   | 0   | 200   |   | 350   | 150  |   | 0   | 250   |   | 0   |
| Storage Lanes              | 1   |   | 0   | 1   |   | 1   | 1  |   | 0   | 2   |   | 0   |
| Taper Length (ft)          | 100   |   |   | 100   |   |   | 100  |   |   | 100   |   |   |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00   | 1.00  | 1.00  | 0.97  | 1.00  | 1.00  |
| Frt                        |   | 0.998   |   |   |   | 0.850   |  | 0.861   |   |   | 0.961   |   |
| Flt Protected              | 0.950   |   |   | 0.950   |   |   | 0.950  |   |   | 0.950   |   |   |
| Satd. Flow (prot)          | 1752  | 3497  | 0   | 1787  | 3575  | 1599  | 1761   | 1596  | 0   | 3450  | 1799  | 0   |
| Flt Permitted              | 0.661   |   |   | 0.531   |   |   | 0.231  |   |   | 0.950   |   |   |
| Satd. Flow (perm)          | 1219  | 3497  | 0   | 999   | 3575  | 1599  | 428  | 1596  | 0   | 3450  | 1799  | 0   |
| Right Turn on Red          |   |   | No  |   |   | No  |  |   | No  |   |   | No  |
| Satd. Flow (RTOR)          |   |   |   |   |   |   |  |   |   |   |   |   |
| Link Speed (mph)           |   | 45  |   |   | 45  |   |  | 35  |   |   |   | 40  |
| Link Distance (ft)         |   | 1952  |   |   | 838   |   |  | 985   |   |   |   | 691   |
| Travel Time (s)            |   | 29.6  |   |   | 12.7  |   |  | 19.2  |   |   |   | 11.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90   | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 30  | 332   | 4   | 60  | 144   | 426   | 4  | 17  | 222   | 432   | 37  | 13  |
| Shared Lane Traffic (%)    |   |   |   |   |   |   |  |   |   |   |   |   |
| Lane Group Flow (vph)      | 30  | 336   | 0   | 60  | 144   | 426   | 4  | 239   | 0   | 432   | 50  | 0   |
| Enter Blocked Intersection | No  | No  | No  | No  | No  | No  | No   | No  | No  | No  | No  | No  |
| Lane Alignment             | Left  | Left  | Right   | Left  | Left  | Right   | Left   | Left  | Right   | Left  | Left  | Right   |
| Median Width(ft)           |   | 12  |   |   | 12  |   |  | 24  |   |   |   | 24  |
| Link Offset(ft)            |   | 0   |   |   | 0   |   |  | 0   |   |   |   | 0   |
| Crosswalk Width(ft)        |   | 16  |   |   | 16  |   |  | 16  |   |   |   | 16  |
| Two way Left Turn Lane     |   |   |   |   |   |   |  |   |   |   |   |   |
| Headway Factor             | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  | 1.01   | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15  |   | 9   | 15  |   | 9   | 15   |   | 9   | 15  |   | 9   |
| Turn Type                  | Perm  | NA  |   | Perm  | NA  | pm+ov   | Perm   | NA  |   | Split   | NA  |   |
| Protected Phases           |   | 2   |   |   | 6   | 4   |  | 3   |   | 4   | 4   |   |
| Permitted Phases           | 2   |   |   | 6   |   | 6   | 3  |   |   |   |   |   |
| Detector Phase             | 2   | 2   |   | 6   | 6   | 4   | 3  | 3   |   | 4   | 4   |   |
| Switch Phase               |   |   |   |   |   |   |  |   |   |   |   |   |
| Minimum Initial (s)        | 15.0  | 15.0  |   | 15.0  | 15.0  | 8.0   | 8.0  | 8.0   |   | 8.0   | 8.0   |   |
| Minimum Split (s)          | 22.0  | 22.0  |   | 22.0  | 22.0  | 15.0  | 15.0   | 15.0  |   | 15.0  | 15.0  |   |
| Total Split (s)            | 27.0  | 27.0  |   | 27.0  | 27.0  | 30.0  | 33.0   | 33.0  |   | 30.0  | 30.0  |   |
| Total Split (%)            | 30.0%   | 30.0%   |   | 30.0%   | 30.0%   | 33.3%   | 36.7%  | 36.7%   |   | 33.3%   | 33.3%   |   |
| Maximum Green (s)          | 20.4  | 20.4  |   | 20.4  | 20.4  | 23.8  | 26.8   | 26.8  |   | 23.8  | 23.8  |   |
| Yellow Time (s)            | 4.5   | 4.5   |   | 4.5   | 4.5   | 3.7   | 3.7  | 3.7   |   | 3.7   | 3.7   |   |
| All-Red Time (s)           | 2.1   | 2.1   |   | 2.1   | 2.1   | 2.5   | 2.5  | 2.5   |   | 2.5   | 2.5   |   |
| Lost Time Adjust (s)       | -1.6  | -1.6  |   | -1.6  | -1.6  | -1.2  | -1.2   | -1.2  |   | -1.2  | -1.2  |   |
| Total Lost Time (s)        | 5.0   | 5.0   |   | 5.0   | 5.0   | 5.0   | 5.0  | 5.0   |   | 5.0   | 5.0   |   |
| Lead/Lag                   |   |   |   |   |   | Lag   | Lead   | Lead  |   | Lag   | Lag   |   |
| Lead-Lag Optimize?         |   |   |   |   |   | Yes   | Yes  | Yes   |   | Yes   | Yes   |   |
| Vehicle Extension (s)      | 3.8   | 3.8   |   | 3.8   | 3.8   | 3.8   | 3.8  | 3.8   |   | 3.8   | 3.8   |   |
| Recall Mode                | Min   | Min   |   | Min   | Min   | None  | None   | None  |   | None  | None  |   |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

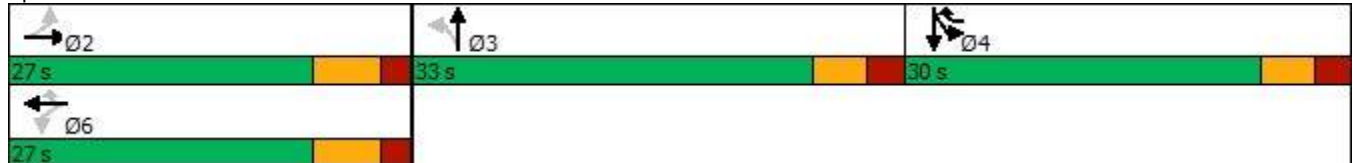


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 17.0 | 17.0 |     | 17.0 | 17.0 | 40.8 | 17.3 | 17.3 |     | 18.7 | 18.7 |     |
| Actuated g/C Ratio      | 0.25 | 0.25 |     | 0.25 | 0.25 | 0.60 | 0.25 | 0.25 |     | 0.27 | 0.27 |     |
| v/c Ratio               | 0.10 | 0.39 |     | 0.24 | 0.16 | 0.45 | 0.04 | 0.59 |     | 0.46 | 0.10 |     |
| Control Delay           | 25.4 | 25.3 |     | 27.8 | 23.8 | 10.1 | 21.2 | 29.6 |     | 22.6 | 19.8 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 25.4 | 25.3 |     | 27.8 | 23.8 | 10.1 | 21.2 | 29.6 |     | 22.6 | 19.8 |     |
| LOS                     | C    | C    |     | C    | C    | B    | C    | C    |     | C    | B    |     |
| Approach Delay          |      | 25.3 |     |      | 15.0 |      |      | 29.5 |     |      | 22.3 |     |
| Approach LOS            |      | C    |     |      | B    |      |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 10   | 61   |     | 20   | 24   | 85   | 1    | 88   |     | 75   | 15   |     |
| Queue Length 95th (ft)  | 36   | 121  |     | 62   | 57   | 189  | 9    | 168  |     | 130  | 43   |     |
| Internal Link Dist (ft) |      | 1872 |     |      | 758  |      |      | 905  |     |      | 611  |     |
| Turn Bay Length (ft)    | 200  |      |     | 200  |      | 350  | 150  |      |     | 250  |      |     |
| Base Capacity (vph)     | 401  | 1150 |     | 328  | 1176 | 937  | 179  | 668  |     | 1289 | 672  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.07 | 0.29 |     | 0.18 | 0.12 | 0.45 | 0.02 | 0.36 |     | 0.34 | 0.07 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 68.3  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.59  
 Intersection Signal Delay: 21.3  
 Intersection LOS: C  
 Intersection Capacity Utilization 65.9%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 5: Flint Hill Road & SC-51





Miller Farm TIA  
6: Business Driveway & SC-51

12/21/2021



| Lane Group                 | EBT   | EBR   | WBL  | WBT   | NBL   | NBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        | ↑↑    |       |      | ↑↑    | ↑↑    |       |
| Traffic Volume (vph)       | 838   | 6     | 20   | 562   | 14    | 15    |
| Future Volume (vph)        | 838   | 6     | 20   | 562   | 14    | 15    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 0.95  | 0.95  | 0.95 | 0.95  | 1.00  | 1.00  |
| Fr <sub>t</sub>            | 0.999 |       |      | 0.930 |       |       |
| Fl <sub>t</sub> Protected  |       |       |      | 0.998 | 0.976 |       |
| Satd. Flow (prot)          | 3536  | 0     | 0    | 3532  | 1691  | 0     |
| Fl <sub>t</sub> Permitted  |       |       |      | 0.998 | 0.976 |       |
| Satd. Flow (perm)          | 3536  | 0     | 0    | 3532  | 1691  | 0     |
| Link Speed (mph)           | 45    |       |      | 45    | 25    |       |
| Link Distance (ft)         | 838   |       |      | 161   | 1054  |       |
| Travel Time (s)            | 12.7  |       |      | 2.4   | 28.7  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 931   | 7     | 22   | 624   | 16    | 17    |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 938   | 0     | 0    | 646   | 33    | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Right | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 12    |       |      | 12    | 12    |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 9     |       | 15   | 15    |       | 9     |
| Sign Control               | Free  |       |      | Free  | Stop  |       |

Intersection Summary

|                                   |                              |
|-----------------------------------|------------------------------|
| Area Type:                        | Other                        |
| Control Type:                     | Unsignalized                 |
| Intersection Capacity Utilization | 40.1% ICU Level of Service A |
| Analysis Period (min)             | 15                           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.7  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 838  | 6    | 20   | 562  | 14   | 15   |
| Future Vol, veh/h        | 838  | 6    | 20   | 562  | 14   | 15   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 931  | 7    | 22   | 624  | 16   | 17   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 938    | 0      | 1291   |
| Stage 1              | -      | -      | -      | -      | 935    |
| Stage 2              | -      | -      | -      | -      | 356    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 726    | -      | 155    |
| Stage 1              | -      | -      | -      | -      | 342    |
| Stage 2              | -      | -      | -      | -      | 680    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 726    | -      | 148    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 148    |
| Stage 1              | -      | -      | -      | -      | 342    |
| Stage 2              | -      | -      | -      | -      | 649    |

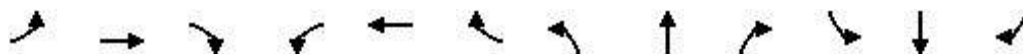
| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.5 | 22.6 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 237   | -   | -   | 726   | -   |
| HCM Lane V/C Ratio    | 0.136 | -   | -   | 0.031 | -   |
| HCM Control Delay (s) | 22.6  | -   | -   | 10.1  | 0.2 |
| HCM Lane LOS          | C     | -   | -   | B     | A   |
| HCM 95th %tile Q(veh) | 0.5   | -   | -   | 0.1   | -   |

Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |       |       |      |       |       |      |       |       |      |       |       |
| Traffic Volume (vph)       | 278   | 574   | 4     | 4    | 484   | 47    | 6    | 4     | 20    | 18   | 4     | 92    |
| Future Volume (vph)        | 278   | 574   | 4     | 4    | 484   | 47    | 6    | 4     | 20    | 18   | 4     | 92    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 0.95 | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       | 0.999 |       |      | 0.987 |       |      | 0.910 |       |      | 0.891 |       |
| Fl <sub>t</sub> Protected  | 0.950 |       |       |      |       |       |      | 0.990 |       |      | 0.992 |       |
| Satd. Flow (prot)          | 1770  | 3536  | 0     | 0    | 3493  | 0     | 0    | 1678  | 0     | 0    | 1646  | 0     |
| Fl <sub>t</sub> Permitted  | 0.950 |       |       |      |       |       |      | 0.990 |       |      | 0.992 |       |
| Satd. Flow (perm)          | 1770  | 3536  | 0     | 0    | 3493  | 0     | 0    | 1678  | 0     | 0    | 1646  | 0     |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |      | 25    |       |      | 35    |       |
| Link Distance (ft)         |       | 161   |       |      | 1378  |       |      | 1091  |       |      | 1017  |       |
| Travel Time (s)            |       | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      | 19.8  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 309   | 638   | 4     | 4    | 538   | 52    | 7    | 4     | 22    | 20   | 4     | 102   |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 309   | 642   | 0     | 0    | 594   | 0     | 0    | 33    | 0     | 0    | 126   | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 12    |       |      | 12    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |       |       |      |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free  |       |      | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 49.6%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.9  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 278  | 574  | 4    | 4    | 484  | 47   | 6    | 4    | 20   | 18   | 4    | 92   |
| Future Vol, veh/h        | 278  | 574  | 4    | 4    | 484  | 47   | 6    | 4    | 20   | 18   | 4    | 92   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 309  | 638  | 4    | 4    | 538  | 52   | 7    | 4    | 22   | 20   | 4    | 102  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 590    | 0 | 0 | 642    | 0 | 0 | 1537   | 1856 | 321  | 1511   | 1832 | 295  |
| Stage 1              | -      | - | - | -      | - | - | 1258   | 1258 | -    | 572    | 572  | -    |
| Stage 2              | -      | - | - | -      | - | - | 279    | 598  | -    | 939    | 1260 | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 982    | - | - | 939    | - | - | 79     | 73   | 675  | 83     | 75   | 701  |
| Stage 1              | -      | - | - | -      | - | - | 181    | 241  | -    | 472    | 502  | -    |
| Stage 2              | -      | - | - | -      | - | - | 704    | 489  | -    | 284    | 240  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 982    | - | - | 939    | - | - | 48     | 50   | 675  | 57     | 51   | 701  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 48     | 50   | -    | 57     | 51   | -    |
| Stage 1              | -      | - | - | -      | - | - | 124    | 165  | -    | 323    | 499  | -    |
| Stage 2              | -      | - | - | -      | - | - | 592    | 486  | -    | 183    | 164  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 3.4 |  |  | 0.1 |  |  | 42.8 |  |  | 42.5 |  |  |
| HCM LOS              |     |  |  |     |  |  | E    |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 128   | 982   | -   | -   | 939   | -   | -   | 217   |
| HCM Lane V/C Ratio    | 0.26  | 0.315 | -   | -   | 0.005 | -   | -   | 0.584 |
| HCM Control Delay (s) | 42.8  | 10.3  | -   | -   | 8.9   | 0   | -   | 42.5  |
| HCM Lane LOS          | E     | B     | -   | -   | A     | A   | -   | E     |
| HCM 95th %tile Q(veh) | 1     | 1.4   | -   | -   | 0     | -   | -   | 3.3   |

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021



| Lane Group                 | EBL  | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |      | ↕↕   | ↗     | ↖     | ↕↕    |       |      | ↕     | ↗     |      | ↕↕    |       |
| Traffic Volume (vph)       | 4    | 594  | 43    | 9     | 457   | 4     | 66   | 4     | 38    | 7    | 4     | 7     |
| Future Volume (vph)        | 4    | 594  | 43    | 9     | 457   | 4     | 66   | 4     | 38    | 7    | 4     | 7     |
| Ideal Flow (vphpl)         | 1900 | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 0    |      | 370   | 335   |       | 0     | 0    |       | 185   | 0    |       | 0     |
| Storage Lanes              | 0    |      | 1     | 1     |       | 0     | 0    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 100  |      |       | 100   |       |       | 100  |       |       | 100  |       |       |
| Lane Util. Factor          | 0.95 | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |      |      | 0.850 |       | 0.999 |       |      |       | 0.850 |      | 0.946 |       |
| Flt Protected              |      |      |       | 0.950 |       |       |      | 0.955 |       |      | 0.980 |       |
| Satd. Flow (prot)          | 0    | 3539 | 1583  | 1770  | 3536  | 0     | 0    | 1779  | 1583  | 0    | 1727  | 0     |
| Flt Permitted              |      |      |       | 0.950 |       |       |      | 0.955 |       |      | 0.980 |       |
| Satd. Flow (perm)          | 0    | 3539 | 1583  | 1770  | 3536  | 0     | 0    | 1779  | 1583  | 0    | 1727  | 0     |
| Link Speed (mph)           |      | 45   |       |       | 45    |       |      | 25    |       |      | 25    |       |
| Link Distance (ft)         |      | 1378 |       |       | 1912  |       |      | 1091  |       |      | 1003  |       |
| Travel Time (s)            |      | 20.9 |       |       | 29.0  |       |      | 29.8  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90 | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 4    | 660  | 48    | 10    | 508   | 4     | 73   | 4     | 42    | 8    | 4     | 8     |
| Shared Lane Traffic (%)    |      |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 0    | 664  | 48    | 10    | 512   | 0     | 0    | 77    | 42    | 0    | 20    | 0     |
| Enter Blocked Intersection | No   | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |      | 12   |       |       | 24    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |      | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |      | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |      |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |      | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 34.0%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.6  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↖↗   | ↖    | ↖    | ↖↗   |      |      | ↖    | ↖    |      | ↔    |      |
| Traffic Vol, veh/h       | 4    | 594  | 43   | 9    | 457  | 4    | 66   | 4    | 38   | 7    | 4    | 7    |
| Future Vol, veh/h        | 4    | 594  | 43   | 9    | 457  | 4    | 66   | 4    | 38   | 7    | 4    | 7    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | 370  | 335  | -    | -    | -    | -    | 185  | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 660  | 48   | 10   | 508  | 4    | 73   | 4    | 42   | 8    | 4    | 8    |

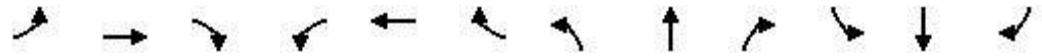
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 512    | 0 | 0 | 708    | 0 | 0 | 944    | 1200 | 330  | 870    | 1246 | 256  |
| Stage 1              | -      | - | - | -      | - | - | 668    | 668  | -    | 530    | 530  | -    |
| Stage 2              | -      | - | - | -      | - | - | 276    | 532  | -    | 340    | 716  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1050   | - | - | 887    | - | - | 217    | 184  | 666  | 246    | 172  | 743  |
| Stage 1              | -      | - | - | -      | - | - | 414    | 455  | -    | 500    | 525  | -    |
| Stage 2              | -      | - | - | -      | - | - | 707    | 524  | -    | 648    | 432  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 1050   | - | - | 887    | - | - | 208    | 181  | 666  | 223    | 169  | 743  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 208    | 181  | -    | 223    | 169  | -    |
| Stage 1              | -      | - | - | -      | - | - | 412    | 452  | -    | 497    | 519  | -    |
| Stage 2              | -      | - | - | -      | - | - | 686    | 518  | -    | 597    | 429  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 0.1 |  |  | 0.2 |  |  | 25 |  |  | 18.9 |  |  |
| HCM LOS              |     |  |  |     |  |  | D  |  |  | C    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 206   | 666   | 1050  | -   | -   | 887   | -   | -   | 279   |
| HCM Lane V/C Ratio    | 0.378 | 0.063 | 0.004 | -   | -   | 0.011 | -   | -   | 0.072 |
| HCM Control Delay (s) | 32.7  | 10.8  | 8.4   | 0   | -   | 9.1   | -   | -   | 18.9  |
| HCM Lane LOS          | D     | B     | A     | A   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 1.6   | 0.2   | 0     | -   | -   | 0     | -   | -   | 0.2   |

Miller Farm TIA  
 10: Marfield Lane/Site Driveway 1 & NC-51

12/21/2021



| Lane Group                 | EBL  | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |      | ↕↕   | ↗     | ↖     | ↕↕    |       |      | ↕     | ↗     |      | ↕↕    |       |
| Traffic Volume (vph)       | 4    | 651  | 10    | 51    | 436   | 4     | 46   | 4     | 91    | 11   | 4     | 4     |
| Future Volume (vph)        | 4    | 651  | 10    | 51    | 436   | 4     | 46   | 4     | 91    | 11   | 4     | 4     |
| Ideal Flow (vphpl)         | 1900 | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 0    |      | 310   | 520   |       | 0     | 100  |       | 0     | 0    |       | 0     |
| Storage Lanes              | 0    |      | 1     | 1     |       | 0     | 1    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 100  |      |       | 100   |       |       | 100  |       |       | 100  |       |       |
| Lane Util. Factor          | 0.95 | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |      |      | 0.850 |       | 0.999 |       |      |       | 0.850 |      | 0.973 |       |
| Flt Protected              |      |      |       | 0.950 |       |       |      | 0.956 |       |      | 0.971 |       |
| Satd. Flow (prot)          | 0    | 3539 | 1583  | 1770  | 3536  | 0     | 0    | 1781  | 1583  | 0    | 1760  | 0     |
| Flt Permitted              |      |      |       | 0.950 |       |       |      | 0.956 |       |      | 0.971 |       |
| Satd. Flow (perm)          | 0    | 3539 | 1583  | 1770  | 3536  | 0     | 0    | 1781  | 1583  | 0    | 1760  | 0     |
| Link Speed (mph)           |      | 45   |       |       | 45    |       |      | 15    |       |      | 25    |       |
| Link Distance (ft)         |      | 1912 |       |       | 1898  |       |      | 1372  |       |      | 1003  |       |
| Travel Time (s)            |      | 29.0 |       |       | 28.8  |       |      | 62.4  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90 | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 4    | 723  | 11    | 57    | 484   | 4     | 51   | 4     | 101   | 12   | 4     | 4     |
| Shared Lane Traffic (%)    |      |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 0    | 727  | 11    | 57    | 488   | 0     | 0    | 55    | 101   | 0    | 20    | 0     |
| Enter Blocked Intersection | No   | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |      | 12   |       |       | 12    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |      | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |      | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |      |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |      | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 48.0%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.2  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕↕   | ↕    | ↕    | ↕↕   |      |      | ↕    | ↕    |      | ↕↕   |      |
| Traffic Vol, veh/h       | 4    | 651  | 10   | 51   | 436  | 4    | 46   | 4    | 91   | 11   | 4    | 4    |
| Future Vol, veh/h        | 4    | 651  | 10   | 51   | 436  | 4    | 46   | 4    | 91   | 11   | 4    | 4    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | 310  | 520  | -    | -    | 100  | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 723  | 11   | 57   | 484  | 4    | 51   | 4    | 101  | 12   | 4    | 4    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 488    | 0 | 0 | 734    | 0 | 0 | 1089   | 1333 | 362  | 972    | 1342 | 244  |
| Stage 1              | -      | - | - | -      | - | - | 731    | 731  | -    | 600    | 600  | -    |
| Stage 2              | -      | - | - | -      | - | - | 358    | 602  | -    | 372    | 742  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1071   | - | - | 867    | - | - | 170    | 153  | 635  | 207    | 151  | 757  |
| Stage 1              | -      | - | - | -      | - | - | 379    | 425  | -    | 455    | 488  | -    |
| Stage 2              | -      | - | - | -      | - | - | 633    | 487  | -    | 621    | 420  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 1071   | - | - | 867    | - | - | 156    | 142  | 635  | 161    | 140  | 757  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 156    | 142  | -    | 161    | 140  | -    |
| Stage 1              | -      | - | - | -      | - | - | 377    | 422  | -    | 452    | 456  | -    |
| Stage 2              | -      | - | - | -      | - | - | 582    | 455  | -    | 514    | 417  | -    |

| Approach             | EB  | WB | NB | SB   |
|----------------------|-----|----|----|------|
| HCM Control Delay, s | 0.1 | 1  | 22 | 26.8 |
| HCM LOS              |     |    | C  | D    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 155   | 635   | 1071  | -   | -   | 867   | -   | -   | 186   |
| HCM Lane V/C Ratio    | 0.358 | 0.159 | 0.004 | -   | -   | 0.065 | -   | -   | 0.114 |
| HCM Control Delay (s) | 40.7  | 11.7  | 8.4   | 0   | -   | 9.4   | -   | -   | 26.8  |
| HCM Lane LOS          | E     | B     | A     | A   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 1.5   | 0.6   | 0     | -   | -   | 0.2   | -   | -   | 0.4   |



Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021



| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 132   | 630   | 4     | 422   | 248   | 66    | 57    |
| Future Volume (vph)        | 132   | 630   | 4     | 422   | 248   | 66    | 57    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 100   |       | 100   |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 147   | 700   | 4     | 469   | 276   | 73    | 63    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 147   | 700   | 4     | 469   | 276   | 73    | 63    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 40.0  | 73.0  | 18.0  | 51.0  |       | 29.0  | 40.0  |
| Total Split (%)            | 33.3% | 60.8% | 15.0% | 42.5% |       | 24.2% | 33.3% |
| Maximum Green (s)          | 34.2  | 67.0  | 12.1  | 45.2  |       | 23.4  | 34.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021

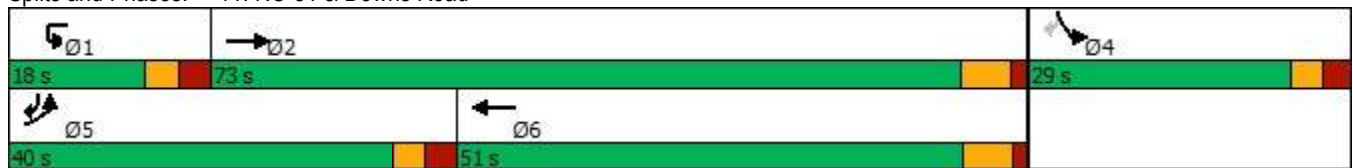


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effct Green (s)     | 9.9  | 30.8 | 8.3  | 19.5 | 42.4 | 8.4  | 16.9 |
| Actuated g/C Ratio      | 0.23 | 0.73 | 0.20 | 0.46 | 1.00 | 0.20 | 0.40 |
| v/c Ratio               | 0.36 | 0.27 | 0.01 | 0.29 | 0.17 | 0.21 | 0.10 |
| Control Delay           | 18.6 | 6.0  | 19.0 | 12.5 | 0.2  | 19.3 | 7.3  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 18.6 | 6.0  | 19.0 | 12.5 | 0.2  | 19.3 | 7.3  |
| LOS                     | B    | A    | B    | B    | A    | B    | A    |
| Approach Delay          |      | 8.2  |      | 8.0  |      | 13.7 |      |
| Approach LOS            |      | A    |      | A    |      | B    |      |
| Queue Length 50th (ft)  | 33   | 36   | 1    | 51   | 0    | 16   | 8    |
| Queue Length 95th (ft)  | 83   | 126  | 8    | 98   | 0    | 51   | 25   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 1467 | 3539 | 570  | 3390 | 1583 | 1048 | 1541 |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.10 | 0.20 | 0.01 | 0.14 | 0.17 | 0.07 | 0.04 |

Intersection Summary

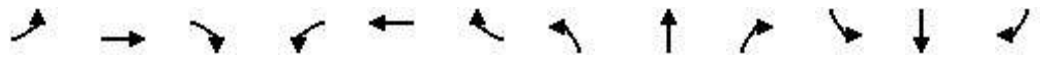
|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 42.4                   |
| Natural Cycle:                     | 55                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.36                   |
| Intersection Signal Delay:         | 8.5                    |
| Intersection LOS:                  | A                      |
| Intersection Capacity Utilization: | 41.6%                  |
| ICU Level of Service:              | A                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 11: NC-51 & Downs Road



Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 130   | 547   | 117   | 33    | 389   | 126   | 227   | 464   | 22    | 77    | 261   | 82    |
| Future Volume (vph)        | 130   | 547   | 117   | 33    | 389   | 126   | 227   | 464   | 22    | 77    | 261   | 82    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.974 |       |       |       | 0.850 |       |       | 0.993 |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3447  | 0     | 1743  | 3486  | 1560  | 3399  | 1831  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3447  | 0     | 1743  | 3486  | 1560  | 3399  | 1831  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       | 1160  |       |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       | 22.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 144   | 608   | 130   | 37    | 432   | 140   | 252   | 516   | 24    | 86    | 290   | 91    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 144   | 738   | 0     | 37    | 432   | 140   | 252   | 540   | 0     | 86    | 290   | 91    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       | 24    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 22.0  | 40.0  |       | 14.0  | 32.0  | 15.0  | 19.0  | 51.0  |       | 15.0  | 47.0  | 22.0  |
| Total Split (%)            | 18.3% | 33.3% |       | 11.7% | 26.7% | 12.5% | 15.8% | 42.5% |       | 12.5% | 39.2% | 18.3% |
| Maximum Green (s)          | 15.8  | 33.8  |       | 8.2   | 26.3  | 9.1   | 12.4  | 45.0  |       | 9.1   | 41.3  | 15.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.7  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.2   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021

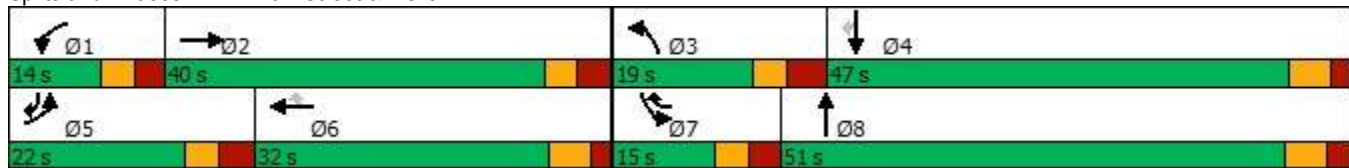


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|------|
| Act Effect Green (s)    | 13.4 | 30.2 |     | 8.5  | 18.6 | 33.2 | 12.7 | 33.5 |     | 9.5  | 30.3 | 49.0 |
| Actuated g/C Ratio      | 0.14 | 0.31 |     | 0.09 | 0.19 | 0.35 | 0.13 | 0.35 |     | 0.10 | 0.32 | 0.51 |
| v/c Ratio               | 0.59 | 0.68 |     | 0.24 | 0.64 | 0.26 | 0.56 | 0.85 |     | 0.50 | 0.50 | 0.11 |
| Control Delay           | 52.9 | 35.3 |     | 52.4 | 41.7 | 26.7 | 47.9 | 43.2 |     | 58.0 | 31.1 | 13.5 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 52.9 | 35.3 |     | 52.4 | 41.7 | 26.7 | 47.9 | 43.2 |     | 58.0 | 31.1 | 13.5 |
| LOS                     | D    | D    |     | D    | D    | C    | D    | D    |     | E    | C    | B    |
| Approach Delay          |      | 38.2 |     |      | 38.9 |      |      | 44.7 |     |      | 32.6 |      |
| Approach LOS            |      | D    |     |      | D    |      |      | D    |     |      | C    |      |
| Queue Length 50th (ft)  | 85   | 228  |     | 22   | 131  | 62   | 76   | 307  |     | 52   | 147  | 28   |
| Queue Length 95th (ft)  | 175  | 344  |     | 64   | 211  | 130  | 142  | 504  |     | #129 | 255  | 61   |
| Internal Link Dist (ft) |      | 1431 |     |      | 1196 |      |      | 942  |     |      | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275  |      | 625  | 450  |      |     |      |      | 175  |
| Base Capacity (vph)     | 328  | 1318 |     | 171  | 1028 | 554  | 520  | 920  |     | 191  | 846  | 871  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.44 | 0.56 |     | 0.22 | 0.42 | 0.25 | 0.48 | 0.59 |     | 0.45 | 0.34 | 0.10 |

Intersection Summary

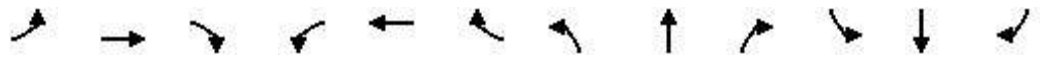
Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 96  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 39.3      Intersection LOS: D  
 Intersection Capacity Utilization 72.9%      ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 82    | 596   | 158   | 73    | 408   | 114   | 123   | 93    | 71    | 34    | 21    | 35    |
| Future Volume (vph)        | 82    | 596   | 158   | 73    | 408   | 114   | 123   | 93    | 71    | 34    | 21    | 35    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       | -1%   |       |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.968 |       |       | 0.967 |       |       | 0.935 |       |       | 0.906 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3477  | 0     | 1743  | 3371  | 0     | 1778  | 1750  | 0     | 1778  | 1696  | 0     |
| Flt Permitted              | 0.434 |       |       | 0.311 |       |       | 0.717 |       |       | 0.634 |       |       |
| Satd. Flow (perm)          | 821   | 3477  | 0     | 571   | 3371  | 0     | 1342  | 1750  | 0     | 1187  | 1696  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       | 1210  |       |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       | 23.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 91    | 662   | 176   | 81    | 453   | 127   | 137   | 103   | 79    | 38    | 23    | 39    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 91    | 838   | 0     | 81    | 580   | 0     | 137   | 182   | 0     | 38    | 62    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 37.0  | 37.0  |       | 37.0  | 37.0  |       | 23.0  | 23.0  |       | 23.0  | 23.0  |       |
| Total Split (%)            | 61.7% | 61.7% |       | 61.7% | 61.7% |       | 38.3% | 38.3% |       | 38.3% | 38.3% |       |
| Maximum Green (s)          | 31.2  | 31.2  |       | 31.8  | 31.8  |       | 17.5  | 17.5  |       | 17.2  | 17.2  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.5  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.3   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021

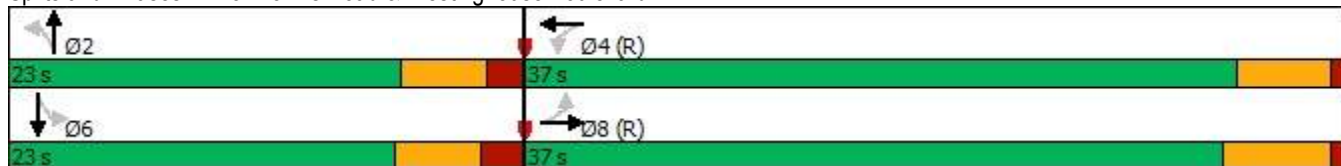


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 36.1 | 36.1 |     | 36.1 | 36.1 |     | 13.9 | 13.9 |     | 13.7 | 14.0 |     |
| Actuated g/C Ratio      | 0.60 | 0.60 |     | 0.60 | 0.60 |     | 0.23 | 0.23 |     | 0.23 | 0.23 |     |
| v/c Ratio               | 0.18 | 0.40 |     | 0.24 | 0.29 |     | 0.44 | 0.45 |     | 0.14 | 0.16 |     |
| Control Delay           | 6.9  | 7.0  |     | 8.5  | 6.5  |     | 24.2 | 23.2 |     | 19.0 | 18.6 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 6.9  | 7.0  |     | 8.5  | 6.5  |     | 24.2 | 23.2 |     | 19.0 | 18.6 |     |
| LOS                     | A    | A    |     | A    | A    |     | C    | C    |     | B    | B    |     |
| Approach Delay          |      | 7.0  |     |      | 6.8  |     |      | 23.6 |     |      | 18.8 |     |
| Approach LOS            |      | A    |     |      | A    |     |      | C    |     |      | B    |     |
| Queue Length 50th (ft)  | 11   | 60   |     | 11   | 43   |     | 44   | 58   |     | 11   | 18   |     |
| Queue Length 95th (ft)  | 67   | 243  |     | 38   | 82   |     | 80   | 99   |     | 29   | 40   |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 494  | 2093 |     | 343  | 2029 |     | 402  | 525  |     | 350  | 508  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.18 | 0.40 |     | 0.24 | 0.29 |     | 0.34 | 0.35 |     | 0.11 | 0.12 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.45  
 Intersection Signal Delay: 10.2  
 Intersection LOS: B  
 Intersection Capacity Utilization 64.0%  
 ICU Level of Service C  
 Analysis Period (min) 15

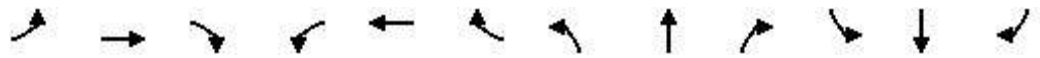
Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 206   | 832   | 159   | 42    | 460   | 14    | 93    | 119   | 65    | 14    | 47    | 129   |
| Future Volume (vph)        | 206   | 832   | 159   | 42    | 460   | 14    | 93    | 119   | 65    | 14    | 47    | 129   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.976 |       |       | 0.995 |       |       | 0.947 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3472  | 0     | 1761  | 3504  | 0     | 1761  | 1755  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.723 |       |       | 0.380 |       |       |
| Satd. Flow (perm)          | 1778  | 3472  | 0     | 1761  | 3504  | 0     | 1340  | 1755  | 0     | 697   | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 229   | 924   | 177   | 47    | 511   | 16    | 103   | 132   | 72    | 16    | 52    | 143   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 229   | 1101  | 0     | 47    | 527   | 0     | 103   | 204   | 0     | 16    | 52    | 143   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           |       |       |       |       |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 36.0  | 69.0  |       | 16.0  | 49.0  |       | 35.0  | 35.0  |       | 35.0  | 35.0  | 36.0  |
| Total Split (%)            | 30.0% | 57.5% |       | 13.3% | 40.8% |       | 29.2% | 29.2% |       | 29.2% | 29.2% | 30.0% |
| Maximum Green (s)          | 29.0  | 63.5  |       | 9.0   | 43.5  |       | 29.6  | 29.6  |       | 29.7  | 29.7  | 29.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -0.5  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 6.5   |
| Lead/Lag                   | Lag   | Lag   |       | Lead  | Lead  |       |       |       |       |       |       | Lag   |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

12/21/2021

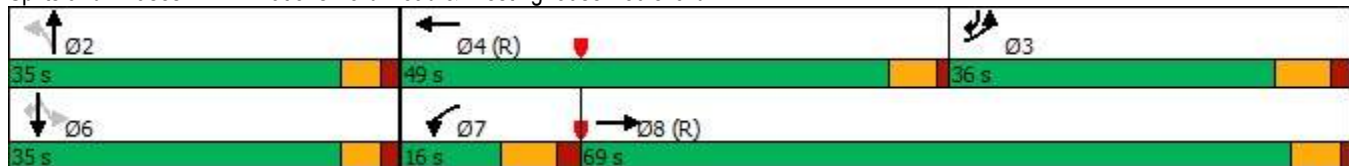


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effct Green (s)     | 24.9 | 77.2 |     | 10.9 | 60.5 |     | 19.7 | 19.7 |     | 19.7 | 19.7 | 48.0 |
| Actuated g/C Ratio      | 0.21 | 0.64 |     | 0.09 | 0.50 |     | 0.16 | 0.16 |     | 0.16 | 0.16 | 0.40 |
| v/c Ratio               | 0.62 | 0.49 |     | 0.29 | 0.30 |     | 0.47 | 0.71 |     | 0.14 | 0.17 | 0.23 |
| Control Delay           | 49.9 | 13.9 |     | 52.0 | 20.6 |     | 51.3 | 60.5 |     | 43.1 | 42.3 | 22.4 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 49.9 | 13.9 |     | 52.0 | 20.6 |     | 51.3 | 60.5 |     | 43.1 | 42.3 | 22.4 |
| LOS                     | D    | B    |     | D    | C    |     | D    | E    |     | D    | D    | C    |
| Approach Delay          |      | 20.1 |     |      | 23.2 |     |      | 57.4 |     |      | 28.9 |      |
| Approach LOS            |      | C    |     |      | C    |     |      | E    |     |      | C    |      |
| Queue Length 50th (ft)  | 162  | 231  |     | 35   | 117  |     | 73   | 151  |     | 11   | 35   | 72   |
| Queue Length 95th (ft)  | 225  | 355  |     | 62   | 223  |     | 122  | 220  |     | 31   | 68   | 93   |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 467  | 2234 |     | 172  | 1765 |     | 335  | 438  |     | 174  | 458  | 614  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.49 | 0.49 |     | 0.27 | 0.30 |     | 0.31 | 0.47 |     | 0.09 | 0.11 | 0.23 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:WBT and 8:EBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.71  
 Intersection Signal Delay: 26.3      Intersection LOS: C  
 Intersection Capacity Utilization 58.2%      ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard







| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL  | SBT   |
|----------------------------|-------|-------|-------|-------|------|-------|
| Lane Configurations        |       |       |       |       |      |       |
| Traffic Volume (vph)       | 4     | 10    | 326   | 4     | 4    | 109   |
| Future Volume (vph)        | 4     | 10    | 326   | 4     | 4    | 109   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  |
| Frt                        | 0.901 |       | 0.999 |       |      |       |
| Flt Protected              | 0.987 |       |       |       |      | 0.998 |
| Satd. Flow (prot)          | 1657  | 0     | 1861  | 0     | 0    | 1859  |
| Flt Permitted              | 0.987 |       |       |       |      | 0.998 |
| Satd. Flow (perm)          | 1657  | 0     | 1861  | 0     | 0    | 1859  |
| Link Speed (mph)           | 25    |       | 35    |       |      | 35    |
| Link Distance (ft)         | 1017  |       | 1017  |       |      | 5372  |
| Travel Time (s)            | 27.7  |       | 19.8  |       |      | 104.6 |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  |
| Adj. Flow (vph)            | 4     | 11    | 362   | 4     | 4    | 121   |
| Shared Lane Traffic (%)    |       |       |       |       |      |       |
| Lane Group Flow (vph)      | 15    | 0     | 366   | 0     | 0    | 125   |
| Enter Blocked Intersection | No    | No    | No    | No    | No   | No    |
| Lane Alignment             | Left  | Right | Left  | Right | Left | Left  |
| Median Width(ft)           | 12    |       | 0     |       |      | 0     |
| Link Offset(ft)            | 0     |       | 0     |       |      | 0     |
| Crosswalk Width(ft)        | 16    |       | 16    |       |      | 16    |
| Two way Left Turn Lane     |       |       |       |       |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    | 9     |       | 9     | 15   |       |
| Sign Control               | Stop  |       | Free  |       |      | Free  |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 27.4%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 10   | 326  | 4    | 4    | 109  |
| Future Vol, veh/h        | 4    | 10   | 326  | 4    | 4    | 109  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 11   | 362  | 4    | 4    | 121  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 493    | 364    | 0      | 0 | 366   |
| Stage 1              | 364    | -      | -      | - | -     |
| Stage 2              | 129    | -      | -      | - | -     |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 |
| Pot Cap-1 Maneuver   | 535    | 681    | -      | - | 1193  |
| Stage 1              | 703    | -      | -      | - | -     |
| Stage 2              | 897    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 533    | 681    | -      | - | 1193  |
| Mov Cap-2 Maneuver   | 533    | -      | -      | - | -     |
| Stage 1              | 703    | -      | -      | - | -     |
| Stage 2              | 893    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.8 | 0  | 0.3 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 631   | 1193  |
| HCM Lane V/C Ratio    | -   | -        | 0.025 | 0.004 |
| HCM Control Delay (s) | -   | -        | 10.8  | 8     |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     |

Miller Farm TIA  
 550: Flint Hill Road & Springhill Farm Road

12/21/2021



| Lane Group                 | EBL   | EBR   | NBL  | NBT   | SBT   | SBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        |       |       |      |       |       |       |
| Traffic Volume (vph)       | 425   | 4     | 4    | 4     | 4     | 434   |
| Future Volume (vph)        | 425   | 4     | 4    | 4     | 4     | 434   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.999 |       |      |       | 0.866 |       |
| Flt Protected              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (prot)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Flt Permitted              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (perm)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Link Speed (mph)           | 40    |       |      | 45    | 40    |       |
| Link Distance (ft)         | 691   |       |      | 657   | 1957  |       |
| Travel Time (s)            | 11.8  |       |      | 10.0  | 33.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 472   | 4     | 4    | 4     | 4     | 482   |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 476   | 0     | 0    | 8     | 486   | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 36    |       |      | 0     | 0     |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     | 15   |       |       | 9     |
| Sign Control               | Stop  |       |      | Free  | Free  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 57.5%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service B |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 9.2  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 425  | 4    | 4    | 4    | 4    | 434  |
| Future Vol, veh/h        | 425  | 4    | 4    | 4    | 4    | 434  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 472  | 4    | 4    | 4    | 4    | 482  |

| Major/Minor          | Minor2 | Major1 |       | Major2 |   |
|----------------------|--------|--------|-------|--------|---|
| Conflicting Flow All | 257    | 245    | 486   | 0      | 0 |
| Stage 1              | 245    | -      | -     | -      | - |
| Stage 2              | 12     | -      | -     | -      | - |
| Critical Hdwy        | 6.42   | 6.22   | 4.12  | -      | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -     | -      | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -     | -      | - |
| Follow-up Hdwy       | 3.518  | 3.318  | 2.218 | -      | - |
| Pot Cap-1 Maneuver   | 732    | 794    | 1077  | -      | - |
| Stage 1              | 796    | -      | -     | -      | - |
| Stage 2              | 1011   | -      | -     | -      | - |
| Platoon blocked, %   |        |        |       | -      | - |
| Mov Cap-1 Maneuver   | 729    | 794    | 1077  | -      | - |
| Mov Cap-2 Maneuver   | 729    | -      | -     | -      | - |
| Stage 1              | 793    | -      | -     | -      | - |
| Stage 2              | 1011   | -      | -     | -      | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 18.7 | 4.2 | 0  |
| HCM LOS              | C    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1077  | -   | 730   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | 0.653 | -   | -   |
| HCM Control Delay (s) | 8.4   | 0   | 18.7  | -   | -   |
| HCM Lane LOS          | A     | A   | C     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | 4.9   | -   | -   |

Queuing and Blocking Report  
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Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB  | EB   | EB   | WB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | T   | T   | R   | L   | TR  | L   | L   | TR  |
| Maximum Queue (ft)    | 58  | 162  | 132  | 98  | 76  | 80  | 181 | 22  | 187 | 149 | 144 | 64  |
| Average Queue (ft)    | 17  | 86   | 45   | 35  | 28  | 35  | 90  | 2   | 97  | 80  | 72  | 17  |
| 95th Queue (ft)       | 46  | 141  | 98   | 76  | 61  | 68  | 160 | 13  | 166 | 128 | 121 | 46  |
| Link Distance (ft)    |     | 1904 | 1904 |     | 746 | 746 |     |     | 932 |     |     | 586 |
| Upstream Blk Time (%) |     |      |      |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 200 |      |      | 200 |     |     | 350 | 150 |     | 250 | 250 |     |
| Storage Blk Time (%)  |     | 0    |      |     |     |     |     | 2   |     |     |     |     |
| Queuing Penalty (veh) |     | 0    |      |     |     |     |     | 0   |     |     |     |     |

Intersection: 6: Business Driveway & SC-51

| Movement              | EB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | T   | LT  | LR  |
| Maximum Queue (ft)    | 61  | 64  | 53  |
| Average Queue (ft)    | 4   | 13  | 21  |
| 95th Queue (ft)       | 31  | 45  | 48  |
| Link Distance (ft)    | 746 | 105 | 996 |
| Upstream Blk Time (%) |     | 0   |     |
| Queuing Penalty (veh) |     | 0   |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|------|------|------|-----|
| Directions Served     | L   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 107 | 26   | 33   | 60   | 147 |
| Average Queue (ft)    | 56  | 2    | 3    | 19   | 44  |
| 95th Queue (ft)       | 101 | 14   | 17   | 47   | 103 |
| Link Distance (ft)    | 105 | 1290 | 1290 | 1037 | 924 |
| Upstream Blk Time (%) | 1   |      |      |      |     |
| Queuing Penalty (veh) | 3   |      |      |      |     |
| Storage Bay Dist (ft) |     |      |      |      |     |
| Storage Blk Time (%)  |     |      |      |      |     |
| Queuing Penalty (veh) |     |      |      |      |     |

Intersection: 9: Miller Road/Site Driveway 2 & NC-51

| Movement              | EB   | EB   | EB  | WB  | WB   | NB   | NB  | SB  |
|-----------------------|------|------|-----|-----|------|------|-----|-----|
| Directions Served     | LT   | T    | R   | L   | TR   | LT   | R   | LTR |
| Maximum Queue (ft)    | 25   | 3    | 2   | 28  | 2    | 89   | 56  | 37  |
| Average Queue (ft)    | 1    | 0    | 0   | 4   | 0    | 36   | 18  | 11  |
| 95th Queue (ft)       | 11   | 3    | 2   | 19  | 2    | 68   | 41  | 31  |
| Link Distance (ft)    | 1290 | 1290 |     |     | 1846 | 1025 |     | 947 |
| Upstream Blk Time (%) |      |      |     |     |      |      |     |     |
| Queuing Penalty (veh) |      |      |     |     |      |      |     |     |
| Storage Bay Dist (ft) |      |      | 370 | 335 |      |      | 185 |     |
| Storage Blk Time (%)  |      |      |     |     |      |      |     |     |
| Queuing Penalty (veh) |      |      |     |     |      |      |     |     |

Intersection: 10: Marfield Lane/Site Driveway 1 & NC-51

| Movement              | EB   | WB  | NB  | NB   | SB  |
|-----------------------|------|-----|-----|------|-----|
| Directions Served     | LT   | L   | LT  | R    | LTR |
| Maximum Queue (ft)    | 12   | 41  | 98  | 90   | 53  |
| Average Queue (ft)    | 1    | 12  | 32  | 33   | 15  |
| 95th Queue (ft)       | 7    | 32  | 71  | 70   | 43  |
| Link Distance (ft)    | 1846 |     |     | 1311 | 957 |
| Upstream Blk Time (%) |      |     |     |      |     |
| Queuing Penalty (veh) |      |     |     |      |     |
| Storage Bay Dist (ft) |      | 520 | 100 |      |     |
| Storage Blk Time (%)  |      |     | 1   | 0    |     |
| Queuing Penalty (veh) |      |     | 1   | 0    |     |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | SB  | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|
| Directions Served     | L   | T    | T    | U   | T    | T    | R   | L   | R   |
| Maximum Queue (ft)    | 108 | 98   | 83   | 30  | 119  | 121  | 27  | 89  | 80  |
| Average Queue (ft)    | 54  | 19   | 35   | 3   | 45   | 48   | 1   | 40  | 29  |
| 95th Queue (ft)       | 93  | 62   | 76   | 18  | 93   | 95   | 19  | 76  | 63  |
| Link Distance (ft)    |     | 1829 | 1829 |     | 1076 | 1076 |     |     | 545 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |
| Storage Bay Dist (ft) | 310 |      |      | 210 |      |      | 335 | 275 |     |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |

Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 171 | 268  | 292  | 72  | 199  | 193  | 135 | 161 | 194 | 380 | 116  | 252  |
| Average Queue (ft)    | 77  | 139  | 167  | 29  | 114  | 93   | 58  | 48  | 108 | 216 | 52   | 112  |
| 95th Queue (ft)       | 142 | 226  | 257  | 63  | 176  | 165  | 108 | 128 | 172 | 335 | 102  | 199  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |     |      |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |     |      |      |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 0    |      |     |      |      |     |     |     |     |      | 2    |
| Queuing Penalty (veh) |     | 0    |      |     |      |      |     |     |     |     |      | 2    |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 85  |
| Average Queue (ft)    | 25  |
| 95th Queue (ft)       | 64  |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 79  | 135  | 198  | 81  | 96   | 105  | 134 | 185  | 64  | 85   |
| Average Queue (ft)    | 29  | 50   | 75   | 32  | 43   | 42   | 60  | 75   | 22  | 34   |
| 95th Queue (ft)       | 63  | 113  | 156  | 67  | 82   | 88   | 111 | 144  | 52  | 70   |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      |      |     | 0    |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     | 0    |     |      |

Queuing and Blocking Report  
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Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 249 | 253  | 252  | 90  | 207  | 206  | 196 | 254  | 58  | 85   | 139 |
| Average Queue (ft)    | 113 | 127  | 133  | 32  | 104  | 118  | 67  | 116  | 12  | 25   | 38  |
| 95th Queue (ft)       | 205 | 221  | 230  | 73  | 176  | 188  | 144 | 213  | 38  | 62   | 99  |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      | 0   | 3    |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      | 1   | 2    |     |      |     |

Intersection: 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3

| Movement              | WB  | SB   |
|-----------------------|-----|------|
| Directions Served     | LR  | LT   |
| Maximum Queue (ft)    | 35  | 20   |
| Average Queue (ft)    | 12  | 1    |
| 95th Queue (ft)       | 35  | 10   |
| Link Distance (ft)    | 982 | 5315 |
| Upstream Blk Time (%) |     |      |
| Queuing Penalty (veh) |     |      |
| Storage Bay Dist (ft) |     |      |
| Storage Blk Time (%)  |     |      |
| Queuing Penalty (veh) |     |      |

Intersection: 550: Flint Hill Road & Springhill Farm Road

| Movement              | EB  | NB  | SB   |
|-----------------------|-----|-----|------|
| Directions Served     | LR  | LT  | TR   |
| Maximum Queue (ft)    | 110 | 18  | 2    |
| Average Queue (ft)    | 48  | 1   | 0    |
| 95th Queue (ft)       | 88  | 9   | 2    |
| Link Distance (ft)    | 586 | 625 | 1902 |
| Upstream Blk Time (%) |     |     |      |
| Queuing Penalty (veh) |     |     |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

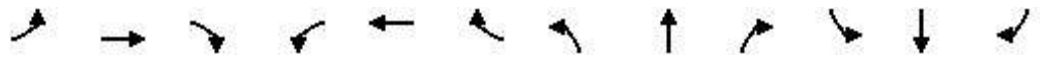
Network Summary

Network wide Queuing Penalty: 9



Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 19    | 291   | 10    | 161   | 212   | 497   | 4     | 10    | 153   | 400   | 45    | 12    |
| Future Volume (vph)        | 19    | 291   | 10    | 161   | 212   | 497   | 4     | 10    | 153   | 400   | 45    | 12    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 2%    |       |       | -2%   |       |       | 1%    |       |       |       | -1%   |
| Storage Length (ft)        | 200   |       | 0     | 200   |       | 350   | 150   |       | 0     | 250   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 1     |       | 0     | 2     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 0.97  | 1.00  | 1.00  |
| Frt                        |       | 0.995 |       |       |       | 0.850 |       | 0.859 |       |       | 0.969 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1752  | 3486  | 0     | 1787  | 3575  | 1599  | 1761  | 1592  | 0     | 3450  | 1814  | 0     |
| Flt Permitted              | 0.605 |       |       | 0.541 |       |       | 0.272 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1116  | 3486  | 0     | 1018  | 3575  | 1599  | 504   | 1592  | 0     | 3450  | 1814  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |       | 40    |
| Link Distance (ft)         |       | 1952  |       |       | 838   |       |       | 985   |       |       |       | 691   |
| Travel Time (s)            |       | 29.6  |       |       | 12.7  |       |       | 19.2  |       |       |       | 11.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 21    | 323   | 11    | 179   | 236   | 552   | 4     | 11    | 170   | 444   | 50    | 13    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 21    | 334   | 0     | 179   | 236   | 552   | 4     | 181   | 0     | 444   | 63    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    | pm+ov | Perm  | NA    |       | Split | NA    |       |
| Protected Phases           |       | 2     |       |       | 6     | 4     |       | 3     |       | 4     | 4     |       |
| Permitted Phases           | 2     |       |       | 6     |       | 6     | 3     |       |       |       |       |       |
| Detector Phase             | 2     | 2     |       | 6     | 6     | 4     | 3     | 3     |       | 4     | 4     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 15.0  | 15.0  |       | 15.0  | 15.0  | 8.0   | 8.0   | 8.0   |       | 8.0   | 8.0   |       |
| Minimum Split (s)          | 22.0  | 22.0  |       | 22.0  | 22.0  | 15.0  | 15.0  | 15.0  |       | 15.0  | 15.0  |       |
| Total Split (s)            | 38.0  | 38.0  |       | 38.0  | 38.0  | 27.0  | 25.0  | 25.0  |       | 27.0  | 27.0  |       |
| Total Split (%)            | 42.2% | 42.2% |       | 42.2% | 42.2% | 30.0% | 27.8% | 27.8% |       | 30.0% | 30.0% |       |
| Maximum Green (s)          | 31.4  | 31.4  |       | 31.4  | 31.4  | 20.8  | 18.8  | 18.8  |       | 20.8  | 20.8  |       |
| Yellow Time (s)            | 4.5   | 4.5   |       | 4.5   | 4.5   | 3.7   | 3.7   | 3.7   |       | 3.7   | 3.7   |       |
| All-Red Time (s)           | 2.1   | 2.1   |       | 2.1   | 2.1   | 2.5   | 2.5   | 2.5   |       | 2.5   | 2.5   |       |
| Lost Time Adjust (s)       | -1.6  | -1.6  |       | -1.6  | -1.6  | -1.2  | -1.2  | -1.2  |       | -1.2  | -1.2  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       | Lag   | Lead  | Lead  |       | Lag   | Lag   |       |
| Lead-Lag Optimize?         |       |       |       |       |       | Yes   | Yes   | Yes   |       | Yes   | Yes   |       |
| Vehicle Extension (s)      | 3.8   | 3.8   |       | 3.8   | 3.8   | 3.8   | 3.8   | 3.8   |       | 3.8   | 3.8   |       |
| Recall Mode                | Min   | Min   |       | Min   | Min   | None  | None  | None  |       | None  | None  |       |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

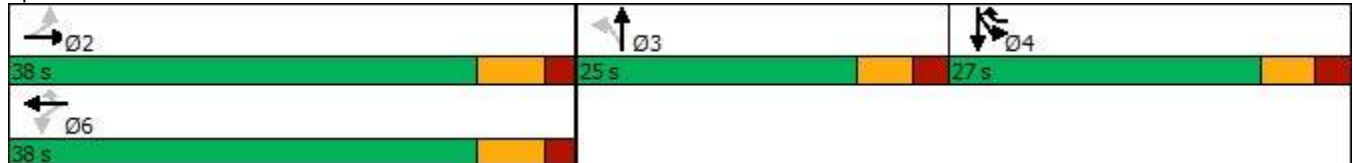


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 20.0 | 20.0 |     | 20.0 | 20.0 | 44.9 | 14.7 | 14.7 |     | 19.9 | 19.9 |     |
| Actuated g/C Ratio      | 0.29 | 0.29 |     | 0.29 | 0.29 | 0.64 | 0.21 | 0.21 |     | 0.28 | 0.28 |     |
| v/c Ratio               | 0.07 | 0.34 |     | 0.62 | 0.23 | 0.54 | 0.04 | 0.54 |     | 0.45 | 0.12 |     |
| Control Delay           | 20.3 | 21.5 |     | 33.4 | 20.6 | 9.5  | 25.5 | 32.6 |     | 23.6 | 21.8 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 20.3 | 21.5 |     | 33.4 | 20.6 | 9.5  | 25.5 | 32.6 |     | 23.6 | 21.8 |     |
| LOS                     | C    | C    |     | C    | C    | A    | C    | C    |     | C    | C    |     |
| Approach Delay          |      | 21.5 |     |      | 16.6 |      |      | 32.4 |     |      | 23.3 |     |
| Approach LOS            |      | C    |     |      | B    |      |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 7    | 62   |     | 69   | 42   | 110  | 1    | 67   |     | 73   | 18   |     |
| Queue Length 95th (ft)  | 24   | 102  |     | 143  | 74   | 219  | 10   | 151  |     | 152  | 58   |     |
| Internal Link Dist (ft) |      | 1872 |     |      | 758  |      |      | 905  |     |      | 611  |     |
| Turn Bay Length (ft)    | 200  |      |     | 200  |      | 350  | 150  |      |     | 250  |      |     |
| Base Capacity (vph)     | 539  | 1683 |     | 491  | 1726 | 1018 | 147  | 466  |     | 1111 | 584  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.04 | 0.20 |     | 0.36 | 0.14 | 0.54 | 0.03 | 0.39 |     | 0.40 | 0.11 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 69.9  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.62  
 Intersection Signal Delay: 20.6  
 Intersection LOS: C  
 Intersection Capacity Utilization 65.8%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 5: Flint Hill Road & SC-51



Miller Farm TIA  
6: Business Driveway & SC-51

12/21/2021



| Lane Group                 | EBT   | EBR   | WBL  | WBT   | NBL   | NBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        | ↑↑    |       |      | ↑↑    | ↑↑    |       |
| Traffic Volume (vph)       | 751   | 11    | 27   | 887   | 12    | 21    |
| Future Volume (vph)        | 751   | 11    | 27   | 887   | 12    | 21    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 0.95  | 0.95  | 0.95 | 0.95  | 1.00  | 1.00  |
| Frt                        | 0.998 |       |      | 0.914 |       |       |
| Flt Protected              |       |       |      | 0.999 | 0.982 |       |
| Satd. Flow (prot)          | 3532  | 0     | 0    | 3536  | 1672  | 0     |
| Flt Permitted              |       |       |      | 0.999 | 0.982 |       |
| Satd. Flow (perm)          | 3532  | 0     | 0    | 3536  | 1672  | 0     |
| Link Speed (mph)           | 45    |       |      | 45    | 25    |       |
| Link Distance (ft)         | 838   |       |      | 161   | 1054  |       |
| Travel Time (s)            | 12.7  |       |      | 2.4   | 28.7  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 834   | 12    | 30   | 986   | 13    | 23    |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 846   | 0     | 0    | 1016  | 36    | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Right | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 12    |       |      | 12    | 12    |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 9     |       | 15   | 15    |       | 9     |
| Sign Control               | Free  |       |      | Free  | Stop  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 54.0%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

Miller Farm TIA  
6: Business Driveway & SC-51

12/21/2021

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.8  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 751  | 11   | 27   | 887  | 12   | 21   |
| Future Vol, veh/h        | 751  | 11   | 27   | 887  | 12   | 21   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 834  | 12   | 30   | 986  | 13   | 23   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 846    | 0      | 1393   |
| Stage 1              | -      | -      | -      | -      | 840    |
| Stage 2              | -      | -      | -      | -      | 553    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 787    | -      | 133    |
| Stage 1              | -      | -      | -      | -      | 384    |
| Stage 2              | -      | -      | -      | -      | 540    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 787    | -      | 122    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 122    |
| Stage 1              | -      | -      | -      | -      | 384    |
| Stage 2              | -      | -      | -      | -      | 495    |

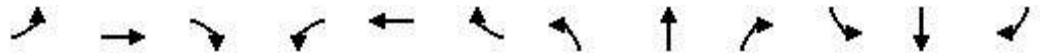
| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.7 | 22.3 |
| HCM LOS              |    |     | C    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 245   | -   | -   | 787   | -   |
| HCM Lane V/C Ratio    | 0.15  | -   | -   | 0.038 | -   |
| HCM Control Delay (s) | 22.3  | -   | -   | 9.8   | 0.4 |
| HCM Lane LOS          | C     | -   | -   | A     | A   |
| HCM 95th %tile Q(veh) | 0.5   | -   | -   | 0.1   | -   |

Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |       |       |       |      |       |       |      |       |       |      |      |       |
| Traffic Volume (vph)       | 112   | 660   | 4     | 9    | 654   | 14    | 7    | 6     | 12    | 23   | 4    | 249   |
| Future Volume (vph)        | 112   | 660   | 4     | 9    | 654   | 14    | 7    | 6     | 12    | 23   | 4    | 249   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 0.95 | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |       | 0.999 |       |      | 0.997 |       |      | 0.937 |       |      |      | 0.878 |
| Fl <sub>t</sub> Protected  | 0.950 |       |       |      | 0.999 |       |      | 0.986 |       |      |      | 0.996 |
| Satd. Flow (prot)          | 1770  | 3536  | 0     | 0    | 3525  | 0     | 0    | 1721  | 0     | 0    | 1629 | 0     |
| Fl <sub>t</sub> Permitted  | 0.950 |       |       |      | 0.999 |       |      | 0.986 |       |      |      | 0.996 |
| Satd. Flow (perm)          | 1770  | 3536  | 0     | 0    | 3525  | 0     | 0    | 1721  | 0     | 0    | 1629 | 0     |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |      | 25    |       |      |      | 35    |
| Link Distance (ft)         |       | 161   |       |      | 1378  |       |      | 1091  |       |      |      | 1017  |
| Travel Time (s)            |       | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      |      | 19.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 124   | 733   | 4     | 10   | 727   | 16    | 8    | 7     | 13    | 26   | 4    | 277   |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 124   | 737   | 0     | 0    | 753   | 0     | 0    | 28    | 0     | 0    | 307  | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 12    |       |      | 12    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |       | Free  |       |      | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 65.1%        |
| ICU Level of Service              | C            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 8.4  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↔    | ↕↔   |      |      | ↕↔   |      |      | ↕↔   |      |      | ↕↔   |      |
| Traffic Vol, veh/h       | 112  | 660  | 4    | 9    | 654  | 14   | 7    | 6    | 12   | 23   | 4    | 249  |
| Future Vol, veh/h        | 112  | 660  | 4    | 9    | 654  | 14   | 7    | 6    | 12   | 23   | 4    | 249  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 124  | 733  | 4    | 10   | 727  | 16   | 8    | 7    | 13   | 26   | 4    | 277  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 743    | 0 | 0 | 737    | 0 | 0 | 1369   | 1746 | 369  | 1373   | 1740 | 372  |
| Stage 1              | -      | - | - | -      | - | - | 983    | 983  | -    | 755    | 755  | -    |
| Stage 2              | -      | - | - | -      | - | - | 386    | 763  | -    | 618    | 985  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 860    | - | - | 865    | - | - | 105    | 85   | 628  | 105    | 86   | 625  |
| Stage 1              | -      | - | - | -      | - | - | 267    | 325  | -    | 367    | 415  | -    |
| Stage 2              | -      | - | - | -      | - | - | 609    | 411  | -    | 443    | 324  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 860    | - | - | 865    | - | - | 49     | 71   | 628  | 84     | 72   | 625  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 49     | 71   | -    | 84     | 72   | -    |
| Stage 1              | -      | - | - | -      | - | - | 229    | 278  | -    | 314    | 407  | -    |
| Stage 2              | -      | - | - | -      | - | - | 329    | 403  | -    | 362    | 277  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 1.4 |  |  | 0.2 |  |  | 53.6 |  |  | 44.4 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 101   | 860   | -   | -   | 865   | -   | -   | 379   |
| HCM Lane V/C Ratio    | 0.275 | 0.145 | -   | -   | 0.012 | -   | -   | 0.809 |
| HCM Control Delay (s) | 53.6  | 9.9   | -   | -   | 9.2   | 0.1 | -   | 44.4  |
| HCM Lane LOS          | F     | A     | -   | -   | A     | A   | -   | E     |
| HCM 95th %tile Q(veh) | 1     | 0.5   | -   | -   | 0     | -   | -   | 7.1   |

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| Lane Group                 | EBL  | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|------|-------|-------|-------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |      | ↕↕    | ↗     | ↖     | ↕↕    |       |      | ↕     | ↗     |      | ↕↕   |       |
| Traffic Volume (vph)       | 8    | 635   | 52    | 53    | 673   | 7     | 26   | 4     | 33    | 4    | 4    | 5     |
| Future Volume (vph)        | 8    | 635   | 52    | 53    | 673   | 7     | 26   | 4     | 33    | 4    | 4    | 5     |
| Ideal Flow (vphpl)         | 1900 | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Storage Length (ft)        | 0    |       | 370   | 335   |       | 0     | 0    |       | 185   | 0    |      | 0     |
| Storage Lanes              | 0    |       | 1     | 1     |       | 0     | 0    |       | 1     | 0    |      | 0     |
| Taper Length (ft)          | 100  |       |       | 100   |       |       | 100  |       |       | 100  |      |       |
| Lane Util. Factor          | 0.95 | 0.95  | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Frt                        |      |       | 0.850 |       | 0.998 |       |      |       | 0.850 |      |      | 0.942 |
| Flt Protected              |      | 0.999 |       | 0.950 |       |       |      | 0.958 |       |      |      | 0.986 |
| Satd. Flow (prot)          | 0    | 3536  | 1583  | 1770  | 3532  | 0     | 0    | 1785  | 1583  | 0    | 1730 | 0     |
| Flt Permitted              |      | 0.999 |       | 0.950 |       |       |      | 0.958 |       |      |      | 0.986 |
| Satd. Flow (perm)          | 0    | 3536  | 1583  | 1770  | 3532  | 0     | 0    | 1785  | 1583  | 0    | 1730 | 0     |
| Link Speed (mph)           |      | 45    |       |       | 45    |       |      | 25    |       |      |      | 25    |
| Link Distance (ft)         |      | 1378  |       |       | 1912  |       |      | 1091  |       |      |      | 1003  |
| Travel Time (s)            |      | 20.9  |       |       | 29.0  |       |      | 29.8  |       |      |      | 27.4  |
| Peak Hour Factor           | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 9    | 706   | 58    | 59    | 748   | 8     | 29   | 4     | 37    | 4    | 4    | 6     |
| Shared Lane Traffic (%)    |      |       |       |       |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 0    | 715   | 58    | 59    | 756   | 0     | 0    | 33    | 37    | 0    | 14   | 0     |
| Enter Blocked Intersection | No   | No    | No    | No    | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left | Left  | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |      | 12    |       |       | 24    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |      | 0     |       |       | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |      | 16    |       |       | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |      |       |       |       |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15   |       | 9     | 15    |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |      | Free  |       |       | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 50.9%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

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| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.9  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕↕   | ↗    | ↖    | ↕↕   |      |      | ↕    | ↗    |      | ↕↕   |      |
| Traffic Vol, veh/h       | 8    | 635  | 52   | 53   | 673  | 7    | 26   | 4    | 33   | 4    | 4    | 5    |
| Future Vol, veh/h        | 8    | 635  | 52   | 53   | 673  | 7    | 26   | 4    | 33   | 4    | 4    | 5    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | 370  | 335  | -    | -    | -    | -    | 185  | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 9    | 706  | 58   | 59   | 748  | 8    | 29   | 4    | 37   | 4    | 4    | 6    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 756    | 0 | 0 | 764    | 0 | 0 | 1218   | 1598 | 353  | 1243   | 1652 | 378  |
| Stage 1              | -      | - | - | -      | - | - | 724    | 724  | -    | 870    | 870  | -    |
| Stage 2              | -      | - | - | -      | - | - | 494    | 874  | -    | 373    | 782  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 851    | - | - | 845    | - | - | 136    | 105  | 643  | 131    | 98   | 620  |
| Stage 1              | -      | - | - | -      | - | - | 383    | 429  | -    | 313    | 367  | -    |
| Stage 2              | -      | - | - | -      | - | - | 526    | 365  | -    | 620    | 403  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 851    | - | - | 845    | - | - | 121    | 96   | 643  | 111    | 89   | 620  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 121    | 96   | -    | 111    | 89   | -    |
| Stage 1              | -      | - | - | -      | - | - | 376    | 421  | -    | 307    | 341  | -    |
| Stage 2              | -      | - | - | -      | - | - | 479    | 339  | -    | 567    | 395  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.2 |  |  | 0.7 |  |  | 28.4 |  |  | 32.3 |  |  |
| HCM LOS              |     |  |  |     |  |  | D    |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL  | EBT | EBR | WBL  | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h)      | 117   | 643   | 851  | -   | -   | 845  | -   | -   | 146   |
| HCM Lane V/C Ratio    | 0.285 | 0.057 | 0.01 | -   | -   | 0.07 | -   | -   | 0.099 |
| HCM Control Delay (s) | 47.6  | 10.9  | 9.3  | 0.1 | -   | 9.6  | -   | -   | 32.3  |
| HCM Lane LOS          | E     | B     | A    | A   | -   | A    | -   | -   | D     |
| HCM 95th %tile Q(veh) | 1.1   | 0.2   | 0    | -   | -   | 0.2  | -   | -   | 0.3   |



Miller Farm TIA  
 10: Marfield Lane/Site Driveway 1 & NC-51

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| Lane Group                 | EBL  | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |      | ↕↕   | ↗     | ↖     | ↕↕    |       |      | ↕     | ↗     |      | ↕↕    |       |
| Traffic Volume (vph)       | 4    | 667  | 10    | 99    | 755   | 12    | 29   | 4     | 63    | 7    | 4     | 4     |
| Future Volume (vph)        | 4    | 667  | 10    | 99    | 755   | 12    | 29   | 4     | 63    | 7    | 4     | 4     |
| Ideal Flow (vphpl)         | 1900 | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 0    |      | 310   | 520   |       | 0     | 100  |       | 0     | 0    |       | 0     |
| Storage Lanes              | 0    |      | 1     | 1     |       | 0     | 1    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 100  |      |       | 100   |       |       | 100  |       |       | 100  |       |       |
| Lane Util. Factor          | 0.95 | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |      |      | 0.850 |       | 0.998 |       |      |       | 0.850 |      | 0.966 |       |
| Flt Protected              |      |      |       | 0.950 |       |       |      | 0.957 |       |      | 0.976 |       |
| Satd. Flow (prot)          | 0    | 3539 | 1583  | 1770  | 3532  | 0     | 0    | 1783  | 1583  | 0    | 1756  | 0     |
| Flt Permitted              |      |      |       | 0.950 |       |       |      | 0.957 |       |      | 0.976 |       |
| Satd. Flow (perm)          | 0    | 3539 | 1583  | 1770  | 3532  | 0     | 0    | 1783  | 1583  | 0    | 1756  | 0     |
| Link Speed (mph)           |      | 45   |       |       | 45    |       |      | 15    |       |      | 25    |       |
| Link Distance (ft)         |      | 1912 |       |       | 1898  |       |      | 1372  |       |      | 1003  |       |
| Travel Time (s)            |      | 29.0 |       |       | 28.8  |       |      | 62.4  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90 | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 4    | 741  | 11    | 110   | 839   | 13    | 32   | 4     | 70    | 8    | 4     | 4     |
| Shared Lane Traffic (%)    |      |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 0    | 745  | 11    | 110   | 852   | 0     | 0    | 36    | 70    | 0    | 16    | 0     |
| Enter Blocked Intersection | No   | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |      | 12   |       |       | 12    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |      | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |      | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |      |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00 | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15   |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |      | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 56.7%        |
| ICU Level of Service              | B            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      | ↕↕   | ↗    | ↖    | ↕↕   |      |      | ↕    | ↗    |      | ↕↕   |      |
| Traffic Vol, veh/h       | 4    | 667  | 10   | 99   | 755  | 12   | 29   | 4    | 63   | 7    | 4    | 4    |
| Future Vol, veh/h        | 4    | 667  | 10   | 99   | 755  | 12   | 29   | 4    | 63   | 7    | 4    | 4    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | -    | -    | 310  | 520  | -    | -    | 100  | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 741  | 11   | 110  | 839  | 13   | 32   | 4    | 70   | 8    | 4    | 4    |

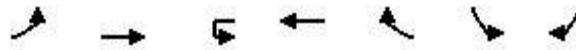
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 852    | 0 | 0 | 752    | 0 | 0 | 1391   | 1821 | 371  | 1447   | 1826 | 426  |
| Stage 1              | -      | - | - | -      | - | - | 749    | 749  | -    | 1066   | 1066 | -    |
| Stage 2              | -      | - | - | -      | - | - | 642    | 1072 | -    | 381    | 760  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 783    | - | - | 853    | - | - | 102    | 77   | 626  | 92     | 76   | 577  |
| Stage 1              | -      | - | - | -      | - | - | 370    | 417  | -    | 237    | 297  | -    |
| Stage 2              | -      | - | - | -      | - | - | 429    | 295  | -    | 613    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 783    | - | - | 853    | - | - | 86     | 66   | 626  | 69     | 66   | 577  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 86     | 66   | -    | 69     | 66   | -    |
| Stage 1              | -      | - | - | -      | - | - | 367    | 413  | -    | 235    | 259  | -    |
| Stage 2              | -      | - | - | -      | - | - | 364    | 257  | -    | 534    | 409  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 |  |  | 1.1 |  |  | 34.7 |  |  | 54.5 |  |  |
| HCM LOS              |     |  |  |     |  |  | D    |  |  | F    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 83    | 626   | 783   | -   | -   | 853   | -   | -   | 89    |
| HCM Lane V/C Ratio    | 0.442 | 0.112 | 0.006 | -   | -   | 0.129 | -   | -   | 0.187 |
| HCM Control Delay (s) | 79    | 11.5  | 9.6   | 0   | -   | 9.8   | -   | -   | 54.5  |
| HCM Lane LOS          | F     | B     | A     | A   | -   | A     | -   | -   | F     |
| HCM 95th %tile Q(veh) | 1.8   | 0.4   | 0     | -   | -   | 0.4   | -   | -   | 0.6   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021



| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 72    | 678   | 4     | 670   | 129   | 303   | 170   |
| Future Volume (vph)        | 72    | 678   | 4     | 670   | 129   | 303   | 170   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 100   |       | 100   |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 80    | 753   | 4     | 744   | 143   | 337   | 189   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 80    | 753   | 4     | 744   | 143   | 337   | 189   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 21.0  | 58.0  | 14.0  | 51.0  |       | 48.0  | 21.0  |
| Total Split (%)            | 17.5% | 48.3% | 11.7% | 42.5% |       | 40.0% | 17.5% |
| Maximum Green (s)          | 15.2  | 52.0  | 8.1   | 45.2  |       | 42.4  | 15.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021

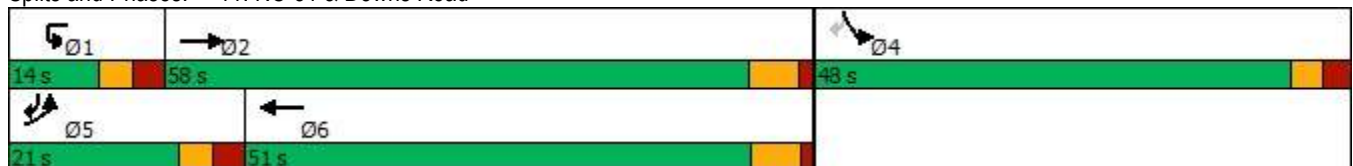


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effct Green (s)     | 9.4  | 34.3 | 8.2  | 21.7 | 65.1 | 18.4 | 33.0 |
| Actuated g/C Ratio      | 0.14 | 0.53 | 0.13 | 0.33 | 1.00 | 0.28 | 0.51 |
| v/c Ratio               | 0.31 | 0.40 | 0.02 | 0.63 | 0.09 | 0.68 | 0.24 |
| Control Delay           | 32.3 | 11.9 | 32.5 | 21.9 | 0.1  | 29.0 | 10.4 |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 32.3 | 11.9 | 32.5 | 21.9 | 0.1  | 29.0 | 10.4 |
| LOS                     | C    | B    | C    | C    | A    | C    | B    |
| Approach Delay          |      | 13.9 |      | 18.5 |      | 22.4 |      |
| Approach LOS            |      | B    |      | B    |      | C    |      |
| Queue Length 50th (ft)  | 28   | 76   | 1    | 121  | 0    | 114  | 39   |
| Queue Length 95th (ft)  | 82   | 214  | 12   | 234  | 0    | 236  | 88   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 452  | 2929 | 254  | 2599 | 1583 | 1209 | 974  |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.18 | 0.26 | 0.02 | 0.29 | 0.09 | 0.28 | 0.19 |

Intersection Summary

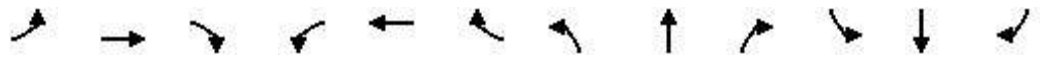
|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 65.1                   |
| Natural Cycle:                     | 60                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.68                   |
| Intersection Signal Delay:         | 17.7                   |
| Intersection LOS:                  | B                      |
| Intersection Capacity Utilization: | 53.9%                  |
| ICU Level of Service:              | A                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 11: NC-51 & Downs Road

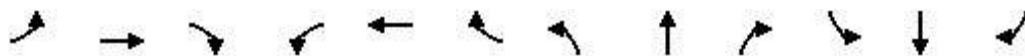


Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 110   | 851   | 202   | 75    | 521   | 189   | 181   | 285   | 40    | 374   | 517   | 151   |
| Future Volume (vph)        | 110   | 851   | 202   | 75    | 521   | 189   | 181   | 285   | 40    | 374   | 517   | 151   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.971 |       |       |       | 0.850 |       |       | 0.982 |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3437  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3437  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       | 1160  |       |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       | 22.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 122   | 946   | 224   | 83    | 579   | 210   | 201   | 317   | 44    | 416   | 574   | 168   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 122   | 1170  | 0     | 83    | 579   | 210   | 201   | 361   | 0     | 416   | 574   | 168   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       | 24    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 21.0  | 51.0  |       | 14.0  | 44.0  | 35.0  | 14.0  | 30.0  |       | 35.0  | 51.0  | 21.0  |
| Total Split (%)            | 16.2% | 39.2% |       | 10.8% | 33.8% | 26.9% | 10.8% | 23.1% |       | 26.9% | 39.2% | 16.2% |
| Maximum Green (s)          | 14.8  | 44.8  |       | 8.2   | 38.3  | 29.1  | 7.4   | 24.0  |       | 29.1  | 45.3  | 14.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.7  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.2   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |

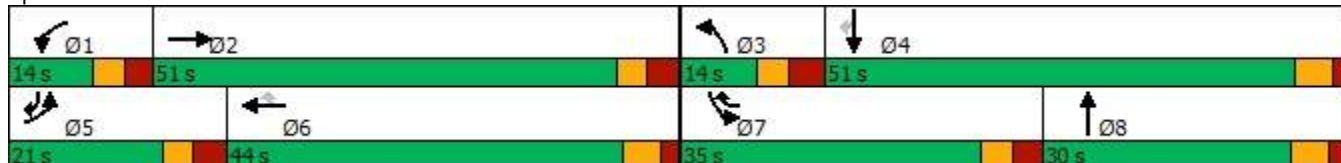


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT   | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|------|------|-------|-----|------|------|------|
| Act Effct Green (s)     | 13.6 | 45.3 |     | 8.8  | 40.5 | 75.3 | 9.0  | 25.0  |     | 30.0 | 46.0 | 64.6 |
| Actuated g/C Ratio      | 0.11 | 0.35 |     | 0.07 | 0.31 | 0.58 | 0.07 | 0.19  |     | 0.23 | 0.36 | 0.50 |
| v/c Ratio               | 0.66 | 0.97 |     | 0.70 | 0.53 | 0.23 | 0.85 | 1.03  |     | 1.02 | 0.87 | 0.21 |
| Control Delay           | 72.1 | 61.0 |     | 89.4 | 39.0 | 14.2 | 89.4 | 106.7 |     | 99.2 | 54.7 | 18.6 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 72.1 | 61.0 |     | 89.4 | 39.0 | 14.2 | 89.4 | 106.7 |     | 99.2 | 54.7 | 18.6 |
| LOS                     | E    | E    |     | F    | D    | B    | F    | F     |     | F    | D    | B    |
| Approach Delay          |      | 62.0 |     |      | 37.8 |      |      | 100.5 |     |      | 65.4 |      |
| Approach LOS            |      | E    |     |      | D    |      |      | F     |     |      | E    |      |
| Queue Length 50th (ft)  | 100  | 505  |     | 70   | 212  | 83   | 88   | ~327  |     | ~374 | 451  | 76   |
| Queue Length 95th (ft)  | 165  | #655 |     | #150 | 275  | 131  | #157 | #523  |     | #581 | #660 | 119  |
| Internal Link Dist (ft) |      | 1431 |     |      | 1196 |      |      | 942   |     |      | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275  |      | 625  | 450  |       |     |      |      | 175  |
| Base Capacity (vph)     | 219  | 1225 |     | 121  | 1092 | 909  | 237  | 351   |     | 407  | 657  | 813  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0     |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0     |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0     |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.56 | 0.96 |     | 0.69 | 0.53 | 0.23 | 0.85 | 1.03  |     | 1.02 | 0.87 | 0.21 |

Intersection Summary

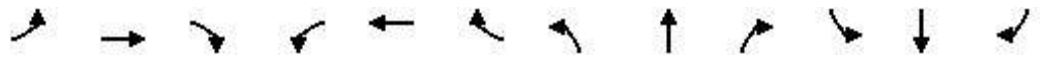
Area Type: Other  
 Cycle Length: 130  
 Actuated Cycle Length: 129.1  
 Natural Cycle: 130  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.03  
 Intersection Signal Delay: 63.2  
 Intersection LOS: E  
 Intersection Capacity Utilization 90.6%  
 ICU Level of Service E  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 21    | 646   | 217   | 81    | 631   | 48    | 194   | 54    | 95    | 99    | 113   | 102   |
| Future Volume (vph)        | 21    | 646   | 217   | 81    | 631   | 48    | 194   | 54    | 95    | 99    | 113   | 102   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       |       | -1%   |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.962 |       |       | 0.989 |       |       | 0.904 |       |       |       | 0.929 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3456  | 0     | 1743  | 3448  | 0     | 1778  | 1692  | 0     | 1778  | 1739  | 0     |
| Flt Permitted              | 0.335 |       |       | 0.247 |       |       | 0.556 |       |       | 0.652 |       |       |
| Satd. Flow (perm)          | 633   | 3456  | 0     | 453   | 3448  | 0     | 1041  | 1692  | 0     | 1221  | 1739  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       |       | 1210  |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       |       | 23.6  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 23    | 718   | 241   | 90    | 701   | 53    | 216   | 60    | 106   | 110   | 126   | 113   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 23    | 959   | 0     | 90    | 754   | 0     | 216   | 166   | 0     | 110   | 239   | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       |       | 12    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       |       | 6     |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 35.0  | 35.0  |       | 35.0  | 35.0  |       | 25.0  | 25.0  |       | 25.0  | 25.0  |       |
| Total Split (%)            | 58.3% | 58.3% |       | 58.3% | 58.3% |       | 41.7% | 41.7% |       | 41.7% | 41.7% |       |
| Maximum Green (s)          | 29.2  | 29.2  |       | 29.8  | 29.8  |       | 19.5  | 19.5  |       | 19.2  | 19.2  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.5  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.3   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021

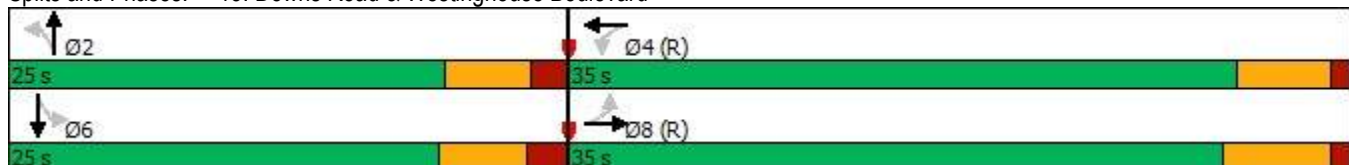


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effct Green (s)     | 32.7 | 32.7 |     | 32.7 | 32.7 |     | 17.3 | 17.3 |     | 17.0 | 17.3 |     |
| Actuated g/C Ratio      | 0.54 | 0.54 |     | 0.54 | 0.54 |     | 0.29 | 0.29 |     | 0.28 | 0.29 |     |
| v/c Ratio               | 0.07 | 0.51 |     | 0.36 | 0.40 |     | 0.72 | 0.34 |     | 0.32 | 0.48 |     |
| Control Delay           | 13.5 | 17.9 |     | 14.7 | 9.4  |     | 33.6 | 18.1 |     | 18.6 | 20.4 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 13.5 | 17.9 |     | 14.7 | 9.4  |     | 33.6 | 18.1 |     | 18.6 | 20.4 |     |
| LOS                     | B    | B    |     | B    | A    |     | C    | B    |     | B    | C    |     |
| Approach Delay          |      | 17.8 |     |      | 9.9  |     |      | 26.9 |     |      | 19.8 |     |
| Approach LOS            |      | B    |     |      | A    |     |      | C    |     |      | B    |     |
| Queue Length 50th (ft)  | 6    | 180  |     | 17   | 76   |     | 69   | 46   |     | 31   | 70   |     |
| Queue Length 95th (ft)  | m27  | 406  |     | 55   | 122  |     | #148 | 85   |     | 64   | 120  |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 348  | 1900 |     | 249  | 1896 |     | 351  | 571  |     | 405  | 587  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.07 | 0.50 |     | 0.36 | 0.40 |     | 0.62 | 0.29 |     | 0.27 | 0.41 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.72  
 Intersection Signal Delay: 16.8 Intersection LOS: B  
 Intersection Capacity Utilization 70.2% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Downs Road & Westinghouse Boulevard





Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 155   | 793   | 97    | 57    | 878   | 14    | 166   | 76    | 47    | 32    | 75    | 324   |
| Future Volume (vph)        | 155   | 793   | 97    | 57    | 878   | 14    | 166   | 76    | 47    | 32    | 75    | 324   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.984 |       |       | 0.998 |       |       | 0.943 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3500  | 0     | 1761  | 3514  | 0     | 1761  | 1748  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.703 |       |       | 0.582 |       |       |
| Satd. Flow (perm)          | 1778  | 3500  | 0     | 1761  | 3514  | 0     | 1303  | 1748  | 0     | 1068  | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 172   | 881   | 108   | 63    | 976   | 16    | 184   | 84    | 52    | 36    | 83    | 360   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 172   | 989   | 0     | 63    | 992   | 0     | 184   | 136   | 0     | 36    | 83    | 360   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           |       |       |       |       |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 28.0  | 69.0  |       | 15.0  | 56.0  |       | 36.0  | 36.0  |       | 36.0  | 36.0  | 28.0  |
| Total Split (%)            | 23.3% | 57.5% |       | 12.5% | 46.7% |       | 30.0% | 30.0% |       | 30.0% | 30.0% | 23.3% |
| Maximum Green (s)          | 21.0  | 63.5  |       | 8.0   | 50.5  |       | 30.6  | 30.6  |       | 30.7  | 30.7  | 21.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -0.5  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 6.5   |
| Lead/Lag                   | Lag   | Lag   |       | Lead  | Lead  |       |       |       |       |       |       | Lag   |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

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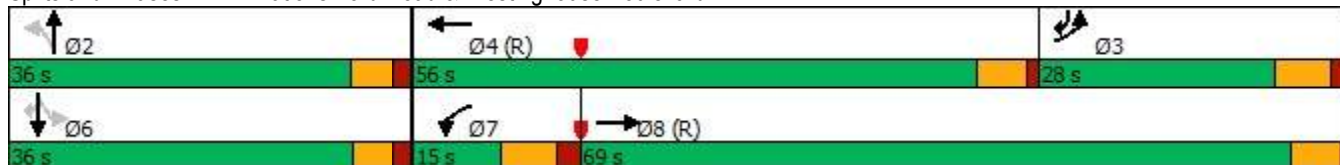
| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effect Green (s)    | 26.3 | 74.4 |     | 10.8 | 56.1 |     | 22.6 | 22.6 |     | 22.6 | 22.6 | 52.4 |
| Actuated g/C Ratio      | 0.22 | 0.62 |     | 0.09 | 0.47 |     | 0.19 | 0.19 |     | 0.19 | 0.19 | 0.44 |
| v/c Ratio               | 0.44 | 0.46 |     | 0.40 | 0.60 |     | 0.75 | 0.41 |     | 0.18 | 0.24 | 0.53 |
| Control Delay           | 44.3 | 14.7 |     | 55.7 | 31.8 |     | 64.0 | 45.2 |     | 40.2 | 41.0 | 26.9 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 44.3 | 14.7 |     | 55.7 | 31.8 |     | 64.0 | 45.2 |     | 40.2 | 41.0 | 26.9 |
| LOS                     | D    | B    |     | E    | C    |     | E    | D    |     | D    | D    | C    |
| Approach Delay          |      | 19.1 |     |      | 33.2 |     |      | 56.0 |     |      |      | 30.3 |
| Approach LOS            |      | B    |     |      | C    |     |      | E    |     |      |      | C    |
| Queue Length 50th (ft)  | 114  | 218  |     | 44   | 348  |     | 136  | 94   |     | 24   | 55   | 194  |
| Queue Length 95th (ft)  | 190  | 311  |     | m94  | 401  |     | 201  | 143  |     | 51   | 93   | 263  |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 393  | 2170 |     | 161  | 1675 |     | 336  | 451  |     | 275  | 474  | 668  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.44 | 0.46 |     | 0.39 | 0.59 |     | 0.55 | 0.30 |     | 0.13 | 0.18 | 0.54 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:WBT and 8:EBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.75  
 Intersection Signal Delay: 29.7      Intersection LOS: C  
 Intersection Capacity Utilization 70.0%      ICU Level of Service C  
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard





| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL  | SBT   |
|----------------------------|-------|-------|-------|-------|------|-------|
| Lane Configurations        |       |       |       |       |      |       |
| Traffic Volume (vph)       | 4     | 6     | 129   | 4     | 11   | 274   |
| Future Volume (vph)        | 4     | 6     | 129   | 4     | 11   | 274   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  |
| Frt                        | 0.914 |       | 0.996 |       |      |       |
| Flt Protected              | 0.982 |       |       |       |      | 0.998 |
| Satd. Flow (prot)          | 1672  | 0     | 1855  | 0     | 0    | 1859  |
| Flt Permitted              | 0.982 |       |       |       |      | 0.998 |
| Satd. Flow (perm)          | 1672  | 0     | 1855  | 0     | 0    | 1859  |
| Link Speed (mph)           | 25    |       | 35    |       |      | 35    |
| Link Distance (ft)         | 1017  |       | 1017  |       |      | 5372  |
| Travel Time (s)            | 27.7  |       | 19.8  |       |      | 104.6 |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  |
| Adj. Flow (vph)            | 4     | 7     | 143   | 4     | 12   | 304   |
| Shared Lane Traffic (%)    |       |       |       |       |      |       |
| Lane Group Flow (vph)      | 11    | 0     | 147   | 0     | 0    | 316   |
| Enter Blocked Intersection | No    | No    | No    | No    | No   | No    |
| Lane Alignment             | Left  | Right | Left  | Right | Left | Left  |
| Median Width(ft)           | 12    |       | 0     |       |      | 0     |
| Link Offset(ft)            | 0     |       | 0     |       |      | 0     |
| Crosswalk Width(ft)        | 16    |       | 16    |       |      | 16    |
| Two way Left Turn Lane     |       |       |       |       |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    | 9     |       | 9     | 15   |       |
| Sign Control               | Stop  |       | Free  |       |      | Free  |

**Intersection Summary**

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 33.3%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service A |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 6    | 129  | 4    | 11   | 274  |
| Future Vol, veh/h        | 4    | 6    | 129  | 4    | 11   | 274  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 7    | 143  | 4    | 12   | 304  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 473    | 145    | 0      | 0 | 147   |
| Stage 1              | 145    | -      | -      | - | -     |
| Stage 2              | 328    | -      | -      | - | -     |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 |
| Pot Cap-1 Maneuver   | 550    | 902    | -      | - | 1435  |
| Stage 1              | 882    | -      | -      | - | -     |
| Stage 2              | 730    | -      | -      | - | -     |
| Platoon blocked, %   |        |        |        |   |       |
| Mov Cap-1 Maneuver   | 545    | 902    | -      | - | 1435  |
| Mov Cap-2 Maneuver   | 545    | -      | -      | - | -     |
| Stage 1              | 882    | -      | -      | - | -     |
| Stage 2              | 723    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.1 | 0  | 0.3 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 715   | 1435  |
| HCM Lane V/C Ratio    | -   | -        | 0.016 | 0.009 |
| HCM Control Delay (s) | -   | -        | 10.1  | 7.5   |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0     | 0     |

Miller Farm TIA  
550: Flint Hill Road & Springhill Farm Road

12/21/2021



| Lane Group                 | EBL   | EBR   | NBL  | NBT   | SBT   | SBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        |       |       |      |       |       |       |
| Traffic Volume (vph)       | 526   | 4     | 4    | 4     | 4     | 457   |
| Future Volume (vph)        | 526   | 4     | 4    | 4     | 4     | 457   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.999 |       |      |       | 0.866 |       |
| Flt Protected              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (prot)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Flt Permitted              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (perm)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Link Speed (mph)           | 40    |       |      | 45    | 40    |       |
| Link Distance (ft)         | 691   |       |      | 657   | 1957  |       |
| Travel Time (s)            | 11.8  |       |      | 10.0  | 33.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 584   | 4     | 4    | 4     | 4     | 508   |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 588   | 0     | 0    | 8     | 512   | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 36    |       |      | 0     | 0     |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     | 15   |       |       | 9     |
| Sign Control               | Stop  |       |      | Free  | Free  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 64.6%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service C |

Miller Farm TIA  
 550: Flint Hill Road & Springhill Farm Road

12/21/2021

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 15.4 |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 526  | 4    | 4    | 4    | 4    | 457  |
| Future Vol, veh/h        | 526  | 4    | 4    | 4    | 4    | 457  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 584  | 4    | 4    | 4    | 4    | 508  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 270    | 258    | 512    | 0 | - | 0 |
| Stage 1              | 258    | -      | -      | - | - | - |
| Stage 2              | 12     | -      | -      | - | - | - |
| Critical Hdwy        | 6.42   | 6.22   | 4.12   | - | - | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | - | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | - | - |
| Follow-up Hdwy       | 3.518  | 3.318  | 2.218  | - | - | - |
| Pot Cap-1 Maneuver   | 719    | 781    | 1053   | - | - | - |
| Stage 1              | 785    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | 716    | 781    | 1053   | - | - | - |
| Mov Cap-2 Maneuver   | 716    | -      | -      | - | - | - |
| Stage 1              | 782    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 28.9 | 4.2 | 0  |
| HCM LOS              | D    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1053  | -   | 716   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | 0.822 | -   | -   |
| HCM Control Delay (s) | 8.4   | 0   | 28.9  | -   | -   |
| HCM Lane LOS          | A     | A   | D     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | 8.9   | -   | -   |

Queuing and Blocking Report  
2023 Build PM Peak Hour

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Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB  | EB   | EB   | WB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | T   | T   | R   | L   | TR  | L   | L   | TR  |
| Maximum Queue (ft)    | 52  | 130  | 112  | 167 | 82  | 99  | 254 | 24  | 189 | 150 | 153 | 76  |
| Average Queue (ft)    | 15  | 69   | 45   | 88  | 31  | 51  | 112 | 3   | 85  | 82  | 87  | 21  |
| 95th Queue (ft)       | 41  | 113  | 89   | 147 | 67  | 89  | 204 | 15  | 151 | 131 | 133 | 57  |
| Link Distance (ft)    |     | 1904 | 1904 |     | 746 | 746 |     |     | 932 |     |     | 586 |
| Upstream Blk Time (%) |     |      |      |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 200 |      |      | 200 |     |     | 350 | 150 |     | 250 | 250 |     |
| Storage Blk Time (%)  |     | 0    |      | 0   |     |     | 0   |     | 1   |     |     |     |
| Queuing Penalty (veh) |     | 0    |      | 0   |     |     | 0   |     | 0   |     |     |     |

Intersection: 6: Business Driveway & SC-51

| Movement              | WB  | WB  | NB  |
|-----------------------|-----|-----|-----|
| Directions Served     | LT  | T   | LR  |
| Maximum Queue (ft)    | 74  | 16  | 56  |
| Average Queue (ft)    | 16  | 1   | 22  |
| 95th Queue (ft)       | 56  | 12  | 50  |
| Link Distance (ft)    | 105 | 105 | 996 |
| Upstream Blk Time (%) | 0   | 0   |     |
| Queuing Penalty (veh) | 1   | 0   |     |
| Storage Bay Dist (ft) |     |     |     |
| Storage Blk Time (%)  |     |     |     |
| Queuing Penalty (veh) |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|------|------|------|-----|
| Directions Served     | L   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 80  | 45   | 19   | 54   | 284 |
| Average Queue (ft)    | 31  | 4    | 1    | 16   | 106 |
| 95th Queue (ft)       | 64  | 25   | 9    | 43   | 217 |
| Link Distance (ft)    | 105 | 1290 | 1290 | 1037 | 924 |
| Upstream Blk Time (%) | 0   |      |      |      |     |
| Queuing Penalty (veh) | 0   |      |      |      |     |
| Storage Bay Dist (ft) |     |      |      |      |     |
| Storage Blk Time (%)  |     |      |      |      |     |
| Queuing Penalty (veh) |     |      |      |      |     |

Intersection: 9: Miller Road/Site Driveway 2 & NC-51

| Movement              | EB   | EB   | EB  | WB  | WB   | NB   | NB  | SB  |
|-----------------------|------|------|-----|-----|------|------|-----|-----|
| Directions Served     | LT   | T    | R   | L   | TR   | LT   | R   | LTR |
| Maximum Queue (ft)    | 29   | 5    | 12  | 55  | 2    | 56   | 56  | 28  |
| Average Queue (ft)    | 3    | 0    | 1   | 18  | 0    | 18   | 18  | 8   |
| 95th Queue (ft)       | 17   | 5    | 6   | 45  | 2    | 44   | 41  | 26  |
| Link Distance (ft)    | 1290 | 1290 |     |     | 1846 | 1025 |     | 947 |
| Upstream Blk Time (%) |      |      |     |     |      |      |     |     |
| Queuing Penalty (veh) |      |      |     |     |      |      |     |     |
| Storage Bay Dist (ft) |      |      | 370 | 335 |      |      | 185 |     |
| Storage Blk Time (%)  |      |      |     |     |      |      |     |     |
| Queuing Penalty (veh) |      |      |     |     |      |      |     |     |

Intersection: 10: Marfield Lane/Site Driveway 1 & NC-51

| Movement              | EB   | EB   | EB  | WB  | NB  | NB   | SB  |
|-----------------------|------|------|-----|-----|-----|------|-----|
| Directions Served     | LT   | T    | R   | L   | LT  | R    | LTR |
| Maximum Queue (ft)    | 25   | 2    | 2   | 64  | 74  | 66   | 42  |
| Average Queue (ft)    | 1    | 0    | 0   | 23  | 22  | 24   | 13  |
| 95th Queue (ft)       | 12   | 2    | 2   | 51  | 55  | 51   | 39  |
| Link Distance (ft)    | 1846 | 1846 |     |     |     | 1311 | 957 |
| Upstream Blk Time (%) |      |      |     |     |     |      |     |
| Queuing Penalty (veh) |      |      |     |     |     |      |     |
| Storage Bay Dist (ft) |      |      | 310 | 520 | 100 |      |     |
| Storage Blk Time (%)  |      |      |     |     | 0   | 0    |     |
| Queuing Penalty (veh) |      |      |     |     | 0   | 0    |     |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | SB  | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|-----|
| Directions Served     | L   | T    | T    | U   | T    | T    | L   | R   |
| Maximum Queue (ft)    | 111 | 142  | 148  | 28  | 192  | 202  | 258 | 136 |
| Average Queue (ft)    | 45  | 56   | 65   | 4   | 90   | 92   | 126 | 61  |
| 95th Queue (ft)       | 90  | 113  | 115  | 19  | 164  | 166  | 207 | 112 |
| Link Distance (ft)    |     | 1829 | 1829 |     | 1076 | 1076 |     | 545 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |
| Storage Bay Dist (ft) | 310 |      |      | 210 |      |      | 275 |     |
| Storage Blk Time (%)  |     |      |      |     | 0    |      | 0   |     |
| Queuing Penalty (veh) |     |      |      |     | 0    |      | 0   |     |



Queuing and Blocking Report  
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Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 388 | 532  | 566  | 156 | 258  | 238  | 161 | 192 | 283 | 515 | 484  | 593  |
| Average Queue (ft)    | 103 | 318  | 348  | 70  | 164  | 143  | 66  | 94  | 158 | 295 | 296  | 313  |
| 95th Queue (ft)       | 243 | 454  | 484  | 131 | 234  | 219  | 131 | 188 | 323 | 532 | 458  | 526  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |     |      |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |     |      |      |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 10   |      |     | 0    |      |     |     |     | 6   |      | 30   |
| Queuing Penalty (veh) |     | 11   |      |     | 0    |      |     |     |     | 11  |      | 45   |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 275 |
| Average Queue (ft)    | 118 |
| 95th Queue (ft)       | 293 |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  | 0   |
| Queuing Penalty (veh) | 0   |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 48  | 207  | 241  | 113 | 135  | 128  | 194 | 124  | 95  | 169  |
| Average Queue (ft)    | 10  | 96   | 128  | 48  | 70   | 61   | 96  | 59   | 39  | 82   |
| 95th Queue (ft)       | 31  | 176  | 214  | 95  | 113  | 109  | 165 | 109  | 79  | 141  |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      |      | 0   |      |     | 0    |
| Queuing Penalty (veh) |     |      |      |     |      |      | 0   |      |     | 0    |

Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 203 | 241  | 257  | 120 | 364  | 371  | 242 | 222  | 92  | 185  | 305 |
| Average Queue (ft)    | 90  | 127  | 136  | 47  | 217  | 234  | 130 | 85   | 25  | 47   | 121 |
| 95th Queue (ft)       | 163 | 216  | 234  | 97  | 323  | 341  | 217 | 173  | 68  | 124  | 234 |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      | 3   | 1    |     |      | 1   |
| Queuing Penalty (veh) |     |      |      |     |      |      | 3   | 1    |     |      | 1   |

Intersection: 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3

| Movement              | WB  | SB   |
|-----------------------|-----|------|
| Directions Served     | LR  | LT   |
| Maximum Queue (ft)    | 31  | 25   |
| Average Queue (ft)    | 9   | 2    |
| 95th Queue (ft)       | 31  | 16   |
| Link Distance (ft)    | 982 | 5315 |
| Upstream Blk Time (%) |     |      |
| Queuing Penalty (veh) |     |      |
| Storage Bay Dist (ft) |     |      |
| Storage Blk Time (%)  |     |      |
| Queuing Penalty (veh) |     |      |

Intersection: 550: Flint Hill Road & Springhill Farm Road

| Movement              | EB  | NB  | SB   |
|-----------------------|-----|-----|------|
| Directions Served     | LR  | LT  | TR   |
| Maximum Queue (ft)    | 156 | 16  | 5    |
| Average Queue (ft)    | 65  | 1   | 0    |
| 95th Queue (ft)       | 124 | 11  | 5    |
| Link Distance (ft)    | 586 | 625 | 1902 |
| Upstream Blk Time (%) |     |     |      |
| Queuing Penalty (veh) |     |     |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

Network Summary

Network wide Queuing Penalty: 74

## **2023 Build plus Improvements Traffic Volumes**

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph)       | 4     | 594  | 43    | 9     | 457   | 4     | 66   | 4     | 38    | 7    | 4     | 7     |
| Future Volume (vph)        | 4     | 594  | 43    | 9     | 457   | 4     | 66   | 4     | 38    | 7    | 4     | 7     |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 100   |      | 370   | 335   |       | 0     | 0    |       | 185   | 0    |       | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 0    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 25    |      |       | 25    |       |       | 25   |       |       | 25   |       |       |
| Lane Util. Factor          | 1.00  | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.999 |       |      |       | 0.850 |      | 0.946 |       |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.955 |       |      | 0.980 |       |
| Satd. Flow (prot)          | 1770  | 3539 | 1583  | 1770  | 3536  | 0     | 0    | 1779  | 1583  | 0    | 1727  | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.955 |       |      | 0.980 |       |
| Satd. Flow (perm)          | 1770  | 3539 | 1583  | 1770  | 3536  | 0     | 0    | 1779  | 1583  | 0    | 1727  | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 25    |       |      | 25    |       |
| Link Distance (ft)         |       | 1378 |       |       | 1912  |       |      | 1091  |       |      | 1003  |       |
| Travel Time (s)            |       | 20.9 |       |       | 29.0  |       |      | 29.8  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 4     | 660  | 48    | 10    | 508   | 4     | 73   | 4     | 42    | 8    | 4     | 8     |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 4     | 660  | 48    | 10    | 512   | 0     | 0    | 77    | 42    | 0    | 20    | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 12   |       |       | 24    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 34.8%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.6  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 594  | 43   | 9    | 457  | 4    | 66   | 4    | 38   | 7    | 4    | 7    |
| Future Vol, veh/h        | 4    | 594  | 43   | 9    | 457  | 4    | 66   | 4    | 38   | 7    | 4    | 7    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 100  | -    | 370  | 335  | -    | -    | -    | -    | 185  | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 660  | 48   | 10   | 508  | 4    | 73   | 4    | 42   | 8    | 4    | 8    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 512    | 0 | 0 | 708    | 0 | 0 | 944    | 1200 | 330  | 870    | 1246 | 256  |
| Stage 1              | -      | - | - | -      | - | - | 668    | 668  | -    | 530    | 530  | -    |
| Stage 2              | -      | - | - | -      | - | - | 276    | 532  | -    | 340    | 716  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1050   | - | - | 887    | - | - | 217    | 184  | 666  | 246    | 172  | 743  |
| Stage 1              | -      | - | - | -      | - | - | 414    | 455  | -    | 500    | 525  | -    |
| Stage 2              | -      | - | - | -      | - | - | 707    | 524  | -    | 648    | 432  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 1050   | - | - | 887    | - | - | 208    | 181  | 666  | 224    | 169  | 743  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 208    | 181  | -    | 224    | 169  | -    |
| Stage 1              | -      | - | - | -      | - | - | 412    | 453  | -    | 498    | 519  | -    |
| Stage 2              | -      | - | - | -      | - | - | 686    | 518  | -    | 599    | 430  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|----|--|--|------|--|--|
| HCM Control Delay, s | 0.1 |  |  | 0.2 |  |  | 25 |  |  | 18.8 |  |  |
| HCM LOS              |     |  |  |     |  |  | D  |  |  | C    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 206   | 666   | 1050  | -   | -   | 887   | -   | -   | 280   |
| HCM Lane V/C Ratio    | 0.378 | 0.063 | 0.004 | -   | -   | 0.011 | -   | -   | 0.071 |
| HCM Control Delay (s) | 32.7  | 10.8  | 8.4   | -   | -   | 9.1   | -   | -   | 18.8  |
| HCM Lane LOS          | D     | B     | A     | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 1.6   | 0.2   | 0     | -   | -   | 0     | -   | -   | 0.2   |

Miller Farm TIA  
 10: Marfield Lane/Site Driveway 1 & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph)       | 4     | 651  | 10    | 51    | 436   | 4     | 46   | 4     | 91    | 11   | 4     | 4     |
| Future Volume (vph)        | 4     | 651  | 10    | 51    | 436   | 4     | 46   | 4     | 91    | 11   | 4     | 4     |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 100   |      | 310   | 520   |       | 0     | 100  |       | 0     | 0    |       | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 1    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 25    |      |       | 25    |       |       | 25   |       |       | 25   |       |       |
| Lane Util. Factor          | 1.00  | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.999 |       |      |       | 0.850 |      | 0.973 |       |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.956 |       |      | 0.971 |       |
| Satd. Flow (prot)          | 1770  | 3539 | 1583  | 1770  | 3536  | 0     | 0    | 1781  | 1583  | 0    | 1760  | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.956 |       |      | 0.971 |       |
| Satd. Flow (perm)          | 1770  | 3539 | 1583  | 1770  | 3536  | 0     | 0    | 1781  | 1583  | 0    | 1760  | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 15    |       |      | 25    |       |
| Link Distance (ft)         |       | 1912 |       |       | 1898  |       |      | 1372  |       |      | 1003  |       |
| Travel Time (s)            |       | 29.0 |       |       | 28.8  |       |      | 62.4  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 4     | 723  | 11    | 57    | 484   | 4     | 51   | 4     | 101   | 12   | 4     | 4     |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 4     | 723  | 11    | 57    | 488   | 0     | 0    | 55    | 101   | 0    | 20    | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 12   |       |       | 12    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 39.9%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.2  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 651  | 10   | 51   | 436  | 4    | 46   | 4    | 91   | 11   | 4    | 4    |
| Future Vol, veh/h        | 4    | 651  | 10   | 51   | 436  | 4    | 46   | 4    | 91   | 11   | 4    | 4    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 100  | -    | 310  | 520  | -    | -    | 100  | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 723  | 11   | 57   | 484  | 4    | 51   | 4    | 101  | 12   | 4    | 4    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 488    | 0 | 0 | 734    | 0 | 0 | 1089   | 1333 | 362  | 972    | 1342 | 244  |
| Stage 1              | -      | - | - | -      | - | - | 731    | 731  | -    | 600    | 600  | -    |
| Stage 2              | -      | - | - | -      | - | - | 358    | 602  | -    | 372    | 742  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1071   | - | - | 867    | - | - | 170    | 153  | 635  | 207    | 151  | 757  |
| Stage 1              | -      | - | - | -      | - | - | 379    | 425  | -    | 455    | 488  | -    |
| Stage 2              | -      | - | - | -      | - | - | 633    | 487  | -    | 621    | 420  | -    |
| Platoon blocked, %   |        | - | - |        | - | - |        |      |      |        |      |      |
| Mov Cap-1 Maneuver   | 1071   | - | - | 867    | - | - | 156    | 142  | 635  | 161    | 140  | 757  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 156    | 142  | -    | 161    | 140  | -    |
| Stage 1              | -      | - | - | -      | - | - | 377    | 423  | -    | 453    | 456  | -    |
| Stage 2              | -      | - | - | -      | - | - | 582    | 455  | -    | 515    | 418  | -    |

| Approach             | EB  | WB | NB | SB   |
|----------------------|-----|----|----|------|
| HCM Control Delay, s | 0.1 | 1  | 22 | 26.8 |
| HCM LOS              |     |    | C  | D    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 155   | 635   | 1071  | -   | -   | 867   | -   | -   | 186   |
| HCM Lane V/C Ratio    | 0.358 | 0.159 | 0.004 | -   | -   | 0.065 | -   | -   | 0.114 |
| HCM Control Delay (s) | 40.7  | 11.7  | 8.4   | -   | -   | 9.4   | -   | -   | 26.8  |
| HCM Lane LOS          | E     | B     | A     | -   | -   | A     | -   | -   | D     |
| HCM 95th %tile Q(veh) | 1.5   | 0.6   | 0     | -   | -   | 0.2   | -   | -   | 0.4   |



| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT   |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |
| Traffic Volume (vph)       | 4     | 10    | 326   | 4     | 4     | 109   |
| Future Volume (vph)        | 4     | 10    | 326   | 4     | 4     | 109   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 0     | 0     |       | 0     | 100   |       |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |       |
| Taper Length (ft)          | 25    |       |       |       | 25    |       |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.901 |       | 0.999 |       |       |       |
| Flt Protected              | 0.987 |       |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1657  | 0     | 1861  | 0     | 1770  | 1863  |
| Flt Permitted              | 0.987 |       |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1657  | 0     | 1861  | 0     | 1770  | 1863  |
| Link Speed (mph)           | 25    |       | 35    |       |       | 35    |
| Link Distance (ft)         | 1017  |       | 1017  |       |       | 5372  |
| Travel Time (s)            | 27.7  |       | 19.8  |       |       | 104.6 |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 4     | 11    | 362   | 4     | 4     | 121   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 15    | 0     | 366   | 0     | 4     | 121   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left  |
| Median Width(ft)           | 12    |       | 12    |       |       | 12    |
| Link Offset(ft)            | 0     |       | 0     |       |       | 0     |
| Crosswalk Width(ft)        | 16    |       | 16    |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     |       | 9     | 15    |       |
| Sign Control               | Stop  |       | Free  |       |       | Free  |

**Intersection Summary**

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 27.4%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 10   | 326  | 4    | 4    | 109  |
| Future Vol, veh/h        | 4    | 10   | 326  | 4    | 4    | 109  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | 100  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 11   | 362  | 4    | 4    | 121  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 493    | 364    | 0      | 0 | 366   |
| Stage 1              | 364    | -      | -      | - | -     |
| Stage 2              | 129    | -      | -      | - | -     |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 |
| Pot Cap-1 Maneuver   | 535    | 681    | -      | - | 1193  |
| Stage 1              | 703    | -      | -      | - | -     |
| Stage 2              | 897    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 533    | 681    | -      | - | 1193  |
| Mov Cap-2 Maneuver   | 533    | -      | -      | - | -     |
| Stage 1              | 703    | -      | -      | - | -     |
| Stage 2              | 894    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.8 | 0  | 0.3 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 631   | 1193  |
| HCM Lane V/C Ratio    | -   | -        | 0.025 | 0.004 |
| HCM Control Delay (s) | -   | -        | 10.8  | 8     |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0     |

Intersection: 6: Business Driveway & SC-51

| Movement              | EB  | WB  | WB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | T   | LT  | T   | LR  |
| Maximum Queue (ft)    | 83  | 60  | 6   | 57  |
| Average Queue (ft)    | 5   | 13  | 0   | 22  |
| 95th Queue (ft)       | 37  | 42  | 6   | 51  |
| Link Distance (ft)    | 746 | 105 | 105 | 996 |
| Upstream Blk Time (%) |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|-----|------|------|------|-----|
| Directions Served     | L   | TR  | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 111 | 2   | 23   | 33   | 60   | 126 |
| Average Queue (ft)    | 58  | 0   | 1    | 2    | 18   | 45  |
| 95th Queue (ft)       | 102 | 2   | 13   | 16   | 45   | 97  |
| Link Distance (ft)    | 105 | 105 | 1290 | 1290 | 1037 | 925 |
| Upstream Blk Time (%) | 1   |     |      |      |      |     |
| Queuing Penalty (veh) | 3   |     |      |      |      |     |
| Storage Bay Dist (ft) |     |     |      |      |      |     |
| Storage Blk Time (%)  |     |     |      |      |      |     |
| Queuing Penalty (veh) |     |     |      |      |      |     |

Intersection: 9: Miller Road/Site Driveway 2 & NC-51

| Movement              | EB  | EB  | WB  | NB   | NB  | SB  |
|-----------------------|-----|-----|-----|------|-----|-----|
| Directions Served     | L   | R   | L   | LT   | R   | LTR |
| Maximum Queue (ft)    | 12  | 2   | 37  | 88   | 48  | 32  |
| Average Queue (ft)    | 1   | 0   | 4   | 34   | 17  | 12  |
| 95th Queue (ft)       | 5   | 2   | 20  | 69   | 38  | 32  |
| Link Distance (ft)    |     |     |     | 1025 |     | 947 |
| Upstream Blk Time (%) |     |     |     |      |     |     |
| Queuing Penalty (veh) |     |     |     |      |     |     |
| Storage Bay Dist (ft) | 100 | 370 | 335 |      | 185 |     |
| Storage Blk Time (%)  |     |     |     |      |     |     |
| Queuing Penalty (veh) |     |     |     |      |     |     |

Queuing and Blocking Report  
 2023 Build plus Improvements AM Peak Hour

12/07/2021

Intersection: 10: Marfield Lane/Site Driveway 1 & NC-51

| Movement              | EB  | EB  | WB  | NB  | NB   | SB  |
|-----------------------|-----|-----|-----|-----|------|-----|
| Directions Served     | L   | R   | L   | LT  | R    | LTR |
| Maximum Queue (ft)    | 14  | 6   | 58  | 69  | 75   | 40  |
| Average Queue (ft)    | 1   | 0   | 15  | 27  | 32   | 14  |
| 95th Queue (ft)       | 7   | 4   | 39  | 57  | 62   | 40  |
| Link Distance (ft)    |     |     |     |     | 1311 | 957 |
| Upstream Blk Time (%) |     |     |     |     |      |     |
| Queuing Penalty (veh) |     |     |     |     |      |     |
| Storage Bay Dist (ft) | 100 | 310 | 520 | 100 |      |     |
| Storage Blk Time (%)  |     |     |     | 0   | 0    |     |
| Queuing Penalty (veh) |     |     |     | 0   | 0    |     |

Intersection: 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3

| Movement              | WB  | SB  |
|-----------------------|-----|-----|
| Directions Served     | LR  | L   |
| Maximum Queue (ft)    | 29  | 18  |
| Average Queue (ft)    | 10  | 1   |
| 95th Queue (ft)       | 33  | 10  |
| Link Distance (ft)    | 976 |     |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     | 100 |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Zone Summary

|                              |
|------------------------------|
| Zone wide Queuing Penalty: 3 |
|------------------------------|

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph)       | 8     | 635  | 52    | 53    | 673   | 7     | 26   | 4     | 33    | 4    | 4     | 5     |
| Future Volume (vph)        | 8     | 635  | 52    | 53    | 673   | 7     | 26   | 4     | 33    | 4    | 4     | 5     |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 100   |      | 370   | 335   |       | 0     | 0    |       | 185   | 0    |       | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 0    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 25    |      |       | 25    |       |       | 25   |       |       | 25   |       |       |
| Lane Util. Factor          | 1.00  | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.998 |       |      |       | 0.850 |      | 0.942 |       |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.958 |       |      | 0.986 |       |
| Satd. Flow (prot)          | 1770  | 3539 | 1583  | 1770  | 3532  | 0     | 0    | 1785  | 1583  | 0    | 1730  | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.958 |       |      | 0.986 |       |
| Satd. Flow (perm)          | 1770  | 3539 | 1583  | 1770  | 3532  | 0     | 0    | 1785  | 1583  | 0    | 1730  | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 25    |       |      | 25    |       |
| Link Distance (ft)         |       | 1378 |       |       | 1912  |       |      | 1091  |       |      | 1003  |       |
| Travel Time (s)            |       | 20.9 |       |       | 29.0  |       |      | 29.8  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 9     | 706  | 58    | 59    | 748   | 8     | 29   | 4     | 37    | 4    | 4     | 6     |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 9     | 706  | 58    | 59    | 756   | 0     | 0    | 33    | 37    | 0    | 14    | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 12   |       |       | 24    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 37.2%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.8  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 8    | 635  | 52   | 53   | 673  | 7    | 26   | 4    | 33   | 4    | 4    | 5    |
| Future Vol, veh/h        | 8    | 635  | 52   | 53   | 673  | 7    | 26   | 4    | 33   | 4    | 4    | 5    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 100  | -    | 370  | 335  | -    | -    | -    | -    | 185  | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 9    | 706  | 58   | 59   | 748  | 8    | 29   | 4    | 37   | 4    | 4    | 6    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 756    | 0 | 0 | 764    | 0 | 0 | 1218   | 1598 | 353  | 1243   | 1652 | 378  |
| Stage 1              | -      | - | - | -      | - | - | 724    | 724  | -    | 870    | 870  | -    |
| Stage 2              | -      | - | - | -      | - | - | 494    | 874  | -    | 373    | 782  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 851    | - | - | 845    | - | - | 136    | 105  | 643  | 131    | 98   | 620  |
| Stage 1              | -      | - | - | -      | - | - | 383    | 429  | -    | 313    | 367  | -    |
| Stage 2              | -      | - | - | -      | - | - | 526    | 365  | -    | 620    | 403  | -    |
| Platoon blocked, %   |        | - | - |        | - | - |        |      |      |        |      |      |
| Mov Cap-1 Maneuver   | 851    | - | - | 845    | - | - | 122    | 97   | 643  | 112    | 90   | 620  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 122    | 97   | -    | 112    | 90   | -    |
| Stage 1              | -      | - | - | -      | - | - | 379    | 424  | -    | 310    | 341  | -    |
| Stage 2              | -      | - | - | -      | - | - | 479    | 339  | -    | 572    | 399  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 |  |  | 0.7 |  |  | 28.1 |  |  | 32.1 |  |  |
| HCM LOS              |     |  |  |     |  |  | D    |  |  | D    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL  | EBT | EBR | WBL  | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h)      | 118   | 643   | 851  | -   | -   | 845  | -   | -   | 147   |
| HCM Lane V/C Ratio    | 0.282 | 0.057 | 0.01 | -   | -   | 0.07 | -   | -   | 0.098 |
| HCM Control Delay (s) | 47.1  | 10.9  | 9.3  | -   | -   | 9.6  | -   | -   | 32.1  |
| HCM Lane LOS          | E     | B     | A    | -   | -   | A    | -   | -   | D     |
| HCM 95th %tile Q(veh) | 1.1   | 0.2   | 0    | -   | -   | 0.2  | -   | -   | 0.3   |

Miller Farm TIA  
 10: Marfield Lane/Site Driveway 1 & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph)       | 4     | 667  | 10    | 99    | 755   | 12    | 29   | 4     | 63    | 7    | 4     | 4     |
| Future Volume (vph)        | 4     | 667  | 10    | 99    | 755   | 12    | 29   | 4     | 63    | 7    | 4     | 4     |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 0     |      | 310   | 520   |       | 0     | 100  |       | 0     | 0    |       | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 1    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 25    |      |       | 25    |       |       | 25   |       |       | 25   |       |       |
| Lane Util. Factor          | 1.00  | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.998 |       |      |       | 0.850 |      | 0.966 |       |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.957 |       |      | 0.976 |       |
| Satd. Flow (prot)          | 1770  | 3539 | 1583  | 1770  | 3532  | 0     | 0    | 1783  | 1583  | 0    | 1756  | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.957 |       |      | 0.976 |       |
| Satd. Flow (perm)          | 1770  | 3539 | 1583  | 1770  | 3532  | 0     | 0    | 1783  | 1583  | 0    | 1756  | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 15    |       |      | 25    |       |
| Link Distance (ft)         |       | 1912 |       |       | 1898  |       |      | 1372  |       |      | 1003  |       |
| Travel Time (s)            |       | 29.0 |       |       | 28.8  |       |      | 62.4  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 4     | 741  | 11    | 110   | 839   | 13    | 32   | 4     | 70    | 8    | 4     | 4     |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 4     | 741  | 11    | 110   | 852   | 0     | 0    | 36    | 70    | 0    | 16    | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 24   |       |       | 24    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 42.4%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.1  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 667  | 10   | 99   | 755  | 12   | 29   | 4    | 63   | 7    | 4    | 4    |
| Future Vol, veh/h        | 4    | 667  | 10   | 99   | 755  | 12   | 29   | 4    | 63   | 7    | 4    | 4    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | 310  | 520  | -    | -    | 100  | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 741  | 11   | 110  | 839  | 13   | 32   | 4    | 70   | 8    | 4    | 4    |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 852    | 0 | 0 | 752    | 0 | 0 | 1391   | 1821 | 371  | 1447   | 1826 | 426  |
| Stage 1              | -      | - | - | -      | - | - | 749    | 749  | -    | 1066   | 1066 | -    |
| Stage 2              | -      | - | - | -      | - | - | 642    | 1072 | -    | 381    | 760  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 783    | - | - | 853    | - | - | 102    | 77   | 626  | 92     | 76   | 577  |
| Stage 1              | -      | - | - | -      | - | - | 370    | 417  | -    | 237    | 297  | -    |
| Stage 2              | -      | - | - | -      | - | - | 429    | 295  | -    | 613    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 783    | - | - | 853    | - | - | 86     | 67   | 626  | 70     | 66   | 577  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 86     | 67   | -    | 70     | 66   | -    |
| Stage 1              | -      | - | - | -      | - | - | 368    | 415  | -    | 236    | 259  | -    |
| Stage 2              | -      | - | - | -      | - | - | 364    | 257  | -    | 536    | 411  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 |  |  | 1.1 |  |  | 34.7 |  |  | 53.9 |  |  |
| HCM LOS              |     |  |  |     |  |  | D    |  |  | F    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 83    | 626   | 783   | -   | -   | 853   | -   | -   | 90    |
| HCM Lane V/C Ratio    | 0.442 | 0.112 | 0.006 | -   | -   | 0.129 | -   | -   | 0.185 |
| HCM Control Delay (s) | 79    | 11.5  | 9.6   | -   | -   | 9.8   | -   | -   | 53.9  |
| HCM Lane LOS          | F     | B     | A     | -   | -   | A     | -   | -   | F     |
| HCM 95th %tile Q(veh) | 1.8   | 0.4   | 0     | -   | -   | 0.4   | -   | -   | 0.6   |



| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT   |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |
| Traffic Volume (vph)       | 4     | 6     | 129   | 4     | 11    | 274   |
| Future Volume (vph)        | 4     | 6     | 129   | 4     | 11    | 274   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 0     | 0     |       | 0     | 100   |       |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |       |
| Taper Length (ft)          | 25    |       |       |       | 25    |       |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.914 |       | 0.996 |       |       |       |
| Flt Protected              | 0.982 |       |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1672  | 0     | 1855  | 0     | 1770  | 1863  |
| Flt Permitted              | 0.982 |       |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1672  | 0     | 1855  | 0     | 1770  | 1863  |
| Link Speed (mph)           | 25    |       | 35    |       |       | 35    |
| Link Distance (ft)         | 1017  |       | 1017  |       |       | 5372  |
| Travel Time (s)            | 27.7  |       | 19.8  |       |       | 104.6 |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 4     | 7     | 143   | 4     | 12    | 304   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 11    | 0     | 147   | 0     | 12    | 304   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left  |
| Median Width(ft)           | 12    |       | 12    |       |       | 12    |
| Link Offset(ft)            | 0     |       | 0     |       |       | 0     |
| Crosswalk Width(ft)        | 16    |       | 16    |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     |       | 9     | 15    |       |
| Sign Control               | Stop  |       | Free  |       |       | Free  |

**Intersection Summary**

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 24.4%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 6    | 129  | 4    | 11   | 274  |
| Future Vol, veh/h        | 4    | 6    | 129  | 4    | 11   | 274  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | 100  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 7    | 143  | 4    | 12   | 304  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 473    | 145    | 0      | 0 | 147   |
| Stage 1              | 145    | -      | -      | - | -     |
| Stage 2              | 328    | -      | -      | - | -     |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 |
| Pot Cap-1 Maneuver   | 550    | 902    | -      | - | 1435  |
| Stage 1              | 882    | -      | -      | - | -     |
| Stage 2              | 730    | -      | -      | - | -     |
| Platoon blocked, %   |        |        |        |   |       |
| Mov Cap-1 Maneuver   | 546    | 902    | -      | - | 1435  |
| Mov Cap-2 Maneuver   | 546    | -      | -      | - | -     |
| Stage 1              | 882    | -      | -      | - | -     |
| Stage 2              | 724    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.1 | 0  | 0.3 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 715   | 1435  |
| HCM Lane V/C Ratio    | -   | -        | 0.016 | 0.009 |
| HCM Control Delay (s) | -   | -        | 10.1  | 7.5   |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0     | 0     |

Queuing and Blocking Report  
 2023 Build plus Improvements PM Peak Hour

12/07/2021

Intersection: 6: Business Driveway & SC-51

| Movement              | EB  | WB  | WB  | NB  |
|-----------------------|-----|-----|-----|-----|
| Directions Served     | T   | LT  | T   | LR  |
| Maximum Queue (ft)    | 3   | 82  | 7   | 64  |
| Average Queue (ft)    | 0   | 17  | 0   | 25  |
| 95th Queue (ft)       | 3   | 58  | 6   | 55  |
| Link Distance (ft)    | 746 | 105 | 105 | 996 |
| Upstream Blk Time (%) |     | 0   |     |     |
| Queuing Penalty (veh) |     | 1   |     |     |
| Storage Bay Dist (ft) |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|------|------|------|-----|
| Directions Served     | L   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 81  | 49   | 18   | 45   | 255 |
| Average Queue (ft)    | 30  | 4    | 1    | 15   | 106 |
| 95th Queue (ft)       | 61  | 24   | 10   | 39   | 207 |
| Link Distance (ft)    | 105 | 1290 | 1290 | 1037 | 925 |
| Upstream Blk Time (%) | 0   |      |      |      |     |
| Queuing Penalty (veh) | 0   |      |      |      |     |
| Storage Bay Dist (ft) |     |      |      |      |     |
| Storage Blk Time (%)  |     |      |      |      |     |
| Queuing Penalty (veh) |     |      |      |      |     |

Intersection: 9: Miller Road/Site Driveway 2 & NC-51

| Movement              | EB  | EB  | WB  | NB   | NB  | SB  |
|-----------------------|-----|-----|-----|------|-----|-----|
| Directions Served     | L   | R   | L   | LT   | R   | LTR |
| Maximum Queue (ft)    | 18  | 10  | 62  | 73   | 58  | 41  |
| Average Queue (ft)    | 2   | 0   | 22  | 25   | 21  | 10  |
| 95th Queue (ft)       | 11  | 6   | 51  | 60   | 47  | 31  |
| Link Distance (ft)    |     |     |     | 1026 |     | 947 |
| Upstream Blk Time (%) |     |     |     |      |     |     |
| Queuing Penalty (veh) |     |     |     |      |     |     |
| Storage Bay Dist (ft) | 100 | 370 | 335 |      | 185 |     |
| Storage Blk Time (%)  |     |     |     |      |     |     |
| Queuing Penalty (veh) |     |     |     |      |     |     |

Queuing and Blocking Report  
 2023 Build plus Improvements PM Peak Hour

12/07/2021

Intersection: 10: Marfield Lane/Site Driveway 1 & NC-51

| Movement              | EB   | EB   | EB  | WB  | NB  | NB   | SB  |
|-----------------------|------|------|-----|-----|-----|------|-----|
| Directions Served     | L    | T    | R   | L   | LT  | R    | LTR |
| Maximum Queue (ft)    | 16   | 2    | 2   | 78  | 77  | 61   | 51  |
| Average Queue (ft)    | 1    | 0    | 0   | 25  | 22  | 24   | 13  |
| 95th Queue (ft)       | 8    | 2    | 2   | 59  | 55  | 49   | 41  |
| Link Distance (ft)    | 1847 | 1847 |     |     |     | 1305 | 951 |
| Upstream Blk Time (%) |      |      |     |     |     |      |     |
| Queuing Penalty (veh) |      |      |     |     |     |      |     |
| Storage Bay Dist (ft) |      |      | 310 | 520 | 100 |      |     |
| Storage Blk Time (%)  |      |      |     |     | 0   |      |     |
| Queuing Penalty (veh) |      |      |     |     | 0   |      |     |

Intersection: 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3

| Movement              | WB  | SB  |
|-----------------------|-----|-----|
| Directions Served     | LR  | L   |
| Maximum Queue (ft)    | 29  | 18  |
| Average Queue (ft)    | 8   | 1   |
| 95th Queue (ft)       | 29  | 12  |
| Link Distance (ft)    | 976 |     |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     | 100 |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |























Zone Summary

|                              |
|------------------------------|
| Zone wide Queuing Penalty: 1 |
|------------------------------|

## **2025 Build Traffic Volumes**

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

|                            |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations        |  |  |   |  |  |  |  |  |   |  |  |  |
| Traffic Volume (vph)       | 28  | 315   | 4   | 62  | 147   | 416   | 4  | 15  | 209   | 409   | 35  | 13  |
| Future Volume (vph)        | 28  | 315   | 4   | 62  | 147   | 416   | 4  | 15  | 209   | 409   | 35  | 13  |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900   | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |   | 2%  |   |   | -2%   |   |  | 1%  |   |   | -1%   |   |
| Storage Length (ft)        | 200   |   | 0   | 200   |   | 350   | 150  |   | 0   | 250   |   | 0   |
| Storage Lanes              | 1   |   | 0   | 1   |   | 1   | 1  |   | 0   | 2   |   | 0   |
| Taper Length (ft)          | 100   |   |   | 100   |   |   | 100  |   |   | 100   |   |   |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00   | 1.00  | 1.00  | 0.97  | 1.00  | 1.00  |
| Frt                        |   | 0.998   |   |   |   | 0.850   |  | 0.860   |   |   | 0.960   |   |
| Flt Protected              | 0.950   |   |   | 0.950   |   |   | 0.950  |   |   | 0.950   |   |   |
| Satd. Flow (prot)          | 1752  | 3497  | 0   | 1787  | 3575  | 1599  | 1761   | 1594  | 0   | 3450  | 1797  | 0   |
| Flt Permitted              | 0.649   |   |   | 0.503   |   |   | 0.221  |   |   | 0.950   |   |   |
| Satd. Flow (perm)          | 1197  | 3497  | 0   | 946   | 3575  | 1599  | 410  | 1594  | 0   | 3450  | 1797  | 0   |
| Right Turn on Red          |   |   | No  |   |   | No  |  |   | No  |   |   | No  |
| Satd. Flow (RTOR)          |   |   |   |   |   |   |  |   |   |   |   |   |
| Link Speed (mph)           |   | 45  |   |   | 45  |   |  | 35  |   |   |   | 40  |
| Link Distance (ft)         |   | 1952  |   |   | 838   |   |  | 985   |   |   |   | 691   |
| Travel Time (s)            |   | 29.6  |   |   | 12.7  |   |  | 19.2  |   |   |   | 11.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90   | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 31  | 350   | 4   | 69  | 163   | 462   | 4  | 17  | 232   | 454   | 39  | 14  |
| Shared Lane Traffic (%)    |   |   |   |   |   |   |  |   |   |   |   |   |
| Lane Group Flow (vph)      | 31  | 354   | 0   | 69  | 163   | 462   | 4  | 249   | 0   | 454   | 53  | 0   |
| Enter Blocked Intersection | No  | No  | No  | No  | No  | No  | No   | No  | No  | No  | No  | No  |
| Lane Alignment             | Left  | Left  | Right   | Left  | Left  | Right   | Left   | Left  | Right   | Left  | Left  | Right   |
| Median Width(ft)           |   | 12  |   |   | 12  |   |  | 24  |   |   |   | 24  |
| Link Offset(ft)            |   | 0   |   |   | 0   |   |  | 0   |   |   |   | 0   |
| Crosswalk Width(ft)        |   | 16  |   |   | 16  |   |  | 16  |   |   |   | 16  |
| Two way Left Turn Lane     |   |   |   |   |   |   |  |   |   |   |   |   |
| Headway Factor             | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  | 1.01   | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15  |   | 9   | 15  |   | 9   | 15   |   | 9   | 15  |   | 9   |
| Turn Type                  | Perm  | NA  |   | Perm  | NA  | pm+ov   | Perm   | NA  |   | Split   | NA  |   |
| Protected Phases           |   | 2   |   |   | 6   | 4   |  | 3   |   | 4   | 4   |   |
| Permitted Phases           | 2   |   |   | 6   |   | 6   | 3  |   |   |   |   |   |
| Detector Phase             | 2   | 2   |   | 6   | 6   | 4   | 3  | 3   |   | 4   | 4   |   |
| Switch Phase               |   |   |   |   |   |   |  |   |   |   |   |   |
| Minimum Initial (s)        | 15.0  | 15.0  |   | 15.0  | 15.0  | 8.0   | 8.0  | 8.0   |   | 8.0   | 8.0   |   |
| Minimum Split (s)          | 22.0  | 22.0  |   | 22.0  | 22.0  | 15.0  | 15.0   | 15.0  |   | 15.0  | 15.0  |   |
| Total Split (s)            | 27.0  | 27.0  |   | 27.0  | 27.0  | 31.0  | 32.0   | 32.0  |   | 31.0  | 31.0  |   |
| Total Split (%)            | 30.0%   | 30.0%   |   | 30.0%   | 30.0%   | 34.4%   | 35.6%  | 35.6%   |   | 34.4%   | 34.4%   |   |
| Maximum Green (s)          | 20.4  | 20.4  |   | 20.4  | 20.4  | 24.8  | 25.8   | 25.8  |   | 24.8  | 24.8  |   |
| Yellow Time (s)            | 4.5   | 4.5   |   | 4.5   | 4.5   | 3.7   | 3.7  | 3.7   |   | 3.7   | 3.7   |   |
| All-Red Time (s)           | 2.1   | 2.1   |   | 2.1   | 2.1   | 2.5   | 2.5  | 2.5   |   | 2.5   | 2.5   |   |
| Lost Time Adjust (s)       | -1.6  | -1.6  |   | -1.6  | -1.6  | -1.2  | -1.2   | -1.2  |   | -1.2  | -1.2  |   |
| Total Lost Time (s)        | 5.0   | 5.0   |   | 5.0   | 5.0   | 5.0   | 5.0  | 5.0   |   | 5.0   | 5.0   |   |
| Lead/Lag                   |   |   |   |   |   | Lag   | Lead   | Lead  |   | Lag   | Lag   |   |
| Lead-Lag Optimize?         |   |   |   |   |   | Yes   | Yes  | Yes   |   | Yes   | Yes   |   |
| Vehicle Extension (s)      | 3.8   | 3.8   |   | 3.8   | 3.8   | 3.8   | 3.8  | 3.8   |   | 3.8   | 3.8   |   |
| Recall Mode                | Min   | Min   |   | Min   | Min   | None  | None   | None  |   | None  | None  |   |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

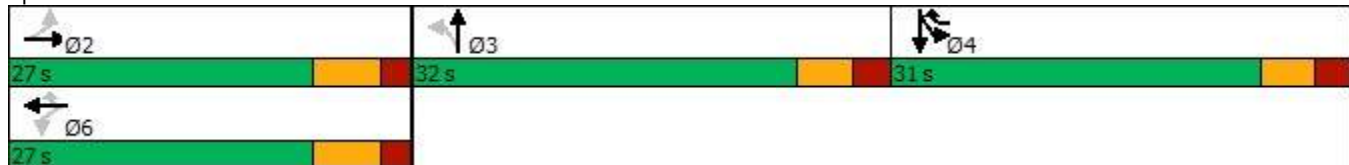


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 17.1 | 17.1 |     | 17.1 | 17.1 | 42.5 | 18.1 | 18.1 |     | 20.3 | 20.3 |     |
| Actuated g/C Ratio      | 0.24 | 0.24 |     | 0.24 | 0.24 | 0.60 | 0.26 | 0.26 |     | 0.29 | 0.29 |     |
| v/c Ratio               | 0.11 | 0.42 |     | 0.30 | 0.19 | 0.48 | 0.04 | 0.61 |     | 0.46 | 0.10 |     |
| Control Delay           | 26.7 | 26.9 |     | 30.6 | 25.2 | 10.9 | 21.8 | 31.0 |     | 22.8 | 20.0 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 26.7 | 26.9 |     | 30.6 | 25.2 | 10.9 | 21.8 | 31.0 |     | 22.8 | 20.0 |     |
| LOS                     | C    | C    |     | C    | C    | B    | C    | C    |     | C    | C    |     |
| Approach Delay          |      | 26.9 |     |      | 16.2 |      |      | 30.8 |     |      | 22.5 |     |
| Approach LOS            |      | C    |     |      | B    |      |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 11   | 70   |     | 25   | 30   | 98   | 1    | 97   |     | 81   | 17   |     |
| Queue Length 95th (ft)  | 38   | 131  |     | 71   | 65   | 217  | 9    | 178  |     | 141  | 46   |     |
| Internal Link Dist (ft) |      | 1872 |     |      | 758  |      |      | 905  |     |      | 611  |     |
| Turn Bay Length (ft)    | 200  |      |     | 200  |      | 350  | 150  |      |     | 250  |      |     |
| Base Capacity (vph)     | 380  | 1110 |     | 300  | 1135 | 956  | 159  | 621  |     | 1294 | 674  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.08 | 0.32 |     | 0.23 | 0.14 | 0.48 | 0.03 | 0.40 |     | 0.35 | 0.08 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 70.9  
 Natural Cycle: 55  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.61  
 Intersection Signal Delay: 22.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 67.0%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 5: Flint Hill Road & SC-51



Miller Farm TIA  
6: Business Driveway & SC-51

12/21/2021



| Lane Group                 | EBT   | EBR   | WBL  | WBT   | NBL   | NBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        | ↑↑    |       |      | ↑↑    | ↑↑    |       |
| Traffic Volume (vph)       | 882   | 6     | 21   | 619   | 14    | 15    |
| Future Volume (vph)        | 882   | 6     | 21   | 619   | 14    | 15    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 0.95  | 0.95  | 0.95 | 0.95  | 1.00  | 1.00  |
| Fr <sub>t</sub>            | 0.999 |       |      | 0.930 |       |       |
| Fl <sub>t</sub> Protected  |       |       |      | 0.998 | 0.976 |       |
| Satd. Flow (prot)          | 3536  | 0     | 0    | 3532  | 1691  | 0     |
| Fl <sub>t</sub> Permitted  |       |       |      | 0.998 | 0.976 |       |
| Satd. Flow (perm)          | 3536  | 0     | 0    | 3532  | 1691  | 0     |
| Link Speed (mph)           | 45    |       |      | 45    | 25    |       |
| Link Distance (ft)         | 838   |       |      | 161   | 1054  |       |
| Travel Time (s)            | 12.7  |       |      | 2.4   | 28.7  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 980   | 7     | 23   | 688   | 16    | 17    |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 987   | 0     | 0    | 711   | 33    | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Right | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 12    |       |      | 12    | 12    |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 9     |       | 15   | 15    |       | 9     |
| Sign Control               | Free  |       |      | Free  | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 42.4%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.7  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑↑   | ↑    |      |
| Traffic Vol, veh/h       | 882  | 6    | 21   | 619  | 14   | 15   |
| Future Vol, veh/h        | 882  | 6    | 21   | 619  | 14   | 15   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 980  | 7    | 23   | 688  | 16   | 17   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 987    | 0      | 1374   |
| Stage 1              | -      | -      | -      | -      | 984    |
| Stage 2              | -      | -      | -      | -      | 390    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 696    | -      | 137    |
| Stage 1              | -      | -      | -      | -      | 323    |
| Stage 2              | -      | -      | -      | -      | 653    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 696    | -      | 130    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 130    |
| Stage 1              | -      | -      | -      | -      | 323    |
| Stage 2              | -      | -      | -      | -      | 618    |

| Approach             | EB | WB  | NB |
|----------------------|----|-----|----|
| HCM Control Delay, s | 0  | 0.6 | 25 |
| HCM LOS              |    |     | D  |

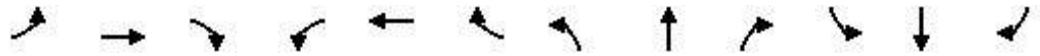
| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 212   | -   | -   | 696   | -   |
| HCM Lane V/C Ratio    | 0.152 | -   | -   | 0.034 | -   |
| HCM Control Delay (s) | 25    | -   | -   | 10.4  | 0.3 |
| HCM Lane LOS          | D     | -   | -   | B     | A   |
| HCM 95th %tile Q(veh) | 0.5   | -   | -   | 0.1   | -   |



Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |       |       |       |      |       |       |      |       |       |      |      |       |
| Traffic Volume (vph)       | 290   | 607   | 4     | 4    | 534   | 49    | 6    | 4     | 21    | 18   | 4    | 100   |
| Future Volume (vph)        | 290   | 607   | 4     | 4    | 534   | 49    | 6    | 4     | 21    | 18   | 4    | 100   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 0.95 | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |       | 0.999 |       |      | 0.988 |       |      | 0.909 |       |      |      | 0.889 |
| Fl <sub>t</sub> Protected  | 0.950 |       |       |      |       |       |      | 0.990 |       |      |      | 0.993 |
| Satd. Flow (prot)          | 1770  | 3536  | 0     | 0    | 3497  | 0     | 0    | 1676  | 0     | 0    | 1644 | 0     |
| Fl <sub>t</sub> Permitted  | 0.950 |       |       |      |       |       |      | 0.990 |       |      |      | 0.993 |
| Satd. Flow (perm)          | 1770  | 3536  | 0     | 0    | 3497  | 0     | 0    | 1676  | 0     | 0    | 1644 | 0     |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |      | 25    |       |      |      | 35    |
| Link Distance (ft)         |       | 161   |       |      | 1378  |       |      | 1091  |       |      |      | 1017  |
| Travel Time (s)            |       | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      |      | 19.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 322   | 674   | 4     | 4    | 593   | 54    | 7    | 4     | 23    | 20   | 4    | 111   |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 322   | 678   | 0     | 0    | 651   | 0     | 0    | 34    | 0     | 0    | 135  | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 12    |       |      | 12    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |       | Free  |       |      | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 52.5%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 7.5  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 290  | 607  | 4    | 4    | 534  | 49   | 6    | 4    | 21   | 18   | 4    | 100  |
| Future Vol, veh/h        | 290  | 607  | 4    | 4    | 534  | 49   | 6    | 4    | 21   | 18   | 4    | 100  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 322  | 674  | 4    | 4    | 593  | 54   | 7    | 4    | 23   | 20   | 4    | 111  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 647    | 0 | 0 | 678    | 0 | 0 | 1627   | 1975 | 339  | 1611   | 1950 | 324  |
| Stage 1              | -      | - | - | -      | - | - | 1320   | 1320 | -    | 628    | 628  | -    |
| Stage 2              | -      | - | - | -      | - | - | 307    | 655  | -    | 983    | 1322 | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 934    | - | - | 910    | - | - | 68     | 61   | 657  | 70     | 64   | 672  |
| Stage 1              | -      | - | - | -      | - | - | 166    | 225  | -    | 437    | 474  | -    |
| Stage 2              | -      | - | - | -      | - | - | 678    | 461  | -    | 267    | 224  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 934    | - | - | 910    | - | - | 38     | 40   | 657  | 45     | 42   | 672  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 38     | 40   | -    | 45     | 42   | -    |
| Stage 1              | -      | - | - | -      | - | - | 109    | 147  | -    | 286    | 471  | -    |
| Stage 2              | -      | - | - | -      | - | - | 557    | 458  | -    | 164    | 147  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 3.5 |  |  | 0.1 |  |  | 53.9 |  |  | 61.4 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | F    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 107   | 934   | -   | -   | 910   | -   | -   | 189   |
| HCM Lane V/C Ratio    | 0.322 | 0.345 | -   | -   | 0.005 | -   | -   | 0.717 |
| HCM Control Delay (s) | 53.9  | 10.9  | -   | -   | 9     | 0   | -   | 61.4  |
| HCM Lane LOS          | F     | B     | -   | -   | A     | A   | -   | F     |
| HCM 95th %tile Q(veh) | 1.3   | 1.5   | -   | -   | 0     | -   | -   | 4.5   |

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph)       | 9     | 621  | 44    | 10    | 484   | 9     | 68   | 4     | 40    | 28   | 4     | 29    |
| Future Volume (vph)        | 9     | 621  | 44    | 10    | 484   | 9     | 68   | 4     | 40    | 28   | 4     | 29    |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 100   |      | 370   | 335   |       | 0     | 0    |       | 185   | 0    |       | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 0    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 100   |      |       | 100   |       |       | 100  |       |       | 100  |       |       |
| Lane Util. Factor          | 1.00  | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.997 |       |      |       | 0.850 |      | 0.936 |       |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.955 |       |      | 0.977 |       |
| Satd. Flow (prot)          | 1770  | 3539 | 1583  | 1770  | 3529  | 0     | 0    | 1779  | 1583  | 0    | 1703  | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.955 |       |      | 0.977 |       |
| Satd. Flow (perm)          | 1770  | 3539 | 1583  | 1770  | 3529  | 0     | 0    | 1779  | 1583  | 0    | 1703  | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 25    |       |      | 25    |       |
| Link Distance (ft)         |       | 1378 |       |       | 1912  |       |      | 1091  |       |      | 1003  |       |
| Travel Time (s)            |       | 20.9 |       |       | 29.0  |       |      | 29.8  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 10    | 690  | 49    | 11    | 538   | 10    | 76   | 4     | 44    | 31   | 4     | 32    |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 10    | 690  | 49    | 11    | 548   | 0     | 0    | 80    | 44    | 0    | 67    | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 12   |       |       | 24    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 34.0%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.5  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 9    | 621  | 44   | 10   | 484  | 9    | 68   | 4    | 40   | 28   | 4    | 29   |
| Future Vol, veh/h        | 9    | 621  | 44   | 10   | 484  | 9    | 68   | 4    | 40   | 28   | 4    | 29   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 100  | -    | 370  | 335  | -    | -    | -    | -    | 185  | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 10   | 690  | 49   | 11   | 538  | 10   | 76   | 4    | 44   | 31   | 4    | 32   |

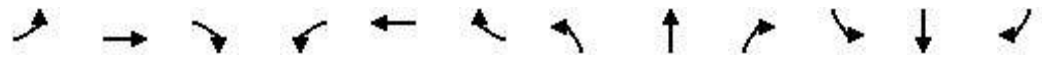
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 548    | 0 | 0 | 739    | 0 | 0 | 1003   | 1280 | 345  | 932    | 1324 | 274  |
| Stage 1              | -      | - | - | -      | - | - | 710    | 710  | -    | 565    | 565  | -    |
| Stage 2              | -      | - | - | -      | - | - | 293    | 570  | -    | 367    | 759  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1018   | - | - | 863    | - | - | 196    | 165  | 651  | 221    | 155  | 724  |
| Stage 1              | -      | - | - | -      | - | - | 391    | 435  | -    | 477    | 506  | -    |
| Stage 2              | -      | - | - | -      | - | - | 691    | 504  | -    | 625    | 413  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 1018   | - | - | 863    | - | - | 180    | 161  | 651  | 198    | 151  | 724  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 180    | 161  | -    | 198    | 151  | -    |
| Stage 1              | -      | - | - | -      | - | - | 387    | 431  | -    | 472    | 499  | -    |
| Stage 2              | -      | - | - | -      | - | - | 646    | 497  | -    | 571    | 409  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.1 |  |  | 0.2 |  |  | 29.9 |  |  | 20.9 |  |  |
| HCM LOS              |     |  |  |     |  |  | D    |  |  | C    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL  | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 179   | 651   | 1018 | -   | -   | 863   | -   | -   | 293   |
| HCM Lane V/C Ratio    | 0.447 | 0.068 | 0.01 | -   | -   | 0.013 | -   | -   | 0.231 |
| HCM Control Delay (s) | 40.4  | 10.9  | 8.6  | -   | -   | 9.2   | -   | -   | 20.9  |
| HCM Lane LOS          | E     | B     | A    | -   | -   | A     | -   | -   | C     |
| HCM 95th %tile Q(veh) | 2.1   | 0.2   | 0    | -   | -   | 0     | -   | -   | 0.9   |

Miller Farm TIA  
 10: Marfield Lane/Site Driveway 1 & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |      |       |
| Traffic Volume (vph)       | 4     | 698  | 11    | 53    | 460   | 15    | 48   | 4     | 94    | 45   | 4    | 12    |
| Future Volume (vph)        | 4     | 698  | 11    | 53    | 460   | 15    | 48   | 4     | 94    | 45   | 4    | 12    |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Storage Length (ft)        | 100   |      | 310   | 520   |       | 0     | 100  |       | 0     | 0    |      | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 1    |       | 1     | 0    |      | 0     |
| Taper Length (ft)          | 100   |      |       | 100   |       |       | 100  |       |       | 100  |      |       |
| Lane Util. Factor          | 1.00  | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.995 |       |      |       | 0.850 |      |      | 0.974 |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.956 |       |      |      | 0.964 |
| Satd. Flow (prot)          | 1770  | 3539 | 1583  | 1770  | 3522  | 0     | 0    | 1781  | 1583  | 0    | 1749 | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.956 |       |      |      | 0.964 |
| Satd. Flow (perm)          | 1770  | 3539 | 1583  | 1770  | 3522  | 0     | 0    | 1781  | 1583  | 0    | 1749 | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 15    |       |      |      | 25    |
| Link Distance (ft)         |       | 1912 |       |       | 1898  |       |      | 1372  |       |      |      | 1003  |
| Travel Time (s)            |       | 29.0 |       |       | 28.8  |       |      | 62.4  |       |      |      | 27.4  |
| Peak Hour Factor           | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 4     | 776  | 12    | 59    | 511   | 17    | 53   | 4     | 104   | 50   | 4    | 13    |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 4     | 776  | 12    | 59    | 528   | 0     | 0    | 57    | 104   | 0    | 67   | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 12   |       |       | 12    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 42.7%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 4.7  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 4    | 698  | 11   | 53   | 460  | 15   | 48   | 4    | 94   | 45   | 4    | 12   |
| Future Vol, veh/h        | 4    | 698  | 11   | 53   | 460  | 15   | 48   | 4    | 94   | 45   | 4    | 12   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 100  | -    | 310  | 520  | -    | -    | 100  | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 4    | 776  | 12   | 59   | 511  | 17   | 53   | 4    | 104  | 50   | 4    | 13   |

| Major/Minor          | Major1 |   | Major2 |      | Minor1 |   |      | Minor2 |      |      |      |      |
|----------------------|--------|---|--------|------|--------|---|------|--------|------|------|------|------|
| Conflicting Flow All | 528    | 0 | 0      | 788  | 0      | 0 | 1160 | 1430   | 388  | 1036 | 1434 | 264  |
| Stage 1              | -      | - | -      | -    | -      | - | 784  | 784    | -    | 638  | 638  | -    |
| Stage 2              | -      | - | -      | -    | -      | - | 376  | 646    | -    | 398  | 796  | -    |
| Critical Hdwy        | 4.14   | - | -      | 4.14 | -      | - | 7.54 | 6.54   | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | -      | -    | -      | - | 6.54 | 5.54   | -    | 6.54 | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | -      | -    | -      | - | 6.54 | 5.54   | -    | 6.54 | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | -      | 2.22 | -      | - | 3.52 | 4.02   | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 1035   | - | -      | 827  | -      | - | 151  | 133    | 611  | 186  | 133  | 734  |
| Stage 1              | -      | - | -      | -    | -      | - | 352  | 402    | -    | 431  | 469  | -    |
| Stage 2              | -      | - | -      | -    | -      | - | 617  | 465    | -    | 599  | 397  | -    |
| Platoon blocked, %   | -      | - | -      | -    | -      | - | -    | -      | -    | -    | -    | -    |
| Mov Cap-1 Maneuver   | 1035   | - | -      | 827  | -      | - | 136  | 123    | 611  | 141  | 123  | 734  |
| Mov Cap-2 Maneuver   | -      | - | -      | -    | -      | - | 136  | 123    | -    | 141  | 123  | -    |
| Stage 1              | -      | - | -      | -    | -      | - | 351  | 400    | -    | 429  | 436  | -    |
| Stage 2              | -      | - | -      | -    | -      | - | 557  | 432    | -    | 489  | 395  | -    |

| Approach             | EB | WB | NB   | SB   |
|----------------------|----|----|------|------|
| HCM Control Delay, s | 0  | 1  | 25.7 | 40.9 |
| HCM LOS              |    |    | D    | E    |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 135   | 611   | 1035  | -   | -   | 827   | -   | -   | 166   |
| HCM Lane V/C Ratio    | 0.428 | 0.171 | 0.004 | -   | -   | 0.071 | -   | -   | 0.408 |
| HCM Control Delay (s) | 50.3  | 12.1  | 8.5   | -   | -   | 9.7   | -   | -   | 40.9  |
| HCM Lane LOS          | F     | B     | A     | -   | -   | A     | -   | -   | E     |
| HCM 95th %tile Q(veh) | 1.9   | 0.6   | 0     | -   | -   | 0.2   | -   | -   | 1.8   |

Miller Farm TIA  
11: NC-51 & Downs Road

12/21/2021



| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 156   | 691   | 4     | 451   | 257   | 69    | 65    |
| Future Volume (vph)        | 156   | 691   | 4     | 451   | 257   | 69    | 65    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 100   |       | 100   |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 173   | 768   | 4     | 501   | 286   | 77    | 72    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 173   | 768   | 4     | 501   | 286   | 77    | 72    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 41.0  | 74.0  | 17.0  | 50.0  |       | 29.0  | 41.0  |
| Total Split (%)            | 34.2% | 61.7% | 14.2% | 41.7% |       | 24.2% | 34.2% |
| Maximum Green (s)          | 35.2  | 68.0  | 11.1  | 44.2  |       | 23.4  | 35.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |

Miller Farm TIA  
11: NC-51 & Downs Road

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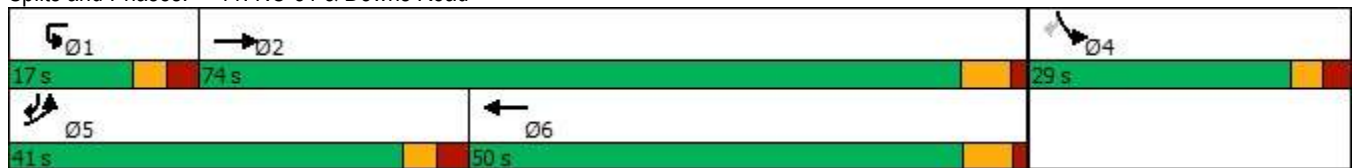


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effct Green (s)     | 10.8 | 32.7 | 8.4  | 15.8 | 44.3 | 8.6  | 17.9 |
| Actuated g/C Ratio      | 0.24 | 0.74 | 0.19 | 0.36 | 1.00 | 0.19 | 0.40 |
| v/c Ratio               | 0.40 | 0.29 | 0.01 | 0.40 | 0.18 | 0.23 | 0.11 |
| Control Delay           | 19.3 | 5.9  | 20.5 | 14.0 | 0.2  | 20.6 | 7.5  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 19.3 | 5.9  | 20.5 | 14.0 | 0.2  | 20.6 | 7.5  |
| LOS                     | B    | A    | C    | B    | A    | C    | A    |
| Approach Delay          |      | 8.4  |      | 9.1  |      | 14.3 |      |
| Approach LOS            |      | A    |      | A    |      | B    |      |
| Queue Length 50th (ft)  | 39   | 41   | 1    | 57   | 0    | 18   | 9    |
| Queue Length 95th (ft)  | 99   | 141  | 9    | 111  | 0    | 56   | 29   |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 1452 | 3539 | 506  | 3274 | 1583 | 1008 | 1524 |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.12 | 0.22 | 0.01 | 0.15 | 0.18 | 0.08 | 0.05 |

Intersection Summary

|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 44.3                   |
| Natural Cycle:                     | 55                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.40                   |
| Intersection Signal Delay:         | 9.1                    |
| Intersection LOS:                  | A                      |
| Intersection Capacity Utilization: | 43.3%                  |
| ICU Level of Service:              | A                      |
| Analysis Period (min):             | 15                     |

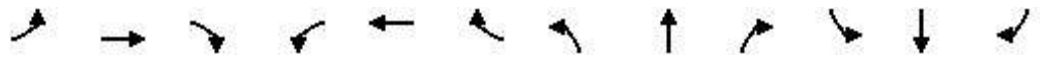
Splits and Phases: 11: NC-51 & Downs Road





Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 147   | 581   | 134   | 35    | 408   | 131   | 239   | 483   | 23    | 80    | 272   | 89    |
| Future Volume (vph)        | 147   | 581   | 134   | 35    | 408   | 131   | 239   | 483   | 23    | 80    | 272   | 89    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.972 |       |       |       | 0.850 |       | 0.993 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3440  | 0     | 1743  | 3486  | 1560  | 3399  | 1831  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3440  | 0     | 1743  | 3486  | 1560  | 3399  | 1831  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       |       | 1160  |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       |       | 22.6  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 163   | 646   | 149   | 39    | 453   | 146   | 266   | 537   | 26    | 89    | 302   | 99    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 163   | 795   | 0     | 39    | 453   | 146   | 266   | 563   | 0     | 89    | 302   | 99    |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 24.0  | 40.0  |       | 14.0  | 30.0  | 15.0  | 20.0  | 51.0  |       | 15.0  | 46.0  | 24.0  |
| Total Split (%)            | 20.0% | 33.3% |       | 11.7% | 25.0% | 12.5% | 16.7% | 42.5% |       | 12.5% | 38.3% | 20.0% |
| Maximum Green (s)          | 17.8  | 33.8  |       | 8.2   | 24.3  | 9.1   | 13.4  | 45.0  |       | 9.1   | 40.3  | 17.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.7  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.2   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |

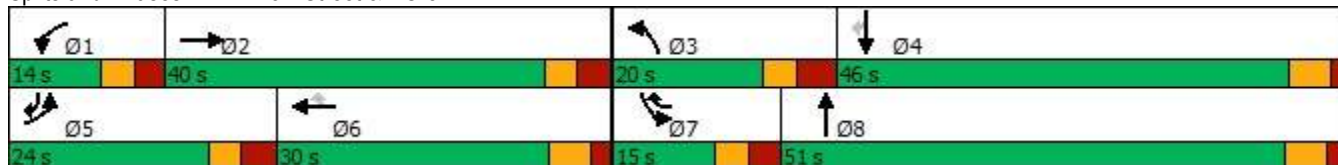


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|------|
| Act Effect Green (s)    | 14.8 | 32.3 |     | 8.6  | 19.3 | 33.9 | 13.4 | 36.0 |     | 9.6  | 32.2 | 52.2 |
| Actuated g/C Ratio      | 0.15 | 0.32 |     | 0.09 | 0.19 | 0.34 | 0.13 | 0.36 |     | 0.10 | 0.32 | 0.52 |
| v/c Ratio               | 0.63 | 0.72 |     | 0.26 | 0.68 | 0.28 | 0.59 | 0.86 |     | 0.53 | 0.51 | 0.12 |
| Control Delay           | 54.9 | 37.3 |     | 54.9 | 44.8 | 28.7 | 50.0 | 45.3 |     | 61.9 | 32.6 | 13.6 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 54.9 | 37.3 |     | 54.9 | 44.8 | 28.7 | 50.0 | 45.3 |     | 61.9 | 32.6 | 13.6 |
| LOS                     | D    | D    |     | D    | D    | C    | D    | D    |     | E    | C    | B    |
| Approach Delay          |      | 40.3 |     |      | 41.7 |      |      | 46.8 |     |      | 34.1 |      |
| Approach LOS            |      | D    |     |      | D    |      |      | D    |     |      | C    |      |
| Queue Length 50th (ft)  | 106  | 266  |     | 26   | 149  | 71   | 88   | 349  |     | 59   | 167  | 34   |
| Queue Length 95th (ft)  | 192  | 375  |     | 66   | 226  | 139  | 147  | 534  |     | #135 | 270  | 65   |
| Internal Link Dist (ft) |      | 1431 |     |      | 1196 |      |      | 942  |     |      | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275  |      | 625  | 450  |      |     |      |      | 175  |
| Base Capacity (vph)     | 349  | 1250 |     | 162  | 905  | 539  | 529  | 874  |     | 182  | 785  | 891  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.47 | 0.64 |     | 0.24 | 0.50 | 0.27 | 0.50 | 0.64 |     | 0.49 | 0.38 | 0.11 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 100.6  
 Natural Cycle: 90  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 41.4      Intersection LOS: D  
 Intersection Capacity Utilization 75.5%      ICU Level of Service D  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

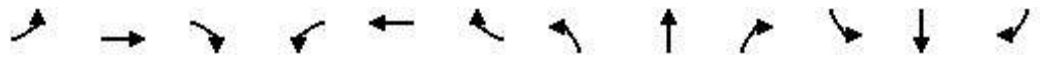
12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 86    | 626   | 163   | 79    | 426   | 119   | 128   | 103   | 86    | 36    | 24    | 37    |
| Future Volume (vph)        | 86    | 626   | 163   | 79    | 426   | 119   | 128   | 103   | 86    | 36    | 24    | 37    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       | -1%   |       |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.969 |       |       | 0.967 |       |       | 0.931 |       |       | 0.910 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1796  | 3481  | 0     | 1743  | 3371  | 0     | 1778  | 1743  | 0     | 1778  | 1704  | 0     |
| Flt Permitted              | 0.420 |       |       | 0.292 |       |       | 0.713 |       |       | 0.583 |       |       |
| Satd. Flow (perm)          | 794   | 3481  | 0     | 536   | 3371  | 0     | 1335  | 1743  | 0     | 1091  | 1704  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       | 1210  |       |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       | 23.6  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 96    | 696   | 181   | 88    | 473   | 132   | 142   | 114   | 96    | 40    | 27    | 41    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 96    | 877   | 0     | 88    | 605   | 0     | 142   | 210   | 0     | 40    | 68    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |       |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     | 6     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  |       |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  | 17.8  |       |
| Total Split (s)            | 36.0  | 36.0  |       | 36.0  | 36.0  |       | 24.0  | 24.0  |       | 24.0  | 24.0  |       |
| Total Split (%)            | 60.0% | 60.0% |       | 60.0% | 60.0% |       | 40.0% | 40.0% |       | 40.0% | 40.0% |       |
| Maximum Green (s)          | 30.2  | 30.2  |       | 30.8  | 30.8  |       | 18.5  | 18.5  |       | 18.2  | 18.2  |       |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   | 3.9   |       |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   | 1.9   |       |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.5  | -0.8  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.3   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |       |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  | None  |       |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

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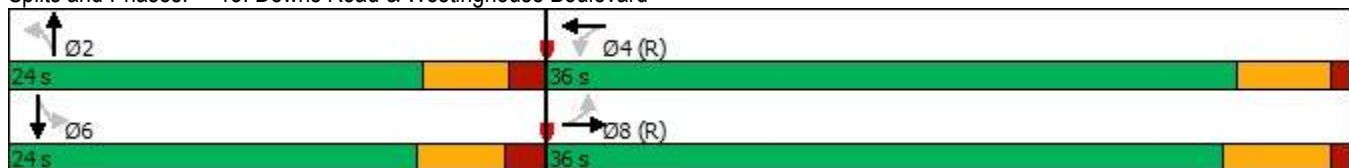


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effct Green (s)     | 35.4 | 35.4 |     | 35.4 | 35.4 |     | 14.6 | 14.6 |     | 14.4 | 14.7 |     |
| Actuated g/C Ratio      | 0.59 | 0.59 |     | 0.59 | 0.59 |     | 0.24 | 0.24 |     | 0.24 | 0.24 |     |
| v/c Ratio               | 0.21 | 0.43 |     | 0.28 | 0.30 |     | 0.44 | 0.50 |     | 0.15 | 0.16 |     |
| Control Delay           | 9.0  | 9.2  |     | 10.1 | 7.1  |     | 23.1 | 23.3 |     | 18.3 | 17.8 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 9.0  | 9.2  |     | 10.1 | 7.1  |     | 23.1 | 23.3 |     | 18.3 | 17.8 |     |
| LOS                     | A    | A    |     | B    | A    |     | C    | C    |     | B    | B    |     |
| Approach Delay          |      | 9.2  |     |      | 7.5  |     |      | 23.2 |     |      | 18.0 |     |
| Approach LOS            |      | A    |     |      | A    |     |      | C    |     |      | B    |     |
| Queue Length 50th (ft)  | 12   | 64   |     | 12   | 45   |     | 45   | 68   |     | 12   | 20   |     |
| Queue Length 95th (ft)  | 88   | 316  |     | 46   | 92   |     | 80   | 108  |     | 30   | 42   |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 469  | 2057 |     | 316  | 1992 |     | 423  | 552  |     | 341  | 540  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.20 | 0.43 |     | 0.28 | 0.30 |     | 0.34 | 0.38 |     | 0.12 | 0.13 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green  
 Natural Cycle: 40  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.50  
 Intersection Signal Delay: 11.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 65.7%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 214   | 864   | 169   | 45    | 478   | 14    | 113   | 130   | 74    | 14    | 51    | 134   |
| Future Volume (vph)        | 214   | 864   | 169   | 45    | 478   | 14    | 113   | 130   | 74    | 14    | 51    | 134   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 100   |       |       | 100   |       |       | 100   |       |       | 100   |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.975 |       |       | 0.996 |       |       | 0.946 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3468  | 0     | 1761  | 3507  | 0     | 1761  | 1753  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.720 |       |       | 0.352 |       |       |
| Satd. Flow (perm)          | 1778  | 3468  | 0     | 1761  | 3507  | 0     | 1334  | 1753  | 0     | 646   | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       |       | 1144  |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       |       | 22.3  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 238   | 960   | 188   | 50    | 531   | 16    | 126   | 144   | 82    | 16    | 57    | 149   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 238   | 1148  | 0     | 50    | 547   | 0     | 126   | 226   | 0     | 16    | 57    | 149   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       |       | 12    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           |       |       |       |       |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 36.0  | 68.0  |       | 16.0  | 48.0  |       | 36.0  | 36.0  |       | 36.0  | 36.0  | 36.0  |
| Total Split (%)            | 30.0% | 56.7% |       | 13.3% | 40.0% |       | 30.0% | 30.0% |       | 30.0% | 30.0% | 30.0% |
| Maximum Green (s)          | 29.0  | 62.5  |       | 9.0   | 42.5  |       | 30.6  | 30.6  |       | 30.7  | 30.7  | 29.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -0.5  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 6.5   |
| Lead/Lag                   | Lag   | Lag   |       | Lead  | Lead  |       |       |       |       |       |       | Lag   |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

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 14: Nations Ford Road & Westinghouse Boulevard

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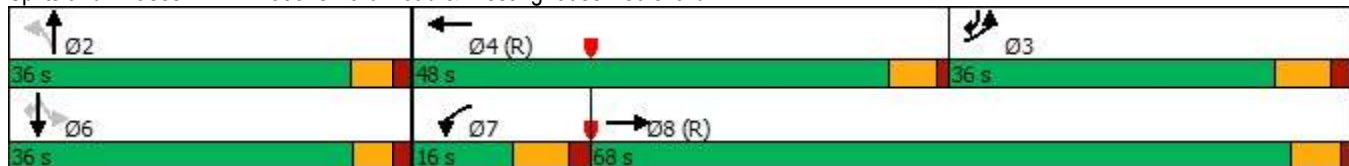


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effct Green (s)     | 26.6 | 75.4 |     | 11.1 | 57.0 |     | 21.3 | 21.3 |     | 21.3 | 21.3 | 51.5 |
| Actuated g/C Ratio      | 0.22 | 0.63 |     | 0.09 | 0.48 |     | 0.18 | 0.18 |     | 0.18 | 0.18 | 0.43 |
| v/c Ratio               | 0.60 | 0.53 |     | 0.31 | 0.33 |     | 0.53 | 0.73 |     | 0.14 | 0.17 | 0.22 |
| Control Delay           | 47.4 | 15.5 |     | 51.8 | 23.4 |     | 52.0 | 59.6 |     | 41.6 | 40.9 | 20.2 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 47.4 | 15.5 |     | 51.8 | 23.4 |     | 52.0 | 59.6 |     | 41.6 | 40.9 | 20.2 |
| LOS                     | D    | B    |     | D    | C    |     | D    | E    |     | D    | D    | C    |
| Approach Delay          |      | 21.0 |     |      | 25.7 |     |      | 56.9 |     |      | 27.1 |      |
| Approach LOS            |      | C    |     |      | C    |     |      | E    |     |      | C    |      |
| Queue Length 50th (ft)  | 167  | 257  |     | 34   | 121  |     | 90   | 167  |     | 11   | 38   | 72   |
| Queue Length 95th (ft)  | 226  | 400  |     | 69   | 245  |     | 142  | 236  |     | 30   | 71   | 86   |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 475  | 2185 |     | 173  | 1686 |     | 344  | 452  |     | 166  | 474  | 649  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.50 | 0.53 |     | 0.29 | 0.32 |     | 0.37 | 0.50 |     | 0.10 | 0.12 | 0.23 |

Intersection Summary

|                                    |   |
|------------------------------------|---|
| Area Type:                         | Other   |
| Cycle Length:                      | 120   |
| Actuated Cycle Length:             | 120   |
| Offset:                            | 0 (0%), Referenced to phase 4:WBT and 8:EBT, Start of Green |
| Natural Cycle:                     | 60  |
| Control Type:                      | Actuated-Coordinated  |
| Maximum v/c Ratio:                 | 0.73  |
| Intersection Signal Delay:         | 27.6  |
| Intersection LOS:                  | C   |
| Intersection Capacity Utilization: | 60.5%   |
| ICU Level of Service:              | B   |
| Analysis Period (min):             | 15  |

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard





| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT   |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |
| Traffic Volume (vph)       | 7     | 41    | 338   | 4     | 13    | 113   |
| Future Volume (vph)        | 7     | 41    | 338   | 4     | 13    | 113   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 0     | 0     |       | 0     | 100   |       |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |       |
| Taper Length (ft)          | 100   |       |       |       | 100   |       |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.885 |       | 0.999 |       |       |       |
| Flt Protected              | 0.993 |       |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1637  | 0     | 1861  | 0     | 1770  | 1863  |
| Flt Permitted              | 0.993 |       |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1637  | 0     | 1861  | 0     | 1770  | 1863  |
| Link Speed (mph)           | 25    |       | 35    |       |       | 35    |
| Link Distance (ft)         | 1017  |       | 1017  |       |       | 5372  |
| Travel Time (s)            | 27.7  |       | 19.8  |       |       | 104.6 |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 8     | 46    | 376   | 4     | 14    | 126   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 54    | 0     | 380   | 0     | 14    | 126   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left  |
| Median Width(ft)           | 12    |       | 12    |       |       | 12    |
| Link Offset(ft)            | 0     |       | 0     |       |       | 0     |
| Crosswalk Width(ft)        | 16    |       | 16    |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     |       | 9     | 15    |       |
| Sign Control               | Stop  |       | Free  |       |       | Free  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 28.0%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.2  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 7    | 41   | 338  | 4    | 13   | 113  |
| Future Vol, veh/h        | 7    | 41   | 338  | 4    | 13   | 113  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | 100  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 8    | 46   | 376  | 4    | 14   | 126  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 532    | 378    | 0      | 0 | 380   |
| Stage 1              | 378    | -      | -      | - | -     |
| Stage 2              | 154    | -      | -      | - | -     |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 |
| Pot Cap-1 Maneuver   | 508    | 669    | -      | - | 1178  |
| Stage 1              | 693    | -      | -      | - | -     |
| Stage 2              | 874    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 502    | 669    | -      | - | 1178  |
| Mov Cap-2 Maneuver   | 502    | -      | -      | - | -     |
| Stage 1              | 693    | -      | -      | - | -     |
| Stage 2              | 864    | -      | -      | - | -     |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 11.2 | 0  | 0.8 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 638   | 1178  |
| HCM Lane V/C Ratio    | -   | -        | 0.084 | 0.012 |
| HCM Control Delay (s) | -   | -        | 11.2  | 8.1   |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.3   | 0     |



Miller Farm TIA  
 550: Flint Hill Road & Springhill Farm Road

12/21/2021



| Lane Group                 | EBL   | EBR   | NBL  | NBT   | SBT   | SBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        |       |       |      |       |       |       |
| Traffic Volume (vph)       | 435   | 4     | 4    | 4     | 4     | 449   |
| Future Volume (vph)        | 435   | 4     | 4    | 4     | 4     | 449   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.999 |       |      |       | 0.866 |       |
| Flt Protected              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (prot)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Flt Permitted              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (perm)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Link Speed (mph)           | 40    |       |      | 45    | 40    |       |
| Link Distance (ft)         | 691   |       |      | 657   | 1957  |       |
| Travel Time (s)            | 11.8  |       |      | 10.0  | 33.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 483   | 4     | 4    | 4     | 4     | 499   |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 487   | 0     | 0    | 8     | 503   | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 36    |       |      | 0     | 0     |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     | 15   |       |       | 9     |
| Sign Control               | Stop  |       |      | Free  | Free  |       |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 59.0%        |
| ICU Level of Service              | B            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 9.7  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 435  | 4    | 4    | 4    | 4    | 449  |
| Future Vol, veh/h        | 435  | 4    | 4    | 4    | 4    | 449  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 483  | 4    | 4    | 4    | 4    | 499  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 266    | 254    | 503    | 0 | - | 0 |
| Stage 1              | 254    | -      | -      | - | - | - |
| Stage 2              | 12     | -      | -      | - | - | - |
| Critical Hdwy        | 6.42   | 6.22   | 4.12   | - | - | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | - | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | - | - |
| Follow-up Hdwy       | 3.518  | 3.318  | 2.218  | - | - | - |
| Pot Cap-1 Maneuver   | 723    | 785    | 1061   | - | - | - |
| Stage 1              | 788    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | 720    | 785    | 1061   | - | - | - |
| Mov Cap-2 Maneuver   | 720    | -      | -      | - | - | - |
| Stage 1              | 785    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 19.8 | 4.2 | 0  |
| HCM LOS              | C    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1061  | -   | 721   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | 0.677 | -   | -   |
| HCM Control Delay (s) | 8.4   | 0   | 19.8  | -   | -   |
| HCM Lane LOS          | A     | A   | C     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | 5.3   | -   | -   |

Queuing and Blocking Report  
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Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB  | EB   | EB   | WB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | T   | T   | R   | L   | TR  | L   | L   | TR  |
| Maximum Queue (ft)    | 78  | 162  | 136  | 97  | 82  | 87  | 203 | 27  | 209 | 164 | 146 | 64  |
| Average Queue (ft)    | 22  | 93   | 50   | 38  | 28  | 40  | 100 | 3   | 108 | 86  | 78  | 19  |
| 95th Queue (ft)       | 59  | 146  | 103  | 80  | 62  | 76  | 170 | 15  | 183 | 140 | 127 | 50  |
| Link Distance (ft)    |     | 1904 | 1904 |     | 746 | 746 |     |     | 932 |     |     | 586 |
| Upstream Blk Time (%) |     |      |      |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 200 |      |      | 200 |     |     | 350 | 150 |     | 250 | 250 |     |
| Storage Blk Time (%)  |     | 0    |      |     |     |     |     |     | 3   |     |     |     |
| Queuing Penalty (veh) |     | 0    |      |     |     |     |     |     | 0   |     |     |     |

Intersection: 6: Business Driveway & SC-51

| Movement              | EB  | EB  | WB  | WB  | NB  |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served     | T   | TR  | LT  | T   | LR  |
| Maximum Queue (ft)    | 82  | 3   | 61  | 4   | 57  |
| Average Queue (ft)    | 7   | 0   | 11  | 0   | 22  |
| 95th Queue (ft)       | 42  | 3   | 43  | 4   | 49  |
| Link Distance (ft)    | 746 | 746 | 105 | 105 | 996 |
| Upstream Blk Time (%) | 0   |     |     |     |     |
| Queuing Penalty (veh) | 0   |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|------|------|------|-----|
| Directions Served     | L   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 114 | 23   | 32   | 62   | 162 |
| Average Queue (ft)    | 63  | 2    | 2    | 20   | 56  |
| 95th Queue (ft)       | 111 | 13   | 15   | 49   | 130 |
| Link Distance (ft)    | 105 | 1290 | 1290 | 1037 | 925 |
| Upstream Blk Time (%) | 2   |      |      |      |     |
| Queuing Penalty (veh) | 6   |      |      |      |     |
| Storage Bay Dist (ft) |     |      |      |      |     |
| Storage Blk Time (%)  |     |      |      |      |     |
| Queuing Penalty (veh) |     |      |      |      |     |

Intersection: 9: Miller Road/Site Driveway 2 & NC-51

| Movement              | EB  | WB  | WB   | NB   | NB  | SB  |
|-----------------------|-----|-----|------|------|-----|-----|
| Directions Served     | L   | L   | TR   | LT   | R   | LTR |
| Maximum Queue (ft)    | 16  | 27  | 2    | 99   | 56  | 70  |
| Average Queue (ft)    | 2   | 5   | 0    | 37   | 21  | 31  |
| 95th Queue (ft)       | 10  | 21  | 2    | 73   | 44  | 59  |
| Link Distance (ft)    |     |     | 1846 | 1025 |     | 947 |
| Upstream Blk Time (%) |     |     |      |      |     |     |
| Queuing Penalty (veh) |     |     |      |      |     |     |
| Storage Bay Dist (ft) | 100 | 335 |      |      | 185 |     |
| Storage Blk Time (%)  |     |     |      |      |     |     |
| Queuing Penalty (veh) |     |     |      |      |     |     |

Intersection: 10: Marfield Lane/Site Driveway 1 & NC-51

| Movement              | EB  | EB   | WB  | NB  | NB   | SB  |
|-----------------------|-----|------|-----|-----|------|-----|
| Directions Served     | L   | T    | L   | LT  | R    | LTR |
| Maximum Queue (ft)    | 16  | 4    | 49  | 84  | 76   | 81  |
| Average Queue (ft)    | 1   | 0    | 14  | 30  | 32   | 34  |
| 95th Queue (ft)       | 7   | 3    | 36  | 63  | 60   | 65  |
| Link Distance (ft)    |     | 1846 |     |     | 1311 | 957 |
| Upstream Blk Time (%) |     |      |     |     |      |     |
| Queuing Penalty (veh) |     |      |     |     |      |     |
| Storage Bay Dist (ft) | 100 |      | 520 | 100 |      |     |
| Storage Blk Time (%)  |     |      |     | 0   | 0    |     |
| Queuing Penalty (veh) |     |      |     | 0   | 0    |     |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | SB  | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|
| Directions Served     | L   | T    | T    | U   | T    | T    | R   | L   | R   |
| Maximum Queue (ft)    | 132 | 77   | 105  | 36  | 110  | 126  | 68  | 98  | 83  |
| Average Queue (ft)    | 61  | 23   | 42   | 4   | 46   | 53   | 3   | 42  | 29  |
| 95th Queue (ft)       | 106 | 62   | 85   | 20  | 92   | 101  | 34  | 78  | 66  |
| Link Distance (ft)    |     | 1829 | 1829 |     | 1076 | 1076 |     |     | 545 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |
| Storage Bay Dist (ft) | 310 |      |      | 210 |      |      | 335 | 275 |     |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |

Queuing and Blocking Report  
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Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 199 | 305  | 334  | 85  | 192  | 184  | 163 | 162 | 224 | 412 | 124  | 245  |
| Average Queue (ft)    | 90  | 165  | 190  | 30  | 116  | 101  | 65  | 50  | 112 | 234 | 55   | 114  |
| 95th Queue (ft)       | 159 | 266  | 295  | 69  | 180  | 172  | 126 | 131 | 188 | 359 | 105  | 198  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     |     |      |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     |     |      |      |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 0    |      |     |      |      |     |     |     | 0   |      | 2    |
| Queuing Penalty (veh) |     | 0    |      |     |      |      |     |     |     | 1   |      | 2    |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 86  |
| Average Queue (ft)    | 26  |
| 95th Queue (ft)       | 64  |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  |     |
| Queuing Penalty (veh) |     |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 102 | 160  | 192  | 93  | 90   | 111  | 139 | 179  | 66  | 95   |
| Average Queue (ft)    | 35  | 54   | 76   | 38  | 42   | 46   | 56  | 80   | 20  | 34   |
| 95th Queue (ft)       | 78  | 124  | 155  | 78  | 78   | 91   | 110 | 140  | 50  | 72   |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |

Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 244 | 276  | 300  | 111 | 230  | 252  | 205 | 279  | 48  | 79   | 129 |
| Average Queue (ft)    | 111 | 136  | 149  | 37  | 113  | 128  | 77  | 125  | 10  | 26   | 38  |
| 95th Queue (ft)       | 201 | 237  | 258  | 84  | 188  | 206  | 153 | 229  | 34  | 61   | 95  |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      | 1   | 3    |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      | 1   | 3    |     |      |     |

Intersection: 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3

| Movement              | WB  | SB  |
|-----------------------|-----|-----|
| Directions Served     | LR  | L   |
| Maximum Queue (ft)    | 68  | 35  |
| Average Queue (ft)    | 28  | 4   |
| 95th Queue (ft)       | 53  | 21  |
| Link Distance (ft)    | 976 |     |
| Upstream Blk Time (%) |     |     |
| Queuing Penalty (veh) |     |     |
| Storage Bay Dist (ft) |     | 100 |
| Storage Blk Time (%)  |     |     |
| Queuing Penalty (veh) |     |     |

Intersection: 550: Flint Hill Road & Springhill Farm Road

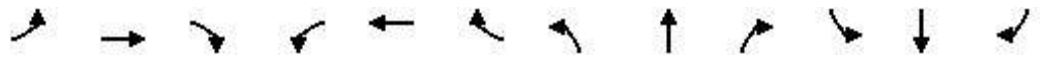
| Movement              | EB  | NB  | SB   |
|-----------------------|-----|-----|------|
| Directions Served     | LR  | LT  | TR   |
| Maximum Queue (ft)    | 147 | 24  | 4    |
| Average Queue (ft)    | 51  | 2   | 0    |
| 95th Queue (ft)       | 99  | 13  | 3    |
| Link Distance (ft)    | 586 | 625 | 1902 |
| Upstream Blk Time (%) |     |     |      |
| Queuing Penalty (veh) |     |     |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

Network Summary

Network wide Queuing Penalty: 13

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 19    | 315   | 11    | 171   | 228   | 526   | 4     | 11    | 166   | 434   | 47    | 13    |
| Future Volume (vph)        | 19    | 315   | 11    | 171   | 228   | 526   | 4     | 11    | 166   | 434   | 47    | 13    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 2%    |       |       | -2%   |       |       | 1%    |       |       |       | -1%   |
| Storage Length (ft)        | 200   |       | 0     | 200   |       | 350   | 150   |       | 0     | 250   |       | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 1     |       | 0     | 2     |       | 0     |
| Taper Length (ft)          | 25    |       |       | 25    |       |       | 25    |       |       | 25    |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 0.97  | 1.00  | 1.00  |
| Frt                        |       | 0.995 |       |       |       | 0.850 |       | 0.859 |       |       | 0.968 |       |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1752  | 3486  | 0     | 1787  | 3575  | 1599  | 1761  | 1592  | 0     | 3450  | 1812  | 0     |
| Flt Permitted              | 0.595 |       |       | 0.513 |       |       | 0.265 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1097  | 3486  | 0     | 965   | 3575  | 1599  | 491   | 1592  | 0     | 3450  | 1812  | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |       | 40    |
| Link Distance (ft)         |       | 1952  |       |       | 838   |       |       | 985   |       |       |       | 691   |
| Travel Time (s)            |       | 29.6  |       |       | 12.7  |       |       | 19.2  |       |       |       | 11.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 21    | 350   | 12    | 190   | 253   | 584   | 4     | 12    | 184   | 482   | 52    | 14    |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 21    | 362   | 0     | 190   | 253   | 584   | 4     | 196   | 0     | 482   | 66    | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 0.99  | 0.99  | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    | pm+ov | Perm  | NA    |       | Split | NA    |       |
| Protected Phases           |       | 2     |       |       | 6     | 4     |       | 3     |       | 4     | 4     |       |
| Permitted Phases           | 2     |       |       | 6     |       | 6     | 3     |       |       |       |       |       |
| Detector Phase             | 2     | 2     |       | 6     | 6     | 4     | 3     | 3     |       | 4     | 4     |       |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 15.0  | 15.0  |       | 15.0  | 15.0  | 8.0   | 8.0   | 8.0   |       | 8.0   | 8.0   |       |
| Minimum Split (s)          | 22.0  | 22.0  |       | 22.0  | 22.0  | 15.0  | 15.0  | 15.0  |       | 15.0  | 15.0  |       |
| Total Split (s)            | 40.0  | 40.0  |       | 40.0  | 40.0  | 26.0  | 24.0  | 24.0  |       | 26.0  | 26.0  |       |
| Total Split (%)            | 44.4% | 44.4% |       | 44.4% | 44.4% | 28.9% | 26.7% | 26.7% |       | 28.9% | 28.9% |       |
| Maximum Green (s)          | 33.4  | 33.4  |       | 33.4  | 33.4  | 19.8  | 17.8  | 17.8  |       | 19.8  | 19.8  |       |
| Yellow Time (s)            | 4.5   | 4.5   |       | 4.5   | 4.5   | 3.7   | 3.7   | 3.7   |       | 3.7   | 3.7   |       |
| All-Red Time (s)           | 2.1   | 2.1   |       | 2.1   | 2.1   | 2.5   | 2.5   | 2.5   |       | 2.5   | 2.5   |       |
| Lost Time Adjust (s)       | -1.6  | -1.6  |       | -1.6  | -1.6  | -1.2  | -1.2  | -1.2  |       | -1.2  | -1.2  |       |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |       |
| Lead/Lag                   |       |       |       |       |       | Lag   | Lead  | Lead  |       | Lag   | Lag   |       |
| Lead-Lag Optimize?         |       |       |       |       |       | Yes   | Yes   | Yes   |       | Yes   | Yes   |       |
| Vehicle Extension (s)      | 3.8   | 3.8   |       | 3.8   | 3.8   | 3.8   | 3.8   | 3.8   |       | 3.8   | 3.8   |       |
| Recall Mode                | Min   | Min   |       | Min   | Min   | None  | None  | None  |       | None  | None  |       |

Miller Farm TIA  
5: Flint Hill Road & SC-51

12/21/2021

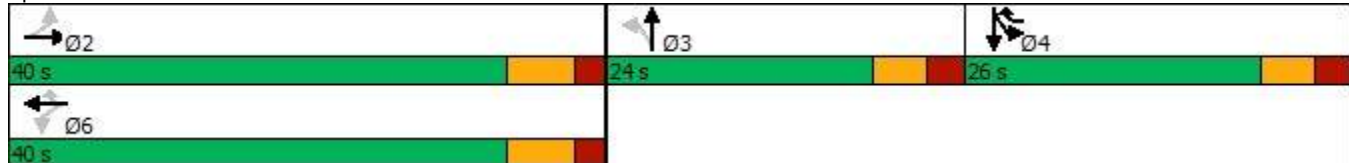


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Act Effect Green (s)    | 21.0 | 21.0 |     | 21.0 | 21.0 | 45.8 | 15.2 | 15.2 |     | 19.7 | 19.7 |     |
| Actuated g/C Ratio      | 0.29 | 0.29 |     | 0.29 | 0.29 | 0.64 | 0.21 | 0.21 |     | 0.28 | 0.28 |     |
| v/c Ratio               | 0.07 | 0.35 |     | 0.67 | 0.24 | 0.57 | 0.04 | 0.58 |     | 0.50 | 0.13 |     |
| Control Delay           | 19.4 | 21.2 |     | 35.7 | 20.2 | 10.0 | 26.2 | 34.2 |     | 25.2 | 23.0 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 19.4 | 21.2 |     | 35.7 | 20.2 | 10.0 | 26.2 | 34.2 |     | 25.2 | 23.0 |     |
| LOS                     | B    | C    |     | D    | C    | B    | C    | C    |     | C    | C    |     |
| Approach Delay          |      | 21.1 |     |      | 17.3 |      |      | 34.1 |     |      | 25.0 |     |
| Approach LOS            |      | C    |     |      | B    |      |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 7    | 67   |     | 75   | 45   | 126  | 1    | 75   |     | 86   | 20   |     |
| Queue Length 95th (ft)  | 23   | 106  |     | 150  | 75   | 230  | 10   | 166  |     | 169  | 62   |     |
| Internal Link Dist (ft) |      | 1872 |     |      | 758  |      |      | 905  |     |      | 611  |     |
| Turn Bay Length (ft)    | 200  |      |     | 200  |      | 350  | 150  |      |     | 250  |      |     |
| Base Capacity (vph)     | 551  | 1750 |     | 484  | 1795 | 1008 | 133  | 434  |     | 1039 | 546  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    | 0    | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.04 | 0.21 |     | 0.39 | 0.14 | 0.58 | 0.03 | 0.45 |     | 0.46 | 0.12 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 90  
 Actuated Cycle Length: 71.2  
 Natural Cycle: 60  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 21.5  
 Intersection LOS: C  
 Intersection Capacity Utilization 68.4%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 5: Flint Hill Road & SC-51





Miller Farm TIA  
6: Business Driveway & SC-51

12/21/2021



| Lane Group                 | EBT   | EBR   | WBL  | WBT   | NBL   | NBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        | ↑↑    |       |      | ↑↑    | ↑↑    |       |
| Traffic Volume (vph)       | 819   | 12    | 28   | 943   | 13    | 22    |
| Future Volume (vph)        | 819   | 12    | 28   | 943   | 13    | 22    |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 0.95  | 0.95  | 0.95 | 0.95  | 1.00  | 1.00  |
| Fr <sub>t</sub>            | 0.998 |       |      |       | 0.915 |       |
| Fl <sub>t</sub> Protected  |       |       |      | 0.999 | 0.982 |       |
| Satd. Flow (prot)          | 3532  | 0     | 0    | 3536  | 1674  | 0     |
| Fl <sub>t</sub> Permitted  |       |       |      | 0.999 | 0.982 |       |
| Satd. Flow (perm)          | 3532  | 0     | 0    | 3536  | 1674  | 0     |
| Link Speed (mph)           | 45    |       |      | 45    | 25    |       |
| Link Distance (ft)         | 838   |       |      | 161   | 1054  |       |
| Travel Time (s)            | 12.7  |       |      | 2.4   | 28.7  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 910   | 13    | 31   | 1048  | 14    | 24    |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 923   | 0     | 0    | 1079  | 38    | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 12    |       |      | 12    | 12    |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        |       | 9     | 15   |       | 15    | 9     |
| Sign Control               | Free  |       |      | Free  | Stop  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 56.3%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service B |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.9  |      |      |      |      |      |
| Movement                 | EBT  | EBR  | WBL  | WBT  | NBL  | NBR  |
| Lane Configurations      | ↑↑   |      |      | ↑↑   | ↑↑   |      |
| Traffic Vol, veh/h       | 819  | 12   | 28   | 943  | 13   | 22   |
| Future Vol, veh/h        | 819  | 12   | 28   | 943  | 13   | 22   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | -    | 0    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 910  | 13   | 31   | 1048 | 14   | 24   |

| Major/Minor          | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0      | 0      | 923    | 0      | 1503   |
| Stage 1              | -      | -      | -      | -      | 917    |
| Stage 2              | -      | -      | -      | -      | 586    |
| Critical Hdwy        | -      | -      | 4.14   | -      | 6.84   |
| Critical Hdwy Stg 1  | -      | -      | -      | -      | 5.84   |
| Critical Hdwy Stg 2  | -      | -      | -      | -      | 5.84   |
| Follow-up Hdwy       | -      | -      | 2.22   | -      | 3.52   |
| Pot Cap-1 Maneuver   | -      | -      | 736    | -      | 112    |
| Stage 1              | -      | -      | -      | -      | 350    |
| Stage 2              | -      | -      | -      | -      | 519    |
| Platoon blocked, %   | -      | -      | -      | -      | -      |
| Mov Cap-1 Maneuver   | -      | -      | 736    | -      | 101    |
| Mov Cap-2 Maneuver   | -      | -      | -      | -      | 101    |
| Stage 1              | -      | -      | -      | -      | 350    |
| Stage 2              | -      | -      | -      | -      | 467    |

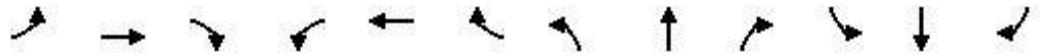
| Approach             | EB | WB  | NB   |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0  | 0.8 | 26.4 |
| HCM LOS              |    |     | D    |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL   | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h)      | 207   | -   | -   | 736   | -   |
| HCM Lane V/C Ratio    | 0.188 | -   | -   | 0.042 | -   |
| HCM Control Delay (s) | 26.4  | -   | -   | 10.1  | 0.5 |
| HCM Lane LOS          | D     | -   | -   | B     | A   |
| HCM 95th %tile Q(veh) | 0.7   | -   | -   | 0.1   | -   |

Miller Farm TIA

7: Business Driveway/Andrew L Tucker Road & SC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL  | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|-------|-------|------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |       |       |       |      |       |       |      |       |       |      |      |       |
| Traffic Volume (vph)       | 121   | 719   | 4     | 10   | 699   | 14    | 8    | 6     | 13    | 24   | 4    | 262   |
| Future Volume (vph)        | 121   | 719   | 4     | 10   | 699   | 14    | 8    | 6     | 13    | 24   | 4    | 262   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 0.95 | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Fr <sub>t</sub>            |       | 0.999 |       |      | 0.997 |       |      | 0.937 |       |      |      | 0.878 |
| Fl <sub>t</sub> Protected  | 0.950 |       |       |      | 0.999 |       |      | 0.985 |       |      |      | 0.996 |
| Satd. Flow (prot)          | 1770  | 3536  | 0     | 0    | 3525  | 0     | 0    | 1719  | 0     | 0    | 1629 | 0     |
| Fl <sub>t</sub> Permitted  | 0.950 |       |       |      | 0.999 |       |      | 0.985 |       |      |      | 0.996 |
| Satd. Flow (perm)          | 1770  | 3536  | 0     | 0    | 3525  | 0     | 0    | 1719  | 0     | 0    | 1629 | 0     |
| Link Speed (mph)           |       | 45    |       |      | 45    |       |      | 25    |       |      |      | 35    |
| Link Distance (ft)         |       | 161   |       |      | 1378  |       |      | 1091  |       |      |      | 1017  |
| Travel Time (s)            |       | 2.4   |       |      | 20.9  |       |      | 29.8  |       |      |      | 19.8  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 134   | 799   | 4     | 11   | 777   | 16    | 9    | 7     | 14    | 27   | 4    | 291   |
| Shared Lane Traffic (%)    |       |       |       |      |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 134   | 803   | 0     | 0    | 804   | 0     | 0    | 30    | 0     | 0    | 322  | 0     |
| Enter Blocked Intersection | No    | No    | No    | No   | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 12    |       |      | 12    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |       | 0     |       |      | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |      | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |       |       |      |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |       | Free  |       |      | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 68.8%        |
| ICU Level of Service              | C            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 13.4 |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 121  | 719  | 4    | 10   | 699  | 14   | 8    | 6    | 13   | 24   | 4    | 262  |
| Future Vol, veh/h        | 121  | 719  | 4    | 10   | 699  | 14   | 8    | 6    | 13   | 24   | 4    | 262  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 134  | 799  | 4    | 11   | 777  | 16   | 9    | 7    | 14   | 27   | 4    | 291  |

| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 793    | 0 | 0 | 803    | 0 | 0 | 1482   | 1884 | 402  | 1478   | 1878 | 397  |
| Stage 1              | -      | - | - | -      | - | - | 1069   | 1069 | -    | 807    | 807  | -    |
| Stage 2              | -      | - | - | -      | - | - | 413    | 815  | -    | 671    | 1071 | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 824    | - | - | 817    | - | - | 87     | 70   | 598  | 88     | 71   | 602  |
| Stage 1              | -      | - | - | -      | - | - | 236    | 296  | -    | 341    | 392  | -    |
| Stage 2              | -      | - | - | -      | - | - | 587    | 389  | -    | 412    | 295  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 824    | - | - | 817    | - | - | 36     | 57   | 598  | 67     | 58   | 602  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 36     | 57   | -    | 67     | 58   | -    |
| Stage 1              | -      | - | - | -      | - | - | 198    | 248  | -    | 285    | 383  | -    |
| Stage 2              | -      | - | - | -      | - | - | 292    | 380  | -    | 328    | 247  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 1.5 |  |  | 0.2 |  |  | 78.9 |  |  | 75.1 |  |  |
| HCM LOS              |     |  |  |     |  |  | F    |  |  | F    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 77    | 824   | -   | -   | 817   | -   | -   | 336   |
| HCM Lane V/C Ratio    | 0.39  | 0.163 | -   | -   | 0.014 | -   | -   | 0.959 |
| HCM Control Delay (s) | 78.9  | 10.2  | -   | -   | 9.5   | 0.1 | -   | 75.1  |
| HCM Lane LOS          | F     | B     | -   | -   | A     | A   | -   | F     |
| HCM 95th %tile Q(veh) | 1.5   | 0.6   | -   | -   | 0     | -   | -   | 10.2  |

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

12/21/2021

| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph)       | 32    | 669  | 54    | 55    | 705   | 30    | 27   | 4     | 35    | 17   | 4     | 19    |
| Future Volume (vph)        | 32    | 669  | 54    | 55    | 705   | 30    | 27   | 4     | 35    | 17   | 4     | 19    |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900  | 1900  |
| Storage Length (ft)        | 100   |      | 370   | 335   |       | 0     | 0    |       | 185   | 0    |       | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 0    |       | 1     | 0    |       | 0     |
| Taper Length (ft)          | 25    |      |       | 25    |       |       | 25   |       |       | 25   |       |       |
| Lane Util. Factor          | 1.00  | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.994 |       |      |       | 0.850 |      | 0.936 |       |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.958 |       |      | 0.979 |       |
| Satd. Flow (prot)          | 1770  | 3539 | 1583  | 1770  | 3518  | 0     | 0    | 1785  | 1583  | 0    | 1707  | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.958 |       |      | 0.979 |       |
| Satd. Flow (perm)          | 1770  | 3539 | 1583  | 1770  | 3518  | 0     | 0    | 1785  | 1583  | 0    | 1707  | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 25    |       |      | 25    |       |
| Link Distance (ft)         |       | 1378 |       |       | 1912  |       |      | 1091  |       |      | 1003  |       |
| Travel Time (s)            |       | 20.9 |       |       | 29.0  |       |      | 29.8  |       |      | 27.4  |       |
| Peak Hour Factor           | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  |
| Adj. Flow (vph)            | 36    | 743  | 60    | 61    | 783   | 33    | 30   | 4     | 39    | 19   | 4     | 21    |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |       |       |
| Lane Group Flow (vph)      | 36    | 743  | 60    | 61    | 816   | 0     | 0    | 34    | 39    | 0    | 44    | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No    | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left  | Right |
| Median Width(ft)           |       | 12   |       |       | 24    |       |      | 0     |       |      | 0     |       |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      | 0     |       |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      | 16    |       |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |       |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |       | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      | Stop  |       |

**Intersection Summary**

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.6% ICU Level of Service A

Analysis Period (min) 15

Miller Farm TIA  
 9: Miller Road/Site Driveway 2 & NC-51

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| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3    |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      | ↘    | ↑↑   | ↗    | ↘    | ↑↑   |      |      | ↙    | ↗    |      | ↔    |      |
| Traffic Vol, veh/h       | 32   | 669  | 54   | 55   | 705  | 30   | 27   | 4    | 35   | 17   | 4    | 19   |
| Future Vol, veh/h        | 32   | 669  | 54   | 55   | 705  | 30   | 27   | 4    | 35   | 17   | 4    | 19   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 100  | -    | 370  | 335  | -    | -    | -    | -    | 185  | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 36   | 743  | 60   | 61   | 783  | 33   | 30   | 4    | 39   | 19   | 4    | 21   |

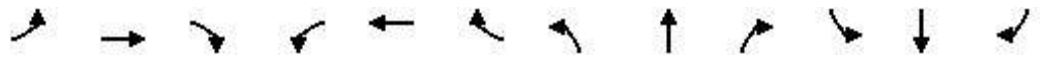
| Major/Minor          | Major1 |   |   | Major2 |   |   | Minor1 |      |      | Minor2 |      |      |
|----------------------|--------|---|---|--------|---|---|--------|------|------|--------|------|------|
| Conflicting Flow All | 816    | 0 | 0 | 803    | 0 | 0 | 1331   | 1753 | 372  | 1368   | 1797 | 408  |
| Stage 1              | -      | - | - | -      | - | - | 815    | 815  | -    | 922    | 922  | -    |
| Stage 2              | -      | - | - | -      | - | - | 516    | 938  | -    | 446    | 875  | -    |
| Critical Hdwy        | 4.14   | - | - | 4.14   | - | - | 7.54   | 6.54 | 6.94 | 7.54   | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | - | -      | - | - | 6.54   | 5.54 | -    | 6.54   | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | - | 2.22   | - | - | 3.52   | 4.02 | 3.32 | 3.52   | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 807    | - | - | 817    | - | - | 113    | 84   | 625  | 106    | 79   | 593  |
| Stage 1              | -      | - | - | -      | - | - | 338    | 389  | -    | 291    | 347  | -    |
| Stage 2              | -      | - | - | -      | - | - | 510    | 341  | -    | 561    | 365  | -    |
| Platoon blocked, %   | -      | - | - | -      | - | - | -      | -    | -    | -      | -    | -    |
| Mov Cap-1 Maneuver   | 807    | - | - | 817    | - | - | 95     | 74   | 625  | 86     | 70   | 593  |
| Mov Cap-2 Maneuver   | -      | - | - | -      | - | - | 95     | 74   | -    | 86     | 70   | -    |
| Stage 1              | -      | - | - | -      | - | - | 323    | 371  | -    | 278    | 321  | -    |
| Stage 2              | -      | - | - | -      | - | - | 449    | 315  | -    | 497    | 349  | -    |

| Approach             | EB  |  |  | WB  |  |  | NB   |  |  | SB   |  |  |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.4 |  |  | 0.7 |  |  | 36.8 |  |  | 42.6 |  |  |
| HCM LOS              |     |  |  |     |  |  | E    |  |  | E    |  |  |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL   | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h)      | 92    | 625   | 807   | -   | -   | 817   | -   | -   | 139   |
| HCM Lane V/C Ratio    | 0.374 | 0.062 | 0.044 | -   | -   | 0.075 | -   | -   | 0.32  |
| HCM Control Delay (s) | 65.9  | 11.1  | 9.7   | -   | -   | 9.8   | -   | -   | 42.6  |
| HCM Lane LOS          | F     | B     | A     | -   | -   | A     | -   | -   | E     |
| HCM 95th %tile Q(veh) | 1.5   | 0.2   | 0.1   | -   | -   | 0.2   | -   | -   | 1.3   |

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 10: Marfield Lane/Site Driveway 1 & NC-51

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| Lane Group                 | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT  | SBR   |
|----------------------------|-------|------|-------|-------|-------|-------|------|-------|-------|------|------|-------|
| Lane Configurations        |       |      |       |       |       |       |      |       |       |      |      |       |
| Traffic Volume (vph)       | 12    | 708  | 11    | 103   | 808   | 50    | 30   | 4     | 66    | 29   | 4    | 7     |
| Future Volume (vph)        | 12    | 708  | 11    | 103   | 808   | 50    | 30   | 4     | 66    | 29   | 4    | 7     |
| Ideal Flow (vphpl)         | 1900  | 1900 | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  | 1900  | 1900 | 1900 | 1900  |
| Storage Length (ft)        | 100   |      | 310   | 520   |       | 0     | 100  |       | 0     | 0    |      | 0     |
| Storage Lanes              | 1     |      | 1     | 1     |       | 0     | 1    |       | 1     | 0    |      | 0     |
| Taper Length (ft)          | 25    |      |       | 25    |       |       | 25   |       |       | 25   |      |       |
| Lane Util. Factor          | 1.00  | 0.95 | 1.00  | 1.00  | 0.95  | 0.95  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Frt                        |       |      | 0.850 |       | 0.991 |       |      |       | 0.850 |      |      | 0.975 |
| Flt Protected              | 0.950 |      |       | 0.950 |       |       |      | 0.957 |       |      |      | 0.965 |
| Satd. Flow (prot)          | 1770  | 3539 | 1583  | 1770  | 3507  | 0     | 0    | 1783  | 1583  | 0    | 1753 | 0     |
| Flt Permitted              | 0.950 |      |       | 0.950 |       |       |      | 0.957 |       |      |      | 0.965 |
| Satd. Flow (perm)          | 1770  | 3539 | 1583  | 1770  | 3507  | 0     | 0    | 1783  | 1583  | 0    | 1753 | 0     |
| Link Speed (mph)           |       | 45   |       |       | 45    |       |      | 15    |       |      |      | 25    |
| Link Distance (ft)         |       | 1912 |       |       | 1898  |       |      | 1372  |       |      |      | 1003  |
| Travel Time (s)            |       | 29.0 |       |       | 28.8  |       |      | 62.4  |       |      |      | 27.4  |
| Peak Hour Factor           | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90 | 0.90 | 0.90  |
| Adj. Flow (vph)            | 13    | 787  | 12    | 114   | 898   | 56    | 33   | 4     | 73    | 32   | 4    | 8     |
| Shared Lane Traffic (%)    |       |      |       |       |       |       |      |       |       |      |      |       |
| Lane Group Flow (vph)      | 13    | 787  | 12    | 114   | 954   | 0     | 0    | 37    | 73    | 0    | 44   | 0     |
| Enter Blocked Intersection | No    | No   | No    | No    | No    | No    | No   | No    | No    | No   | No   | No    |
| Lane Alignment             | Left  | Left | Right | Left  | Left  | Right | Left | Left  | Right | Left | Left | Right |
| Median Width(ft)           |       | 12   |       |       | 12    |       |      | 0     |       |      |      | 0     |
| Link Offset(ft)            |       | 0    |       |       | 0     |       |      | 0     |       |      |      | 0     |
| Crosswalk Width(ft)        |       | 16   |       |       | 16    |       |      | 16    |       |      |      | 16    |
| Two way Left Turn Lane     |       |      |       |       |       |       |      |       |       |      |      |       |
| Headway Factor             | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00  |
| Turning Speed (mph)        | 15    |      | 9     | 15    |       | 9     | 15   |       | 9     | 15   |      | 9     |
| Sign Control               |       | Free |       |       | Free  |       |      | Stop  |       |      |      | Stop  |

Intersection Summary

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 47.0%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.3  |      |      |      |      |      |      |      |      |      |      |      |
| Movement                 | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 12   | 708  | 11   | 103  | 808  | 50   | 30   | 4    | 66   | 29   | 4    | 7    |
| Future Vol, veh/h        | 12   | 708  | 11   | 103  | 808  | 50   | 30   | 4    | 66   | 29   | 4    | 7    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized           | -    | -    | None | -    | -    | None | -    | -    | None | -    | -    | None |
| Storage Length           | 100  | -    | 310  | 520  | -    | -    | 100  | -    | 0    | -    | -    | -    |
| Veh in Median Storage, # | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Grade, %                 | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    | -    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 13   | 787  | 12   | 114  | 898  | 56   | 33   | 4    | 73   | 32   | 4    | 8    |

| Major/Minor          | Major1 |   | Major2 |      | Minor1 |   | Minor2 |      |      |      |      |      |
|----------------------|--------|---|--------|------|--------|---|--------|------|------|------|------|------|
| Conflicting Flow All | 954    | 0 | 0      | 799  | 0      | 0 | 1492   | 1995 | 394  | 1576 | 1979 | 477  |
| Stage 1              | -      | - | -      | -    | -      | - | 813    | 813  | -    | 1154 | 1154 | -    |
| Stage 2              | -      | - | -      | -    | -      | - | 679    | 1182 | -    | 422  | 825  | -    |
| Critical Hdwy        | 4.14   | - | -      | 4.14 | -      | - | 7.54   | 6.54 | 6.94 | 7.54 | 6.54 | 6.94 |
| Critical Hdwy Stg 1  | -      | - | -      | -    | -      | - | 6.54   | 5.54 | -    | 6.54 | 5.54 | -    |
| Critical Hdwy Stg 2  | -      | - | -      | -    | -      | - | 6.54   | 5.54 | -    | 6.54 | 5.54 | -    |
| Follow-up Hdwy       | 2.22   | - | -      | 2.22 | -      | - | 3.52   | 4.02 | 3.32 | 3.52 | 4.02 | 3.32 |
| Pot Cap-1 Maneuver   | 716    | - | -      | 819  | -      | - | 85     | 60   | 605  | 74   | 61   | 534  |
| Stage 1              | -      | - | -      | -    | -      | - | 339    | 390  | -    | 210  | 270  | -    |
| Stage 2              | -      | - | -      | -    | -      | - | 408    | 262  | -    | 580  | 385  | -    |
| Platoon blocked, %   | -      | - | -      | -    | -      | - | -      | -    | -    | -    | -    | -    |
| Mov Cap-1 Maneuver   | 716    | - | -      | 819  | -      | - | 69     | 51   | 605  | 54   | 52   | 534  |
| Mov Cap-2 Maneuver   | -      | - | -      | -    | -      | - | 69     | 51   | -    | 54   | 52   | -    |
| Stage 1              | -      | - | -      | -    | -      | - | 333    | 383  | -    | 206  | 232  | -    |
| Stage 2              | -      | - | -      | -    | -      | - | 339    | 226  | -    | 495  | 378  | -    |

| Approach             | EB  | WB  | NB   | SB    |
|----------------------|-----|-----|------|-------|
| HCM Control Delay, s | 0.2 | 1.1 | 47.2 | 141.8 |
| HCM LOS              |     |     | E    | F     |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL   | EBT | EBR | WBL  | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h)      | 66    | 605   | 716   | -   | -   | 819  | -   | -   | 64    |
| HCM Lane V/C Ratio    | 0.572 | 0.121 | 0.019 | -   | -   | 0.14 | -   | -   | 0.694 |
| HCM Control Delay (s) | 116   | 11.8  | 10.1  | -   | -   | 10.1 | -   | -   | 141.8 |
| HCM Lane LOS          | F     | B     | B     | -   | -   | B    | -   | -   | F     |
| HCM 95th %tile Q(veh) | 2.4   | 0.4   | 0.1   | -   | -   | 0.5  | -   | -   | 3     |



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| Lane Group                 | EBL   | EBT   | WBU   | WBT   | WBR   | SBL   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 87    | 729   | 4     | 735   | 134   | 315   | 197   |
| Future Volume (vph)        | 87    | 729   | 4     | 735   | 134   | 315   | 197   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       | 0%    |       | 1%    |       |
| Storage Length (ft)        | 310   |       | 210   |       | 335   | 275   | 0     |
| Storage Lanes              | 1     |       | 1     |       | 1     | 1     | 1     |
| Taper Length (ft)          | 25    |       | 25    |       |       | 25    |       |
| Lane Util. Factor          | 1.00  | 0.95  | 1.00  | 0.95  | 1.00  | 1.00  | 1.00  |
| Fr <sub>t</sub>            |       |       |       |       | 0.850 |       | 0.850 |
| Fl <sub>t</sub> Protected  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Fl <sub>t</sub> Permitted  | 0.950 |       | 0.950 |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1770  | 3539  | 1770  | 3539  | 1583  | 1761  | 1575  |
| Right Turn on Red          |       |       |       |       | No    |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       | 45    |       | 35    |       |
| Link Distance (ft)         |       | 1898  |       | 1148  |       | 634   |       |
| Travel Time (s)            |       | 28.8  |       | 17.4  |       | 12.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 97    | 810   | 4     | 817   | 149   | 350   | 219   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 97    | 810   | 4     | 817   | 149   | 350   | 219   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | R NA  | Left  | Right | Left  | Right |
| Median Width(ft)           |       | 22    |       | 22    |       | 12    |       |
| Link Offset(ft)            |       | 0     |       | 0     |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       | 16    |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     |       | 9     | 15    | 9     |
| Turn Type                  | Prot  | NA    | Prot  | NA    | Free  | Prot  | pm+ov |
| Protected Phases           | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Permitted Phases           |       |       |       |       | Free  |       | 4     |
| Detector Phase             | 5     | 2     | 1     | 6     |       | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 12.0  | 7.0   | 12.0  |       | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  | 14.0  | 19.0  |       | 19.0  | 14.0  |
| Total Split (s)            | 20.0  | 58.0  | 14.0  | 52.0  |       | 48.0  | 20.0  |
| Total Split (%)            | 16.7% | 48.3% | 11.7% | 43.3% |       | 40.0% | 16.7% |
| Maximum Green (s)          | 14.2  | 52.0  | 8.1   | 46.2  |       | 42.4  | 14.2  |
| Yellow Time (s)            | 3.0   | 4.5   | 3.0   | 4.5   |       | 3.0   | 3.0   |
| All-Red Time (s)           | 2.8   | 1.5   | 2.9   | 1.3   |       | 2.6   | 2.8   |
| Lost Time Adjust (s)       | -0.8  | -1.0  | -0.9  | -0.8  |       | -0.6  | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   | Lead  | Lag   |       |       | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   | Yes   | Yes   |       |       | Yes   |
| Vehicle Extension (s)      | 2.0   | 6.0   | 2.0   | 6.0   |       | 2.0   | 2.0   |
| Minimum Gap (s)            | 2.0   | 3.0   | 2.0   | 3.0   |       | 2.0   | 2.0   |

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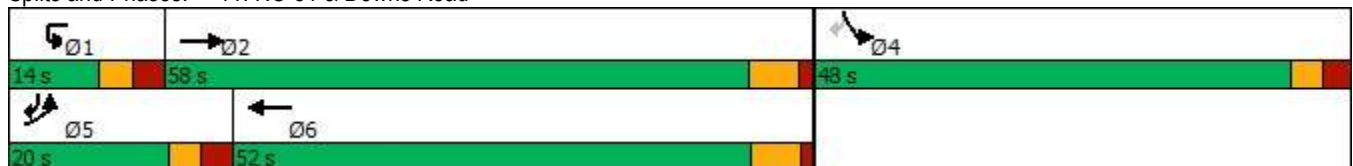


| Lane Group              | EBL  | EBT  | WBU  | WBT  | WBR  | SBL  | SBR  |
|-------------------------|------|------|------|------|------|------|------|
| Time Before Reduce (s)  | 0.0  | 15.0 | 0.0  | 15.0 |      | 0.0  | 0.0  |
| Time To Reduce (s)      | 0.0  | 30.0 | 0.0  | 30.0 |      | 0.0  | 0.0  |
| Recall Mode             | None | Min  | None | Min  |      | None | None |
| Act Effct Green (s)     | 10.1 | 37.2 | 8.3  | 23.7 | 69.5 | 19.9 | 35.3 |
| Actuated g/C Ratio      | 0.15 | 0.54 | 0.12 | 0.34 | 1.00 | 0.29 | 0.51 |
| v/c Ratio               | 0.38 | 0.43 | 0.02 | 0.68 | 0.09 | 0.69 | 0.27 |
| Control Delay           | 35.3 | 12.4 | 35.8 | 23.8 | 0.1  | 31.0 | 11.4 |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 35.3 | 12.4 | 35.8 | 23.8 | 0.1  | 31.0 | 11.4 |
| LOS                     | D    | B    | D    | C    | A    | C    | B    |
| Approach Delay          |      | 14.9 |      | 20.2 |      | 23.5 |      |
| Approach LOS            |      | B    |      | C    |      | C    |      |
| Queue Length 50th (ft)  | 37   | 90   | 2    | 146  | 0    | 126  | 48   |
| Queue Length 95th (ft)  | 101  | 241  | 12   | 278  | 0    | 266  | 109  |
| Internal Link Dist (ft) |      | 1818 |      | 1068 |      | 554  |      |
| Turn Bay Length (ft)    | 310  |      | 210  |      | 335  | 275  |      |
| Base Capacity (vph)     | 400  | 2789 | 240  | 2506 | 1583 | 1141 | 926  |
| Starvation Cap Reductn  | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.24 | 0.29 | 0.02 | 0.33 | 0.09 | 0.31 | 0.24 |

Intersection Summary

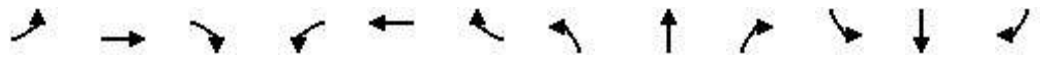
|                                    |                        |
|------------------------------------|------------------------|
| Area Type:                         | Other                  |
| Cycle Length:                      | 120                    |
| Actuated Cycle Length:             | 69.5                   |
| Natural Cycle:                     | 60                     |
| Control Type:                      | Actuated-Uncoordinated |
| Maximum v/c Ratio:                 | 0.69                   |
| Intersection Signal Delay:         | 19.0                   |
| Intersection LOS:                  | B                      |
| Intersection Capacity Utilization: | 56.1%                  |
| ICU Level of Service:              | B                      |
| Analysis Period (min):             | 15                     |

Splits and Phases: 11: NC-51 & Downs Road

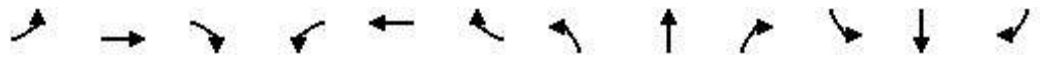


Miller Farm TIA  
12: Polk Street & NC-51

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 122   | 893   | 217   | 78    | 555   | 197   | 201   | 297   | 41    | 389   | 538   | 169   |
| Future Volume (vph)        | 122   | 893   | 217   | 78    | 555   | 197   | 201   | 297   | 41    | 389   | 538   | 169   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | 0%    |       |       | 3%    |       |       | 2%    |       |       | 2%    |       |
| Storage Length (ft)        | 310   |       | 0     | 275   |       | 625   | 450   |       | 0     | 0     |       | 175   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 1     | 2     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 25    |       |       | 25    |       |       | 25    |       |       | 25    |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 1.00  | 0.97  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.971 |       |       |       | 0.850 |       | 0.982 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1770  | 3437  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (perm)          | 1770  | 3437  | 0     | 1743  | 3486  | 1560  | 3399  | 1811  | 0     | 1752  | 1844  | 1567  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 20    |       |       | 35    |       |       | 35    |       |       |       | 35    |
| Link Distance (ft)         |       | 1511  |       |       | 1276  |       |       | 1022  |       |       |       | 1160  |
| Travel Time (s)            |       | 51.5  |       |       | 24.9  |       |       | 19.9  |       |       |       | 22.6  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 136   | 992   | 241   | 87    | 617   | 219   | 223   | 330   | 46    | 432   | 598   | 188   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 136   | 1233  | 0     | 87    | 617   | 219   | 223   | 376   | 0     | 432   | 598   | 188   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 24    |       |       |       | 24    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |       | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.02  | 1.02  | 1.02  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    | pm+ov | Prot  | NA    |       | Prot  | NA    | pm+ov |
| Protected Phases           | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Permitted Phases           |       |       |       |       |       | 6     |       |       |       |       |       | 4     |
| Detector Phase             | 5     | 2     |       | 1     | 6     | 7     | 3     | 8     |       | 7     | 4     | 5     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 10.0  |       | 7.0   | 10.0  | 7.0   | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Minimum Split (s)          | 14.0  | 17.0  |       | 14.0  | 17.0  | 14.0  | 14.0  | 14.0  |       | 14.0  | 14.0  | 14.0  |
| Total Split (s)            | 24.0  | 55.0  |       | 14.0  | 45.0  | 38.0  | 15.0  | 33.0  |       | 38.0  | 56.0  | 24.0  |
| Total Split (%)            | 17.1% | 39.3% |       | 10.0% | 32.1% | 27.1% | 10.7% | 23.6% |       | 27.1% | 40.0% | 17.1% |
| Maximum Green (s)          | 17.8  | 48.8  |       | 8.2   | 39.3  | 32.1  | 8.4   | 27.0  |       | 32.1  | 50.3  | 17.8  |
| Yellow Time (s)            | 3.0   | 3.0   |       | 3.0   | 3.7   | 3.0   | 3.0   | 3.7   |       | 3.0   | 3.7   | 3.0   |
| All-Red Time (s)           | 3.2   | 3.2   |       | 2.8   | 2.0   | 2.9   | 3.6   | 2.3   |       | 2.9   | 2.0   | 3.2   |
| Lost Time Adjust (s)       | -1.2  | -1.2  |       | -0.8  | -0.7  | -0.9  | -1.6  | -1.0  |       | -0.9  | -0.7  | -1.2  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lead  | Lag   |       | Lead  | Lag   | Lead  | Lead  | Lag   |       | Lead  | Lag   | Lead  |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Vehicle Extension (s)      | 2.0   | 3.0   |       | 2.0   | 3.0   | 2.0   | 2.0   | 2.0   |       | 2.0   | 2.0   | 2.0   |
| Recall Mode                | None  | Min   |       | None  | Min   | None  | None  | None  |       | None  | None  | None  |

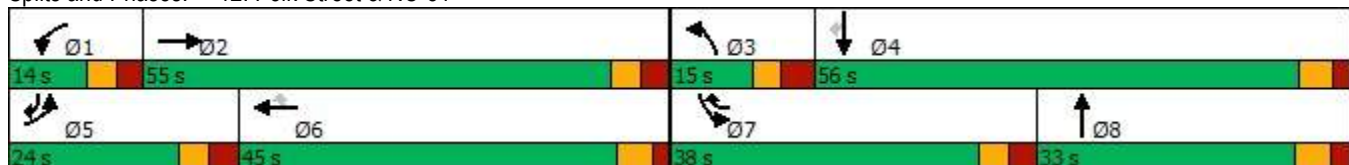


| Lane Group              | EBL  | EBT  | EBR | WBL   | WBT  | WBR  | NBL   | NBT   | NBR | SBL   | SBT  | SBR  |
|-------------------------|------|------|-----|-------|------|------|-------|-------|-----|-------|------|------|
| Act Effct Green (s)     | 15.8 | 50.0 |     | 8.9   | 43.1 | 81.1 | 10.0  | 28.0  |     | 33.0  | 51.0 | 71.8 |
| Actuated g/C Ratio      | 0.11 | 0.36 |     | 0.06  | 0.31 | 0.58 | 0.07  | 0.20  |     | 0.24  | 0.36 | 0.51 |
| v/c Ratio               | 0.68 | 1.00 |     | 0.79  | 0.57 | 0.24 | 0.92  | 1.04  |     | 1.05  | 0.89 | 0.23 |
| Control Delay           | 76.6 | 71.2 |     | 106.7 | 43.8 | 15.8 | 104.2 | 110.9 |     | 108.1 | 58.7 | 19.3 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0   | 0.0  | 0.0  | 0.0   | 0.0   |     | 0.0   | 0.0  | 0.0  |
| Total Delay             | 76.6 | 71.2 |     | 106.7 | 43.8 | 15.8 | 104.2 | 110.9 |     | 108.1 | 58.7 | 19.3 |
| LOS                     | E    | E    |     | F     | D    | B    | F     | F     |     | F     | E    | B    |
| Approach Delay          |      | 71.7 |     |       | 43.1 |      |       | 108.4 |     |       | 70.1 |      |
| Approach LOS            |      | E    |     |       | D    |      |       | F     |     |       | E    |      |
| Queue Length 50th (ft)  | 120  | ~595 |     | 80    | 250  | 95   | 106   | ~368  |     | ~426  | 511  | 91   |
| Queue Length 95th (ft)  | 190  | #755 |     | #176  | 324  | 149  | #186  | #572  |     | #640  | #730 | 135  |
| Internal Link Dist (ft) |      | 1431 |     |       | 1196 |      |       | 942   |     |       | 1080 |      |
| Turn Bay Length (ft)    | 310  |      |     | 275   |      | 625  | 450   |       |     |       |      | 175  |
| Base Capacity (vph)     | 240  | 1228 |     | 112   | 1074 | 904  | 242   | 362   |     | 413   | 672  | 840  |
| Starvation Cap Reductn  | 0    | 0    |     | 0     | 0    | 0    | 0     | 0     |     | 0     | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0     | 0    | 0    | 0     | 0     |     | 0     | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0     | 0    | 0    | 0     | 0     |     | 0     | 0    | 0    |
| Reduced v/c Ratio       | 0.57 | 1.00 |     | 0.78  | 0.57 | 0.24 | 0.92  | 1.04  |     | 1.05  | 0.89 | 0.22 |

Intersection Summary

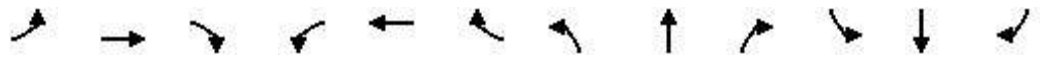
Area Type: Other  
 Cycle Length: 140  
 Actuated Cycle Length: 139.9  
 Natural Cycle: 140  
 Control Type: Actuated-Uncoordinated  
 Maximum v/c Ratio: 1.05  
 Intersection Signal Delay: 70.2      Intersection LOS: E  
 Intersection Capacity Utilization 93.8%      ICU Level of Service F  
 Analysis Period (min) 15  
 ~ Volume exceeds capacity, queue is theoretically infinite.  
 Queue shown is maximum after two cycles.  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.

Splits and Phases: 12: Polk Street & NC-51



Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT  | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |      |       |
| Traffic Volume (vph)       | 22    | 676   | 225   | 97    | 664   | 50    | 200   | 60    | 106   | 103   | 126  | 106   |
| Future Volume (vph)        | 22    | 676   | 225   | 97    | 664   | 50    | 200   | 60    | 106   | 103   | 126  | 106   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900 | 1900  |
| Grade (%)                  |       | -3%   |       |       | 3%    |       |       | -1%   |       |       |      | -1%   |
| Storage Length (ft)        | 400   |       | 0     | 205   |       | 0     | 245   |       | 0     | 225   |      | 0     |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |      | 0     |
| Taper Length (ft)          | 25    |       |       | 25    |       |       | 25    |       |       | 25    |      |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 | 1.00  |
| Frt                        |       | 0.963 |       |       | 0.989 |       |       | 0.904 |       |       |      | 0.931 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |      |       |
| Satd. Flow (prot)          | 1796  | 3459  | 0     | 1743  | 3448  | 0     | 1778  | 1692  | 0     | 1778  | 1743 | 0     |
| Flt Permitted              | 0.316 |       |       | 0.230 |       |       | 0.527 |       |       | 0.641 |      |       |
| Satd. Flow (perm)          | 597   | 3459  | 0     | 422   | 3448  | 0     | 987   | 1692  | 0     | 1200  | 1743 | 0     |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |      | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |      |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       |      | 35    |
| Link Distance (ft)         |       | 1921  |       |       | 1966  |       |       | 1155  |       |       |      | 1210  |
| Travel Time (s)            |       | 29.1  |       |       | 29.8  |       |       | 22.5  |       |       |      | 23.6  |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90 | 0.90  |
| Adj. Flow (vph)            | 24    | 751   | 250   | 108   | 738   | 56    | 222   | 67    | 118   | 114   | 140  | 118   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |      |       |
| Lane Group Flow (vph)      | 24    | 1001  | 0     | 108   | 794   | 0     | 222   | 185   | 0     | 114   | 258  | 0     |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No   | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       |      | 12    |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       |      | 0     |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       |      | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |      |       |
| Headway Factor             | 0.98  | 0.98  | 0.98  | 1.02  | 1.02  | 1.02  | 0.99  | 0.99  | 0.99  | 0.99  | 0.99 | 0.99  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |      | 9     |
| Turn Type                  | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA    |       | Perm  | NA   |       |
| Protected Phases           |       | 8     |       |       | 4     |       |       | 2     |       |       |      | 6     |
| Permitted Phases           | 8     |       |       | 4     |       |       | 2     |       |       | 6     |      |       |
| Detector Phase             | 8     | 8     |       | 4     | 4     |       | 2     | 2     |       | 6     |      | 6     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |      |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  |      | 12.0  |
| Minimum Split (s)          | 19.0  | 19.0  |       | 19.0  | 19.0  |       | 17.5  | 17.5  |       | 17.8  |      | 17.8  |
| Total Split (s)            | 35.0  | 35.0  |       | 35.0  | 35.0  |       | 25.0  | 25.0  |       | 25.0  |      | 25.0  |
| Total Split (%)            | 58.3% | 58.3% |       | 58.3% | 58.3% |       | 41.7% | 41.7% |       | 41.7% |      | 41.7% |
| Maximum Green (s)          | 29.2  | 29.2  |       | 29.8  | 29.8  |       | 19.5  | 19.5  |       | 19.2  |      | 19.2  |
| Yellow Time (s)            | 4.8   | 4.8   |       | 4.2   | 4.2   |       | 3.8   | 3.8   |       | 3.9   |      | 3.9   |
| All-Red Time (s)           | 1.0   | 1.0   |       | 1.0   | 1.0   |       | 1.7   | 1.7   |       | 1.9   |      | 1.9   |
| Lost Time Adjust (s)       | -0.8  | -0.8  |       | -0.2  | -0.2  |       | -0.5  | -0.5  |       | -0.5  |      | -0.8  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.3   |      | 5.0   |
| Lead/Lag                   |       |       |       |       |       |       |       |       |       |       |      |       |
| Lead-Lag Optimize?         |       |       |       |       |       |       |       |       |       |       |      |       |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   |      | 3.0   |
| Recall Mode                | C-Min | C-Min |       | C-Min | C-Min |       | None  | None  |       | None  |      | None  |

Miller Farm TIA  
 13: Downs Road & Westinghouse Boulevard

12/21/2021

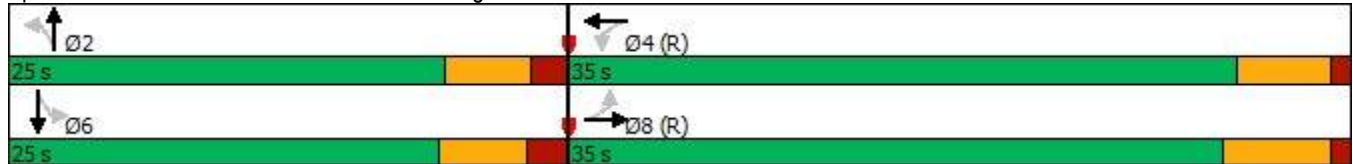


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-----|
| Act Effct Green (s)     | 32.5 | 32.5 |     | 32.5 | 32.5 |     | 17.5 | 17.5 |     | 17.2 | 17.5 |     |
| Actuated g/C Ratio      | 0.54 | 0.54 |     | 0.54 | 0.54 |     | 0.29 | 0.29 |     | 0.29 | 0.29 |     |
| v/c Ratio               | 0.07 | 0.54 |     | 0.47 | 0.43 |     | 0.77 | 0.37 |     | 0.33 | 0.51 |     |
| Control Delay           | 13.3 | 19.0 |     | 18.8 | 9.7  |     | 38.5 | 18.5 |     | 18.8 | 20.8 |     |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     |
| Total Delay             | 13.3 | 19.0 |     | 18.8 | 9.7  |     | 38.5 | 18.5 |     | 18.8 | 20.8 |     |
| LOS                     | B    | B    |     | B    | A    |     | D    | B    |     | B    | C    |     |
| Approach Delay          |      | 18.9 |     |      | 10.8 |     |      | 29.4 |     |      | 20.2 |     |
| Approach LOS            |      | B    |     |      | B    |     |      | C    |     |      | C    |     |
| Queue Length 50th (ft)  | 9    | 253  |     | 23   | 86   |     | 70   | 51   |     | 31   | 74   |     |
| Queue Length 95th (ft)  | m26  | 437  |     | #77  | 130  |     | #161 | 94   |     | 66   | 129  |     |
| Internal Link Dist (ft) |      | 1841 |     |      | 1886 |     |      | 1075 |     |      | 1130 |     |
| Turn Bay Length (ft)    | 400  |      |     | 205  |      |     | 245  |      |     | 225  |      |     |
| Base Capacity (vph)     | 324  | 1876 |     | 229  | 1871 |     | 331  | 567  |     | 396  | 584  |     |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     |
| Reduced v/c Ratio       | 0.07 | 0.53 |     | 0.47 | 0.42 |     | 0.67 | 0.33 |     | 0.29 | 0.44 |     |

Intersection Summary

Area Type: Other  
 Cycle Length: 60  
 Actuated Cycle Length: 60  
 Offset: 0 (0%), Referenced to phase 4:WBTL and 8:EBTL, Start of Green  
 Natural Cycle: 45  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 17.9 Intersection LOS: B  
 Intersection Capacity Utilization 72.6% ICU Level of Service C  
 Analysis Period (min) 15  
 # 95th percentile volume exceeds capacity, queue may be longer.  
 Queue shown is maximum after two cycles.  
 m Volume for 95th percentile queue is metered by upstream signal.

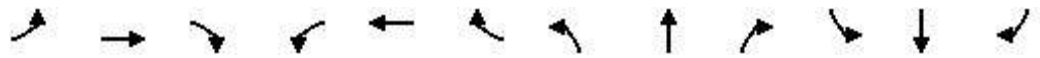
Splits and Phases: 13: Downs Road & Westinghouse Boulevard



Miller Farm TIA

14: Nations Ford Road & Westinghouse Boulevard

12/21/2021



| Lane Group                 | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)       | 161   | 825   | 119   | 66    | 912   | 14    | 182   | 83    | 53    | 34    | 85    | 337   |
| Future Volume (vph)        | 161   | 825   | 119   | 66    | 912   | 14    | 182   | 83    | 53    | 34    | 85    | 337   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Grade (%)                  |       | -1%   |       |       | 1%    |       |       | 1%    |       |       | 3%    |       |
| Storage Length (ft)        | 400   |       | 0     | 750   |       | 0     | 190   |       | 0     | 200   |       | 275   |
| Storage Lanes              | 1     |       | 0     | 1     |       | 0     | 1     |       | 0     | 1     |       | 1     |
| Taper Length (ft)          | 25    |       |       | 25    |       |       | 25    |       |       | 25    |       |       |
| Lane Util. Factor          | 1.00  | 0.95  | 0.95  | 1.00  | 0.95  | 0.95  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        |       | 0.981 |       |       | 0.998 |       |       | 0.941 |       |       |       | 0.850 |
| Flt Protected              | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       | 0.950 |       |       |
| Satd. Flow (prot)          | 1778  | 3489  | 0     | 1761  | 3514  | 0     | 1761  | 1744  | 0     | 1743  | 1835  | 1560  |
| Flt Permitted              | 0.950 |       |       | 0.950 |       |       | 0.688 |       |       | 0.559 |       |       |
| Satd. Flow (perm)          | 1778  | 3489  | 0     | 1761  | 3514  | 0     | 1275  | 1744  | 0     | 1026  | 1835  | 1560  |
| Right Turn on Red          |       |       | No    |       |       | No    |       |       | No    |       |       | No    |
| Satd. Flow (RTOR)          |       |       |       |       |       |       |       |       |       |       |       |       |
| Link Speed (mph)           |       | 45    |       |       | 45    |       |       | 35    |       |       | 35    |       |
| Link Distance (ft)         |       | 1288  |       |       | 1921  |       |       | 1835  |       |       | 1144  |       |
| Travel Time (s)            |       | 19.5  |       |       | 29.1  |       |       | 35.7  |       |       | 22.3  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 179   | 917   | 132   | 73    | 1013  | 16    | 202   | 92    | 59    | 38    | 94    | 374   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 179   | 1049  | 0     | 73    | 1029  | 0     | 202   | 151   | 0     | 38    | 94    | 374   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right | Left  | Left  | Right |
| Median Width(ft)           |       | 12    |       |       | 12    |       |       | 12    |       |       | 12    |       |
| Link Offset(ft)            |       | 0     |       |       | 0     |       |       | 0     |       |       | 0     |       |
| Crosswalk Width(ft)        |       | 16    |       |       | 16    |       |       | 16    |       |       | 16    |       |
| Two way Left Turn Lane     |       |       |       |       |       |       |       |       |       |       |       |       |
| Headway Factor             | 0.99  | 0.99  | 0.99  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.01  | 1.02  | 1.02  | 1.02  |
| Turning Speed (mph)        | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     | 15    |       | 9     |
| Turn Type                  | Prot  | NA    |       | Prot  | NA    |       | Perm  | NA    |       | Perm  | NA    | pm+ov |
| Protected Phases           | 3     | 8     |       | 7     | 4     |       |       | 2     |       |       | 6     | 3     |
| Permitted Phases           |       |       |       |       |       |       | 2     |       |       | 6     |       | 6     |
| Detector Phase             | 3     | 8     |       | 7     | 4     |       | 2     | 2     |       | 6     | 6     | 3     |
| Switch Phase               |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)        | 7.0   | 7.0   |       | 7.0   | 7.0   |       | 12.0  | 12.0  |       | 12.0  | 12.0  | 7.0   |
| Minimum Split (s)          | 14.0  | 19.0  |       | 14.0  | 19.0  |       | 17.4  | 17.4  |       | 17.3  | 17.3  | 14.0  |
| Total Split (s)            | 27.0  | 67.0  |       | 15.0  | 55.0  |       | 38.0  | 38.0  |       | 38.0  | 38.0  | 27.0  |
| Total Split (%)            | 22.5% | 55.8% |       | 12.5% | 45.8% |       | 31.7% | 31.7% |       | 31.7% | 31.7% | 22.5% |
| Maximum Green (s)          | 20.0  | 61.5  |       | 8.0   | 49.5  |       | 32.6  | 32.6  |       | 32.7  | 32.7  | 20.0  |
| Yellow Time (s)            | 5.0   | 4.5   |       | 5.0   | 4.4   |       | 3.7   | 3.7   |       | 3.6   | 3.6   | 5.0   |
| All-Red Time (s)           | 2.0   | 1.0   |       | 2.0   | 1.1   |       | 1.7   | 1.7   |       | 1.7   | 1.7   | 2.0   |
| Lost Time Adjust (s)       | -2.0  | -0.5  |       | -2.0  | -0.5  |       | -0.4  | -0.4  |       | -0.3  | -0.3  | -2.0  |
| Total Lost Time (s)        | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| Lead/Lag                   | Lag   | Lag   |       | Lead  | Lead  |       |       |       |       |       |       | Lag   |
| Lead-Lag Optimize?         | Yes   | Yes   |       | Yes   | Yes   |       |       |       |       |       |       | Yes   |
| Vehicle Extension (s)      | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   |       | 3.0   | 3.0   | 3.0   |
| Recall Mode                | None  | C-Min |       | None  | C-Min |       | None  | None  |       | None  | None  | None  |

Miller Farm TIA  
 14: Nations Ford Road & Westinghouse Boulevard

12/21/2021

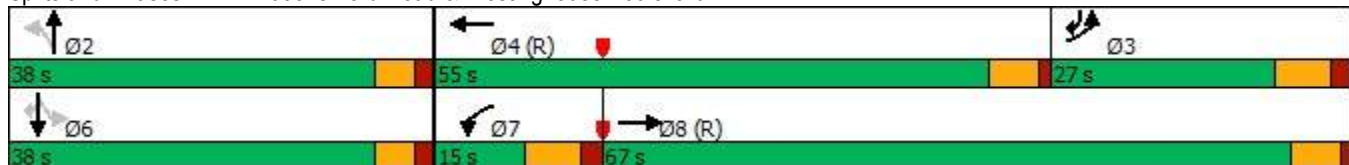


| Lane Group              | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR  |
|-------------------------|------|------|-----|------|------|-----|------|------|-----|------|------|------|
| Act Effect Green (s)    | 25.3 | 72.2 |     | 11.2 | 55.3 |     | 24.4 | 24.4 |     | 24.4 | 24.4 | 54.7 |
| Actuated g/C Ratio      | 0.21 | 0.60 |     | 0.09 | 0.46 |     | 0.20 | 0.20 |     | 0.20 | 0.20 | 0.46 |
| v/c Ratio               | 0.48 | 0.50 |     | 0.45 | 0.64 |     | 0.78 | 0.43 |     | 0.18 | 0.25 | 0.53 |
| Control Delay           | 46.4 | 16.6 |     | 56.4 | 32.7 |     | 64.7 | 44.0 |     | 38.7 | 39.8 | 25.5 |
| Queue Delay             | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  |     | 0.0  | 0.0  | 0.0  |
| Total Delay             | 46.4 | 16.6 |     | 56.4 | 32.7 |     | 64.7 | 44.0 |     | 38.7 | 39.8 | 25.5 |
| LOS                     | D    | B    |     | E    | C    |     | E    | D    |     | D    | D    | C    |
| Approach Delay          |      | 21.0 |     |      | 34.3 |     |      | 55.9 |     |      | 29.1 |      |
| Approach LOS            |      | C    |     |      | C    |     |      | E    |     |      | C    |      |
| Queue Length 50th (ft)  | 119  | 252  |     | 54   | 378  |     | 149  | 103  |     | 25   | 62   | 192  |
| Queue Length 95th (ft)  | 203  | 351  |     | m103 | 416  |     | 218  | 154  |     | 52   | 101  | 270  |
| Internal Link Dist (ft) |      | 1208 |     |      | 1841 |     |      | 1755 |     |      | 1064 |      |
| Turn Bay Length (ft)    | 400  |      |     | 750  |      |     | 190  |      |     | 200  |      | 275  |
| Base Capacity (vph)     | 375  | 2100 |     | 166  | 1633 |     | 350  | 479  |     | 282  | 504  | 698  |
| Starvation Cap Reductn  | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Spillback Cap Reductn   | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Storage Cap Reductn     | 0    | 0    |     | 0    | 0    |     | 0    | 0    |     | 0    | 0    | 0    |
| Reduced v/c Ratio       | 0.48 | 0.50 |     | 0.44 | 0.63 |     | 0.58 | 0.32 |     | 0.13 | 0.19 | 0.54 |

Intersection Summary

Area Type: Other  
 Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 0 (0%), Referenced to phase 4:WBT and 8:EBT, Start of Green  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.78  
 Intersection Signal Delay: 30.7      Intersection LOS: C  
 Intersection Capacity Utilization 71.3%      ICU Level of Service C  
 Analysis Period (min) 15  
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Nations Ford Road & Westinghouse Boulevard







| Lane Group                 | WBL   | WBR   | NBT   | NBR   | SBL   | SBT   |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations        |       |       |       |       |       |       |
| Traffic Volume (vph)       | 6     | 26    | 134   | 8     | 45    | 284   |
| Future Volume (vph)        | 6     | 26    | 134   | 8     | 45    | 284   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900  | 1900  | 1900  | 1900  |
| Storage Length (ft)        | 0     | 0     |       | 0     | 100   |       |
| Storage Lanes              | 1     | 0     |       | 0     | 1     |       |
| Taper Length (ft)          | 25    |       |       |       | 25    |       |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.891 |       | 0.992 |       |       |       |
| Flt Protected              | 0.990 |       |       |       | 0.950 |       |
| Satd. Flow (prot)          | 1643  | 0     | 1848  | 0     | 1770  | 1863  |
| Flt Permitted              | 0.990 |       |       |       | 0.950 |       |
| Satd. Flow (perm)          | 1643  | 0     | 1848  | 0     | 1770  | 1863  |
| Link Speed (mph)           | 25    |       | 35    |       |       | 35    |
| Link Distance (ft)         | 1017  |       | 1017  |       |       | 5372  |
| Travel Time (s)            | 27.7  |       | 19.8  |       |       | 104.6 |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 7     | 29    | 149   | 9     | 50    | 316   |
| Shared Lane Traffic (%)    |       |       |       |       |       |       |
| Lane Group Flow (vph)      | 36    | 0     | 158   | 0     | 50    | 316   |
| Enter Blocked Intersection | No    | No    | No    | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left  | Right | Left  | Left  |
| Median Width(ft)           | 12    |       | 12    |       |       | 12    |
| Link Offset(ft)            | 0     |       | 0     |       |       | 0     |
| Crosswalk Width(ft)        | 16    |       | 16    |       |       | 16    |
| Two way Left Turn Lane     |       |       |       |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     |       | 9     | 15    |       |
| Sign Control               | Stop  |       | Free  |       |       | Free  |

**Intersection Summary**

|                                   |              |
|-----------------------------------|--------------|
| Area Type:                        | Other        |
| Control Type:                     | Unsignalized |
| Intersection Capacity Utilization | 24.9%        |
| ICU Level of Service              | A            |
| Analysis Period (min)             | 15           |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1.3  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 6    | 26   | 134  | 8    | 45   | 284  |
| Future Vol, veh/h        | 6    | 26   | 134  | 8    | 45   | 284  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | 100  | -    |
| Veh in Median Storage, # | 0    | -    | 0    | -    | -    | 0    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 7    | 29   | 149  | 9    | 50   | 316  |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 570    | 154    | 0      | 0 | 158   |
| Stage 1              | 154    | -      | -      | - | -     |
| Stage 2              | 416    | -      | -      | - | -     |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 |
| Pot Cap-1 Maneuver   | 483    | 892    | -      | - | 1422  |
| Stage 1              | 874    | -      | -      | - | -     |
| Stage 2              | 666    | -      | -      | - | -     |
| Platoon blocked, %   |        |        | -      | - | -     |
| Mov Cap-1 Maneuver   | 466    | 892    | -      | - | 1422  |
| Mov Cap-2 Maneuver   | 466    | -      | -      | - | -     |
| Stage 1              | 874    | -      | -      | - | -     |
| Stage 2              | 643    | -      | -      | - | -     |

| Approach             | WB | NB | SB |
|----------------------|----|----|----|
| HCM Control Delay, s | 10 | 0  | 1  |
| HCM LOS              | B  |    |    |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h)      | -   | -        | 761   | 1422  |
| HCM Lane V/C Ratio    | -   | -        | 0.047 | 0.035 |
| HCM Control Delay (s) | -   | -        | 10    | 7.6   |
| HCM Lane LOS          | -   | -        | B     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.1   | 0.1   |

Miller Farm TIA  
 550: Flint Hill Road & Springhill Farm Road

12/21/2021



| Lane Group                 | EBL   | EBR   | NBL  | NBT   | SBT   | SBR   |
|----------------------------|-------|-------|------|-------|-------|-------|
| Lane Configurations        |       |       |      |       |       |       |
| Traffic Volume (vph)       | 540   | 4     | 4    | 4     | 4     | 468   |
| Future Volume (vph)        | 540   | 4     | 4    | 4     | 4     | 468   |
| Ideal Flow (vphpl)         | 1900  | 1900  | 1900 | 1900  | 1900  | 1900  |
| Lane Util. Factor          | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Frt                        | 0.999 |       |      |       | 0.866 |       |
| Flt Protected              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (prot)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Flt Permitted              | 0.953 |       |      | 0.976 |       |       |
| Satd. Flow (perm)          | 1773  | 0     | 0    | 1818  | 1613  | 0     |
| Link Speed (mph)           | 40    |       |      | 45    | 40    |       |
| Link Distance (ft)         | 691   |       |      | 657   | 1957  |       |
| Travel Time (s)            | 11.8  |       |      | 10.0  | 33.4  |       |
| Peak Hour Factor           | 0.90  | 0.90  | 0.90 | 0.90  | 0.90  | 0.90  |
| Adj. Flow (vph)            | 600   | 4     | 4    | 4     | 4     | 520   |
| Shared Lane Traffic (%)    |       |       |      |       |       |       |
| Lane Group Flow (vph)      | 604   | 0     | 0    | 8     | 524   | 0     |
| Enter Blocked Intersection | No    | No    | No   | No    | No    | No    |
| Lane Alignment             | Left  | Right | Left | Left  | Left  | Right |
| Median Width(ft)           | 36    |       |      | 0     | 0     |       |
| Link Offset(ft)            | 0     |       |      | 0     | 0     |       |
| Crosswalk Width(ft)        | 16    |       |      | 16    | 16    |       |
| Two way Left Turn Lane     |       |       |      |       |       |       |
| Headway Factor             | 1.00  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  |
| Turning Speed (mph)        | 15    | 9     | 15   |       |       | 9     |
| Sign Control               | Stop  |       |      | Free  | Free  |       |

Intersection Summary

|                                   |                        |
|-----------------------------------|------------------------|
| Area Type:                        | Other                  |
| Control Type:                     | Unsignalized           |
| Intersection Capacity Utilization | 66.0%                  |
| Analysis Period (min)             | 15                     |
|                                   | ICU Level of Service C |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 16.9 |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 540  | 4    | 4    | 4    | 4    | 468  |
| Future Vol, veh/h        | 540  | 4    | 4    | 4    | 4    | 468  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | -    | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 90   | 90   | 90   | 90   | 90   | 90   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 600  | 4    | 4    | 4    | 4    | 520  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 276    | 264    | 524    | 0 | - | 0 |
| Stage 1              | 264    | -      | -      | - | - | - |
| Stage 2              | 12     | -      | -      | - | - | - |
| Critical Hdwy        | 6.42   | 6.22   | 4.12   | - | - | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | - | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | - | - |
| Follow-up Hdwy       | 3.518  | 3.318  | 2.218  | - | - | - |
| Pot Cap-1 Maneuver   | 714    | 775    | 1043   | - | - | - |
| Stage 1              | 780    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | 711    | 775    | 1043   | - | - | - |
| Mov Cap-2 Maneuver   | 711    | -      | -      | - | - | - |
| Stage 1              | 777    | -      | -      | - | - | - |
| Stage 2              | 1011   | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 31.8 | 4.2 | 0  |
| HCM LOS              | D    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 1043  | -   | 711   | -   | -   |
| HCM Lane V/C Ratio    | 0.004 | -   | 0.85  | -   | -   |
| HCM Control Delay (s) | 8.5   | 0   | 31.8  | -   | -   |
| HCM Lane LOS          | A     | A   | D     | -   | -   |
| HCM 95th %tile Q(veh) | 0     | -   | 9.8   | -   | -   |

Intersection: 5: Flint Hill Road & SC-51

| Movement              | EB  | EB   | EB   | WB  | WB  | WB  | WB  | NB  | NB  | SB  | SB  | SB  |
|-----------------------|-----|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Directions Served     | L   | T    | TR   | L   | T   | T   | R   | L   | TR  | L   | L   | TR  |
| Maximum Queue (ft)    | 53  | 137  | 112  | 198 | 99  | 110 | 246 | 27  | 185 | 175 | 171 | 97  |
| Average Queue (ft)    | 13  | 77   | 47   | 95  | 35  | 54  | 117 | 3   | 89  | 93  | 96  | 26  |
| 95th Queue (ft)       | 40  | 124  | 92   | 164 | 77  | 93  | 201 | 16  | 157 | 149 | 150 | 66  |
| Link Distance (ft)    |     | 1904 | 1904 |     | 746 | 746 |     |     | 932 |     |     | 586 |
| Upstream Blk Time (%) |     |      |      |     |     |     |     |     |     |     |     |     |
| Queuing Penalty (veh) |     |      |      |     |     |     |     |     |     |     |     |     |
| Storage Bay Dist (ft) | 200 |      |      | 200 |     |     | 350 | 150 |     | 250 | 250 |     |
| Storage Blk Time (%)  |     |      |      | 0   | 0   |     |     |     | 2   |     | 0   |     |
| Queuing Penalty (veh) |     |      |      | 0   | 0   |     |     |     | 0   |     | 0   |     |

Intersection: 6: Business Driveway & SC-51

| Movement              | EB  | EB  | WB  | WB  | NB  |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served     | T   | TR  | LT  | T   | LR  |
| Maximum Queue (ft)    | 15  | 2   | 90  | 9   | 59  |
| Average Queue (ft)    | 1   | 0   | 19  | 0   | 22  |
| 95th Queue (ft)       | 10  | 2   | 61  | 9   | 51  |
| Link Distance (ft)    | 746 | 746 | 105 | 105 | 996 |
| Upstream Blk Time (%) | 0   |     |     |     |     |
| Queuing Penalty (veh) | 1   |     |     |     |     |
| Storage Bay Dist (ft) |     |     |     |     |     |
| Storage Blk Time (%)  |     |     |     |     |     |
| Queuing Penalty (veh) |     |     |     |     |     |

Intersection: 7: Business Driveway/Andrew L Tucker Road & SC-51

| Movement              | EB  | WB   | WB   | NB   | SB  |
|-----------------------|-----|------|------|------|-----|
| Directions Served     | L   | LT   | TR   | LTR  | LTR |
| Maximum Queue (ft)    | 85  | 45   | 22   | 62   | 354 |
| Average Queue (ft)    | 33  | 4    | 1    | 17   | 147 |
| 95th Queue (ft)       | 67  | 23   | 10   | 46   | 298 |
| Link Distance (ft)    | 105 | 1290 | 1290 | 1037 | 925 |
| Upstream Blk Time (%) | 0   |      |      |      |     |
| Queuing Penalty (veh) | 0   |      |      |      |     |
| Storage Bay Dist (ft) |     |      |      |      |     |
| Storage Blk Time (%)  |     |      |      |      |     |
| Queuing Penalty (veh) |     |      |      |      |     |

Intersection: 9: Miller Road/Site Driveway 2 & NC-51

| Movement              | EB   | EB  | EB | WB  | WB   | NB   | NB  | SB  |
|-----------------------|------|-----|----|-----|------|------|-----|-----|
| Directions Served     | L    | T   | R  | L   | TR   | LT   | R   | LTR |
| Maximum Queue (ft)    | 33   | 2   | 10 | 66  | 9    | 71   | 48  | 62  |
| Average Queue (ft)    | 7    | 0   | 0  | 22  | 0    | 22   | 17  | 23  |
| 95th Queue (ft)       | 24   | 1   | 5  | 51  | 6    | 53   | 38  | 49  |
| Link Distance (ft)    | 1290 |     |    |     | 1846 | 1025 | 947 |     |
| Upstream Blk Time (%) |      |     |    |     |      |      |     |     |
| Queuing Penalty (veh) |      |     |    |     |      |      |     |     |
| Storage Bay Dist (ft) | 100  | 370 |    | 335 | 185  |      |     |     |
| Storage Blk Time (%)  |      |     |    |     |      |      |     |     |
| Queuing Penalty (veh) |      |     |    |     |      |      |     |     |

Intersection: 10: Marfield Lane/Site Driveway 1 & NC-51

| Movement              | EB   | EB  | EB | WB  | WB   | NB   | NB | SB  |
|-----------------------|------|-----|----|-----|------|------|----|-----|
| Directions Served     | L    | T   | R  | L   | TR   | LT   | R  | LTR |
| Maximum Queue (ft)    | 29   | 2   | 4  | 76  | 6    | 79   | 68 | 79  |
| Average Queue (ft)    | 5    | 0   | 0  | 26  | 0    | 27   | 27 | 29  |
| 95th Queue (ft)       | 20   | 2   | 3  | 57  | 4    | 63   | 55 | 66  |
| Link Distance (ft)    | 1846 |     |    |     | 1829 | 1311 |    | 957 |
| Upstream Blk Time (%) |      |     |    |     |      |      |    |     |
| Queuing Penalty (veh) |      |     |    |     |      |      |    |     |
| Storage Bay Dist (ft) | 100  | 310 |    | 520 | 100  |      |    |     |
| Storage Blk Time (%)  |      |     |    |     |      | 1    | 0  |     |
| Queuing Penalty (veh) |      |     |    |     |      | 1    | 0  |     |

Intersection: 11: NC-51 & Downs Road

| Movement              | EB   | EB  | EB   | WB   | WB  | WB   | SB  | SB  |
|-----------------------|------|-----|------|------|-----|------|-----|-----|
| Directions Served     | L    | T   | T    | U    | T   | T    | L   | R   |
| Maximum Queue (ft)    | 114  | 145 | 148  | 29   | 236 | 239  | 233 | 158 |
| Average Queue (ft)    | 49   | 66  | 70   | 3    | 109 | 109  | 132 | 68  |
| 95th Queue (ft)       | 95   | 126 | 122  | 17   | 200 | 203  | 207 | 128 |
| Link Distance (ft)    | 1829 |     | 1829 | 1076 |     | 1076 | 545 |     |
| Upstream Blk Time (%) |      |     |      |      |     |      |     |     |
| Queuing Penalty (veh) |      |     |      |      |     |      |     |     |
| Storage Bay Dist (ft) | 310  | 210 |      |      | 275 |      |     |     |
| Storage Blk Time (%)  |      |     |      |      | 0   | 0    | 0   | 0   |
| Queuing Penalty (veh) |      |     |      |      | 0   | 0    | 0   | 0   |

Queuing and Blocking Report  
 2025 Build PM Peak Hour

12/08/2021

Intersection: 12: Polk Street & NC-51

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | WB  | NB  | NB  | NB  | SB   | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|-----|-----|-----|------|------|
| Directions Served     | L   | T    | TR   | L   | T    | T    | R   | L   | L   | TR  | L    | T    |
| Maximum Queue (ft)    | 410 | 744  | 759  | 167 | 290  | 273  | 186 | 222 | 524 | 766 | 816  | 779  |
| Average Queue (ft)    | 190 | 462  | 486  | 78  | 185  | 169  | 75  | 115 | 277 | 502 | 494  | 419  |
| 95th Queue (ft)       | 427 | 745  | 759  | 144 | 264  | 252  | 145 | 224 | 581 | 915 | 889  | 807  |
| Link Distance (ft)    |     | 1432 | 1432 |     | 1229 | 1229 |     |     |     | 970 | 1099 | 1099 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |     |     | 7   | 2    | 2    |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |     |     | 0   | 0    | 0    |
| Storage Bay Dist (ft) | 310 |      |      | 275 |      |      | 625 | 450 | 450 |     |      |      |
| Storage Blk Time (%)  |     | 27   |      |     | 0    |      |     |     |     | 28  |      | 35   |
| Queuing Penalty (veh) |     | 32   |      |     | 0    |      |     |     |     | 55  |      | 58   |

Intersection: 12: Polk Street & NC-51

| Movement              | SB  |
|-----------------------|-----|
| Directions Served     | R   |
| Maximum Queue (ft)    | 275 |
| Average Queue (ft)    | 148 |
| 95th Queue (ft)       | 337 |
| Link Distance (ft)    |     |
| Upstream Blk Time (%) |     |
| Queuing Penalty (veh) |     |
| Storage Bay Dist (ft) | 175 |
| Storage Blk Time (%)  | 0   |
| Queuing Penalty (veh) | 1   |

Intersection: 13: Downs Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | TR   |
| Maximum Queue (ft)    | 50  | 209  | 247  | 119 | 142  | 143  | 213 | 174  | 106 | 184  |
| Average Queue (ft)    | 11  | 99   | 134  | 56  | 73   | 63   | 95  | 69   | 44  | 85   |
| 95th Queue (ft)       | 34  | 186  | 229  | 104 | 118  | 114  | 174 | 132  | 87  | 148  |
| Link Distance (ft)    |     | 1821 | 1821 |     | 1923 | 1923 |     | 1074 |     | 1147 |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |
| Storage Bay Dist (ft) | 400 |      |      | 205 |      |      | 245 |      | 225 |      |
| Storage Blk Time (%)  |     |      |      |     |      |      | 1   | 0    |     | 0    |
| Queuing Penalty (veh) |     |      |      |     |      |      | 1   | 0    |     | 0    |

Intersection: 14: Nations Ford Road & Westinghouse Boulevard

| Movement              | EB  | EB   | EB   | WB  | WB   | WB   | NB  | NB   | SB  | SB   | SB  |
|-----------------------|-----|------|------|-----|------|------|-----|------|-----|------|-----|
| Directions Served     | L   | T    | TR   | L   | T    | TR   | L   | TR   | L   | T    | R   |
| Maximum Queue (ft)    | 200 | 284  | 286  | 124 | 363  | 374  | 251 | 231  | 76  | 134  | 265 |
| Average Queue (ft)    | 94  | 143  | 155  | 52  | 217  | 233  | 139 | 96   | 26  | 50   | 118 |
| 95th Queue (ft)       | 170 | 248  | 266  | 102 | 320  | 338  | 220 | 189  | 62  | 108  | 220 |
| Link Distance (ft)    |     | 1249 | 1249 |     | 1821 | 1821 |     | 1757 |     | 1088 |     |
| Upstream Blk Time (%) |     |      |      |     |      |      |     |      |     |      |     |
| Queuing Penalty (veh) |     |      |      |     |      |      |     |      |     |      |     |
| Storage Bay Dist (ft) | 400 |      |      | 750 |      |      | 190 |      | 200 |      | 275 |
| Storage Blk Time (%)  |     |      |      |     |      |      | 4   | 0    |     |      | 0   |
| Queuing Penalty (veh) |     |      |      |     |      |      | 5   | 1    |     |      | 0   |

Intersection: 15: Andrew L Tucker Road/Nations Ford Road & Site Driveway 3

| Movement              | WB  | SB |
|-----------------------|-----|----|
| Directions Served     | LR  | L  |
| Maximum Queue (ft)    | 53  | 41 |
| Average Queue (ft)    | 20  | 6  |
| 95th Queue (ft)       | 45  | 28 |
| Link Distance (ft)    | 976 |    |
| Upstream Blk Time (%) |     |    |
| Queuing Penalty (veh) |     |    |
| Storage Bay Dist (ft) | 100 |    |
| Storage Blk Time (%)  |     |    |
| Queuing Penalty (veh) |     |    |

Intersection: 550: Flint Hill Road & Springhill Farm Road

| Movement              | EB  | NB  | SB   |
|-----------------------|-----|-----|------|
| Directions Served     | LR  | LT  | TR   |
| Maximum Queue (ft)    | 174 | 21  | 8    |
| Average Queue (ft)    | 67  | 2   | 0    |
| 95th Queue (ft)       | 126 | 12  | 4    |
| Link Distance (ft)    | 586 | 625 | 1902 |
| Upstream Blk Time (%) |     |     |      |
| Queuing Penalty (veh) |     |     |      |
| Storage Bay Dist (ft) |     |     |      |
| Storage Blk Time (%)  |     |     |      |
| Queuing Penalty (veh) |     |     |      |

Network Summary

Network wide Queuing Penalty: 157



## **Appendix G – NCDOT Nomographs**

AM Peak Hour

VL = 1

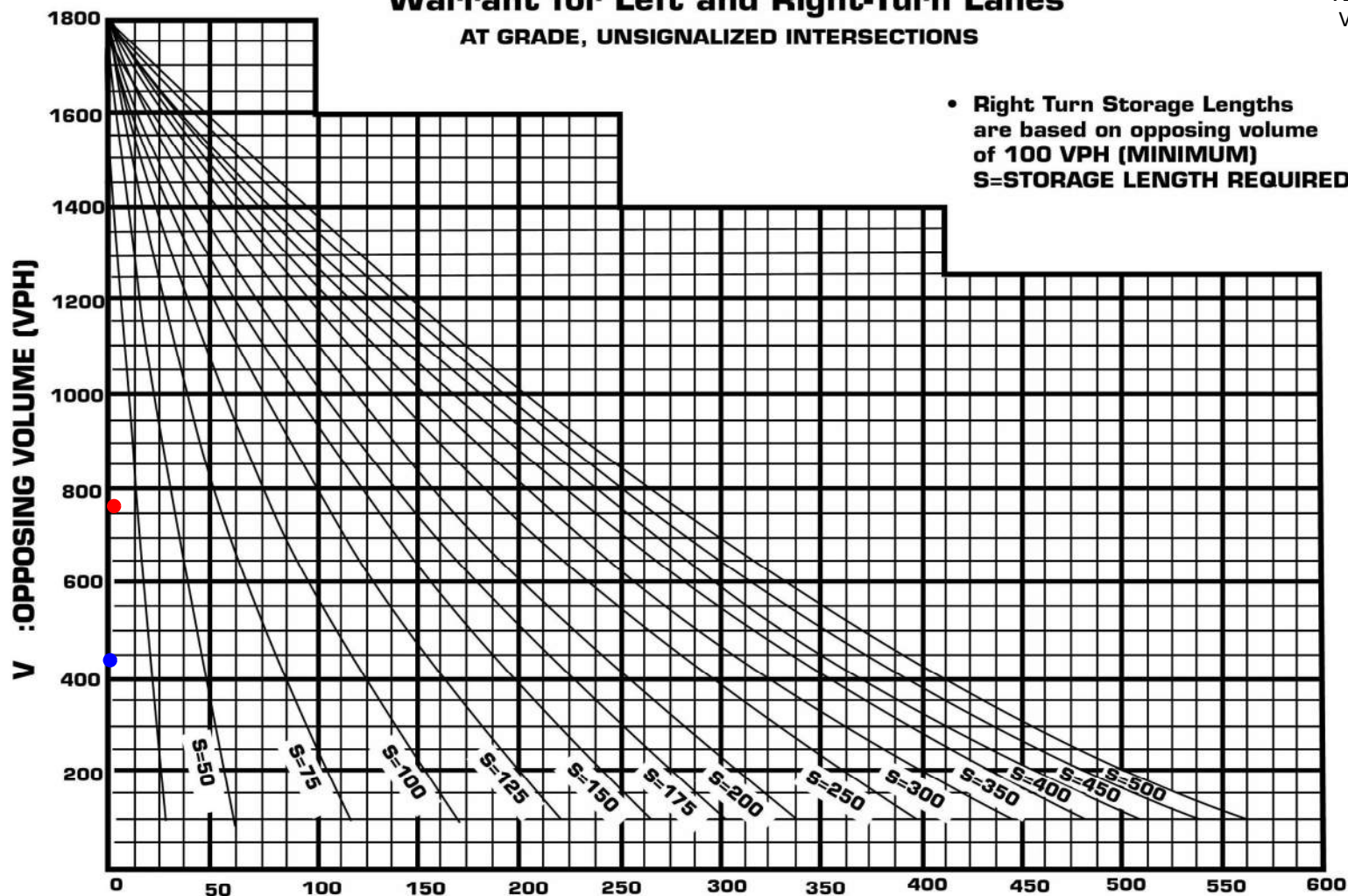
V = 440

PM Peak Hour

VL = 3

V = 767

### Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS



- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)
- S=STORAGE LENGTH REQUIRED

Policy On Street And Driveway Access to North Carolina Highways

V<sub>l</sub>: LEFT TURNING VOLUME (VPH)  
V<sub>r</sub>: RIGHT TURNING VOLUME (VPH)

Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

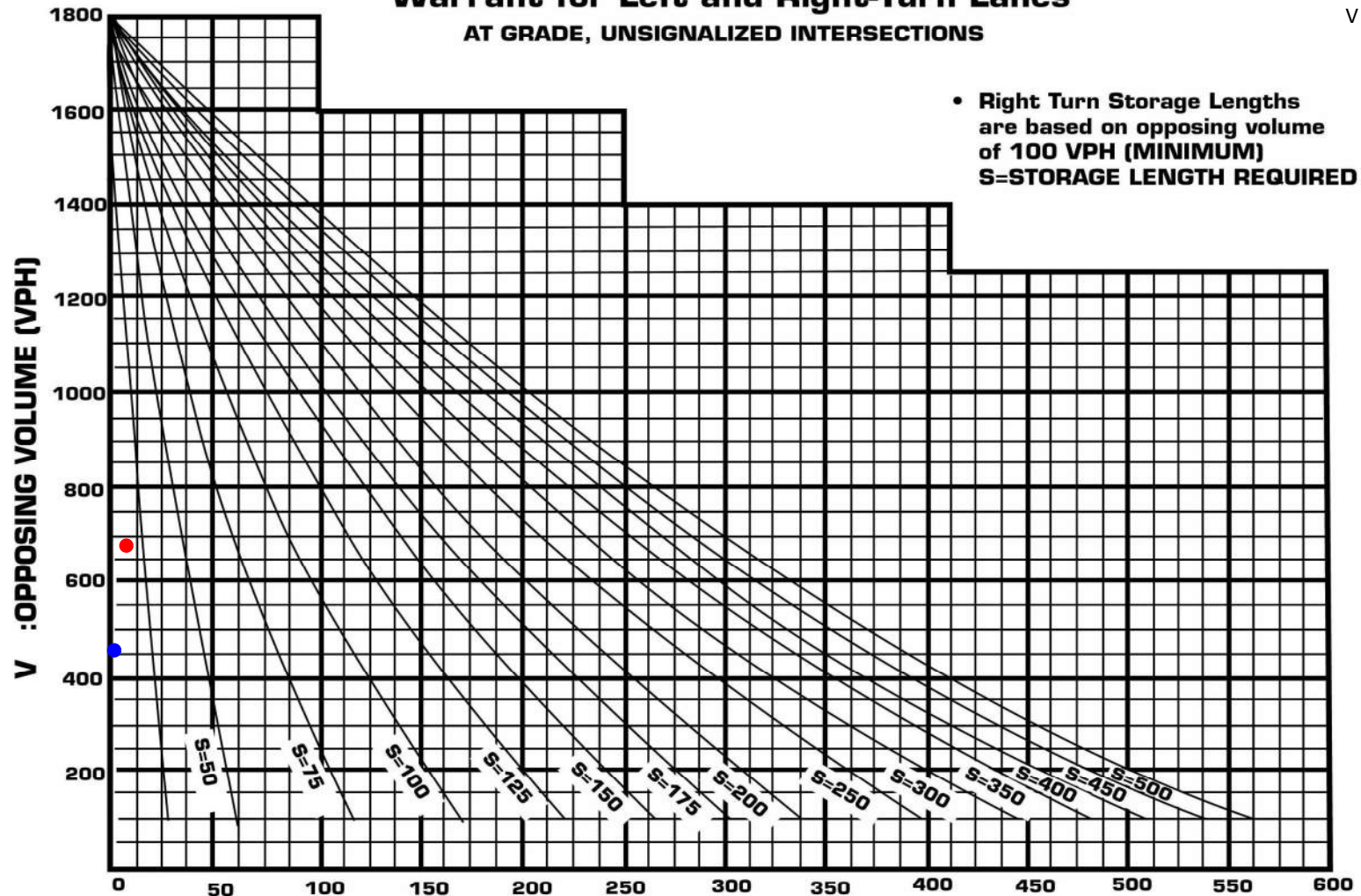
NC-51 / Site Driveway 1  
Eastbound Left-Turn  
2023 Build AM and PM Peak Hours

**LEGEND**

- = AM Peak
- = PM Peak

AM Peak Hour  
 VL = 2  
 V = 459  
 PM Peak Hour  
 VL = 8  
 V = 680

### Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS



• Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
 S=STORAGE LENGTH REQUIRED

Policy On Street And Driveway Access to North Carolina Highways

V<sub>l</sub>: LEFT TURNING VOLUME (VPH)  
 V<sub>r</sub>: RIGHT TURNING VOLUME (VPH)

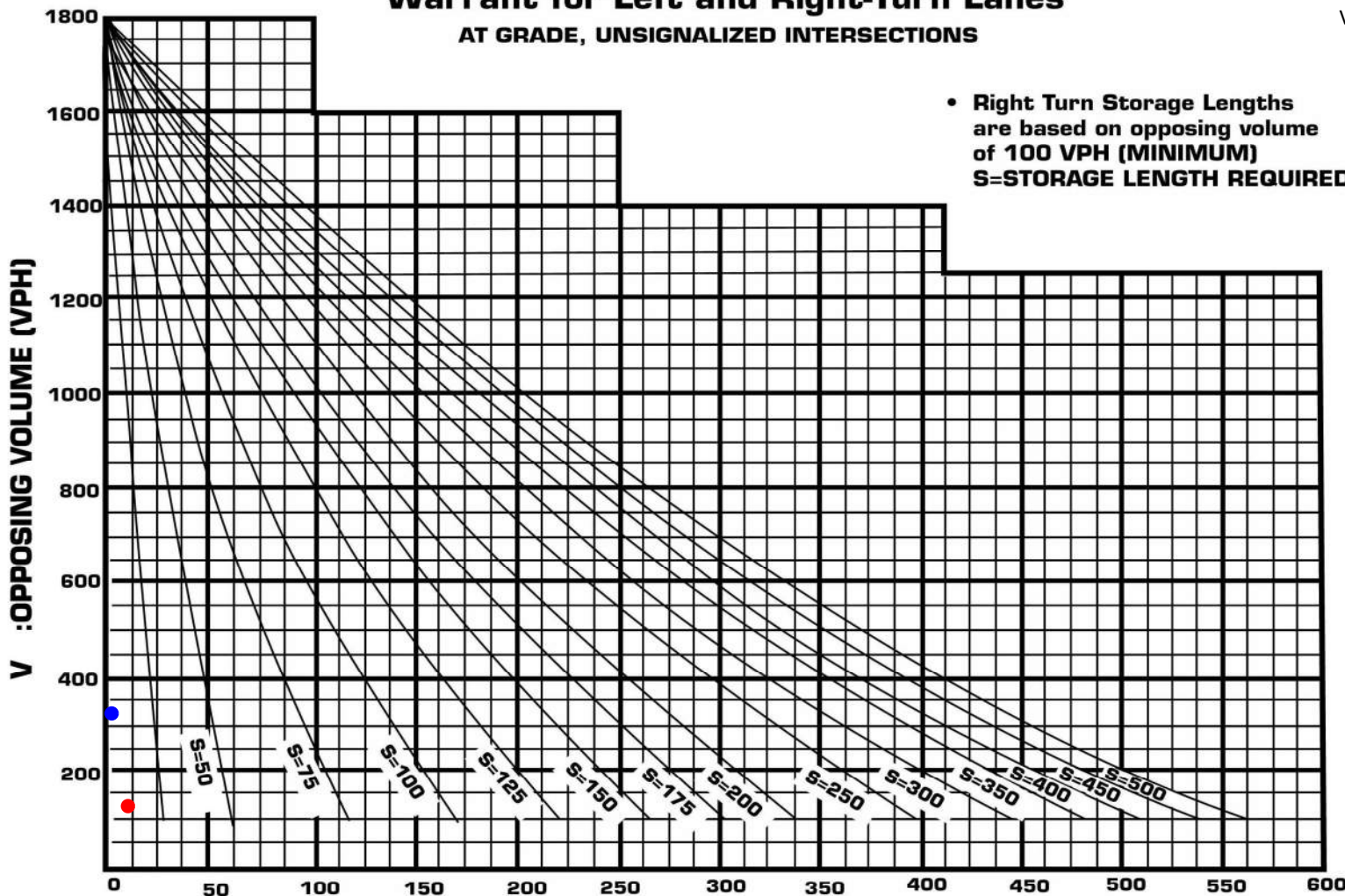
Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

NC-51 / Site Driveway 2  
 Eastbound Left-Turn  
 2023 Build AM and PM Peak Hours

**LEGEND**  
 ● = AM Peak  
 ● = PM Peak

AM Peak Hour  
 VL = 3  
 V = 327  
 PM Peak Hour  
 VL = 11  
 V = 131

### Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS



• Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
 S=STORAGE LENGTH REQUIRED

Policy On Street And Driveway Access to North Carolina Highways

$V_L$ : LEFT TURNING VOLUME (VPH)  
 $V_R$ : RIGHT TURNING VOLUME (VPH)

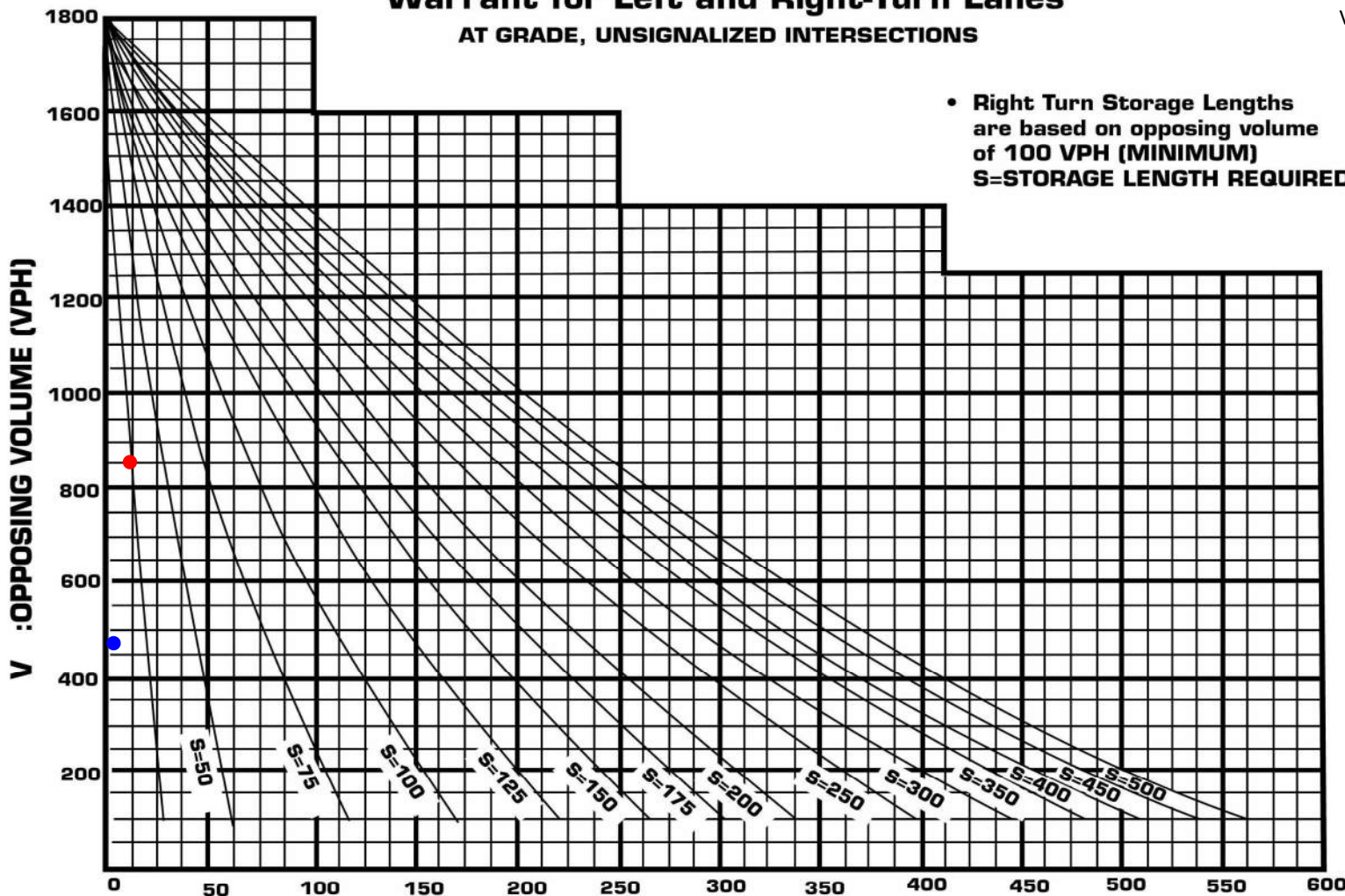
Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

Nations Ford Road / Site Driveway 3  
 Southbound Left-Turn  
 2023 Build AM and PM Peak Hours

**LEGEND**  
 ● = AM Peak  
 ● = PM Peak

AM Peak Hour  
 VL = 4  
 V = 475  
 PM Peak Hour  
 VL = 12  
 V = 858

### Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS



• Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
 S=STORAGE LENGTH REQUIRED

Policy On Street And Driveway Access to North Carolina Highways

$V_L$ : LEFT TURNING VOLUME (VPH)  
 $V_R$ : RIGHT TURNING VOLUME (VPH)

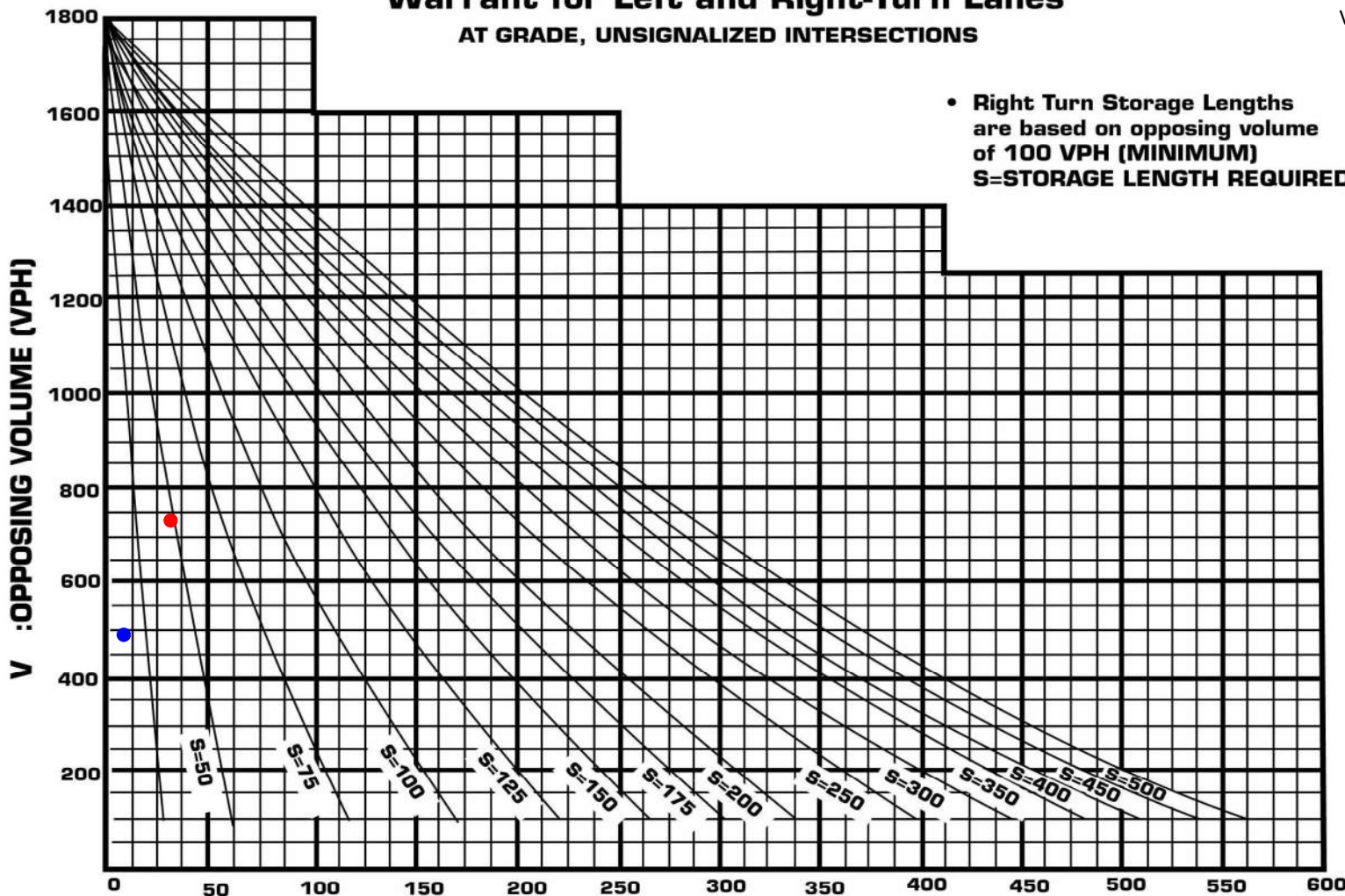
Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

NC-51 / Site Driveway 1  
 Eastbound Left-Turn  
 2025 Build AM and PM Peak Hours

**LEGEND**  
 ● = AM Peak  
 ● = PM Peak

AM Peak Hour  
 VL = 9  
 V = 493  
 PM Peak Hour  
 VL = 32  
 V = 735

### Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS



• Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
 S=STORAGE LENGTH REQUIRED

Policy On Street And Driveway Access to North Carolina Highways

$V_l$ : LEFT TURNING VOLUME (VPH)  
 $V_r$ : RIGHT TURNING VOLUME (VPH)

Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

NC-51 / Site Driveway 2  
 Eastbound Left-Turn  
 2025 Build AM and PM Peak Hours

**LEGEND**  
 ● = AM Peak  
 ● = PM Peak

AM Peak Hour

VL = 13

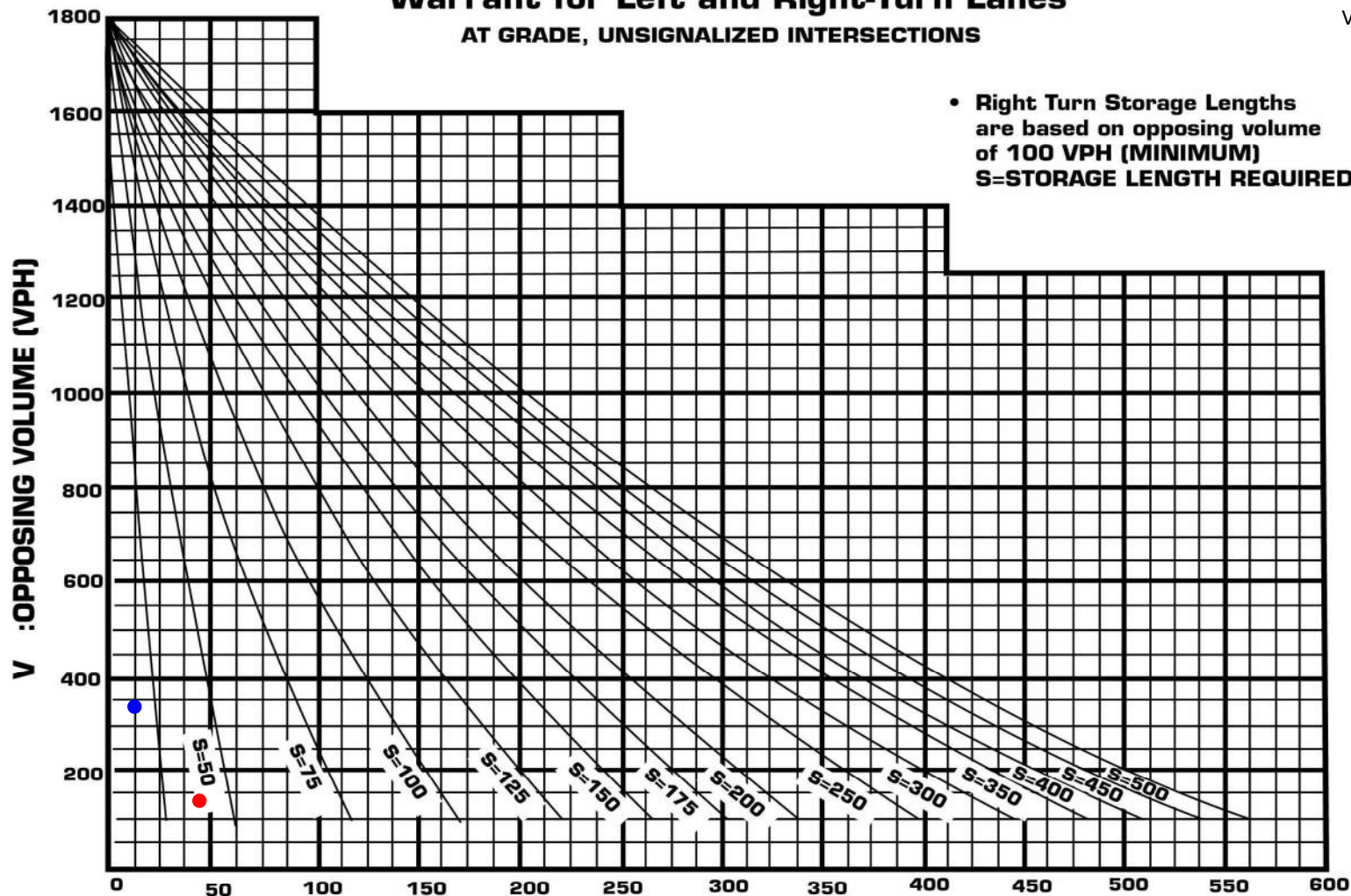
V = 341

PM Peak Hour

VL = 45

V = 142

### Warrant for Left and Right-Turn Lanes AT GRADE, UNSIGNALIZED INTERSECTIONS



- Right Turn Storage Lengths are based on opposing volume of 100 VPH (MINIMUM)  
S=STORAGE LENGTH REQUIRED

Policy On Street And Driveway Access to North Carolina Highways

V<sub>l</sub>: LEFT TURNING VOLUME (VPH)  
V<sub>r</sub>: RIGHT TURNING VOLUME (VPH)

Note: Where adjacent signalization may provide opportunities for gaps in the traffic stream a reduction in the above storage values can be considered on a case by case basis.

Nations Ford Road / Site Driveway 3  
Southbound Left-Turn  
2025 Build AM and PM Peak Hours

**LEGEND**

- = AM Peak
- = PM Peak