

October 2022

VOLUME 1

TRANSPORTATION IMPACT STUDY

for

**PENNMARK
PROPERTY**

in

**Mount Joy Township
Lancaster County, Pennsylvania**

Prepared for:

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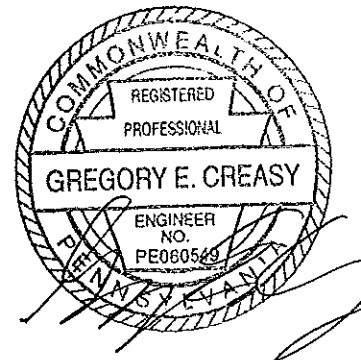


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EXECUTIVE SUMMARY

A retail development is proposed for a tract of land in Mount Joy Township, Lancaster County. The site is located north of and adjacent to SR 0230, east and west of Cloverleaf Road (SR 4025). The phased development will include the following land uses:

Phase 1

5,600 square-foot super convenience store
127,338 square feet of general retail space

Phase 2

293,800 additional square feet of general retail space

Phase 3 (west side of Cloverleaf Road)

84,610 square feet of general retail space

The proposed development is very large with over 3,000 feet of frontage along SR 0230 and frontage on both sides of SR 4025 for over 500 feet. Currently proposed access locations are as follows:

Phase 1 - Between SR 4025 and Norlanco Drive Extension

- 1) Signalized access onto SR 0230, 1,330 feet east of Cloverleaf Road, for Norlanco Drive extension
- 2) Right-in only driveway onto SR 4025 on north side of convenience store parcel
- 3) Left-In/Right-In/Right-Out Driveway onto SR 4025, 550 feet north of SR 0230 aligned opposite the Connector Road for the parcels west of Cloverleaf Road
- 4) Right-In Only Driveway onto SR 0230 located on the east side of the convenience store lot. This driveway would be located approximately 425 feet from the stop bar at the signalized intersection of SR 0230/Cloverleaf Road

Phase 2 - Between Norlanco Drive Extension and Ridge Run Road

- 1) Full access onto Ridge Run Road at east end of site
- 2) Connection to Norlanco Drive to access SR 4025 at existing signalized intersection

Phase 3 - West of SR 4025

- 1) Full access onto SR 0230 on east boundary for Connector Road to SR 4025
- 2) Left-In/Right-In/Right-Out access onto SR 4025 for Connector Road from SR 0230 aligned opposite the access for the parcels east of Cloverleaf Road

This Transportation Impact Study (TIS) was prepared for the following phased scenarios:

Phase 1 - 2024 Opening Year, 2029 Horizon Year

Phase 2 - 2026 Opening Year, 2031 Horizon Year

Phase 3 - 2028 Opening Year, 2033 Horizon Year

The following conclusions and recommendations are provided for the study area and the study area intersections:

SR 0230 and SR 0743 (Maytown Road)

■ Phases 1 and 2: No improvements are necessary to mitigate the impact of traffic from the proposed development.

■ Phase 3: Level of service deficiencies will occur at the intersection without or with traffic from the proposed development. Providing a 100-foot eastbound right turn lane on SR 0230 and a 150-foot northbound right turn lane on SR 0743 can provide adequate levels of service at the intersection. It is noted that these right turn lanes are identified as future intersection improvements in the Borough's Regional Transportation Improvements Plan.

SR 0230 and Groff Avenue

■ Phases 1-3: Level of service deficiencies exist at this intersection and will continue in the future traffic projections without or with traffic from the proposed development. Many of the residential developments that were included in the background traffic projections will contribute to traffic volumes at this intersection as well. Given that minor street (Groff Avenue) traffic volumes are not expected to reach warranting levels and the close proximity of the signalized intersection of SR 0230/SR 0743, traffic signal installation is not an improvement option at this intersection.

SR 0230 and Giant Plaza Driveway/Carey Lane

■ Phases 1-3: No improvements are necessary to mitigate the impact of traffic from the proposed development.

SR 0230 and Speedway Driveway/Market Square Driveway

■ Phases 1-3: No improvements are necessary to mitigate the impact of traffic from the proposed development.

SR 0230 and Sheaffer Road

■ Phases 1-3: No improvements are necessary to mitigate the impact of traffic from the proposed development.

SR 0230 and Cloverleaf Road/Colebrook Road

■ Phase 1: No improvements are necessary to mitigate the impact of traffic from the proposed development.

■ Phase 2: Minor traffic signal timing adjustments can mitigate impacts of the proposed development traffic.

■ Phase 3: The addition of second thru lanes eastbound and westbound on SR 230 are projected to be needed to provide adequate levels of service at the intersection. It is noted that the additional thru lanes on SR 0230 are identified as a future intersection improvement in the Mount Joy Township Capital Improvements Plan.

SR 0230 and Ridge Run Road

■ Phases 1-3: No improvements are necessary to mitigate the impact of traffic from the proposed development.

Colebrook Road and Harrisburg Avenue

■ Phase 1: Installation of traffic signal control is required to mitigate the impact of traffic from the proposed development. It is noted that traffic signal installation at this intersection is identified as a future intersection improvement in the Mount Joy Township Capital Improvements Plan.

■ Phases 2 & 3: The intersection is expected to operate at acceptable levels of service through the 2033 Horizon Year with traffic signal control.

Cloverleaf Road and Andrew Avenue/Norlanco Drive

■ Phase 1: No improvements are necessary to mitigate the impact of traffic from the proposed development.

■ Phase 2: Construction of a 150-foot northbound left turn lane and a 225-foot southbound left turn lane on Cloverleaf Road is necessary to mitigate impacts of the proposed development traffic. It is noted that these left turn lanes are identified as future intersection improvements in the Mount Joy Township Capital Improvements Plan.

- Phase 3: No additional improvements are necessary to mitigate the impact of traffic from the proposed development.

Cloverleaf Road and Schwanger Road

- Phase 1: Minor traffic signal timing adjustments can mitigate impacts of the proposed development traffic.
- Phase 2: Construction of a 400-foot southbound right turn lane on Cloverleaf Road is necessary to mitigate impacts of the proposed development traffic. It is noted that this right turn lane would fall within the improvements identified as future intersection improvements in the Mount Joy Township Capital Improvements Plan.
- Phase 3: No additional improvements are necessary to mitigate the impact of traffic from the proposed development.

Cloverleaf Road and Merts Drive

- Phase 1: No improvements are necessary to mitigate the impact of traffic from the proposed development.
- Phases 2 & 3: Level of service deficiencies may occur in the future for minor street movements at this intersection. Given that minor street (Merts Drive) traffic volumes are not expected to reach warranting levels and the close proximity of the PA Route 283 Interchange, traffic signal installation is not an improvement option at this intersection. The Mount Joy Township Capital Improvements Plan identifies improvement options for this intersection and the PA Route 283/Cloverleaf Road interchange. Completion of those improvements by any individual development is not feasible. Traffic Impact Fees collected by the Township for this project can be applied to those improvement solutions.

Cloverleaf Road and PA Route 283 Eastbound Ramps

■ Phases 1-3: Level of service deficiencies exist at this intersection and will continue in the future traffic projections without or with traffic from the proposed development. The Mount Joy Township Capital Improvements Plan identifies improvement options for the PA Route 283/Cloverleaf Road interchange. Completion of those improvements by any individual development is not feasible. Traffic Impact Fees collected by the Township for this project can be applied to those improvement solutions.

Cloverleaf Road and PA Route 283 Westbound Ramps

■ Phase 1: No improvements are necessary to mitigate the impact of traffic from the proposed development.

■ Phase 2: Minor traffic signal timing adjustments can mitigate impacts of the proposed development traffic.

■ Phase 3: Level of service deficiencies may occur in the future at this intersection. The Mount Joy Township Capital Improvements Plan identifies improvement options for the PA Route 283/Cloverleaf Road interchange. Completion of those improvements by any individual development is not feasible. Traffic Impact Fees collected by the Township for this project can be applied to those improvement solutions.

SR 0230 and Western Parcels Access

■ Phase 3: This unsignalized intersection is expected to operate at acceptable overall intersection levels of service through the 2033 Horizon Year. A 150-foot westbound right turn lane, with a 100-foot taper, will be constructed to accommodate traffic entering the proposed access.

- Sight distances for traffic entering and exiting the proposed Western Parcels Access are in excess of PennDOT sight distance criteria.

- It is recommended that a STOP sign (R1-1, 30"x30") be provided on the proposed Western Parcels Access approach for traffic exiting the development site.

SR 0230 and Right-In Access (near Convenience Store)

- Right turn lane analyses indicate that a 150-foot westbound right turn lane, with a 100-foot taper, is warranted along SR 0230 for traffic entering the proposed Right-In Access using 2033 Horizon Year traffic volumes.

SR 0230 and Norlanco Drive Extension

- Phase 1: Installation of traffic signal control is necessary to provide adequate levels of service at this proposed intersection. A 225-foot westbound right turn lane, with a 100-foot taper, will be constructed to accommodate traffic entering the Norlanco Drive Extension. The existing two-way center left turn only lane will be restriped to show a 350-foot eastbound left turn lane. Two (2) exiting lanes will be provided on the Norlanco Drive Extension. It is noted that the extension of Norlanco Drive to SR 0230 is identified as a future intersection improvement in the Mount Joy Township Capital Improvements Plan.

- Sight distances for traffic entering and exiting the proposed Local Road are in excess of PennDOT sight distance criteria.

Cloverleaf Road and Right-In Access (near Convenience Store)

- Right turn lane analyses indicate that a 150-foot northbound right turn lane, with a 100-foot taper, is warranted along Cloverleaf Road for traffic entering the proposed Right-In Access using 2033 Horizon Year traffic volumes.

Cloverleaf Road and Western Parcels Access/Eastern Parcels Access

- Both access locations will permit left-in/right-in/right-out movements (no exiting left turn movement will be permitted).

- Phase 1 & 2: A 325-foot southbound left turn lane and a 150-foot northbound right turn lane will be constructed on SR 230 to accommodate traffic entering the proposed Eastern Parcels Access.

- Phase 3: The Western Parcels Access will become the fourth leg to the intersection in this phase. A 75-foot northbound left turn lane and a 175-foot southbound right turn lane will be constructed on SR 230 to accommodate traffic entering the proposed Western Parcels Access.

- Sight distances for traffic entering and exiting the Eastern and Western Parcels Accesses are in excess of PennDOT sight distance criteria.

- It is recommended that STOP (R1-1, 30"x30") and NO LEFT TURN (R3-2, 30"x30") be provided on the proposed Eastern Parcels Access and Western Parcels Access approaches for traffic exiting the development site.

Ridge Run Road and Site Access

- The intersection is expected to operate with all movements at LOS "B" or better during the 2033 Horizon Year with full buildout and Stop sign control.

- Left turn lane analyses indicate that a northbound left turn lane is not warranted along Ridge Run Road for traffic entering the proposed Site Access using 2033 Horizon Year traffic volumes.

- Right turn lane analyses indicate that a southbound right turn lane is not warranted along Ridge Run Road for traffic entering the proposed Site Access using 2033 Horizon Year traffic volumes.

- Grading and vegetation removal may be necessary to provide safe stopping sight distances looking to the right (south) from the Site Access.

- It is recommended that a STOP sign (R1-1, 30"x30") be provided on the proposed Site Access approach for traffic exiting the development site.

INTRODUCTION

A retail development is proposed for a tract of land in Mount Joy Township, Lancaster County. The site is located north of and adjacent to SR 0230, east and west of Cloverleaf Road (SR 4025). The phased development will include the following land uses:

Phase 1

5,600 square-foot super convenience store
127,338 square feet of general retail space

Phase 2

293,800 additional square feet of general retail space

Phase 3 (west side of Cloverleaf Road)

84,610 square feet of general retail space

The proposed development is very large with over 3,000 feet of frontage along SR 0230 and frontage on both sides of SR 4025 for over 500 feet. Currently proposed access locations are as follows:

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- 3) Left-In/Right-In/Right-Out Driveway onto SR 4025, 550 feet north of SR 0230 aligned opposite the Connector Road for the parcels west of Cloverleaf Road
- 4) Right-In Only Driveway onto SR 0230 located on the east side of the convenience store lot. This driveway would be located approximately 425 feet from the stop bar at the signalized intersection of SR 0230/Cloverleaf Road

Phase 2 - Between Norlanco Drive Extension and Ridge Run Road

- 1) Full access onto Ridge Run Road at east end of site
- 2) Connection to Norlanco Drive to access SR 4025 at existing signalized intersection

Phase 3 - West of SR 4025

- 1) Full access onto SR 0230 on east boundary for Connector Road to SR 4025
- 2) Left-In/Right-In/Right-Out access onto SR 4025 for Connector Road from SR 0230 aligned opposite the access for the parcels east of Cloverleaf Road

This Transportation Impact Study (TIS) was prepared for the following phased scenarios:

Phase 1 - 2024 Opening Year, 2029 Horizon Year

Phase 2 - 2026 Opening Year, 2031 Horizon Year

Phase 3 - 2028 Opening Year, 2033 Horizon Year

The following report contains analysis, conclusions, and recommendations for accommodation of traffic volumes anticipated to be generated by the proposed development site.

Grove Miller Engineering, Inc. has been retained by Pennmark Management Company, Inc. to conduct a TIS for the development site. The scope of the TIS was confirmed by PennDOT and Mount Joy Township. Study scope documentation and study correspondence are included in Appendix P. The study methodology and traffic analyses documented in this transportation impact study report are in accordance with guidelines in Appendix A - Policies and Procedures for Transportation Impact Studies Related to Highway Occupancy Permits of Publication 282, dated July 2017 and Township SALDO requirements.

Land Use Context

The development site is located in an area defined by PennDOT as an Urban Area. When the existing land use of the proposed development site and the land uses of the properties immediately surrounding the site are considered, the area can be defined as a Suburban Corridor and SR 0230 and Cloverleaf Road (SR 4025) can be considered Community Arterials based upon criteria in Publication 10X (Design Manual Part 1X), Appendix B.

Study Area Transportation Facilities

Based on the scoping process, the study area consists of the following intersections:

- SR 0230 and SR 0743 (Maytown Road)
- SR 0230 and Groff Avenue
- SR 0230 and Giant Plaza Driveway/Carey Lane
- SR 0230 and Speedway Driveway/Market Square Driveway
- SR 0230 and Sheaffer Road
- SR 0230 and Cloverleaf Road/Colebrook Road
- SR 0230 and Ridge Run Road
- Colebrook Road and Harrisburg Avenue
- Cloverleaf Road and Andrew Avenue/Norlanco Drive
- Cloverleaf Road and Schwanger Road
- Cloverleaf Road and Merts Drive
- Cloverleaf Road and PA 283 Eastbound Ramps
- Cloverleaf Road and PA 283 Westbound Ramps
- SR 0230 and Western Parcels Access
- SR 0230 and Right-In Access (near Convenience Store)
- SR 0230 and Norlanco Drive Ext
- Cloverleaf Road and Right-In Access (near Convenience Store)
- Cloverleaf Road and Western Parcels Access/Eastern Parcels Access
- Ridge Run Road and Site Access

Photographs of the study area intersections are provided in Appendix F, while documentation of existing roadway conditions and transportation facilities are included in Appendix E.

There are no existing sidewalks along SR 0230 or Cloverleaf Road in the area of the development site. Pedestrian accommodations are provided at the signalized intersection of SR 0230 and Cloverleaf Road. Bicycles share the roadway with passenger vehicles, trucks, and busses.

Study Area Map

A map showing the study area and the proposed site location is provided in Appendix B, Figure 1.

Site Plan

The site plan depicts that the phased development will include the following land uses:

Phase 1

5,600 square-foot super convenience store

127,338 square feet of general retail space

Phase 2

293,800 additional square feet of general retail space

Phase 3 (west side of Cloverleaf Road)

84,610 square feet of general retail space

The proposed development is very large with over 3,000 feet of frontage along SR 0230 and frontage on both sides of SR 4025 for over 500 feet. Currently proposed access locations are as follows:

Phase 1 - Between SR 4025 and Norlanco Drive Extension

- 1) Signalized access onto SR 0230, 1,330 feet east of Cloverleaf Road, for Norlanco Drive extension
- 2) Right-in only driveway onto SR 4025 on north side of convenience store parcel
- 3) Left-In/Right-In/Right-Out Driveway onto SR 4025, 550 feet north of SR 0230 aligned opposite the Connector Road for the parcels west of Cloverleaf Road
- 4) Right-In Only Driveway onto SR 0230 located on the east side of the convenience store lot. This driveway would be located approximately 425 feet from the stop bar at the signalized intersection of SR 0230/Cloverleaf Road

Phase 2 - Between Norlanco Drive Extension and Ridge Run Road

- 1) Full access onto Ridge Run Road at east end of site
- 2) Connection to Norlanco Drive to access SR 4025 at existing signalized intersection

Phase 3 - West of SR 4025

- 1) Full access onto SR 0230 on east boundary for Connector Road to SR 4025
- 2) Left-In/Right-In/Right-Out access onto SR 4025 for Connector Road from SR 0230 aligned opposite the access for the parcels east of Cloverleaf Road

Traffic analyses were conducted for the following scenarios:

Phase 1 - 2024 Opening Year, 2029 Horizon Year

Phase 2 - 2026 Opening Year, 2031 Horizon Year

Phase 3 - 2028 Opening Year, 2033 Horizon Year

DATA COLLECTION

Manual turning movement counts (TMC) were conducted at the following study area intersections:

- SR 0230 and SR 0743 (Maytown Road)
- SR 0230 and Groff Avenue
- SR 0230 and Giant Plaza Driveway/Carey Lane
- SR 0230 and Speedway Driveway/Market Square Driveway
- SR 0230 and Sheaffer Road
- SR 0230 and Cloverleaf Road/Colebrook Road
- SR 0230 and Ridge Run Road
- Colebrook Road and Harrisburg Avenue
- Cloverleaf Road and Andrew Avenue/Norlanco Drive
- Cloverleaf Road and Schwanger Road
- Cloverleaf Road and Merts Drive
- Cloverleaf Road and PA 283 Eastbound Ramps
- Cloverleaf Road and PA 283 Westbound Ramps

The TMC were conducted during the weekday morning (6:00 AM to 9:00 AM), weekday afternoon (3:00 PM to 6:00 PM), and Saturday (11:00 AM to 2:00 PM) peak periods. The TMC traffic counts were conducted in March 2022. No seasonal adjustments were applied to the raw count data.

Automatic traffic recorder (ATR) counts were conducted along SR 0230, Cloverleaf Road, and Ridge Run Road in the area of the development site. The TMC and ATR data sheets are provided in Appendix H.

EXISTING STUDY AREA CONDITIONS

The area around the proposed development is within an urban boundary but is more characteristic of a suburban corridor. SR 0230 and Cloverleaf Road (SR 4025) are the major roadways providing access to the development site.

Roadway Network

The study area includes the following roadways:

SR 0230. SR 0230 is a three-lane roadway (one lane in each direction and a center left-turn only lane) running in an east/west direction south of and adjacent to the development site. The roadway is classified as a Community Arterial using Publication 10X (Design Manual 1X), Appendix B. The current average daily traffic (ADT) volume on SR 0230 is approximately 10,000 vehicles per day in the vicinity of the proposed development site. Pavement markings consist of a yellow center left-turn only pattern and white edge lines. The posted speed limit along SR 0230 is 45 miles per hour (mph) along the western development frontage (west of Cloverleaf Road) and for approximately 1,500 feet east of Cloverleaf Road. The posted speed limit to the east of that location (along the eastern development frontage) is 55 mph..

Cloverleaf Road (SR 4025). Cloverleaf Road is a two-lane roadway running in a north/south direction adjacent to the development site. Cloverleaf Road is designated as SR 4025 through the study area. The roadway is classified as a Community Arterial using Publication 10X (Design Manual 1X), Appendix B. The current ADT volume on Cloverleaf Road is approximately 16,000 vehicles per day in the vicinity of the proposed development site. Pavement markings consist of a double yellow center line and white edge lines. The posted speed limit along Cloverleaf Road is 40 mph in the area of the development site.

Ridge Run Road (T-327). Ridge Run Road is a two-lane roadway running in a north/south direction east of and adjacent to the development site. Ridge Run Road is designated as T-327. The roadway is classified as a Local Road using Publication 10X (Design Manual 1X), Appendix B. The current ADT volume on Ridge Run Road is approximately 775 vehicles per day in the vicinity of the proposed development site. Pavement markings consist of a double yellow center line. The posted speed limit along Ridge Run Road is 35 mph in the area of the development site.

Maytown Road (SR 0743). Maytown Road is a two-lane roadway running in a north/south direction west of the development site. Maytown Road is designated as SR 0743 through the study area. Pavement markings consist of a double yellow center line and white edge lines. The posted speed limit along Maytown Road is 35 mph in the area of SR 0230.

Groff Avenue. Groff Avenue is a two-lane roadway running in a north/south direction west of the development site. Groff Avenue is a Borough street. Pavement markings consist of a double yellow center line. The posted speed limit along Groff Avenue is 35 mph in the area of SR 0230.

Sheaffer Road (T-888). Sheaffer Road is a two-lane roadway running in a north/south direction west of the development site. Sheaffer Road is designated as T-888 in the study area. Pavement markings consist of a double yellow center line. The posted speed limit along Sheaffer Road is 35 mph in the area of SR 0230.

Harrisburg Avenue (SR 4018). Harrisburg Avenue is a two-lane roadway running in an east/west direction south of the development site. Harrisburg Avenue is designated as SR 4018 through the study area. Pavement markings consist of a double yellow center line and white edge lines. The posted speed limit along Harrisburg Avenue is 35 mph in the area of Cloverleaf Road.

Andrew Avenue. Andrew Avenue is a two-lane roadway running in an east/west direction west of the development site. Andrew Avenue is designated as T-351 through the study area. Pavement markings consist of a double yellow center line in the area of Cloverleaf Road. The posted speed limit along Andrew Avenue is 25 mph in the area of Cloverleaf Road.

Norlanco Drive. Norlanco Drive is a two-lane roadway running in an east/west direction north of the development site. Norlanco Drive is designated as T-351 through the study area. Pavement markings consist of a double yellow center and white edge lines. The posted speed limit along Norlanco Drive is 25 mph in the area of Cloverleaf Road.

Schwanger Road. Schwanger Road is a two-lane roadway running in an east/west direction north of the development site. Schwanger Road is designated as T-843 through the study area. Pavement markings consist of a double yellow center line and white edge lines. The posted speed limit along Schwanger Road is 35 mph in the area of SR Cloverleaf Road.

Merts Drive. Merts Drive is a two-lane roadway running in an east/west direction north of the development site. Merts Drive is designated as T-833 through the study area. Pavement markings consist of a double yellow center line and white edge lines. The posted speed limit along Merts Drive is 25 mph in the area of Cloverleaf Road.

Existing traffic signal permit plans are provided in Appendix B, Figure 3d.

Volumes and Capacity

Capacity and queue analyses were completed using Synchro Software, Version 11.1, Build 2, Revision 9. The existing coordination or MAX signal times were utilized for existing conditions. Capacity analyses for existing conditions at study area intersections are summarized in Appendix A, Table 1. Existing traffic volumes and levels of service at study area intersections are shown in Appendix B, Figures 3a through 3c. The capacity analyses worksheets are provided in Appendix L.

Pedestrian/Bicycle Facilities

There are no existing sidewalks along SR 0230 or Cloverleaf Road in the area of the development site. Pedestrian accommodations are provided at the signalized

intersection of SR 0230 and Cloverleaf Road. Bicycles share the roadway with passenger vehicles, trucks, and busses.

Transit Facilities

Red Rose Transit does not provide bus service in the study area.

OPENING YEAR CONDITIONS WITHOUT DEVELOPMENT

Traffic analyses conducted for conditions without the development are documented in this report section. The Opening Years of 2024 (Phase 1), 2026 (Phase 2) and 2028 (Phase 3) were analyzed.

Background Growth Factors

Traffic projections were made in order to account for growth in background traffic volumes which may result from other future, potential development in the region. The 2022 traffic count volumes were projected to 2024, 2026, and 2028 Opening Years using a 0.60 percent annual traffic growth rate. The traffic growth rate was referenced from growth factor data provided by the PennDOT Bureau of Planning and Research and is documented in Appendix I. Opening Year traffic volumes are shown in Appendix C, Figures 5a, 5c, and 5e. Traffic volume projections are documented in spreadsheet format in Appendix K.

Adjacent Development Traffic

The Township provided information regarding six (6) other development projects in the area. The developments are: Featherton 5, 1376 Campus Road, 1925 Sheaffer Road, Westbrooke IV, Raffensperger, and Westmount. Traffic for these developments was included in the traffic projections where appropriate (TIS submitted to the Township prior to the TIS submission for this development).

Capacity Analysis

Capacity and queue analyses were completed using Synchro Software, Version 11.1, Build 2, Revision 9. Traffic signal timings were optimized for No Build conditions.

Capacity analyses for the Opening Years without development conditions at study area intersections are summarized in Appendix A, Table 1. The capacity and queue analyses worksheets are provided in Appendix L.

HORIZON YEAR CONDITIONS WITHOUT DEVELOPMENT

Traffic analyses conducted for conditions without the development are documented in this report section. The Horizon Years of 2029 (Phase 1), 2031 (Phase 2) and 2033 (Phase 3) were analyzed.

Background Growth Factors

Traffic projections were made for the Horizon Years in a similar manner as the projections for the Opening Years as defined in the previous report section. Horizon Year traffic volumes are shown in Appendix D, Figures 6a, 6c, and 6e.

Adjacent Development Traffic

Adjacent developments, as defined in the previous report sections, were included in the traffic projections.

Capacity Analysis

Capacity and queue analyses were completed using Synchro Software, Version 11.1, Build 2, Revision 9. Traffic signal timings were optimized for No Build conditions. Capacity analyses for Horizon Year conditions at study area intersections are summarized in Appendix A, Table 1. The capacity and queue analyses worksheets are provided in Appendix L.

DEVELOPMENT DESCRIPTION

Site Narrative

A retail development is proposed for a tract of land in Mount Joy Township, Lancaster County. The site is located north of and adjacent to SR 0230, east and west of

Cloverleaf Road (SR 4025). The phased development will include the following land uses:

Phase 1

5,600 square-foot super convenience store

127,338 square feet of general retail space

Phase 2

293,800 additional square feet of general retail space

Phase 3 (west side of Cloverleaf Road)

84,610 square feet of general retail space

The proposed development is very large with over 3,000 feet of frontage along SR 0230 and frontage on both sides of SR 4025 for over 500 feet. Currently proposed access locations are as follows:

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- 2) Right-in only driveway onto SR 4025 on north side of convenience store parcel
- 3) Left-In/Right-In/Right-Out Driveway onto SR 4025, 550 feet north of SR 0230 aligned opposite the Connector Road for the parcels west of Cloverleaf Road
- 4) Right-In Only Driveway onto SR 0230 located on the east side of the convenience store lot. This driveway would be located approximately 425 feet from the stop bar at the signalized intersection of SR 0230/Cloverleaf Road

Phase 2 - Between Norlanco Drive Extension and Ridge Run Road

- 1) Full access onto Ridge Run Road at east end of site
- 2) Connection to Norlanco Drive to access SR 4025 at existing signalized intersection

Phase 3 - West of SR 4025

- 1) Full access onto SR 0230 on east boundary for Connector Road to SR 4025
- 2) Left-In/Right-In/Right-Out access onto SR 4025 for Connector Road from SR 0230 aligned opposite the access for the parcels east of Cloverleaf Road

The land use at and surrounding the site is suburban based on the criteria discussed in Publication 10X (Design Manual 1X), Appendix B and will not change as a result of the proposed development.

Traffic analyses were conducted for the following scenarios:

Phase 1 - 2024 Opening Year, 2029 Horizon Year

Phase 2 - 2026 Opening Year, 2031 Horizon Year

Phase 3 - 2028 Opening Year, 2033 Horizon Year

Sight Distance Analysis

Sight distances were evaluated at the proposed site access locations onto SR 0230, Cloverleaf Road, and Ridge Run Road to determine if available lines of sight meet PennDOT sight distance criteria. Sight distances were measured and compared with the published safe sight distance criteria in Regulations Chapter 441. A summary of sight distance criteria and measurements for the intersections can be found in Tables 1 through 5.

Table 1. Sight Distance Evaluation Summary:
SR 0230 and Western Parcels Access

Location	Direction	Observed Sight Distance (ft)	Required Sight Distance (ft)	Acceptable
Western Parcels Access @ SR 0230	Left (east)	940	635 ⁽¹⁾	YES
	Right (west)	1,000+	570 ⁽¹⁾	YES
vehicle approaching from rear on major street	EB	1,000+	376 ⁽²⁾	YES
left turn from major street	EB left	960	445 ⁽³⁾	YES

(1) Ch 441, Table 1

(2) Minimum safe stopping sight distance

(3) Ch 441, Table 5

Table 2. Sight Distance Evaluation Summary:
SR 0230 and Norlanco Drive Extension

Location	Direction	Observed Sight Distance (ft)	Required Sight Distance (ft)	Acceptable
Norlanco Drive Extension @ SR 0230	Left (east)	1,000+	635 ⁽¹⁾	YES
	Right (west)	1,000+	570 ⁽¹⁾	YES
vehicle approaching from rear on major street	EB	1,000+	376 ⁽²⁾	YES
left turn from major street	EB left	960	445 ⁽³⁾	YES

(1) Ch 441, Table 1

(2) Minimum safe stopping sight distance

(3) Ch 441, Table 5

Table 3. Sight Distance Evaluation Summary:
Cloverleaf Road and Eastern Parcels Access

Location	Direction	Observed Sight Distance (ft)	Required Sight Distance (ft)	Acceptable
Eastern Parcels Access @ Cloverleaf Road	Left (south)	500	540 ⁽¹⁾ 304 ⁽²⁾	YES
	Right (north)	N/A	N/A	YES
vehicle approaching from rear on major street	SB	497	325 ⁽²⁾	YES
left turn from major street	SB left	472	375 ⁽³⁾	YES

(1) Ch 441, Table 1

(2) Minimum safe stopping sight distance

(3) Ch 441, Table 5

Table 4. Sight Distance Evaluation Summary:
Cloverleaf Road and Western Parcels Access

Location	Direction	Observed Sight Distance (ft)	Required Sight Distance (ft)	Acceptable
Western Parcels Access @ Cloverleaf Road	Left (north)	445	540 ⁽¹⁾ 325 ⁽²⁾	YES
	Right (south)	N/A	N/A	YES
vehicle approaching from rear on major street	NB	466	304 ⁽²⁾	YES
left turn from major street	NB left	545	375 ⁽³⁾	YES

(1) Ch 441, Table 1

(2) Minimum safe stopping sight distance

(3) Ch 441, Table 5

Table 5. Sight Distance Evaluation Summary:
Ridge Run Road and Site Access

Location	Direction	Observed Sight Distance (ft)	Required Sight Distance (ft)	Acceptable
Site Access @ Ridge Run Road	Left (north)	591	440 ⁽¹⁾ 304 ⁽²⁾	YES
	Right (south)	248	350 ⁽¹⁾ 260 ⁽²⁾	NO
vehicle approaching from rear on major street	NB	315	260 ⁽²⁾	YES
left turn from major street	NB left	351	300 ⁽³⁾	YES

(1) Ch 441, Table 1

(2) Minimum safe stopping sight distance

(3) Ch 441, Table 5

The sight distance evaluations indicate that the lines of sight at the proposed site access locations are acceptable and provide for safe traffic movements. Grading and vegetation removal may be necessary to provide safe stopping sight distances looking to the right (south) from the Site Access onto Ridge Run Road. Documentation of sight distance evaluations is provided in Appendix N.

Trip Generation

The Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021) was used to estimate the number of trips which could be generated by the proposed development site. Tables 6 through 8 summarize the trip generation projections for the site, and trip generation calculation worksheets are provided in Appendix J.

Table 6. Proposed Land Use and Trip Generation Summary - Phase 1

Land Use (Code)	Size	Daily Trips	Peak Hour Trips					
			AM Enter	AM Exit	PM Enter	PM Exit	SAT Enter	SAT Exit
Retail (821)	127,338 sq ft	11,213	279	171	526	570	557	536
Pass-By Trips	–	–	0	0	210	228	173	166
New Trips	–	–	279	171	316	342	384	370
Conv. Store (945)	5,600 sq ft	3,690	189	190	161	162	175	182
Pass-By Trips	–	–	144	144	121	121	114	118
New Trips	–	–	45	46	40	41	61	64
Total Site Trips		14,903	468	361	687	732	732	718
Total Pass-By Trips		–	144	144	331	349	287	284
Total New Trips		–	324	217	356	383	445	434

Table 7. Proposed Land Use and Trip Generation Summary - Phases 1 & 2

Land Use (Code)	Size	Daily Trips	Peak Hour Trips					
			AM Enter	AM Exit	PM Enter	PM Exit	SAT Enter	SAT Exit
Retail (820)	421,138 sq ft	16,860	237	145	763	826	1032	952
Pass-By Trips	–	–	0	0	145	157	103	95
New Trips	–	–	237	145	618	669	929	857
Conv. Store (945)	5,600 sq ft	3,690	189	190	161	162	175	182
Pass-By Trips	–	–	144	144	121	121	114	118
New Trips	–	–	45	46	40	41	61	64
Total Site Trips		20,550	426	335	924	988	1207	1134
Total Pass-By Trips		–	144	144	266	278	217	213
Total New Trips		–	282	191	658	710	990	921

Table 8. Proposed Land Use and Trip Generation Summary - Phase 3

Land Use (Code)	Size	Daily Trips	Peak Hour Trips					
			AM Enter	AM Exit	PM Enter	PM Exit	SAT Enter	SAT Exit
Retail (821)	84,610 sq ft	5,713	91	55	215	224	290	267
Pass-By Trips	–	–	0	0	86	90	90	83
New Trips	–	–	91	55	129	134	200	184

For the Convenience Store land use, trip generation calculations were performed using the number of vehicle fueling positions category with the building square footage as the secondary variable, and then with the building square footage category with the number of fueling positions as the secondary variable to determine the most conservative estimates. The most conservative estimate was used in the trip generation projections.

Pass-By Trips

Pass-By Trips are applicable to land uses associated with this development and were applied based on the following percentages:

- Shopping Center (>150,000 sq. ft.) - 19% PM, 9% SAT (assume 10% less than PM)
- Shopping Plaza (40,000-150,000 sq. ft.) - 40% PM, 31% SAT
- Convenience Store - 76% AM, 75% PM, 65% SAT (assume 10% less than PM)

Documentation is provided in Appendix J.

Internal Capture Trips

Internal capture trips are applicable to the proposed land uses.

Trip Distribution/Assignment

New and pass-by trips generated by the proposed development were distributed onto the surrounding roadway network based on gravity models as approved during the TIS Scoping Application process. The trip distributions for the peak hours are shown in Appendix B, Figures 4a through 4g. Additional trip distribution documentation is provided in Appendix K.

OPENING YEAR CONDITIONS WITH DEVELOPMENT

Traffic analyses conducted for conditions with the development are documented in this report section. The Opening Years of 2024 (Phase 1), 2026 (Phase 2) and 2028 (Phase 3) were analyzed.

Volumes and Capacity Analysis

Capacity and queue analyses were completed using Synchro Software, Version 11.1, Build 2, Revision 9. The traffic signal timings that were optimized for No Build conditions were utilized for Build conditions. Capacity analyses for Opening Year traffic conditions with development at study area intersections are summarized in Appendix A, Tables 1, 3, and 5. Projected traffic volumes at study area intersections are shown in Appendix C, Figures 5b, 5d, and 5f for the Opening Years. The capacity analyses worksheets are provided in Appendix L.

HORIZON YEAR CONDITIONS WITH DEVELOPMENT

Traffic analyses conducted for conditions with the development are documented in this report section. The Horizon Years of 2029 (Phase 1), 2031 (Phase 2) and 2033 (Phase 3) were analyzed.

Volumes and Capacity Analysis

Capacity and queue analyses were completed using Synchro Software, Version 11.1, Build 2, Revision 9. The traffic signal timings that were optimized for No Build conditions were utilized for Build conditions. Capacity analyses for Horizon Year traffic conditions with development at study area intersections are summarized in Appendix A, Table 1. Projected traffic volumes at study area intersections are shown in Appendix D, Figures 6b, 6d, and 6f for the Horizon Years. The capacity analyses worksheets are provided in Appendix L.

Traffic Signal Warrant Analyses

Traffic signal warrant analyses were performed for the intersection of SR 0230/ Norlanco Drive Extension. The analyses indicate that the peak hour volume warrant is

justified during the 2024 Opening Year with the proposed development traffic. The analyses are provided in Appendix O.

Queue Analysis

Queue analyses were performed for the study intersections using the traffic volumes for the various Horizon Years. The analyses provided recommendations for proposed turning lanes and assessed whether existing storage lanes for turning movements are adequate to accommodate the additional traffic generated by the proposed development. The results of the queue analyses are presented in Appendix A, Tables 2, 4, and 6. Queue analyses worksheets are provided with the capacity analyses worksheets in Appendix L.

Left Turn Lane Analyses

The 2033 Horizon Year traffic volumes (full buildout) were analyzed to determine whether PennDOT guidelines for left turn lanes may be satisfied along SR 0230, SR 4025, and Ridge Run Road at the proposed site access locations. The analyses indicated the following:

SR 0230/Western Parcels Access - center left-turn only lane currently exists

SR 0230/Norlanco Drive Extension - 350-foot eastbound left turn lane is warranted

SR 4025/Eastern Parcels Access - 325-foot southbound left turn lane is warranted

SR 4025/Western Parcels Access - 75-foot northbound left turn lane is warranted

Ridge Run Road/Site Access - northbound left turn lane is not warranted

The figures used in the left turn lane analyses are included in Appendix M.

Right Turn Lane Analyses

The 2033 Horizon Year traffic volumes (full buildout) were analyzed to determine whether PennDOT guidelines for right turn lanes may be satisfied along SR 0230, SR 4025, and Ridge Run Road at the proposed site access locations. The analyses indicated the following:

SR 0230/Western Parcels Access - 150-foot westbound right turn lane is warranted
SR 0230/Right-In Access - 150-foot westbound right turn lane is warranted
SR 0230/Norlanco Drive Extension - 225-foot westbound right turn lane is warranted
SR 4005/Right-In Access - 150-foot northbound right turn lane is warranted
SR 4025/Eastern Parcels Access - 150-foot northbound right turn lane is warranted
SR 4025/Western Parcels Access - 175-foot southbound right turn lane is warranted
Ridge Run Road and Site Access - southbound right turn lane is not warranted

The figures used in the right turn lane analyses are included in Appendix M.

MITIGATION IDENTIFICATION AND RECOMMENDATIONS

The recommended improvements for off-site intersections are documented in this report section.

SR 0230/SR 0743 - 100-foot eastbound right turn lane and 150-foot northbound right turn lane
SR 0230/SR 4025 - second thru lanes eastbound and westbound on SR 0230
Colebrook Road/Harrisburg Avenue - traffic signal installation
Cloverleaf Road/Andrew Avenue/Norlanco Drive - 150-foot northbound left turn lane and 225 southbound left turn lane
Cloverleaf Road/Schwanger Road - 400-foot southbound right turn lane

Alternative Transportation Plan

No Alternative Transportation Plan is proposed.

CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations are documented in the Executive Summary of the study report.

APPENDICES

APPENDIX A

SUMMARY OF RESULTS

Table 1. Levels of Service Summary - Phase 1

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 (S. Market Street) and SR 0743 (Maytown Avenue)																					
SR 0230 - EB	B	B	C	---	B	C	---	C	C	D	---	C	D	---	B	B	B	---	B	B	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	B	A	B	---	A	B	---
WB Left	A	A	B	---	A	B	---	B	B	C	---	B	C	---	A	A	B	---	B	B	---
WB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	B	A	B	---	A	B	---
SR 0743 - NB	D	D	D	---	D	D	---	D	D	D	---	D	D	---	E	E	E	---	E	E	---
Overall Intersection	B	B	B	---	B	B	---	B	C	C	---	C	C	---	C	B 17	C 21	---	B 18	C 22	---
SR 0230 and Groff Avenue																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Driveway - NB	B	B	B	---	B	B	---	E	E	E	---	E	E	---	B	B	B	---	B	C	---
Groff Avenue - SB	C	C	D	---	C	D	---	E	F 52	F 88	---	F 61	F 90	---	F 50	F 54	F 104	---	F 62	F 125	---
SB Left	D	D	E	---	D	E	---	F 92	F 106	F 171	---	F 127	F 188	---	F 76	F 82	F 157	---	F 95	F 192	---
SB Right	B	B	B	---	B	B	---	C	C	C	---	C	C	---	C	C	C	---	C	C	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	A	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Giant Plaza Driveway/Carey Lane																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Giant Plaza Dr - NB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
Carey Lane - SB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
SB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
SB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	C	C	---	C	C	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	B	B	B	---	B	B	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Market Street Square Driveway																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Hess Driveway - NB	D	D	D	---	D	D	---	D	D	D	---	C	C	---	D	D	D	---	D	D	---
Market St Sq Dr - SB	C	C	C	---	C	C	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
SB Left	C	C	C	---	C	C	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
SB Thru/Right	A	A	A	---	A	A	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Sheaffer Road																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Sheaffer Road - NB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
Sheaffer Road - SB	C	C	C	---	C	C	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and SR 4025 (Cloverleaf Road/Colebrook Road)																					
SR 0230 - EB	B	B	C	---	B	C	---	C	C	C	---	C	C	---	B	B	B	---	B	B	---
EB Left	B	C	C	---	C	C	---	D	D	D	---	D	D	---	B	B	C	---	B	C	---
EB Thru	B	B	B	---	B	B	---	C	C	C	---	C	C	---	B	B	B	---	B	B	---
EB Right	B	B	B	---	B	B	---	C	C	B	---	C	C	---	A	A	A	---	A	B	---
SR 0230 - WB	C	C	C	---	C	C	---	D	D	D	---	D	D	---	C	C	D	---	C	D	---
WB Left	C	C	C	---	C	C	---	D	D	D	---	D	D	---	B	B	C	---	B	C	---
WB Thru	C	C	C	---	C	C	---	D	D	E	---	D	E	---	C	C	D	---	C	D	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - NB	C	C	C	---	C	C	---	C	C	D	---	C	C	---	C	C	C	---	C	C	---
NB Left	B	B	B	---	B	B	---	C	C	C	---	C	C	---	B	B	C	---	B	C	---
NB Thru/Right	C	C	C	---	C	D	---	C	C	D	---	C	D	---	C	C	C	---	C	C	---
SR 4025 - SB	C	C	C	---	C	C	---	B	B	C	---	C	C	---	C	C	C	---	C	C	---
SB Left	B	B	B	---	B	B	---	B	B	C	---	B	C	---	B	B	C	---	B	C	---
SB Thru	C	C	C	---	C	C	---	B	C	D	---	C	C	---	C	C	C	---	C	C	---
SB Right	C	C	C	---	C	C	---	B	B	C	---	C	C	---	C	C	C	---	C	C	---
Overall Intersection	C	C	C	---	C	C	---	C	C 29	D 38	---	C 30	D 36	---	B	B 19	C 27	---	B 20	C 28	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 (W. Main Street) and Ridge Run Road																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Ridge Run Road - SB	B	B	B	---	B	B	---	B	B	C	---	B	C	---	B	B	B	---	B	B	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 (Colebrook Road) and Harrisburg Avenue																					
Harrisburg Ave - EB	B	B	B	A	B	B	A	C	C	C	B	C	C	B	A	A	A	A	A	B	A
Harrisburg Ave - WB	B	B	B	A	B	B	B	B	B	B	B	B	B	B	A	A	A	A	A	A	A
SR 4025 - NB	C	C	C	A	C	C	A	C	C	C	A	C	C	A	A	A	B	A	A	B	A
SR 4025 - SB	B	B	C	A	B	C	A	D	D	F	A	E	F	A	A	A	B	A	A	B	A
Overall Intersection	B	B 14	C 16	A	B 14	C 17	A	C	C	E	A	D	D	A	A	A	B	A	A	B	A

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 (Cloverleaf Road) and Andrew Avenue/Norlanco Drive																					
Andrew Ave - EB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	C	C	C	---	C	C	---
EB Left/Thru	C	C	C	---	C	C	---	C	C	C	---	C	C	---	C	C	C	---	C	C	---
EB Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	C	C	C	---	C	C	---
Norlanco Dr - WB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	C	C	C	---	C	C	---
SR 4025 - NB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - SB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SB Left/Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 and Schwanger Road																					
Schwanger Rd - EB	C	D	D	---	D	D	---	C	C	C	D	C	C	D	C	C	C	---	C	C	---
EB Left	C	D	D	---	D	D	---	C	C	C	E	C	C	E	C	C	C	---	C	C	---
EB Thru/Right	B	B	B	---	B	C	---	C	C	C	C	C	C	C	C	C	C	---	C	C	---
Schwanger Rd - WB	B	B	B	---	B	B	---	C	C	C	C	C	C	C	C	C	C	---	C	C	---
WB Left	C	C	C	---	C	C	---	C	C	C	C	C	C	C	C	C	C	---	C	C	---
WB Thru/Right	B	B	B	---	B	B	---	C	C	C	C	C	C	C	C	C	C	---	C	C	---
SR 4025 - NB	A	A	B	---	A	B	---	B	C	C	B	C	C	B	B	B	B	---	B	B	---
NB Left	A	A	B	---	A	B	---	D	E	E	E	E	E	E	B	B	C	---	B	C	---
NB Thru/Right	A	A	B	---	A	B	---	B	B	B	B	B	C	B	B	B	B	---	B	B	---
SR 4025 - SB	B	B	C	---	B	C	---	C	D	F	D	D	F	D	A	A	A	---	A	B	---
SB Left	A	A	A	---	A	A	---	B	B	B	B	B	C	B	B	B	B	---	B	B	---
SB Thru/Right	B	B	C	---	B	C	---	C	F	F	F	F	F	F	A	A	A	---	A	A	---
Overall Intersection	B	B 18	C 23	---	B 20	C 26	---	C	C	E	D	D	E	D	B	B	B	---	B	B	---
SR 4025 and Merts Drive																					
Merts Drive - EB	C	C	D	---	D	D	---	D	D	E	---	E	E	---	C	C	D	---	C	D	---
SR 4025 - NB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - SB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 and PA Route 283 EB Ramps																					
PA 283 Off-Ramp - EB	C	C	C	---	C	C	---	F	F	F	---	F	F	---	B	B	C	---	B	C	---
EB Left	D	E	E	---	E	F	---	D	E	F	---	E	F	---	C	C	C	---	C	D	---
EB Right	B	B	C	---	B	C	---	F	F	F	---	F	F	---	B	B	C	---	B	C	---
SR 4025 - NB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - SB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SB Left	B	B	B	---	B	B	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Overall Intersection	A	A	A	---	A	A	---	B	C	E	---	D	E	---	A	A	A	---	A	A	---
SR 4025 and PA Route 283 WB Ramps																					
PA 283 Off-Ramp - WB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	B	B	C	---	B	C	---
WB Left/Thru	C	C	C	---	C	C	---	C	C	C	---	C	C	---	B	B	C	---	B	C	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - NB	B	B	C	---	B	C	---	B	B	C	---	B	C	---	A	A	A	---	A	A	---
NB Left	B	B	C	---	C	D	---	B	B	C	---	B	C	---	A	A	B	---	A	B	---
NB Thru	A	A	A	---	A	A	---	A	B	B	---	B	B	---	A	A	A	---	A	A	---
SR 4025 - SB	B	B	C	---	C	C	---	C	C	C	---	C	C	---	B	B	B	---	B	B	---
SB Thru	B	B	C	---	C	C	---	C	C	C	---	C	C	---	B	B	B	---	B	B	---
SB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Overall Intersection	B	B 18	C 27	---	B 20	C 30	---	B	C	C	---	C	C	---	B	B	B	---	B	B	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2024			2029			2022	2024			2029			2022	2024			2029		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Norlanco Drive																					
SR 0230 - EB	---	---	A	A	---	A	A	---	---	A	A	---	A	A	---	---	A	A	---	A	A
EB Left	---	---	B	A	---	B	A	---	---	B	B	---	B	B	---	---	B	B	---	B	B
EB Thru	---	---	A	A	---	A	A	---	---	A	A	---	A	A	---	---	A	A	---	A	A
SR 0230 - WB	---	---	A	A	---	A	A	---	---	A	B	---	A	B	---	---	A	B	---	A	B
WB Thru	---	---	A	A	---	A	A	---	---	A	B	---	A	C	---	---	A	B	---	A	B
WB Right	---	---	A	A	---	A	A	---	---	A	B	---	A	B	---	---	A	B	---	A	B
Norlanco Drive - SB	---	---	C	C	---	C	C	---	---	F	D	---	F	D	---	---	F	C	---	F	C
SB Left	---	---		C	---		C	---	---		D	---		D	---	---		C	---		C
SB Right	---	---		C	---		C	---	---		D	---		D	---	---		C	---		C
Overall Intersection	---	---	A	B	---	A	B	---	---	E	C	---	E	B	---	---	E	B	---	E	B
SR 4025 and Eastern Parcels Access																					
Eastern Access - WB	---	---	C	---	---	D	---	---	---	C	---	---	C	---	---	---	C	---	---	C	---
SR 4025 - NB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SR 4025 - SB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SB Left	---	---	B	---	---	B	---	---	---	C	---	---	B	---	---	---	B	---	---	B	---
SB Thru	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
Overall Intersection	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---

Table 2. Queue Analysis Summary - Phase 1

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2029			PM 2029			Saturday 2029		
No Build		Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	
SR 0230 (S. Market Street) and SR 0743 (Maytown Avenue)										
SR 0230 - EB	1,450	353 / 278	407 / 328	---	606 / 543	672 / 740	---	570 / 400	729 / 475	---
SR 0230 - WB Left	150	22 / 20	22 / 25	---	87 / 100	105 / 148	---	48 / 40	62 / 63	---
SR 0230 - WB Thru	2,100	81 / 13	83 / 13	---	154 / 15	156 / 18	---	250 / 180	320 / 400	---
SR 0743 - NB	1,400	250 / 265	266 / 275	---	265 / 278	283 / 290	---	205 / 278	217 / 293	---
SR 0230 (S. Market Street) and Groff Avenue										
SR 0230 - EB Left	925	NA / 3	NA / 3	---	NA / 5	NA / 5	---	NA / 3	NA / 3	---
Groff Avenue - SB Left	500	NA / 28	NA / 38	---	NA / 55	NA / 83	---	NA / 68	NA / 110	---
Groff Avenue - SB Right	75	NA / 8	NA / 8	---	NA / 15	NA / 18	---	NA / 8	NA / 10	---
SR 0230 and Giant Plaza Driveway/Carey Lane										
SR 0230 - EB Left	200	1 / 0	1 / 0	---	5 / 0	5 / 0	---	15 / 0	15 / 0	---
SR 0230 - EB Thru	2,100	117 / 20	124 / 25	---	183 / 50	220 / 70	---	305 / 25	376 / 33	---
SR 0230 - EB Right	150	0 / 0	0 / 0	---	0 / 0	0 / 0	---	6 / 0	5 / 0	---
SR 0230 - WB Left	250	2 / 8	1 / 8	---	34 / 40	54 / 40	---	47 / 53	87 / 53	---
SR 0230 - WB Thru	1,225	11 / 18	12 / 20	---	62 / 43	80 / 55	---	227 / 25	297 / 33	---
SR 0230 - WB Right	100	0 / 0	0 / 0	---	0 / 0	0 / 0	---	1 / 0	1 / 0	---
Giant Plaza Dr - NB Left	200	95 / 85	95 / 85	---	284 / 235	284 / 235	---	341 / 310	341 / 310	---
Giant Plaza Dr - NB Thru/Right	200	35 / 33	35 / 33	---	42 / 63	42 / 63	---	57 / 118	57 / 118	---
Carey Lane - SB Left	100	9 / 3	9 / 3	---	29 / 18	29 / 18	---	50 / 40	50 / 40	---
Carey Lane - SB Thru/Right	150	10 / 3	10 / 3	---	22 / 15	22 / 15	---	22 / 13	22 / 13	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2029			PM 2029			Saturday 2029		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 0230 and Market Street Square Driveway										
SR 0230 - EB Left	275	2 / 0	1 / 0	---	17 / 8	16 / 8	---	31 / 18	36 / 18	---
SR 0230 - EB Thru/Right	1,225	66 / 10	85 / 13	---	207 / 8	253 / 8	---	188 / 13	254 / 13	---
SR 0230 - WB Left	225	2 / 0	1 / 0	---	2 / 0	2 / 0	---	3 / 0	2 / 0	---
SR 0230 - WB Thru	500	167 / 15	181 / 18	---	407 / 25	608 / 30	---	468 / 20	558 / 25	---
SR 0230 - WB Right	225	0 / 0	0 / 0	---	1 / 0	1 / 0	---	9 / 0	7 / 0	---
Hess Driveway - NB	50	0 / 20	0 / 20	---	19 / 10	19 / 20	---	33 / 25	33 / 25	---
Market St Sq Dr - SB Left	300	13 / 5	13 / 5	---	50 / 38	50 / 38	---	87 / 83	87 / 83	---
Market St Sq Dr - SB Thru/Right	300	0 / 0	0 / 0	---	46 / 65	46 / 65	---	98 / 148	98 / 148	---
SR 0230 and Sheaffer Road										
SR 0230 - EB Left	125	3 / 3	3 / 3	---	3 / 5	2 / 10	---	30 / 3	29 / 3	---
SR 0230 - EB Thru/Right	500	17 / 10	17 / 13	---	9 / 13	10 / 15	---	206 / 13	226 / 15	---
SR 0230 - WB Left	125	7 / 0	7 / 0	---	21 / 8	21 / 8	---	11 / 3	11 / 3	---
SR 0230 - WB Thru/Right	2,000+	151 / 50	174 / 58	---	353 / 160	438 / 190	---	209 / 80	263 / 100	---
Sheaffer Road - NB Left	75	56 / 48	56 / 48	---	89 / 83	89 / 83	---	95 / 90	95 / 90	---
Sheaffer Road - NB Thru/Right	275	40 / 33	40 / 33	---	45 / 40	45 / 40	---	47 / 38	47 / 38	---
Sheaffer Road - SB	2,000+	52 / 60	52 / 60	---	94 / 140	94 / 140	---	75 / 90	75 / 90	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2029			PM 2029			Saturday 2029		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 0230 and SR 4025 (Cloverleaf Road/Colebrook Road)										
SR 0230 - EB Left	275	211 / 155	265 / 210	---	160 / 228	230 / 228	---	125 / 75	192 / 118	---
SR 0230 - EB Thru	800	117 / 83	148 / 120	---	205 / 258	233 / 268	---	154 / 90	195 / 140	---
SR 0230 - EB Right	250	0 / 10	0 / 10	---	8 / 25	7 / 23	---	0 / 13	0 / 15	---
SR 0230 - WB Left	150	8 / 3	57 / 35	---	36 / 25	153 / 150	---	30 / 13	124 / 70	---
SR 0230 - WB Thru	1,125	147 / 118	219 / 193	---	312 / 360	519 / 550	---	259 / 183	415 / 383	---
SR 0230 - WB Right	125	43 / 0	43 / 0	---	36 / 0	34 / 0	---	0 / 0	0 / 0	---
SR 4025 - NB Left	100	47 / 40	47 / 40	---	85 / 80	90 / 93	---	44 / 38	44 / 43	---
SR 4025 - NB Thru/Right	850	354 / 275	419 / 338	---	326 / 290	468 / 393	---	129 / 113	167 / 183	---
SR 4025 - SB Left	325	66 / 55	66 / 58	---	157 / 158	146 / 205	---	73 / 60	73 / 70	---
SR 4025 - SB Thru	525	184 / 148	170 / 138	---	380 / 253	252 / 315	---	132 / 100	109 / 88	---
SR 4025 - SB Right	400	48 / 115	36 / 100	---	78 / 163	41 / 163	---	24 / 30	1 / 35	---
SR 0230 (W. Main Street) and Ridge Run Road										
SR 0230 - EB Left	TWLT	NA / 0	NA / 0	---	NA / 0	NA / 0	---	NA / 0	NA / 0	---
Ridge Run Road - SB	1,000	NA / 5	NA / 5	---	NA / 8	NA / 10	---	NA / 5	NA / 8	---
SR 4025 (Colebrook Road) and Harrisburg Avenue										
Harrisburg Avenue - EB	1,000+	NA / 23	NA / 28	74 / 20	NA / 73	NA / 88	177 / 63	NA / 18	NA / 20	50 / 15
Harrisburg Avenue - WB	1,000+	NA / 28	NA / 33	53 / 30	NA / 23	NA / 28	51 / 28	NA / 13	NA / 15	34 / 13
SR 4025 - NB	1,000+	NA / 98	NA / 128	168 / 58	NA / 93	NA / 130	122 / 60	NA / 30	NA / 43	75 / 25
SR 4025 - SB	850	NA / 60	NA / 78	114 / 40	NA / 228	NA / 355	269 / 108	NA / 35	NA / 55	90 / 30

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2029			PM 2029			Saturday 2029		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 4025 (Cloverleaf Road) and Andrew Avenue/Norlanco Drive										
Andrew Avenue - EB Left/Thru	1,000+	40 / 30	40 / 30	---	19 / 10	19 / 10	---	11 / 5	11 / 5	---
Andrew Avenue - EB Right	125	5 / 13	5 / 13	---	4 / 8	4 / 8	---	0 / 5	0 / 5	---
Norlanco Drive - WB	1,000+	28 / 23	28 / 23	---	55 / 60	55 / 60	---	13 / 20	13 / 20	---
SR 4025 - NB	500	338 / 100	566 / 133	---	204 / 23	289 / 43	---	110 / 25	194 / 45	---
SR 4025 - SB Left/Thru	1,100	261 / 8	281 / 5	---	29 / 5	30 / 8	---	13 / 10	14 / 15	---
SR 4025 - SB Right	100	0 / 0	0 / 0	---	0 / 0	0 / 0	---	0 / 0	0 / 0	---
SR 4025 and Schwanger Road										
Schwanger Road - EB Left	225	354 / 348	354 / 348	---	208 / 158	209 / 158	241 / 240	104 / 95	104 / 95	---
Schwanger Road - EB Thru/Right	1,000+	42 / 65	45 / 78	---	48 / 48	51 / 60	55 / 68	35 / 28	39 / 40	---
Schwanger Road - WB Left	75	13 / 5	13 / 5	---	13 / 5	13 / 5	14 / 5	14 / 5	14 / 5	---
Schwanger Road - WB Thru/Right	1,000+	36 / 53	36 / 53	---	44 / 35	44 / 35	48 / 38	30 / 23	30 / 23	---
SR 4025 - NB Left	75	10 / 13	11 / 28	---	43 / 63	61 / 88	75 / 83	15 / 20	18 / 38	---
SR 4025 - NB Thru/Right	1,100	592 / 100	690 / 188	---	300 / 330	364 / 403	258 / 285	205 / 273	336 / 363	---
SR 4025 - SB Left	100	9 / 3	10 / 3	---	19 / 23	21 / 30	15 / 23	11 / 8	11 / 10	---
SR 4025 - SB Thru/Right	1,500+	455 / 323	605 / 463	---	754 / 805	882 / 1375	836 / 840	230 / 138	458 / 213	---
SR 4025 and Merts Drive										
Merts Drive - EB	1,000	NA / 15	NA / 20	---	NA / 8	NA / 10	---	NA / 3	NA / 8	---
SR 4025 - NB	1,500+	NA / 0	NA / 0	---	NA / 3	NA / 3	---	NA / 5	NA / 3	---
SR 4025 and PA Route 283 EB Ramps										
PA 283 Off-Ramp - EB Left	325	NA / 25	NA / 33	---	NA / 35	NA / 50	---	NA / 8	NA / 10	---
PA 283 Off-Ramp - EB Right	1,000	NA / 48	NA / 75	---	NA / 453	NA / 698	---	NA / 35	NA / 70	---
SR 4025 - SB Left	75	NA / 15	NA / 15	---	NA / 10	NA / 10	---	NA 8	NA / 10	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2029			PM 2029			Saturday 2029		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 4025 and PA Route 283 WB Ramps										
PA 283 Off-Ramp - WB Left/Thru	1,000	241 / 193	302 / 248	---	420 / 340	492 / 435	---	189 / 165	291 / 230	---
PA 283 Off-Ramp - WB Right	400	9 / 0	9 / 0	---	24 / 0	24 / 0	---	0 / 0	0 / 0	---
SR 4025 - NB Left	200	371 / 215	406 / 335	---	149 / 123	228 / 215	---	80 / 45	104 / 78	---
SR 4025 - NB Thru	400	46 / 25	50 / 33	---	68 / 48	77 / 63	---	46 / 20	55 / 33	---
SR 4025 - SB Thru	1,000+	113 / 95	125 / 115	---	149 / 143	163 / 175	---	77 / 48	91 / 70	---
SR 4025 - SB Right	75	0 / 0	0 / 0	---	0 / 0	0 / 0	---	0 / 0	0 / 0	---
SR 0230 and Western Parcels Access										
SR 0230 - EB Left	TWLTL	---	---	---	---	---	---	---	---	---
Western Access - SB	500+	---	---	---	---	---	---	---	---	---
SR 0230 and Norlanco Drive										
SR 0230 - EB Left	(350)	---	NA / 15	31 / 20	---	NA / 25	31 / 78	---	NA / 33	61 / 55
SR 0230 - EB Thru/Right	1,125	---	NA / 0	80 / 50	---	NA / 0	110 / 18	---	NA / 0	128 / 110
SR 0230 - WB Thru	2,000+	---	NA / 0	212 / 150	---	NA / 0	356 / 350	---	NA / 0	291 / 263
SR 0230 - WB Right	(225)	---	NA / 0	16 / 15	---	NA / 0	26 / 50	---	NA / 0	24 / 40
Norlanco Drive - SB Left	(175)	---	NA / 53	69 / 58	---	NA / 535	185 / 188	---	NA / 493	123 / 115
Norlanco Drive - SB Thru/Right	(200)	---		37 / 125	---		187 / 380	---		84 / 230
SR 4025 and Eastern Parcels Access/Western Parcels Access										
Western Access - EB	300	---	---	---	---	---	---	---	---	---
Eastern Access - WB	300	---	NA / 65	---	---	NA / 80	---	---	NA / 68	---
SR 4025 - NB Left	(75)	---	---	---	---	---	---	---	---	---
SR 4025 - SB Left	(325)	---	NA / 28	---	---	NA / 50	---	---	NA / 45	---

(XXX) Recommended turn lane length
TWLTL - Two-Way Center Left Turn Lane

Table 3. Levels of Service Summary - Phase 1 & 2

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 (S. Market Street) and SR 0743 (Maytown Avenue)																					
SR 0230 - EB	B	B	C	---	C	C	---	C	C	E	---	C	E	---	B	B	C	---	B	C	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	B	---	A	B	---	B	A	B	---	A	B	---
WB Left	A	A	B	---	A	B	---	B	B	D	---	C	D	---	A	A	B	---	B	C	---
WB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	B	A	B	---	A	B	---
SR 0743 - NB	D	D	D	---	D	D	---	D	D	D	---	D	E	---	E	E	E	---	E	E	---
Overall Intersection	B	B	B	---	B 19	C 20	---	B	C	D	---	C	D	---	C	B 17	C 24	---	B 18	C 26	---
SR 0230 and Groff Avenue																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Driveway - NB	B	B	B	---	B	B	---	E	E	F	---	E	F	---	B	B	B	---	B	C	---
Groff Avenue - SB	C	C	D	---	D	D	---	E	F 56	F 170	---	F 65	F 205	---	F 50	F 56	F 253	---	F 66	F 302	---
SB Left	D	D	E	---	E	E	---	F 92	F 114	F 335	---	F 138	F 410	---	F 76	F 86	F 377	---	F 103	F 452	---
SB Right	B	B	B	---	B	B	---	C	C	C	---	C	C	---	C	C	C	---	C	C	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	A	A	A	A	---	A	B	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Giant Plaza Driveway/Carey Lane																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Giant Plaza Dr - NB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
Carey Lane - SB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
SB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
SB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	C	C	---	C	C	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	B	B	B	---	B	B	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Market Street Square Driveway																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Hess Driveway - NB	D	D	D	---	D	D	---	D	D	D	---	C	C	---	D	D	D	---	D	D	---
Market St Sq Dr - SB	C	C	C	---	C	C	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
SB Left	C	C	C	---	C	C	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
SB Thru/Right	A	A	A	---	A	A	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Sheaffer Road																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Sheaffer Road - NB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
Sheaffer Road - SB	C	C	C	---	C	C	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and SR 4025 (Cloverleaf Road/Colebrook Road)																					
SR 0230 - EB	B	B	C	---	B	C	---	C	C	C	---	C	C	---	B	B	C	C	B	C	C
EB Left	B	C	C	---	C	C	---	D	D	D	---	D	D	---	B	B	D	D	B	D	D
EB Thru	B	B	B	---	B	B	---	C	C	C	---	C	C	---	B	B	B	B	B	B	B
EB Right	B	B	B	---	B	B	---	C	C	B	---	C	B	---	A	A	B	B	A	B	B
SR 0230 - WB	C	C	C	---	C	C	---	D	D	D	---	D	D	---	C	C	F	C	C	F	C
WB Left	C	C	B	---	C	B	---	D	D	B	---	D	B	---	B	B	B	B	B	B	B
WB Thru	C	C	C	---	C	C	---	D	D	D	---	D	D	---	C	C	F	D	C	F	D
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	A	A	A	A
SR 4025 - NB	C	C	C	---	C	C	---	C	C	D	---	C	D	---	C	C	C	D	C	C	D
NB Left	B	B	B	---	B	B	---	C	C	C	---	C	C	---	B	B	C	C	C	C	C
NB Thru/Right	C	C	C	---	C	C	---	C	C	D	---	C	D	---	C	C	C	D	C	D	D
SR 4025 - SB	C	C	C	---	C	C	---	B	C	D	---	C	D	---	C	C	C	C	C	C	C
SB Left	B	B	B	---	B	B	---	B	B	D	---	B	D	---	B	B	C	C	B	C	C
SB Thru	C	C	C	---	C	C	---	B	C	D	---	C	D	---	C	C	C	C	C	C	C
SB Right	C	C	C	---	C	C	---	B	B	D	---	C	D	---	C	C	C	C	C	C	C
Overall Intersection	C	C	C	---	C	C	---	C	C	D	---	C	D	---	B	B	D	C	B	D	C

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 (W. Main Street) and Ridge Run Road																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	B	---	A	B	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Ridge Run Road - SB	B	B	B	---	B	B	---	B	B	C	---	B	C	---	B	B	C	---	B	C	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 (Colebrook Road) and Harrisburg Avenue																					
Harrisburg Ave - EB	B	B	B	A	B	B	A	C	C	C	B	C	C	B	A	A	B	A	A	B	A
Harrisburg Ave - WB	B	B	B	A	B	B	B	B	B	B	B	B	B	B	A	A	B	A	A	B	A
SR 4025 - NB	C	C	C	A	C	C	A	C	C	D	A	C	D	A	A	A	B	A	A	B	A
SR 4025 - SB	B	B	C	A	B	C	A	D	D	F	A	E	F	A	A	A	B	A	B	C	A
Overall Intersection	B	B 14	C 16	A	B 14	C 16	A	C	C	F	A	D	F	A	A	A	B	A	A	B	A

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 (Cloverleaf Road) and Andrew Avenue/Norlanco Drive																					
Andrew Ave - EB	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
EB Left/Thru	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
EB Right	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
Norlanco Dr - WB	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
SR 4025 - NB	A	A	A	A	A	A	A	A	A	F	A	A	F	A	A	A	D	A	A	E	A
NB Left				A			A				A			A				A			
NB Thru/Right				A			A				A			A				A			
SR 4025 - SB	A	A	A	A	A	A	A	A	A	F	A	A	F	A	A	A	F	A	A	F	A
SB Left	A	A	A	A	A	A	A	A	A	F	A	A	F	A	A	A	F	A	A	F	A
SB Thru				A			A				A			A				A			
SB Right	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Overall Intersection	A	A	A	A	A	A	A	A	A	F	A	A	F	A	A	A	F	A	A	F	A

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 and Schwanger Road																					
Schwanger Rd - EB	C	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	
EB Left	C	D	D	D	E	E	D	C	C	C	C	C	C	C	C	C	C	C	C	C	
EB Thru/Right	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	
Schwanger Rd - WB	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	
WB Left	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
WB Thru/Right	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	
SR 4025 - NB	A	A	B	B	A	B	C	B	C	C	B	C	C	B	B	B	B	B	B	B	
NB Left	A	A	B	A	A	B	A	D	E	D	D	E	D	D	B	B	C	C	B	C	
NB Thru/Right	A	A	B	B	A	B	C	B	B	C	B	B	C	B	B	B	B	B	B	B	
SR 4025 - SB	B	B	C	B	B	C	B	C	D	F	B	E	F	C	A	A	B	A	A	B	
SB Left	A	A	A	A	A	A	A	B	B	C	C	B	C	C	B	B	B	B	B	B	
SB Thru	B	B	C	B	B	C	B	C	F	F	C	F	F	C	A	A	B	B	A	B	
SB Right				A			A				A			A				A			
Overall Intersection	B	B	C	B	C	C	C	C	D	F	C	D	F	C	B	B	B	B	B	B	
SR 4025 and Merts Drive																					
Merts Drive - EB	C	C	D	---	D	D	---	D	D	F	---	E	F	---	C	C	E	---	C	E	
SR 4025 - NB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	
SR 4025 - SB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 and PA Route 283 EB Ramps																					
PA 283 Off-Ramp - EB	C	C	C	---	C	C	---	F	F 92	F 295	---	F 111	F 330	---	B	B	D	---	B	D	---
EB Left	D	E	E	---	E	F	---	D	E	F	---	E	F	---	C	C	E	---	C	E	---
EB Right	B	B	C	---	B	C	---	F	F 97	F 311	---	F 118	F 348	---	B	B	D	---	B	D	---
SR 4025 - NB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - SB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SB Left	B	B	B	---	B	B	---	A	A	B	---	A	B	---	A	A	A	---	A	A	---
SB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Overall Intersection	A	A	A	---	A	A	---	B	C	F	---	D	F	---	A	A	A	---	A	A	---
SR 4025 and PA Route 283 WB Ramps																					
PA 283 Off-Ramp - WB	C	C	C	---	C	C	---	C	C	D	D	C	E	D	B	B	C	---	B	C	---
WB Left/Thru	C	C	C	---	C	C	---	C	C	F	D	C	F	D	B	B	C	---	B	C	---
WB Right	A	A	A	---	A	A	---	A	A	A	A	A	A	A	A	A	A	---	A	A	---
SR 4025 - NB	B	B	C	---	B	C	---	B	B	D	C	B	D	D	A	A	B	---	A	B	---
NB Left	B	B	C	---	C	D	---	B	B	D	D	B	E	D	A	A	B	---	A	B	---
NB Thru	A	A	A	---	A	A	---	A	B	B	B	B	B	B	A	A	A	---	A	A	---
SR 4025 - SB	B	B	C	---	C	C	---	C	C	C	D	C	C	D	B	B	C	---	B	C	---
SB Thru	B	B	C	---	C	C	---	C	C	C	D	C	C	D	B	B	C	---	B	C	---
SB Right	A	A	A	---	A	A	---	A	A	A	A	A	A	A	A	A	A	---	A	A	---
Overall Intersection	B	B 19	C 27	---	C	C	---	B	C	D	D	C	D	D	B	B	C	---	B	C	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Norlanco Drive																					
SR 0230 - EB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	B	---	---	B	---
EB Left	---	---	A	---	---	B	---	---	---	B	---	---	B	---	---	---	B	---	---	B	---
EB Thru	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SR 0230 - WB	---	---	A	---	---	A	---	---	---	B	---	---	B	---	---	---	B	---	---	B	---
WB Thru	---	---	A	---	---	A	---	---	---	C	---	---	C	---	---	---	B	---	---	C	---
WB Right	---	---	A	---	---	A	---	---	---	B	---	---	B	---	---	---	B	---	---	B	---
Norlanco Drive - SB	---	---	C	---	---	C	---	---	---	D	---	---	D	---	---	---	D	---	---	D	---
SB Left	---	---	C	---	---	C	---	---	---	D	---	---	D	---	---	---	C	---	---	C	---
SB Right	---	---	C	---	---	C	---	---	---	D	---	---	D	---	---	---	D	---	---	D	---
Overall Intersection	---	---	B	---	---	B	---	---	---	C	---	---	C	---	---	---	C	---	---	C	---
SR 4025 and Eastern Parcels Access																					
Eastern Access - WB	---	---	C	---	---	C	---	---	---	C	---	---	C	---	---	---	C	---	---	C	---
SR 4025 - NB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SR 4025 - SB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SB Left	---	---	B	---	---	B	---	---	---	B	---	---	B	---	---	---	B	---	---	B	---
Overall Intersection	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2026			2031			2022	2026			2031			2022	2026			2031		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
Ridge Run Road and Site Access																					
Site Access - EB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
Ridge Run Rd - NB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
NB Left	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
NB Thru	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
Ridge Run Rd - SB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
Overall Intersection	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---

Table 4. Queue Analysis Summary - Phases 1 & 2

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2031			PM 2031			Saturday 2031		
No Build		Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	
SR 0230 (S. Market Street) and SR 0743 (Maytown Avenue)										
SR 0230 - EB	1,450	358 / 285	406 / 328	---	617 / 565	735 / 925	---	582 / 410	890 / 615	---
SR 0230 - WB Left	150	22 / 23	23 / 25	---	100 / 105	105 / 183	---	50 / 43	93 / 108	---
SR 0230 - WB Thru	2,100	82 / 13	84 / 13	---	152 / 15	160 / 20	---	256 / 185	418 / 463	---
SR 0743 - NB	1,400	253 / 268	267 / 278	---	271 / 283	307 / 325	---	207 / 280	235 / 318	---
SR 0230 (S. Market Street) and Groff Avenue										
SR 0230 - EB Left	925	NA / 3	NA / 3	---	NA / 5	NA / 5	---	NA / 3	NA / 3	---
Groff Avenue - SB Left	500	NA / 28	NA / 38	---	NA / 60	NA / 123	---	NA / 73	NA / 175	---
Groff Avenue - SB Right	75	NA / 8	NA / 8	---	NA / 18	NA / 20	---	NA / 10	NA / 13	---
SR 0230 and Giant Plaza Driveway/Carey Lane										
SR 0230 - EB Left	200	1 / 0	1 / 0	---	5 / 0	4 / 0	---	15 / 0	14 / 0	---
SR 0230 - EB Thru	2,100	118 / 20	124 / 25	---	184 / 58	252 / 105	---	310 / 25	778 / 53	---
SR 0230 - EB Right	150	0 / 0	0 / 0	---	0 / 0	0 / 0	---	6 / 0	5 / 0	---
SR 0230 - WB Left	250	2 / 8	1 / 8	---	40 / 40	65 / 40	---	52 / 53	122 / 53	---
SR 0230 - WB Thru	1,225	11 / 18	12 / 20	---	62 / 45	662 / 80	---	235 / 28	380 / 33	---
SR 0230 - WB Right	100	0 / 0	0 / 0	---	0 / 0	0 / 0	---	1 / 0	1 / 0	---
Giant Plaza Dr - NB Left	200	96 / 88	96 / 88	---	290 / 240	290 / 240	---	346 / 313	346 / 313	---
Giant Plaza Dr - NB Thru/Right	200	35 / 33	35 / 33	---	42 / 63	42 / 63	---	57 / 120	57 / 120	---
Carey Lane - SB Left	100	9 / 3	9 / 3	---	29 / 18	29 / 18	---	51 / 40	51 / 40	---
Carey Lane - SB Thru/Right	150	10 / 3	10 / 3	---	22 / 15	22 / 15	---	22 / 13	22 / 13	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2031			PM 2031			Saturday 2031		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 0230 and Market Street Square Driveway										
SR 0230 - EB Left	275	1 / 0	1 / 0	---	17 / 8	15 / 8	---	31 / 18	33 / 18	---
SR 0230 - EB Thru/Right	1,225	66 / 10	85 / 13	---	205 / 8	294 / 5	---	190 / 13	286 / 13	---
SR 0230 - WB Left	225	2 / 0	1 / 0	---	3 / 0	2 / 0	---	3 / 0	2 / 0	---
SR 0230 - WB Thru	500	168 / 15	173 / 18	---	403 / 28	698 / 35	---	477 / 20	695 / 33	---
SR 0230 - WB Right	225	0 / 0	0 / 0	---	1 / 0	0 / 0	---	8 / 0	4 / 0	---
Hess Driveway - NB	50	0 / 20	0 / 20	---	19 / 10	19 / 10	---	33 / 25	33 / 25	---
Market St Sq Dr - SB Left	300	13 / 5	13 / 5	---	50 / 38	50 / 38	---	87 / 83	87 / 83	---
Market St Sq Dr - SB Thru/Right	300	0 / 0	0 / 0	---	46 / 65	46 / 65	---	99 / 150	99 / 150	---
SR 0230 and Sheaffer Road										
SR 0230 - EB Left	125	3 / 3	3 / 3	---	3 / 5	5 / 13	---	30 / 3	27 / 3	---
SR 0230 - EB Thru/Right	500	17 / 10	18 / 13	---	9 / 13	25 / 18	---	209 / 13	260 / 20	---
SR 0230 - WB Left	125	7 / 0	7 / 0	---	21 / 8	22 / 8	---	11 / 3	11 / 3	---
SR 0230 - WB Thru/Right	2,000+	155 / 50	175 / 58	---	364 / 165	615 / 220	---	213 / 83	348 / 130	---
Sheaffer Road - NB Left	75	57 / 48	57 / 48	---	90 / 85	90 / 85	---	96 / 90	96 / 90	---
Sheaffer Road - NB Thru/Right	275	40 / 33	40 / 33	---	46 / 43	46 / 38	---	46 / 38	46 / 38	---
Sheaffer Road - SB	2,000+	53 / 63	53 / 63	---	94 / 140	94 / 140	---	75 / 90	75 / 90	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2031			PM 2031			Saturday 2031		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 0230 and SR 4025 (Cloverleaf Road/Colebrook Road)										
SR 0230 - EB Left	275	216 / 160	267 / 208	---	161 / 230	291 / 245	---	129 / 75	221 / 198	241 / 190
SR 0230 - EB Thru	800	119 / 85	146 / 115	---	206 / 258	274 / 293	---	156 / 93	256 / 213	235 / 213
SR 0230 - EB Right	250	0 / 10	0 / 10	---	9 / 28	8 / 20	---	0 / 15	0 / 20	0 / 20
SR 0230 - WB Left	150	8 / 3	54 / 25	---	36 / 25	221 / 100	---	30 / 13	217 / 90	194 / 65
SR 0230 - WB Thru	1,125	148 / 120	213 / 145	---	316 / 365	631 / 420	---	265 / 190	517 / 680	473 / 313
SR 0230 - WB Right	125	45 / 0	45 / 0	---	37 / 0	51 / 0	---	0 / 0	0 / 0	3 / 0
SR 4025 - NB Left	100	48 / 40	48 / 40	---	86 / 80	91 / 98	---	44 / 38	44 / 43	52 / 50
SR 4025 - NB Thru/Right	850	362 / 283	417 / 328	---	331 / 295	559 / 488	---	131 / 115	252 / 260	311 / 328
SR 4025 - SB Left	325	67 / 58	67 / 58	---	156 / 163	112 / 233	---	73 / 63	73 / 73	90 / 88
SR 4025 - SB Thru	525	187 / 150	173 / 138	---	408 / 260	166 / 348	---	133 / 103	116 / 95	130 / 113
SR 4025 - SB Right	400	50 / 115	37 / 100	---	79 / 170	12 / 193	---	25 / 33	8 / 33	14 / 50
SR 0230 (W. Main Street) and Ridge Run Road										
SR 0230 - EB Left	TWLT	NA / 0	NA / 0	---	NA / 0	NA / 0	---	NA / 0	NA / 0	---
Ridge Run Road - SB	1,000	NA / 5	NA / 8	---	NA / 8	NA / 23	---	NA / 8	NA / 28	---
SR 4025 (Colebrook Road) and Harrisburg Avenue										
Harrisburg Avenue - EB	1,000+	NA / 23	NA / 28	69 / 20	NA / 75	NA / 95	240 / 78	NA / 18	NA / 25	67 / 20
Harrisburg Avenue - WB	1,000+	NA / 28	NA / 33	51 / 30	NA / 23	NA / 30	66 / 38	NA / 13	NA / 20	42 / 20
SR 4025 - NB	1,000+	NA / 100	NA / 125	153 / 55	NA / 95	NA / 165	156 / 75	NA / 30	NA / 68	100 / 33
SR 4025 - SB	850	NA / 63	NA / 78	100 / 40	NA / 240	NA / 515	347 / 138	NA / 38	NA / 93	126 / 45

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2031			PM 2031			Saturday 2031		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 4025 (Cloverleaf Road) and Andrew Avenue/Norlanco Drive										
Andrew Avenue - EB Left/Thru	1,000+	40 / 30	39 / 28	39 / 28	19 / 10	20 / 10	20 / 10	11 / 5	10 / 3	10 / 3
Andrew Avenue - EB Right	125	5 / 13	5 / 13	5 / 13	4 / 8	4 / 5	4 / 5	0 / 5	0 / 5	0 / 5
Norlanco Drive - WB	1,000+	28 / 23	36 / 33	36 / 43	55 / 60	79 / 150	79 / 150	13 / 20	54 / 118	54 / 118
SR 4025 - NB Left	(150)	---	---	2 / 0	---	---	7 / 3	---	---	8 / 3
SR 4025 - NB Thru/Right	500	347 / 103	538 / 148	535 / 125	207 / 25	978 / 855	272 / 98	112 / 25	353 / 635	302 / 178
SR 4025 - SB Left	(225)	---	---	18 / 8	---	---	4 / 0	---	---	13 / 23
SR 4025 - SB Thru	1,100	261 / 8	282 / 5	246 / 5	29 / 5	34 / 2073	30 / 50	13 / 10	502/1688	117 / 5
SR 4025 - SB Right	100	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
SR 4025 and Schwanger Road										
Schwanger Road - EB Left	225	359 / 363	359 / 363	351 / 335	212 / 160	212 / 160	220 / 175	106 / 95	106 / 95	106 / 95
Schwanger Road - EB Thru/Right	1,000+	43 / 68	45 / 75	43 / 75	48 / 50	63 / 70	63 / 73	35 / 28	43 / 58	43 / 58
Schwanger Road - WB Left	75	13 / 5	13 / 5	12 / 5	13 / 5	13 / 5	13 / 5	15 / 8	15 / 8	15 / 8
Schwanger Road - WB Thru/Right	1,000+	36 / 55	36 / 55	35 / 53	45 / 35	45 / 35	46 / 35	30 / 23	30 / 23	30 / 23
SR 4025 - NB Left	75	10 / 13	12 / 28	12 / 13	42 / 65	37 / 60	111 / 90	15 / 20	58 / 58	24 / 48
SR 4025 - NB Thru/Right	1,100	602 / 108	688 / 188	700 / 230	311 / 333	229 / 383	399 / 380	208 / 275	531 / 360	531 / 368
SR 4025 - SB Left	100	10 / 3	11 / 3	12 / 3	20 / 25	28 / 35	25 / 33	11 / 8	13 / 10	13 / 10
SR 4025 - SB Thru	1,500+	464 / 328	593 / 448	400 / 295	767 / 853	1004/ 2028	686 / 475	235 / 140	665 / 358	490 / 235
SR 4025 - SB Right	(400)			12 / 55			23 / 68			22 / 28
SR 4025 and Merts Drive										
Merts Drive - EB	1,000	NA / 15	NA / 20	---	NA / 8	NA / 15	---	NA / 3	NA / 18	---
SR 4025 - NB	1,500+	NA / 0	NA / 0	---	NA / 3	NA / 3	---	NA / 5	NA / 3	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2031			PM 2031			Saturday 2031		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 4025 and PA Route 283 EB Ramps										
PA 283 Off-Ramp - EB Left	325	NA / 28	NA / 35	---	NA / 38	NA / 65	---	NA / 8	NA / 18	---
PA 283 Off-Ramp - EB Right	1,000	NA / 48	NA / 73	---	NA / 473	NA / 950	---	NA / 38	NA / 175	---
SR 4025 - SB Left	75	NA / 15	NA / 15	---	NA / 10	NA / 13	---	NA 8	NA / 10	---
SR 4025 and PA Route 283 WB Ramps										
PA 283 Off-Ramp - WB Left/Thru	1,000	245 / 195	299 / 243	---	428 / 348	559 / 635	567 / 610	192 / 168	396 / 340	---
PA 283 Off-Ramp - WB Right	400	9 / 0	9 / 0	---	24 / 0	24 / 0	27 / 0	0 / 0	0 / 0	---
SR 4025 - NB Left	200	378 / 228	409 / 335	---	154 / 128	332 / 270	306 / 320	81 / 45	158 / 140	---
SR 4025 - NB Thru	400	47 / 25	50 / 33	---	68 / 50	87 / 73	98 / 85	46 / 20	65 / 50	---
SR 4025 - SB Thru	1,000+	114 / 95	124 / 115	---	151 / 148	184 / 195	255 / 253	78 / 50	109 / 100	---
SR 4025 - SB Right	75	0 / 0	0 / 0	---	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	---
SR 0230 and Western Parcels Access										
SR 0230 - EB Left	TWLTL	---	---	---	---	---	---	---	---	---
Western Access - SB	500+	---	---	---	---	---	---	---	---	---
SR 0230 and Norlanco Drive										
SR 0230 - EB Left	(350)	---	26 / 18	---	---	120 / 133	---	---	131 / 110	---
SR 0230 - EB Thru/Right	1,125	---	76 / 48	---	---	251 / 20	---	---	123 / 103	---
SR 0230 - WB Thru	2,000+	---	202 / 143	---	---	354 / 355	---	---	339 / 285	---
SR 0230 - WB Right	(225)	---	12 / 10	---	---	29 / 78	---	---	34 / 75	---
Norlanco Drive - SB Left	(175)	---	58 / 45	---	---	200 / 198	---	---	156 / 163	---
Norlanco Drive - SB Thru/Right	(200)	---	37 / 118	---	---	178 / 518	---	---	185 / 405	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2031			PM 2031			Saturday 2031		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 4025 and Eastern Parcels Access/Western Parcels Access										
Western Access - EB	300	---	---	---	---	---	---	---	---	---
Eastern Access - WB	300	---	NA / 43	---	---	NA / 93	---	---	NA / 105	---
SR 4025 - NB Left	(75)	---	---	---	---	---	---	---	---	---
SR 4025 - SB Left	(325)	---	NA / 20	---	---	NA / 50	---	---	NA / 70	---
Ridge Run Road and Site Access										
Site Access - EB	(200)	---	NA / 0	---	---	NA / 3	---	---	NA / 3	---
Ridge Run Road - NB	500	---	NA / 0	---	---	NA / 3	---	---	NA / 3	---
Ridge Run Road - SB	500	---	NA / 0	---	---	NA / 0	---	---	NA / 0	---

(XXX) Recommended turn lane length
TWLTL - Two-Way Center Left Turn Lane

Table 5. Levels of Service Summary - Phase 3

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 (S. Market Street) and SR 0743 (Maytown Avenue)																					
SR 0230 - EB				B			B				C			D				B			B
EB Thru	B	C	C	B	C	C	B	C	D	F	C	D	F	D	B	B	C	B	B	C	B
EB Right				A			A				A			A				A			A
SR 0230 - WB	A	A	A	A	A	A	A	A	A	B	A	A	B	B	B	A	B	A	A	B	A
WB Left	A	A	B	A	B	B	A	B	C	E	C	C	E	D	A	B	C	B	B	C	B
WB Thru	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	A	B	A	A	B	A
SR 0743 - NB				D			D				C			D				D			D
NB Left	D	D	D	C	D	D	C	D	D	E	D	F	F	C	E	E	E	D	E	D	D
NB Right				D			D				C			D				D			D
Overall Intersection	B	B	C	B	B 19	C 22	B	B	C	E	B	C	E	C	C	B 17	C 26	B	B 18	C 28	B
SR 0230 and Groff Avenue																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Driveway - NB	B	B	B	---	B	B	---	E	F 60	F 115	---	F 67	F 126	---	B	B	C	---	B	C	---
Groff Avenue - SB	C	D	E	---	D	E	---	E	F 104	F 380	---	F 129	F 454	---	F 50	F 61	F 363	---	F 71	F 425	---
SB Left	D	E	F	---	E	F	---	F 92	F 268	F 890	---	F 340	F 1067	---	F 76	F 93	F 532	---	F 111	F 628	---
SB Right	B	B	C	---	C	C	---	C	C	D	---	C	D	---	C	C	C	---	C	C	---
Overall Intersection	A	A	A	---	A	A	---	A	A	C	---	A	D	A	A	A	C	---	A	C	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Giant Plaza Driveway/Carey Lane																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	B	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru	A	A	A	---	A	A	---	A	A	A	---	A	B	---	A	A	A	---	A	A	---
EB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Giant Plaza Dr - NB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
Carey Lane - SB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
SB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
SB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	C	C	---	C	C	---
Overall Intersection	A	A	A	---	A	A	---	A	A	B	---	A	B	---	B	B	B	---	B	B	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Market Street Square Driveway																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Hess Driveway - NB	D	D	D	---	D	D	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
Market St Sq Dr - SB	C	C	C	---	C	C	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
SB Left	C	C	C	---	C	C	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
SB Thru/Right	A	A	A	---	A	A	---	D	D	D	---	D	D	---	D	D	D	---	D	D	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Sheaffer Road																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Left	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
WB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	B	---	A	A	A	---	A	A	---
Sheaffer Road - NB	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Left	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
NB Thru/Right	C	C	C	---	C	C	---	C	C	C	---	C	C	---	D	D	D	---	D	D	---
Sheaffer Road - SB	C	C	C	---	C	C	---	D	D	C	---	C	C	---	D	D	D	---	D	D	---
Overall Intersection	A	A	A	---	A	A	---	A	B	B	---	B	B	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and SR 4025 (Cloverleaf Road/Colebrook Road)																					
SR 0230 - EB	B	B	C	C	C	D	C	C	C	D	D	C	E	D	B	B	E	C	B	E	C
EB Left	B	C	D	C	C	E	C	D	D	F	D	D	F	D	B	B	F	D	B	F	D
EB Thru	B	B	B	B	B	B	B	C	C	B	C	C	B	C	B	B	B	B	B	B	B
EB Right	B	B	B	B	B	B	B	C	C	B	C	C	B	C	A	A	B	B	A	B	B
SR 0230 - WB	C	C	C	C	C	C	C	D	D	D	D	D	D	D	C	C	F	C	C	F	C
WB Left	C	C	B	C	C	B	C	D	D	B	D	D	B	D	B	B	C	C	B	C	C
WB Thru	C	C	C	C	C	C	C	D	D	D	D	D	F	D	C	C	F	C	C	F	C
WB Right	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
SR 4025 - NB	C	C	C	C	C	C	C	C	C	E	D	C	E	D	C	C	C	C	C	C	C
NB Left	B	B	B	B	B	B	B	C	C	D	C	C	D	C	B	B	B	B	C	B	B
NB Thru/Right	C	C	D	D	C	D	D	C	C	F	D	C	F	D	C	C	D	D	C	D	D
SR 4025 - SB	C	C	C	C	C	C	C	B	C	E	C	C	E	C	C	C	C	C	C	C	C
SB Left	B	B	B	B	B	B	B	B	C	E	C	C	F	C	B	B	C	B	B	C	B
SB Thru	C	C	C	C	C	C	C	B	C	E	C	C	E	C	C	C	C	C	C	C	C
SB Right	C	C	C	C	C	C	C	B	C	D	C	C	D	C	C	C	C	C	C	C	C
Overall Intersection	C	C	C	C	C	C	C	C	C	E	C	C	E	D	B	B	E	C	C	E	C

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 (W. Main Street) and Ridge Run Road																					
SR 0230 - EB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
EB Left	A	A	B	---	A	B	---	A	A	B	---	A	B	---	A	A	B	---	A	B	---
EB Thru/Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 0230 - WB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Ridge Run Road - SB	B	B	B	---	B	B	---	B	B	C	---	C	C	---	B	B	C	---	B	C	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 (Colebrook Road) and Harrisburg Avenue																					
Harrisburg Ave - EB	B	B	B	A	B	B	A	C	C	C	B	C	D	B	A	A	B	A	A	B	A
Harrisburg Ave - WB	B	B	B	B	B	B	B	B	B	C	B	B	C	B	A	A	B	A	A	B	A
SR 4025 - NB	C	C	C	A	C	C	A	C	C	E	A	C	E	A	A	A	B	A	A	B	A
SR 4025 - SB	B	B	C	A	C	C	A	D	E	F	A	F	F	A	A	A	C	A	B	C	A
Overall Intersection	B	B 15	C 18	A	C	C	A	C	D	F	A	D	F	A	A	A	B	A	A	B	A

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 (Cloverleaf Road) and Andrew Avenue/Norlanco Drive																					
Andrew Ave - EB	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
EB Left/Thru	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
EB Right	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Norlanco Dr - WB	C	C	C	C	C	C	C	C	C	D	D	C	D	D	C	C	C	C	C	C	C
SR 4025 - NB	A	A	A	A	A	A	A	A	A	F	A	A	F	A	A	A	C	B	A	F	B
NB Left				A			A				A			A				A			A
NB Thru/Right				A			A				A			A				B			B
SR 4025 - SB	A	A	A	A	A	A	A	A	A	F	A	A	F	A	A	A	F	A	A	F	A
SB Left	A	A	A	A	A	A	A	A	A	F	A	A	F	A	A	A	F	B	A	F	B
SB Thru				A			A				A			A				A			
SB Right	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Overall Intersection	A	A	A	A	A	A	A	A	A	F	A	A	F	B	A	A	F	A	A	F	A

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 and Schwanger Road																					
Schwanger Rd - EB	C	F	F	D	F	F	E	C	D	D	E	E	D	D	C	C	C	C	C	C	C
EB Left	C	F	F	E	F	F	F	C	E	E	E	E	E	E	C	C	C	C	C	C	C
EB Thru/Right	B	C	C	B	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Schwanger Rd - WB	B	B	B	B	B	C	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C
WB Left	C	C	C	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
WB Thru/Right	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	C
SR 4025 - NB	A	A	B	D	A	C	D	B	C	C	C	C	C	C	B	B	B	B	B	B	B
NB Left	A	B	C	B	B	C	B	D	E	F	F	E	F	F	B	B	D	C	B	D	C
NB Thru/Right	A	A	B	D	A	F	D	B	B	B	B	B	B	B	B	B	B	B	B	B	B
SR 4025 - SB	B	B	D	B	C	D	B	C	F	F	C	F	F	C	A	A	C	B	A	C	B
SB Left	A	A	A	D	A	D	D	B	B	C	C	B	C	C	B	B	C	C	B	C	C
SB Thru	B	B	D	B	C	D	B	C	F	F	D	F	F	D	A	A	C	B	A	C	B
SB Right				B			B				A			A				A			
Overall Intersection	B	C	D	C	D	D	D	C	E	F	C	E	F	C	B	B	C	B	B	C	B
SR 4025 and Merts Drive																					
Merts Drive - EB	C	D	E	---	D	E	---	D	E	F	---	E	F	---	C	C	F	---	C	F	---
SR 4025 - NB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - SB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Overall Intersection	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 4025 and PA Route 283 EB Ramps																					
PA 283 Off-Ramp - EB	C	C	C	---	C	D	---	F	F 182	F 504	---	F 211	F 551	---	B	B	E	---	B	F	---
EB Left	D	E	F	---	F	F	---	D	F 58	F 165	---	F 64	F 192	---	C	C	E	---	C	E	---
EB Right	B	B	C	---	C	C	---	F	F 193	F 529	---	F 224	F 576	---	B	B	E	---	B	F	---
SR 4025 - NB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - SB	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SB Left	B	B	B	---	B	B	---	A	A	B	---	A	B	---	A	A	A	---	A	A	---
SB Thru	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Overall Intersection	A	A	A	---	A	A	---	B	E	F	---	F	F	---	A	A	A	---	A	A	---
SR 4025 and PA Route 283 WB Ramps																					
PA 283 Off-Ramp - WB	C	C	C	---	C	C	---	C	C	F	---	C	F	---	B	B	D	---	B	D	---
WB Left/Thru	C	C	C	---	C	C	---	C	C	F	---	C	F	---	B	B	D	---	B	D	---
WB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
SR 4025 - NB	B	C	D	---	C	E	---	B	C	E	---	C	F	---	A	A	B	---	A	B	---
NB Left	B	C	F	---	D	F	---	B	C	F	---	C	F	---	A	A	C	---	A	C	---
NB Thru	A	A	A	---	A	A	---	A	B	B	---	B	B	---	A	A	A	---	A	A	---
SR 4025 - SB	B	C	C	---	C	C	---	C	C	C	---	C	C	---	B	B	C	---	B	C	---
SB Thru	B	C	C	---	C	C	---	C	C	C	---	C	C	---	B	B	C	---	B	C	---
SB Right	A	A	A	---	A	A	---	A	A	A	---	A	A	---	A	A	A	---	A	A	---
Overall Intersection	B	C	D	---	C	D	---	B	C	F	---	C	F	---	B	B	C	---	B	C	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
SR 0230 and Norlanco Drive																					
SR 0230 - EB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	B	---	---	B	---
EB Left	---	---	A	---	---	A	---	---	---	C	---	---	C	---	---	---	B	---	---	B	---
EB Thru	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SR 0230 - WB	---	---	A	---	---	A	---	---	---	C	---	---	C	---	---	---	B	---	---	C	---
WB Thru	---	---	A	---	---	A	---	---	---	C	---	---	C	---	---	---	C	---	---	C	---
WB Right	---	---	A	---	---	A	---	---	---	B	---	---	B	---	---	---	B	---	---	B	---
Norlanco Drive - SB	---	---	C	---	---	C	---	---	---	D	---	---	D	---	---	---	D	---	---	D	---
SB Left	---	---	C	---	---	C	---	---	---	D	---	---	D	---	---	---	C	---	---	C	---
SB Right	---	---	C	---	---	C	---	---	---	D	---	---	D	---	---	---	D	---	---	D	---
Overall Intersection	---	---	B	---	---	B	---	---	---	C	---	---	C	---	---	---	C	---	---	C	---
SR 4025 and Eastern Parcels Access/Western Parcels Access																					
Eastern Access - WB	---	---	C	---	---	C	---	---	---	D	---	---	D	---	---	---	C	---	---	C	---
Western Access - EB	---	---	B	---	---	B	---	---	---	C	---	---	C	---	---	---	B	---	---	B	---
SR 4025 - NB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
NB Left	---	---	B	---	---	B	---	---	---	B	---	---	B	---	---	---	A	---	---	A	---
SR 4025 - SB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SB Left	---	---	B	---	---	B	---	---	---	B	---	---	B	---	---	---	B	---	---	B	---
Overall Intersection	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---

Intersection Approach Movement	Highway Capacity Analyses Results																				
	LOS (delay)																				
	AM Peak Hour							PM Peak Hour							Saturday Peak Hour						
	2022	2028			2033			2022	2028			2033			2022	2028			2033		
	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp	Base Year	No Build	Build	With Imp	No Build	Build	With Imp
Ridge Run Road and Site Access																					
Site Access - EB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
Ridge Run Rd - NB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
NB Left	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
NB Thru	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
Ridge Run Rd - SB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
Overall Intersection	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SR 0230 and Western Parcels Access																					
SR 0230 - EB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
EB Left	---	---	B	---	---	B	---	---	---	B	---	---	B	---	---	---	B	---	---	B	---
EB Thru	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
SR 0230 - WB	---	---	A	---	---	A	---	---	---	A	---	---	A	---	---	---	A	---	---	A	---
Western Parcels - SB	---	---	C	---	---	C	---	---	---	F	---	---	F	---	---	---	F	---	---	F	---
Overall Intersection	---	---	A	---	---	A	---	---	---	C	---	---	C	---	---	---	B	---	---	B	---

Table 6. Queue Analysis Summary - Phases 3

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2033			PM 2033			Saturday 2033		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 0230 (S. Market Street) and SR 0743 (Maytown Avenue)										
SR 0230 - EB Thru	1,450	382 / 310	406 / 328	348 / 235	660 / 635	800/1075	705 / 713	600 / 420	960 / 695	538 / 458
SR 0230 - EB Right	(100)	---	---	31 / 28	---	---	37 / 35	---	---	38 / 35
SR 0230 - WB Left	150	26 / 25	23 / 25	27 / 20	114 / 138	118 / 300	99 / 245	51 / 45	124 / 140	47 / 78
SR 0230 - WB Thru	2,100	93 / 15	84 / 13	104 / 15	141 / 15	146 / 23	159 / 23	265 / 190	448 / 493	321 / 23
SR 0743 - NB Left	1,400	265 / 275	267 / 278	110 / 128	316 / 370	360 / 488	117 / 123	208 / 283	242 / 325	108 / 110
SR 0743 - NB Right	(150)	---	---	124 / 160	---	---	182 / 213	---	---	166 / 395
SR 0230 (S. Market Street) and Groff Avenue										
SR 0230 - EB Left	925	NA / 5	NA / 3	---	NA / 15	NA / 18	---	NA / 3	NA / 3	---
Groff Avenue - SB Left	500	NA / 53	NA / 38	---	NA / 113	NA / 195	---	NA / 75	NA / 203	---
Groff Avenue - SB Right	75	NA / 20	NA / 8	---	NA / 33	NA / 45	---	NA / 10	NA / 13	---
SR 0230 and Giant Plaza Driveway/Carey Lane										
SR 0230 - EB Left	200	1 / 0	1 / 0	---	4 / 0	4 / 3	---	15 / 0	14 / 3	---
SR 0230 - EB Thru	2,100	124 / 23	124 / 25	---	212 / 68	291 / 145	---	314 / 25	806 / 65	---
SR 0230 - EB Right	150	0 / 0	0 / 0	---	0 / 3	0 / 3	---	6 / 0	5 / 0	---
SR 0230 - WB Left	250	2 / 10	1 / 8	---	46 / 43	60 / 43	---	59 / 55	134 / 55	---
SR 0230 - WB Thru	1,225	12 / 18	12 / 20	---	67 / 50	726 / 108	---	246 / 28	399 / 50	---
SR 0230 - WB Right	100	0 / 0	0 / 0	---	0 / 0	0 / 0	---	1 / 0	1 / 0	---
Giant Plaza Dr - NB Left	200	97 / 88	96 / 88	---	294 / 243	294 / 243	---	351 / 315	351 / 315	---
Giant Plaza Dr - NB Thru/Right	200	35 / 33	35 / 33	---	42 / 63	42 / 63	---	57 / 123	57 / 123	---
Carey Lane - SB Left	100	9 / 3	9 / 3	---	30 / 18	30 / 18	---	51 / 40	51 / 40	---
Carey Lane - SB Thru/Right	150	10 / 3	10 / 3	---	23 / 15	23 / 15	---	22 / 13	22 / 13	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2033			PM 2033			Saturday 2033		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 0230 and Market Street Square Driveway										
SR 0230 - EB Left	275	1 / 0	1 / 0	---	17 / 8	14 / 8	---	32 / 18	33 / 18	---
SR 0230 - EB Thru/Right	1,225	67 / 10	85 / 13	---	216 / 8	321 / 3	---	193 / 13	287 / 10	---
SR 0230 - WB Left	225	1 / 0	1 / 0	---	2 / 0	2 / 0	---	3 / 0	2 / 0	---
SR 0230 - WB Thru	500	124 / 15	173 / 18	---	408 / 28	742 / 35	---	489 / 20	770 / 38	---
SR 0230 - WB Right	225	0 / 0	0 / 0	---	1 / 0	1 / 0	---	9 / 0	3 / 0	---
Hess Driveway - NB	50	0 / 23	0 / 20	---	22 / 13	22 / 13	---	35 / 28	35 / 28	---
Market St Sq Dr - SB Left	300	13 / 5	13 / 5	---	51 / 40	51 / 40	---	88 / 85	88 / 85	---
Market St Sq Dr - SB Thru/Right	300	0 / 0	0 / 0	---	47 / 65	47 / 65	---	102 / 153	102 / 153	---
SR 0230 and Sheaffer Road										
SR 0230 - EB Left	125	3 / 3	3 / 3	---	3 / 13	15 / 25	---	32 / 3	25 / 5	---
SR 0230 - EB Thru/Right	500	18 / 13	18 / 13	---	9 / 13	81 / 23	---	214 / 13	263 / 23	---
SR 0230 - WB Left	125	8 / 3	7 / 0	---	23 / 8	24 / 8	---	11 / 3	11 / 3	---
SR 0230 - WB Thru/Right	2,000+	174 / 75	175 / 58	---	444 / 213	726 / 295	---	218 / 85	392 / 148	---
Sheaffer Road - NB Left	75	59 / 48	57 / 48	---	93 / 88	93 / 88	---	96 / 90	96 / 90	---
Sheaffer Road - NB Thru/Right	275	41 / 35	40 / 33	---	53 / 50	53 / 50	---	48 / 40	48 / 40	---
Sheaffer Road - SB	2,000+	83 / 98	53 / 63	---	124 / 170	124 / 170	---	76 / 93	76 / 93	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2033			PM 2033			Saturday 2033		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 0230 and SR 4025 (Cloverleaf Road/Colebrook Road)										
SR 0230 - EB Left	275	232 / 178	267 / 208	294 / 220	155 / 230	466 / 458	319 / 370	135 / 78	349 / 558	298 / 278
SR 0230 - EB Thru	800	139 / 105	146 / 115	77 / 65	213 / 270	309 / 303	132 / 190	158 / 95	277 / 235	107 / 100
SR 0230 - EB Right	250	0 / 15	0 / 10	0 / 20	12 / 33	19 / 33	19 / 43	0 / 15	0 / 28	0 / 28
SR 0230 - WB Left	150	8 / 3	54 / 25	55 / 25	34 / 25	223 / 93	244 / 210	31 / 13	220 / 105	223 / 113
SR 0230 - WB Thru	1,125	159 / 133	213 / 145	100 / 70	345 / 413	730 / 490	265 / 263	270 / 195	551 / 845	186 / 150
SR 0230 - WB Right	125	48 / 0	45 / 0	52 / 0	45 / 0	65 / 0	65 / 0	0 / 0	6 / 0	6 / 0
SR 4025 - NB Left	100	50 / 43	48 / 40	53 / 50	100 / 95	113 / 133	113 / 108	45 / 40	55 / 55	57 / 53
SR 4025 - NB Thru/Right	850	376 / 295	417 / 328	423 / 350	414 / 330	614 / 648	614 / 438	133 / 118	268 / 275	293 / 273
SR 4025 - SB Left	325	72 / 63	67 / 58	71 / 65	157 / 180	115 / 365	183 / 205	74 / 65	80 / 80	88 / 75
SR 4025 - SB Thru	525	201 / 168	173 / 138	184 / 155	477 / 303	174 / 433	243 / 280	136 / 105	124 / 105	128 / 100
SR 4025 - SB Right	400	51 / 118	37 / 100	38 / 103	74 / 188	8 / 210	28 / 138	26 / 60	9 / 45	9 / 43
SR 0230 (W. Main Street) and Ridge Run Road										
SR 0230 - EB Left	TWLT	NA / 0	NA / 0	---	NA / 0	NA / 0	---	NA / 0	NA / 0	---
Ridge Run Road - SB	1,000	NA / 5	NA / 8	---	NA / 10	NA / 25	---	NA / 8	NA / 25	---
SR 4025 (Colebrook Road) and Harrisburg Avenue										
Harrisburg Avenue - EB	1,000+	NA / 25	NA / 28	74 / 23	NA / 88	NA / 103	211 / 88	NA / 18	NA / 28	71 / 23
Harrisburg Avenue - WB	1,000+	NA / 30	NA / 33	55 / 33	NA / 25	NA / 35	56 / 43	NA / 13	NA / 23	44 / 20
SR 4025 - NB	1,000+	NA / 113	NA / 125	164 / 63	NA / 128	NA / 235	146 / 90	NA / 30	NA / 78	110 / 38
SR 4025 - SB	850	NA / 75	NA / 78	116 / 45	NA / 305	NA / 688	385 / 160	NA / 38	NA / 115	141 / 50

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2033			PM 2033			Saturday 2033		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 4025 (Cloverleaf Road) and Andrew Avenue/Norlanco Drive										
Andrew Avenue - EB Left/Thru	1,000+	40 / 30	39 / 28	39 / 28	19 / 10	20 / 10	20 / 10	11 / 5	10 / 3	10 / 3
Andrew Avenue - EB Right	125	5 / 13	5 / 13	5 / 13	4 / 8	4 / 5	4 / 5	0 / 5	0 / 3	0 / 3
Norlanco Drive - WB	1,000+	29 / 23	36 / 33	36 / 45	57 / 63	141 / 235	141 / 235	13 / 20	54 / 118	54 / 118
SR 4025 - NB Left	(150)	---	---	2 / 0	---	---	6 / 3	---	---	9 / 3
SR 4025 - NB Thru/Right	500	371 / 110	538 / 148	581 / 145	214 / 28	1022/ 1338	373 / 145	115 / 28	530/1010	484 / 223
SR 4025 - SB Left	(225)	---	---	25 / 13	---	---	5 / 13	---	---	30 / 55
SR 4025 - SB Thru	1,100	258 / 8	282 / 5	324 / 10	37 / 5	43/2493	44 / 68	13 / 10	525/2090	414 / 23
SR 4025 - SB Right	100	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
SR 4025 and Schwanger Road										
Schwanger Road - EB Left	225	466 / 698	359 / 363	451 / 563	316 / 345	316 / 345	316 / 345	107 / 98	107 / 95	107 / 95
Schwanger Road - EB Thru/Right	1,000+	46 / 83	45 / 75	46 / 90	53 / 65	87 / 90	87 / 90	36 / 30	47 / 65	47 / 65
Schwanger Road - WB Left	75	13 / 5	13 / 5	13 / 5	15 / 5	15 / 5	15 / 5	15 / 8	15 / 8	15 / 8
Schwanger Road - WB Thru/Right	1,000+	37 / 55	36 / 55	35 / 53	45 / 35	45 / 35	45 / 35	30 / 23	30 / 23	30 / 23
SR 4025 - NB Left	75	12 / 23	12 / 28	15 / 25	154 / 120	39 / 158	155 / 208	15 / 23	56 / 70	56 / 60
SR 4025 - NB Thru/Right	1,100	616 / 115	688 / 188	747 / 388	285 / 335	157 / 333	550 / 250	212 / 280	547 / 385	607 / 405
SR 4025 - SB Left	100	11 / 3	11 / 3	12 / 10	20 / 25	38 / 38	38 / 33	11 / 8	15 / 13	15 / 13
SR 4025 - SB Thru	1,500+	516 / 375	593 / 448	489 / 345	885 / 1495	1167/ 3078	752 / 703	240 / 145	744 / 480	566 / 285
SR 4025 - SB Right	(400)			28 / 75			28 / 113			22 / 30
SR 4025 and Merts Drive										
Merts Drive - EB	1,000	NA / 18	NA / 20	---	NA / 13	NA / 28	---	NA / 3	NA / 23	---
SR 4025 - NB	1,500+	NA / 0	NA / 0	---	NA / 3	NA / 3	---	NA / 5	NA / 3	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2033			PM 2033			Saturday 2033		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 4025 and PA Route 283 EB Ramps										
PA 283 Off-Ramp - EB Left	325	NA / 33	NA / 35	---	NA / 50	NA / 95	---	NA / 8	NA / 23	---
PA 283 Off-Ramp - EB Right	1,000	NA / 58	NA / 73	---	NA / 718	NA / 1308	---	NA / 38	NA / 258	---
SR 4025 - SB Left	75	NA / 15	NA / 15	---	NA / 10	NA / 13	---	NA 8	NA / 10	---
SR 4025 and PA Route 283 WB Ramps										
PA 283 Off-Ramp - WB Left/Thru	1,000	266 / 213	299 / 243	---	490 / 438	644/1025	---	195 / 170	437 / 418	---
PA 283 Off-Ramp - WB Right	400	9 / 0	9 / 0	---	25 / 0	25 / 0	---	0 / 0	0 / 0	---
SR 4025 - NB Left	200	416 / 315	409 / 335	---	214 / 200	403 / 513	---	82 / 48	198 / 175	---
SR 4025 - NB Thru	400	52 / 30	50 / 33	---	76 / 63	100 / 85	---	47 / 20	70 / 55	---
SR 4025 - SB Thru	1,000+	119 / 105	124 / 115	---	167 / 183	227 / 220	---	79 / 53	117 / 110	---
SR 4025 - SB Right	75	0 / 0	0 / 0	---	0 / 0	0 / 0	---	0 / 0	0 / 0	---
SR 0230 and Western Parcels Access										
SR 0230 - EB Left	TWLTL	---	NA / 3	---	---	NA / 8	---	---	NA / 10	---
Western Access - SB	500+	---	NA / 13	---	---	NA / 265	---	---	NA / 253	---
SR 0230 and Norlanco Drive										
SR 0230 - EB Left	(350)	---	26 / 18	---	---	113 / 148	---	---	179 / 125	---
SR 0230 - EB Thru/Right	1,125	---	76 / 48	---	---	279 / 25	---	---	141 / 118	---
SR 0230 - WB Thru	2,000+	---	202 / 143	---	---	429 / 423	---	---	418 / 325	---
SR 0230 - WB Right	(225)	---	12 / 10	---	---	29 / 78	---	---	34 / 75	---
Norlanco Drive - SB Left	(175)	---	58 / 45	---	---	200 / 198	---	---	156 / 163	---
Norlanco Drive - SB Thru/Right	(200)	---	37 / 118	---	---	223 / 518	---	---	200 / 405	---

Intersection Movement	Queue Analysis Results									
	95 th Percentile Queue (feet) - Synchro/HCM									
	Available Storage	AM 2033			PM 2033			Saturday 2033		
		No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.	No Build	Build	Build w/ Imp.
SR 4025 and Eastern Parcels Access/Western Parcels Access										
Western Access - EB	300	---	NA / 0	---	---	NA / 13	---	---	NA / 8	---
Eastern Access - WB	300	---	NA / 45	---	---	NA / 123	---	---	NA / 115	---
SR 4025 - NB Left	(75)	---	NA / 3	---	---	NA / 5	---	---	NA / 5	---
SR 4025 - SB Left	(325)	---	NA / 23	---	---	NA / 58	---	---	NA / 73	---
Ridge Run Road and Site Access										
Site Access - EB	(200)	---	NA / 0	---	---	NA / 3	---	---	NA / 3	---
Ridge Run Road - NB	500	---	NA / 0	---	---	NA / 3	---	---	NA / 3	---
Ridge Run Road - SB	500	---	NA / 0	---	---	NA / 0	---	---	NA / 0	---

(XXX) Recommended turn lane length
TWLTL - Two-Way Center Left Turn Lane

APPENDIX B

EXISTING CONDITIONS



TRANSPORTATION IMPACT STUDY

PENNMAR
PROPERTY

Mount Joy Township, Lancaster County

FIGURE 1

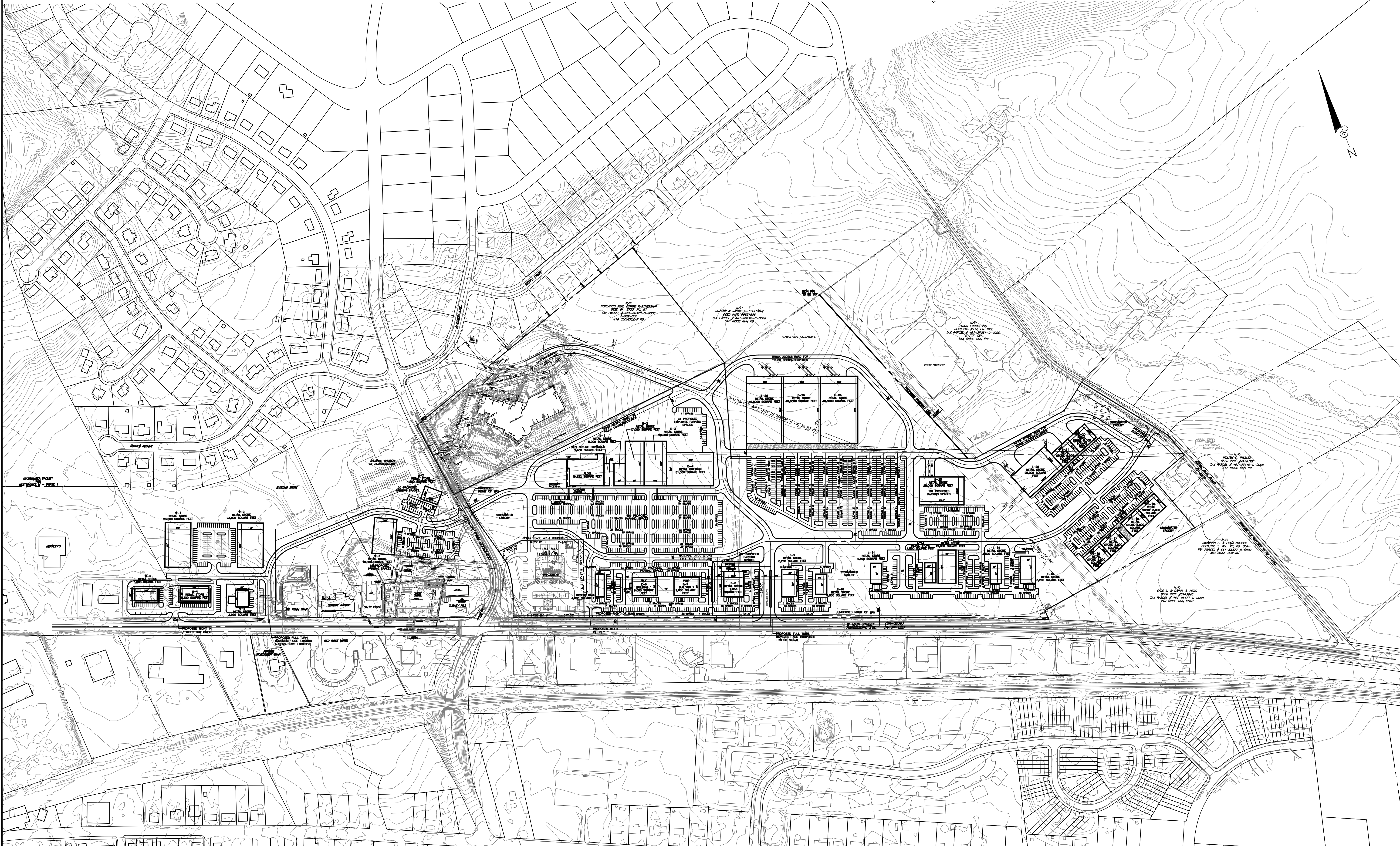
STUDY AREA

FIGURE 2

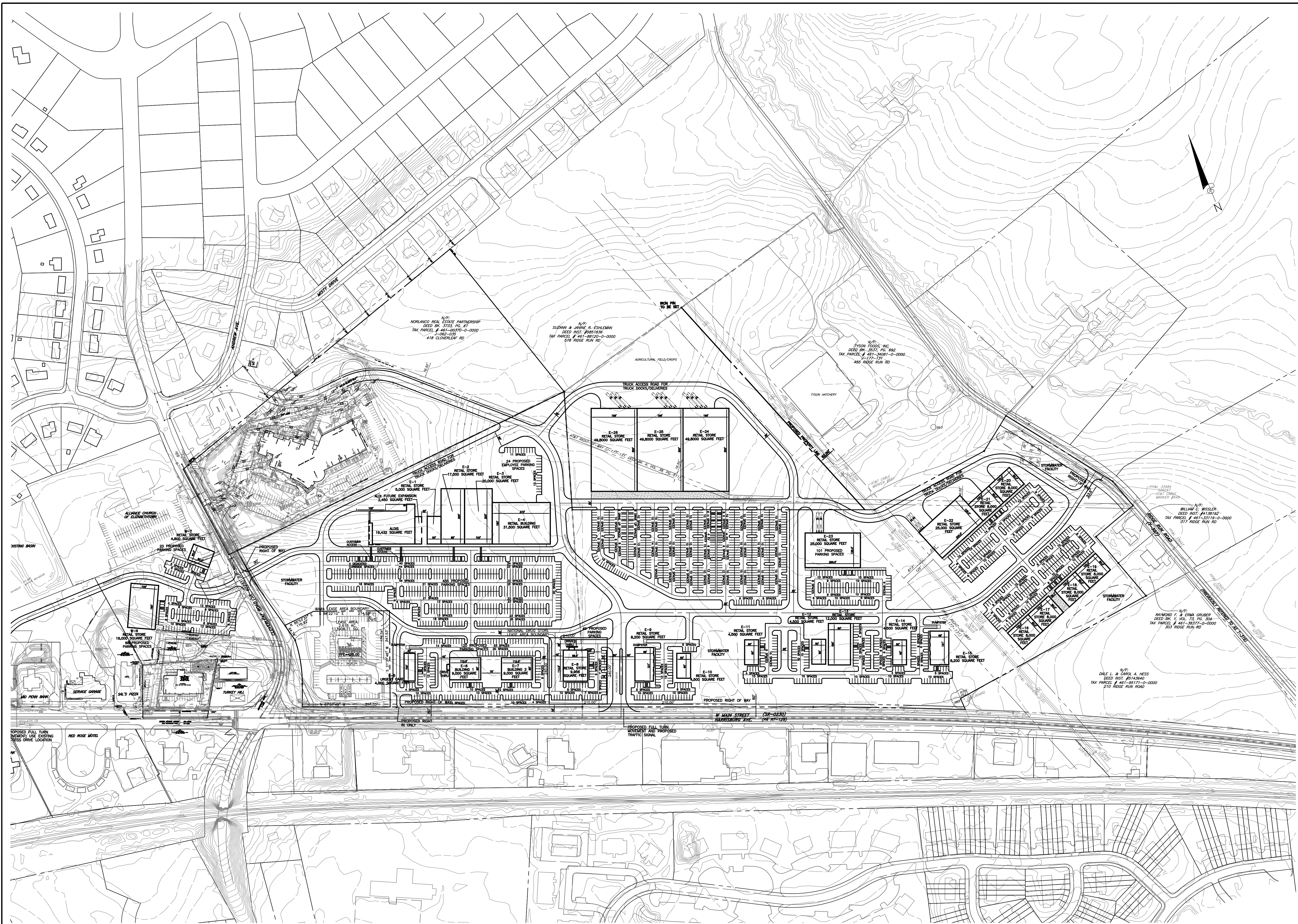
SITE PLAN


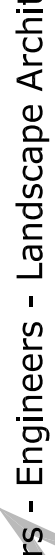
FILENAME: P:\4939 Overall Master Planning XREFS: IMAGES: PLOTTED: September 16,2022 @ 09:46AM

OVERALL MASTER PLAN FOR PENNMARK MANAGEMENT COMPANY



OVERALL MASTER PLAN FOR PENNMARK MANAGEMENT COMPANY MOUNT JOY TOWNSHIP LANCASTER COUNTY, PENNSYLVANIA		PROJECT NO.: 4939-50 DATE: SEPTEMBER 9, 2022 DRAWN BY: BRC CHECKED BY: BRC SCALE: 1"=200' 200' 100' 200' SCALE IN FEET		 Surveyors - Engineers - Landscape Architects 32 Mount Joy Street Po Box 128 Mount Joy, PA 17552 PH- (717) 653-5308 www.djohn.com		OWNERS: PREMISE A AND PREMISE B: NAME: ELIZABETHTOWN ASSOCIATES ADDRESS: 1000 GERMANTOWN RD SUITE A - 2 PLYMOUTH MEETING, PA 19462 SOURCE OF TITLE: DEED BK. U, VOL. 71, PG. 21 LANC. CO. TAX ACCT.: 461-00486-0-0000 OWNERS: TRACT 1 AND TRACT 2 NAME: ELIZABETHTOWN MOUNT JOY ASSOCIATES, LP ADDRESS: 1000 GERMANTOWN RD SUITE A - 2 PLYMOUTH MEETING, PA 19462 SOURCE OF TITLE: DEED INST. #5160060 LANC. CO. TAX ACCT.: 461-41555-0-0000 NAME: ELIZABETHTOWN ASSOCIATES ADDRESS: 1000 GERMANTOWN RD SUITE A - 2 PLYMOUTH MEETING, PA 19462 SOURCE OF TITLE: DEED INST. #5160061 LANC. CO. TAX ACCT.: 461-95417-0-0000		DRAWING #: CG-2991A SHEET #: 1 OF 1	
---	--	--	--	---	--	---	--	--	--



DRAWING #: CG-2991A		MASTER PLAN FOR EAST SIDE OF CLOVERLEAF ROAD		PROJECT NO.: 4939-50 DATE: SEPTEMBER 9, 2022 DRAWN BY: BRC CHECKED BY: BRC		 32 Mount Joy Street Po Box 128 Mount Joy, PA 17552 Ph- (717) 653-5308 www.dcgoinc.com		OWNERS: PREMISE 'A' AND PREMISE 'B' NAME: ELIZABETHTOWN ASSOCIATES ADDRESS: 1000 GERMANTOWN RD SUITE A - 2 PLYMOUTH MEETING, PA 19462 SOURCE OF TITLE: DEED BK. U. VOL. 71, PG. 21 LANC. CO. TAX ACCT.: 461-00486-0-0000		OWNERS: TRACT 1 AND TRACT 2 NAME: ELIZABETHTOWN MOUNT JOY ASSOCIATES, LP ADDRESS: 1000 GERMANTOWN RD SUITE A - 2 PLYMOUTH MEETING, PA 19462 SOURCE OF TITLE: DEED INST. #5160060 LANC. CO. TAX ACCT.: 461-41555-0-0000		
PENINMARK MANAGEMENT COMPANY MOUNT JOY TOWNSHIP LANCASTER COUNTY, PENNSYLVANIA		SCALE: 1"=150'		 150' 0 75' 150' SCALE IN FEET		NAME: ELIZABETHTOWN ASSOCIATES ADDRESS: 1000 GERMANTOWN RD SUITE A - 2 PLYMOUTH MEETING, PA 19462 SOURCE OF TITLE: DEED BK. U. VOL. 71, PG. 21 LANC. CO. TAX ACCT.: 461-82176-0-0000		NAME: ELIZABETHTOWN MOUNT JOY ASSOCIATES, LP ADDRESS: 1000 GERMANTOWN RD SUITE A - 2 PLYMOUTH MEETING, PA 19462 SOURCE OF TITLE: DEED INST. #5160061 LANC. CO. TAX ACCT.: 461-59417-0-0000		REVISIONS		DATE

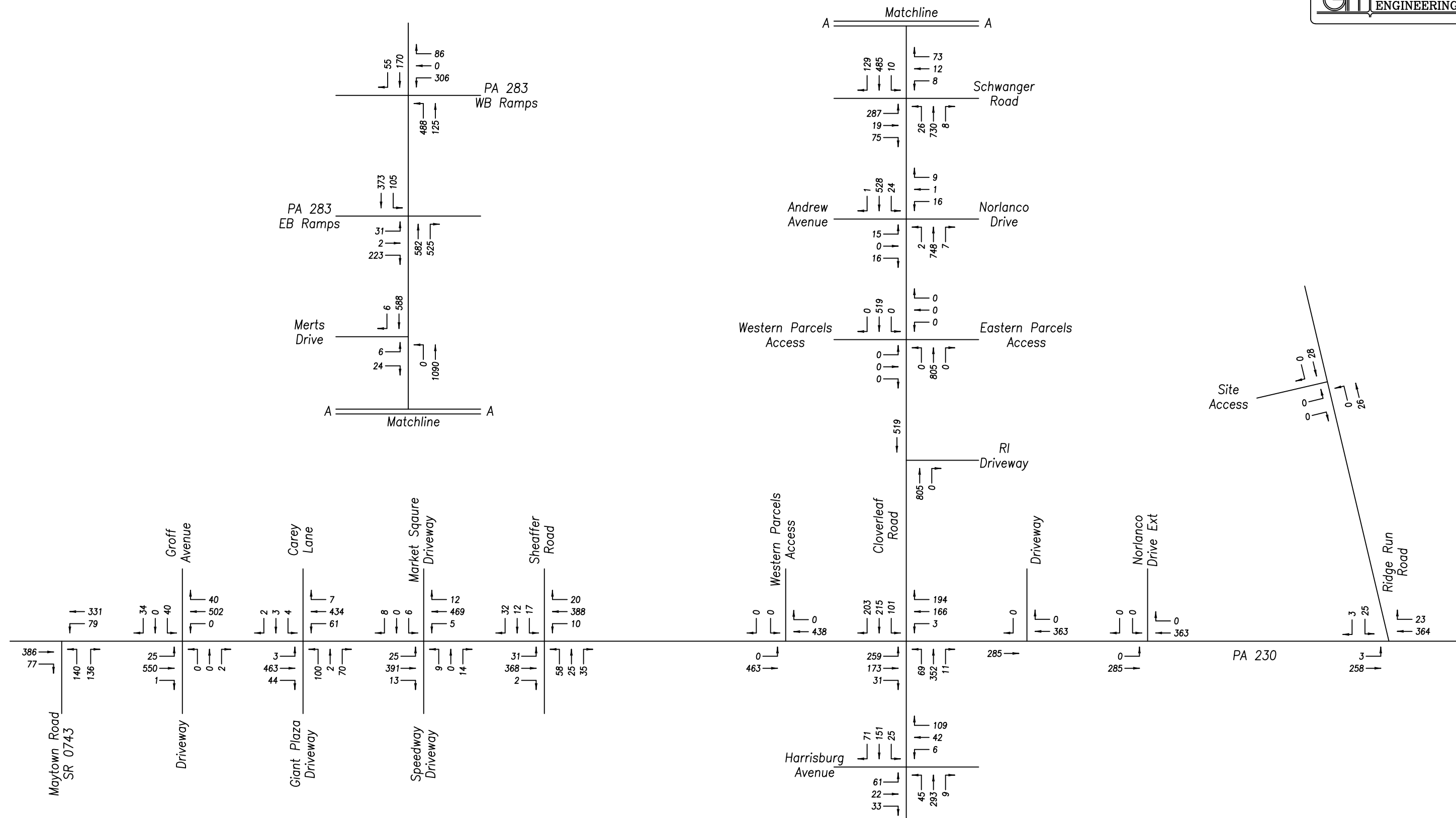


FIGURE 3a. EXISTING TRAFFIC VOLUMES, AM PEAK HOUR

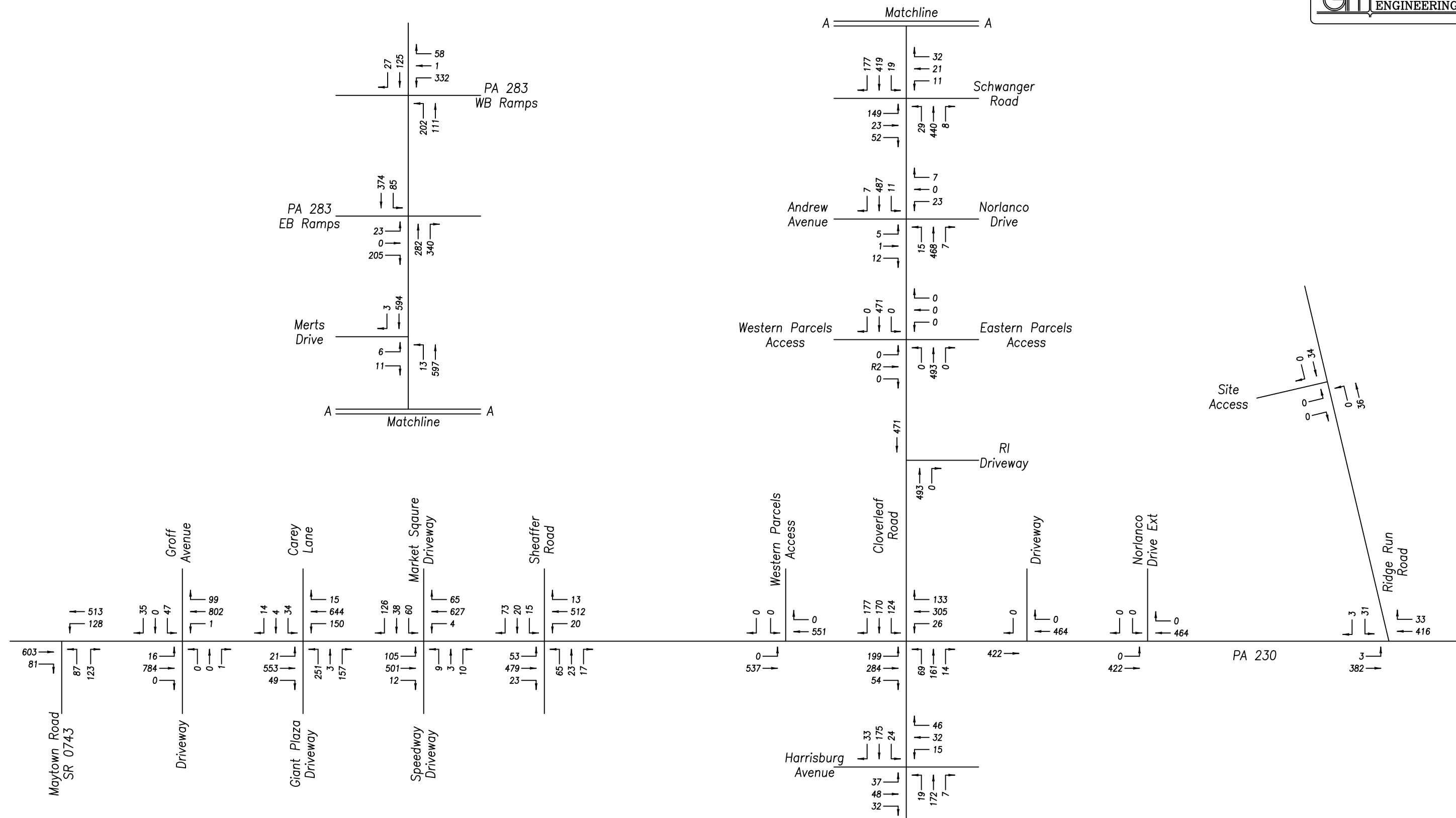


FIGURE 3c. EXISTING TRAFFIC VOLUMES, SATURDAY PEAK HOUR

FIGURE 3d

TRAFFIC SIGNAL PERMIT PLANS

CYCLE / SPLIT / OFFSET

PROGRAM 1 = AM PEAK		PHASE ①②③								CYCLE	OFFSET
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8	③④
										FREE	
11 SOUTH MARKET STREET (SR 0230) & SHEAFFER ROAD	T-175		45			25		45		25	70
10 MARKET STREET (SR 0230) & MARKET STREET SQUARE DRIVEWAY	T-112	11(LEAD)	45			14		56		14	70
9 MARKET STREET (SR 0230) & CAREY LANE/COMMERCIAL DRIVEWAY	T-173	13(LEAD)	40			17		53		17	70
8 MARKET STREET (SR 0230) & MAYTOWN AVENUE (SR 0743)	B-054	12(LEAD)	34	24				46			70
7 MARKET STREET (SR 0230) & ARCH STREET	B-077		41		29			41			70
17 MARKET STREET (SR 0230) & COLLEGE AVENUE	B-093	10(LEAD)	35		25	10(LEAD)		35		25	70
6 MARKET STREET (SR 0230) & BAINBRIDGE STREET	B-053		43		27			43			70
5 MARKET STREET (SR 0230) & HIGH STREET (SR 0241/4008)	B-056	14(LEAD)	28		28	14(LEAD)		28		28	70
4 MARKET STREET (SR 0230) & WILLOW STREET	B-076		44		26			44		26	70
3 MARKET STREET (SR 0230) & LINDEN AVENUE (SR 0743/0241)	B-049		37	31	1 ⑤			37	1 ⑤		70
2 HERSHEY ROAD (SR 0743/0241) , MOUNT GREINA ROAD (SR 0241) , HOLLY STREET & TURKEY HILL DRIVEWAY	T-132										FREE
1 HERSHEY ROAD (SR 0743) & PA 283 WB RAMP 0 (SR 8015)											FREE
PROGRAM 2 = PM PEAK		PHASE ①②③								CYCLE	OFFSET
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8	③④
11 SOUTH MARKET STREET (SR 0230) & SHEAFFER ROAD	T-175		48			32		48		32	80
10 MARKET STREET (SR 0230) & MARKET STREET SQUARE DRIVEWAY	T-112	11(LEAD)	51		18			62		18	80
9 MARKET STREET (SR 0230) & CAREY LANE/COMMERCIAL DRIVEWAY	T-173	13(LEAD)	43		24			56		24	80
8 MARKET STREET (SR 0230) & MAYTOWN AVENUE (SR 0743)	B-054	12(LEAD)	46	22				58			80
7 MARKET STREET (SR 0230) & ARCH STREET	B-077		51		29			51			80
17 MARKET STREET (SR 0230) & COLLEGE AVENUE	B-093	12(LEAD)	38		30	12(LEAD)		38		30	80
6 MARKET STREET (SR 0230) & BAINBRIDGE STREET	B-053		53		27			53			80
5 MARKET STREET (SR 0230) & HIGH STREET (SR 0241/4008)	B-056	14(LEAD)	38		28	14(LEAD)		38		28	80
4 MARKET STREET (SR 0230) & WILLOW STREET	B-076		53		27			53		27	80
3 MARKET STREET (SR 0230) & LINDEN AVENUE (SR 0743/0241)	B-049		40	38	1 ⑤			40	1 ⑤		80
2 HERSHEY ROAD (SR 0743/0241) , MOUNT GREINA ROAD (SR 0241) , HOLLY STREET & TURKEY HILL DRIVEWAY	T-132										FREE
1 HERSHEY ROAD (SR 0743) & PA 283 WB RAMP 0 (SR 8015)											FREE
PROGRAM 3 = WEEKEND PEAK		PHASE ①②③								CYCLE	OFFSET
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8	③④
11 SOUTH MARKET STREET (SR 0230) & SHEAFFER ROAD	T-175		64			46		64		46	110
10 MARKET STREET (SR 0230) & MARKET STREET SQUARE DRIVEWAY	T-112	14(LEAD)	68		28			92		28	110
9 MARKET STREET (SR 0230) & CAREY LANE/COMMERCIAL DRIVEWAY	T-173	22(LEAD)	57		31			79		31	110
8 MARKET STREET (SR 0230) & MAYTOWN AVENUE (SR 0743)	B-054	12(LEAD)	69	29				81			110
7 MARKET STREET (SR 0230) & ARCH STREET	B-077		44		26			44			70
17 MARKET STREET (SR 0230) & COLLEGE AVENUE	B-093	10(LEAD)	40		20	10(LEAD)		40		20	70
6 MARKET STREET (SR 0230) & BAINBRIDGE STREET	B-053		43		27			43			70
5 MARKET STREET (SR 0230) & HIGH STREET (SR 0241/4008)	B-056	14(LEAD)	28		28	14(LEAD)		28		28	70
4 MARKET STREET (SR 0230) & WILLOW STREET	B-076		45		25			45		25	70
3 MARKET STREET (SR 0230) & LINDEN AVENUE (SR 0743/0241)	B-049		36	32	1 ⑤			36	1 ⑤		70
2 HERSHEY ROAD (SR 0743/0241) , MOUNT GREINA ROAD (SR 0241) , HOLLY STREET & TURKEY HILL DRIVEWAY	T-132										FREE
1 HERSHEY ROAD (SR 0743) & PA 283 WB RAMP 0 (SR 8015)											FREE
PROGRAM 4 = PA283 EB INCIDENT MANAGEMENT		PHASE ①②③								CYCLE	OFFSET
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8	③④
11 SOUTH MARKET STREET (SR 0230) & SHEAFFER ROAD	T-175		110			30		110		30	140
10 MARKET STREET (SR 0230) & MARKET STREET SQUARE DRIVEWAY	T-112	15 (LEAD)	110		15			125		15	140
9 MARKET STREET (SR 0230) & CAREY LANE/COMMERCIAL DRIVEWAY	T-173	12 (LEAD)	110		18			122		18	140
8 MARKET STREET (SR 0230) & MAYTOWN AVENUE (SR 0743)	B-054	12 (LEAD)	110	18				122			140
7 MARKET STREET (SR 0230) & ARCH STREET	B-077		110		30			110			140
17 MARKET STREET (SR 0230) & COLLEGE AVENUE	B-093	15 (LEAD)	110		15	15 (LEAD)		110		15	140
6 MARKET STREET (SR 0230) & BAINBRIDGE STREET	B-053		110		30			110			140
5 MARKET STREET (SR 0230) & HIGH STREET (SR 0241/4008)	B-056	15 (LEAD)	110		15	15 (LEAD)		110		15	140
4 MARKET STREET (SR 0230) & WILLOW STREET	B-076		110		30			110		30	140
3 MARKET STREET (SR 0230) & LINDEN AVENUE (SR 0743/0241)	B-049		110		1 ⑤			28	1 ⑤		140
2 HERSHEY ROAD (SR 0743/0241) , MOUNT GREINA ROAD (SR 0241) , HOLLY STREET & TURKEY HILL DRIVEWAY	T-132	50 (LEAD)	28	110	15			110		15	140
1 HERSHEY ROAD (SR 0743) & PA 283 WB RAMP 0 (SR 8015)			60	15							124
											FREE
PROGRAM 5 = PA283 WB INCIDENT MANAGEMENT		PHASE ①②③								CYCLE	OFFSET
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8	③④
11 SOUTH MARKET STREET (SR 0230) & SHEAFFER ROAD	T-175		110			30		110		30	140
10 MARKET STREET (SR 0230) & MARKET STREET SQUARE DRIVEWAY	T-112	15 (LEAD)	110		15			125		15	140
9 MARKET STREET (SR 0230) & CAREY LANE/COMMERCIAL DRIVEWAY	T-173	15 (LEAD)	95		30			110		30	140
8 MARKET STREET (SR 0230) & MAYTOWN AVENUE (SR 0743)	B-054	15 (LEAD)	95	30				110			140
7 MARKET STREET (SR 0230) & ARCH STREET	B-077		110		30			110			140
17 MARKET STREET (SR 0230) & COLLEGE AVENUE	B-093	15 (LEAD)	110		15	15 (LEAD)		110		15	140
6 MARKET STREET (SR 0230) & BAINBRIDGE STREET	B-053		110		30			110			140
5 MARKET STREET (SR 0230) & HIGH STREET (SR 0241/4008)	B-056	15 (LEAD)	110		15	15 (LEAD)		110		15	140
4 MARKET STREET (SR 0230) & WILLOW STREET	B-076		110		30			110		30	140
3 MARKET STREET (SR 0230) & LINDEN AVENUE (SR 0743/0241)	B-049		68	70	1 ⑤			68	1 ⑤		140
2 HERSHEY ROAD (SR 0743/0241) , MOUNT GREINA ROAD (SR 0241) , HOLLY STREET & TURKEY HILL DRIVEWAY	T-132	15 (LEAD)	95	15	15			110		15	140
1 HERSHEY ROAD (SR 0743) & PA 283 WB RAMP 0 (SR 8015)			125				70	55		15	140

Notes:

- ① ALL SPLIT TIMES INCLUDE YELLOW AND RED TIMES FOR A GIVEN PHASE.
② REFER TO SIGNAL PERMIT PLAN FOR MAX 1, MAX 2 AND CLEARANCE AND PED TIMES.
③ SPLIT TIMES AND OFFSETS ARE IN SECONDS.
④ OFFSETS REFERENCED TO BEGINNING OF MAIN STREET YELLOW (2*6).
⑤ PHASES 4 AND 7 AT INTERSECTION #3 SERVE RESIDENTIAL DRIVEWAYS OPPOSITE THE INTERSECTION. CALLS TO PHASES 4 AND 7 TEMPORARILY SUSPEND COORDINATED OPERATION AT INTERSECTION 3.

INTERSECTIONS 1-2

WEEKLY PROGRAM CHART				
EVENT	DAY	TIME	PROGRAM*	REMARKS
1	1-7	0000	MAXIMUM 1	FREE

- *DAY 1 = MONDAY
* MAX / FREE WHERE NOTED IN CYCLE / SPLIT / OFFSET MATRIX.

INTERSECTIONS 3-11 AND 17

WEEKLY PROGRAM CHART				
EVENT	DAY	TIME	PROGRAM*	REMARKS
1	1-7	0000	MAXIMUM 1	FREE
2	1-5	0600	1	AM PEAK
3	1-5	0900	2	PM PEAK
4	1-5	1930	MAXIMUM 1	FREE
5	6	0900	3	WEEKEND PEAK
6	6	1900	MAXIMUM 1	FREE
7	7	1100	3	WEEKEND PEAK
8	7	1500	MAXIMUM 1	FREE

- *DAY 1 = MONDAY
* MAX / FREE WHERE NOTED IN CYCLE / SPLIT / OFFSET MATRIX.

PERMIT NUMBER: 1-0002 SHEET 2 OF 2

DATE ISSUED: DATE REVISED: 11-27-13

GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

REFER TO TRAFFIC SIGNAL PERMIT DRAWING FOR INDIVIDUAL INTERSECTION OPERATION, GEOMETRY, PHASING AND CRITICAL TIMES.

FOR CONSTRUCTION AND INSPECTION THE SYSTEM PERMIT SHOULD ALWAYS BE ACCOMPANIED WITH TRAFFIC SIGNAL PERMIT DRAWING.

TEST THE SYSTEM AT LOCAL INTERSECTION LEVEL, SUBSYSTEM LEVEL MASTER CONTROLLER LEVEL AND PERSONAL COMPUTER REMOTE DIAL UP LEVEL.

GATHER THE SYSTEM FAILURE CRITICAL ALARMS REPORT AND ARCHIVE THEM WHERE APPLICABLE.

ASSIGN LOOP DETECTORS AND PROGRAM THE CONTROLLERS TO GATHER TRAFFIC VOLUMES IN 15 MINUTE INTERVAL, WHERE APPLICABLE.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

OBTAIN POLE ATTACHMENT PERMIT FOR AERIAL FIBER OPTIC INSTALLATION.

MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-7800 SERIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

TRAFFIC SIGNALS INSTALLED USING LIQUID FUELS TAX FUNDS MUST CONFORM TO DEPARTMENT SPECIFICATIONS AS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENTS AND STANDARD DRAWINGS.

COUNTY:

LANCASTER

MUNICIPALITY:

ELIZABETHTOWN BOROUGH

MOUNT JOY TOWNSHIP

WEST DONEGAL TOWNSHIP

INTERSECTION:

MARKET STREET (SR 0230)

CORRIDOR

REVIEWED:

Randy L. Horne 2/21/12
MUNICIPAL OFFICIAL DATE

Greg A. Carr PE, PTOE 02/15/2012
MUNICIPAL OFFICIAL DATE

R. Ryan 2/21/12
MUNICIPAL OFFICIAL DATE

RECOMMENDED:

James S. Beasley 03/01/2012
DIST TRAFFIC ENGR DATE

Q:\Projects\OTHER\ELIZABETHTOWN Borough\Traffic Signal\Preemption\Plans\36407054 8per.mlt - Market - Maytown - AS-BUILT.dgn
16-MAY-2019 15:52:16 - MAY - 2019 15:52:32

MOVEMENT, PHASING, AND SEQUENCE CHART

																					EMERGENCY FLASH										
PHASE	1+6			2+6 ①				3				PRE-EMP 6			PRE-EMP 2			PRE-EMP 3													
INTERVAL SIGNAL	1	2	3	1	2	3	4	1	2	3	4	SELECTIVE CLEARANCES	1	2	3	SELECTIVE CLEARANCES	1	2	3	SELECTIVE CLEARANCES	1	2	3	SELECTIVE CLEARANCES	1	2	3	SELECTIVE CLEARANCES			
1	G	G	G	G	G	Y	R	R	R	R	R		G	G	Y		R	R	R		R	R	R		R	R	R		R	R	Y
2	G	G	G	G	G	Y	R	R	R	R	R		G	G	Y		R	R	R		R	R	R		R	R	R		R	R	Y
3,4	R	R	R	G	G	Y	R	R	R	R	R		R	R	R		R	G	Y		R	R	R		R	R	R		R	R	Y
5,6	R	R	R	R	R	R	R	G	G	Y	R		R	R	R		R	R	R		R	R	G		Y	R	R		R	R	Y
* 7,8	H	H	H	M	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	OFF					
* 9,10,11,12	H	H	H	H	H	H	H	M	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	OFF					
FAIL-SAFE A	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF				
FAIL-SAFE B	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF				
FAIL-SAFE C	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF				
FIXED		3.0	2.0			4.2	2.0			3.8	2.6	**	▲	4.2	2.0	**	▲	4.2	2.0	**	▲	3.8	2.6								
MINIMUM	5			15				5																							
ADDED INIT.	—			2.0				—																							
MAX. INITIAL	—			25				—																							
PASSAGE	3			6				3																							
TBR	—			20				—																							
TTR	—			10				—																							
MIN. GAP	—			3.5				—																							
MAXIMUM	15			45				25																							
PEDESTRIAN	—			8	7			7	9																						
MEMORY	NON-LOCK			MIN-RECALL				NON-LOCK																							

SIGNALIZATION NOTES

- * UPON PEDESTRIAN ACTUATION, OTHERWISE DONT WALK AT ALL TIMES
1. PHASE 2+6 ON OMITS PHASE 1.
2. REMAINS G IF FOLLOWED BY PHASE 2+6.
- ▲ DURATION OF PRE-EMPTION
- ** SELECTIVE CLEARANCE INTERVAL INCLUDES THE NORMAL ALL RED TIMINGS

EMERGENCY PRE-EMPTION NOTES:

OPERATION: CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION FOR THE ALL APPROACHES WHICH WILL TERMINATE THE GREEN INTERVALS AND PROVIDE A SELECTIVE CLEARANCE (YELLOW & ALL RED) WHEN ACTIVATED BY EMERGENCY TRANSMISSION.

CLEARANCE: IF PRE-EMPTION OCCURS DURING A PHASE CLEARANCE INTERVAL, THAT INTERVAL WILL CONTINUE TO TIME OUT FOLLOWED BY PRE-EMPTED PHASE.

GREEN PHASE: IF PRE-EMPTION OCCURS DURING GREEN PHASE THE CONTROLLER WILL REMAIN IN THAT PHASE FOR DURATION OF PRE-EMPTION.

FLASHING: IF PRE-EMPTION OCCURS DURING FLASHING OPERATION SIGNALS REMAIN IN FLASH.

PEDESTRIAN: IF PRE-EMPTION OCCURS DURING PEDESTRIAN PHASE, THE WALK/MAN INDICATIONS WILL TERMINATE IMMEDIATELY FOLLOWED BY THE PEDESTRIAN CLEARANCE PHASE. IF PREEMPTION OCCURS DURING THE PEDESTRIAN CLEARANCE PHASE "FLASHING HAND" CONTINUES IN ITS ENTIRETY THAN THE PREEMPTIVE PHASE.

PRIORITY: IN EMERGENCY PRE-EMPTION, NO PRIORITY SHALL BE ESTABLISHED, PRE-EMPTION SHALL BE A "FIRST COME, FIRST SERVE" OPERATION.

RETURN: UPON COMPLETION OF PRE-EMPTION, OPERATION RESUMES IN PHASE 2+6

FAIL SAFE: FAIL SAFE LIGHT WILL CONSIST OF A WHITE LIGHT FOR EACH APPROACH WHICH WILL FLASH WHEN EMERGENCY TRANSMISSION HAS CONTROL OF PRE-EMPTED APPROACH.

EQUIPMENT LOCATION: LOCATION OF EMERGENCY VEHICLE DETECTORS ARE TO BE FIELD ADJUSTED TO ACHIEVE MAXIMUM OPERATION.

ENCODING: IF THE PRE-EMPTION EQUIPMENT HAS ENCODING CAPABILITIES FOR VEHICLE IDENTIFICATION, IT IS RECOMMENDED TO HAVE THE ZERO "00" POSITION ON TO GIVE UNCODED EMITTERS THE ABILITY TO ACTIVATE THE EMERGENCY PREEMPTION.

PERMIT NUMBER: 003370 SHEET 2 OF 2

DATE ISSUED: 02-21-92 DATE REVISED: 6-12-19

GENERAL NOTES

INSTALLATION, OPERATION, AND MAINTENANCE OF THIS TRAFFIC SIGNAL TO BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS ON OFFICIAL TRAFFIC CONTROL DEVICES.

THE BOTTOM OF SIGNAL HEADS AND SIGNS ERCTED OVER THE ROADWAY ARE NOT TO BE LESS THAN 15 FEET NOR MORE THAN 19 FEET ABOVE THE ROADWAY. THE BOTTOM OF POST MOUNTED SIGNAL HEADS ARE NOT TO BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNAL HEADS MEASURED AT RIGHT ANGLES TO THE APPROACH IS TO BE 8 FEET.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR EMBANKMENT REMOVAL, CURBING AND/OR SIDEWALK, DRAINAGE STRUCTURES, CHANGES IN HIGHWAY GEOMETRY, PAVEMENT WIDENING, OR INSTALLATION OF ADDITIONAL LANES.

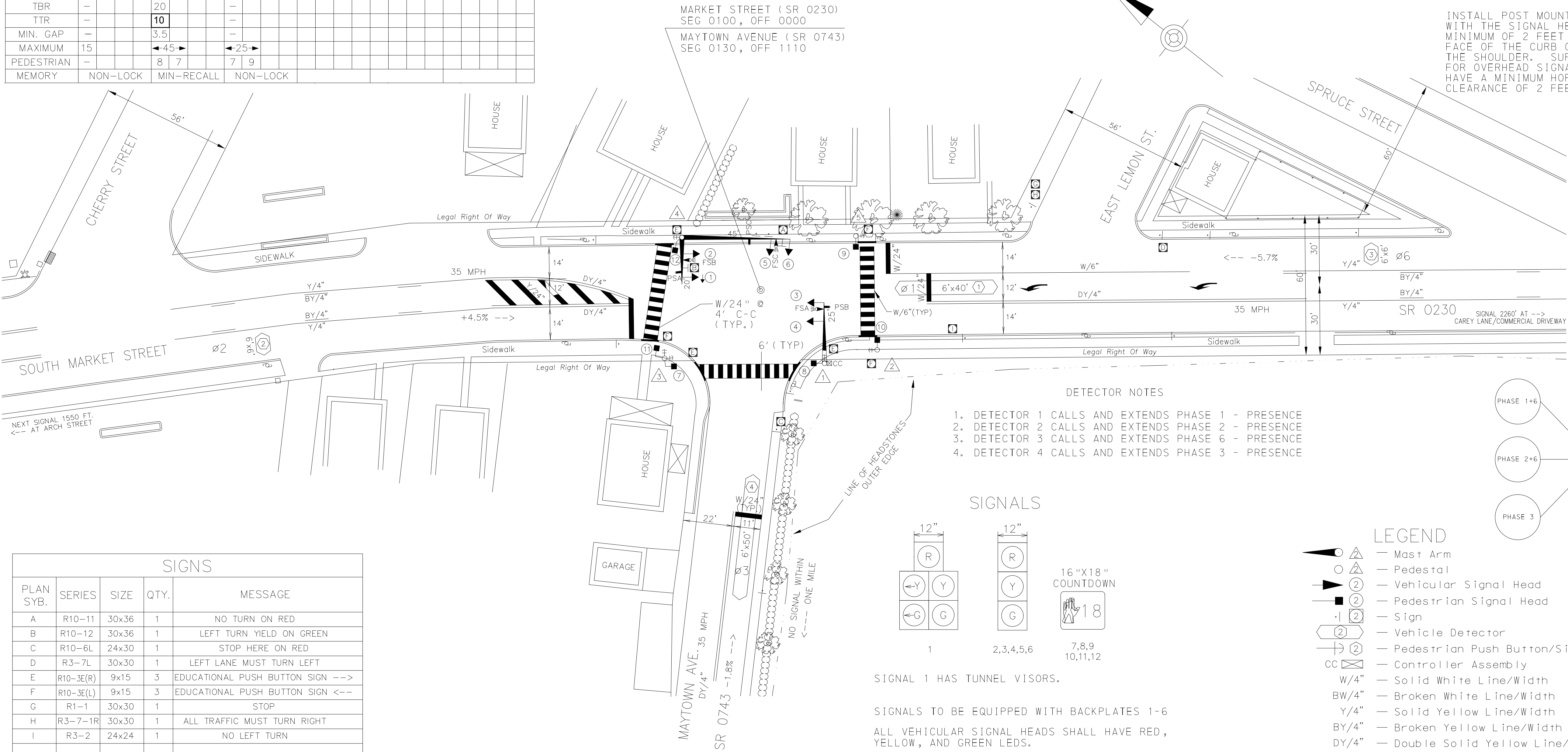
CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF ACT 50, UNDERGROUND UTILITY LINE PROTECTION ACT DATED APRIL 28, 2018. PRIOR TO CONSTRUCTION, CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

PAVEMENT MARKINGS WILL BE PLACED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT MARKING HANDBOOK.

PERMITTEE IS RESPONSIBLE FOR OBTAINING APPROVAL FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES LOCATED OUTSIDE HIGHWAY RIGHT-OF-WAY.

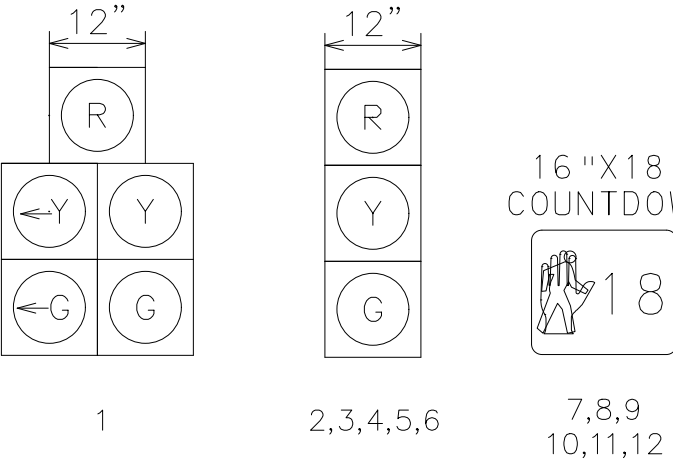
TRAFFIC SIGNALS INSTALLED USING LIQUID FUELS TAX FUND MUST CONFORM TO DEPARTMENT SPECIFICATIONS AS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENTS AND STANDARD DRAWINGS.



DETECTOR NOTES

1. DETECTOR 1 CALLS AND EXTENDS PHASE 1 - PRESENCE
2. DETECTOR 2 CALLS AND EXTENDS PHASE 2 - PRESENCE
3. DETECTOR 3 CALLS AND EXTENDS PHASE 6 - PRESENCE
4. DETECTOR 4 CALLS AND EXTENDS PHASE 3 - PRESENCE

SIGNALS



SIGNAL 1 HAS TUNNEL VISORS.

SIGNALS TO BE EQUIPPED WITH BACKPLATES 1-6

ALL VEHICULAR SIGNAL HEADS SHALL HAVE RED, YELLOW, AND GREEN LEDS.

ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE LUNAR WHITE AND PORTLAND ORANGE LEDS.

LEGEND

- Mast Arm
- Pedestal
- Vehicular Signal Head
- Pedestrian Signal Head
- Sign
- Vehicle Detector
- Pedestrian Push Button/Sign
- Controller Assembly
- Solid White Line/Width
- Broken White Line/Width
- Solid Yellow Line/Width
- Broken Yellow Line/Width
- Double Solid Yellow Line/Width
- Preemption Fail-Safe Light/Identification
- Preemption Sensor/Identification

COUNTY:

LANCASTER

MUNICIPALITY:

ELIZABETHTOWN BOROUGH

INTERSECTION:

MARKET STREET (SR 0230)
AND MAYTOWN AVENUE (SR 0743)

REVIEWED:

R. Ryan 5-17-19
MUNICIPAL OFFICIAL DATE

RECOMMENDED:

DIST TRAFFIC ENGR DATE

DETECTOR NOTES

1. DETECTOR 1 CALLS AND EXTENDS PHASE 1, EXTENDS PHASE 6, PRESENCE
2. DETECTOR 2 CALLS AND EXTENDS PHASE 2, PULSE
3. DETECTORS 4 AND 7 CALL AND EXTEND PHASE 4, PRESENCE
4. DETECTOR 6 CALLS AND EXTENDS PHASE 6, PULSE
5. DETECTORS 3 AND 8 CALL AND EXTEND PHASE 8, PRESENCE

SIGNALIZATION NOTES

- * UPON PEDESTRIAN ACTUATION ONLY.
- ① C/<-Y- IF FOLLOWED BY 2+6
- ② G/ IF FOLLOWED BY 2+6
- ③ TIMING WILL BE AS SHOWN IN 2+6. IT MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN 2+6.
- ④ PHASE 6 OMTS PHASE 1

REFER TO SYSTEM PERMIT I-0002 FOR SYSTEM TIMINGS.

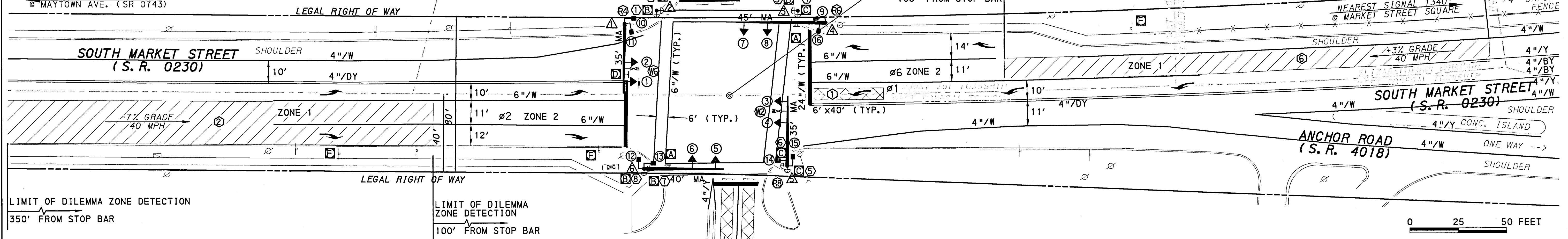
ADVANCE DILEMMA ZONE NOTES (ZONE 1):

ESTIMATED TIME OF ARRIVAL: MIN 2.5 - MAX 5.5 SEC.
RANGE OF DETECTION: MIN 100 - MAX 350 FT. FROM STOP BAR
MINIMUM SPEED BOUNDARY 25 MPH
ZONE MAY BE ADJUSTED IN FIELD.

DENSITY ZONE NOTES (ZONE 2):

RANGE OF DETECTION: MIN 0 - MAX 100 FT. FROM STOP BAR
MINIMUM SPEED BOUNDARY 1 MPH
ZONE MAY BE ADJUSTED IN FIELD.

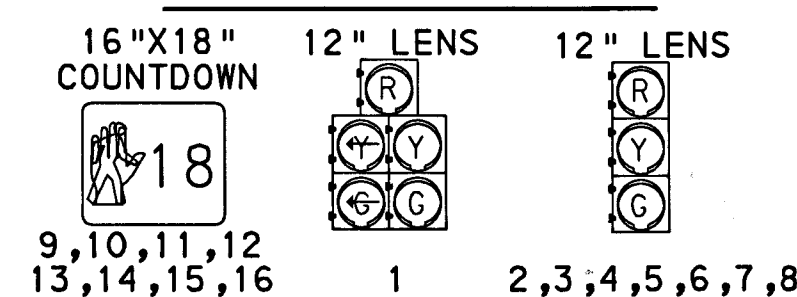
NEAREST SIGNAL 2260'
@ MAYTOWN AVE. (SR 0743)

[illegible]
















SIGNAL INDICATIONS

SIGNALS 1 THROUGH 8 TO HAVE
BACKPLATES.

ALL VEHICULAR SIGNAL HEADS
SHALL HAVE RED, YELLOW, AND
GREEN LEDS.



LEGEND


- | | | | |
|---|---|---|-------------------------------|
|  | CONTROLLER CABINET | | 4" WIDTH / DOUBLE YELLOW LINE |
|  | POLE NUMBER/MAST ARM | | 4" WIDTH / SOLID YELLOW LINE |
|  | SIGNAL HEAD/
IDENTIFYING NUMBER | | 4" WIDTH / SOLID WHITE LINE |
|  | SIGN/
IDENTIFYING LETTER | | 6" WIDTH / SOLID WHITE LINE |
|  | PEDESTRIAN SIGNAL HEAD
W/ IDENTIFYING NUMBER | | 24" WIDTH / SOLID WHITE LINE |
|  | PEDESTRIAN PUSHBUTTON |  | PHASE NUMBER |
|  | RADAR STOP BAR DETECTOR |  | UTILITY POLE |
|  | PRESENCE DETECTION ZONE |  | LUMINAIRE |
|  | ADVANCE DILEMMA/DENSITY ZONE
DETECTOR |  | GUIDE RAIL |
|  | ZONE 1 DETECTION ZONE |  | MIS |

COUNTY:
LANCASTER

MUNICIPALITY:
WEST DONEGAL TOWNSHIP

MOUNT JOY TOWNSHIP

INTERSECTION:
S MARKET ST (SR 0230) &
CAREY LANE/
COMMERCIAL DRIVEWAY

REVIEWED: (West Donegal Twp)

 MUNICIPAL OFFICIAL DATE 3/6/17

REVIEWED: (Mount Joy Twp)

Patricia Bailey 3/1/2017

MUNICIPAL OFFICIAL DATE

RECOMMENDED: _____ DATE _____

4/7/2017

DIST TRAFFIC ENGR _____ DATE _____

MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

														EMERGENCY FLASH
PHASE	INTERVAL	1+6				2+6				4+8				
SIGNAL		1	2	3	4	1	2	3	4	1	2	3	4	
1		G	G	Y	R		G	G	Y	R	R	R	R	Y
2		G	G	Y	R		G	G	Y	R	R	R	R	Y
3,4		R	R	R	R		G	G	Y	R	R	R	R	Y
5,6		R	R	R	R		R	R	R	R	G	G	Y	R
7,8		R	R	R	R		R	R	R	R	G	G	Y	R
9,10		H	H	H	H		M	FH	H	H	H	H	H	OFF
11,12		H	H	H	H		H	H	H	H	M	FH	H	OFF
13,14		M	FH	H	H		M	FH	H	H	H	H	H	OFF
15,16		H	H	H	H		H	H	H	H	M	FH	H	OFF
FIXED														
MINIMUM		3					15				3			
PASSAGE		3					0.5				3			
MAX 1		15					46				25			
PEDESTRIAN *							7	28			7	20		
MEMORY		NON-LOCK					MIN	RECALL			NON-LOCK			

DETECTOR NOTES

1. DETECTOR 1 CALLS AND EXTENDS PHASE 1, PRESENCE
2. DETECTOR 2 CALLS AND EXTENDS PHASE 2, PULSE
3. DETECTORS 4 AND 7 CALL AND EXTEND PHASE 4, PRESENCE
4. DETECTOR 6 CALLS AND EXTENDS PHASE 6, PULSE
5. DETECTOR 8 CALLS AND EXTENDS PHASE 8, PRESENCE

SIGNALIZATION NOTES

* UPON PEDESTRIAN ACTUATION ONLY.

- ① G/Z-Y- IF FOLLOWED BY 2+6
- ② G IF FOLLOWED BY 2+6
- ③ TIMING WILL BE AS SHOWN IN 2+6. IT MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN 2+6,
- ④ PHASE 6 ON OMITS PHASE 1

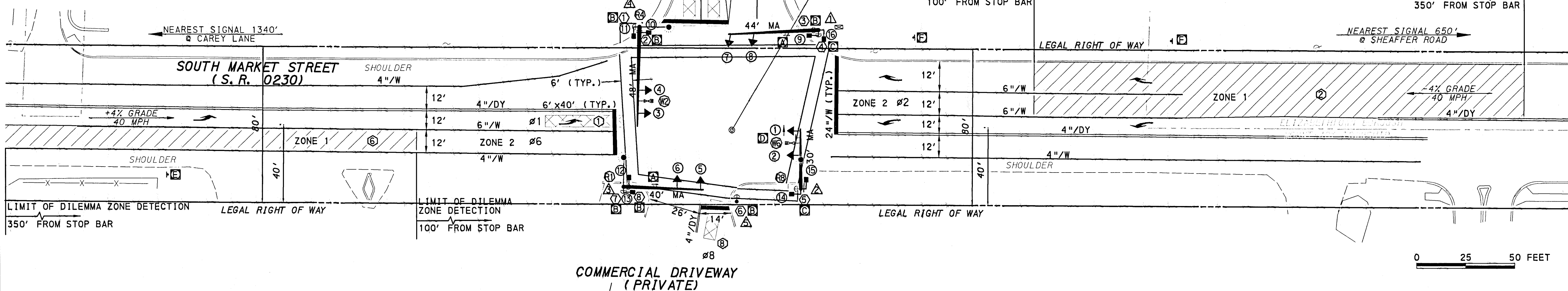
REFER TO SYSTEM PERMIT I-0002 FOR SYSTEM TIMINGS.

ADVANCE DILEMMA ZONE NOTES (ZONE 1):

ESTIMATED TIME OF ARRIVAL: MIN 2.5 - MAX 5.5 SEC.
RANGE OF DETECTION: MIN 100 - MAX 350 FT. FROM STOP BAR
MINIMUM SPEED BOUNDARY 25 MPH
ZONE MAY BE ADJUSTED IN FIELD.

DENSITY ZONE NOTES (ZONE 2):

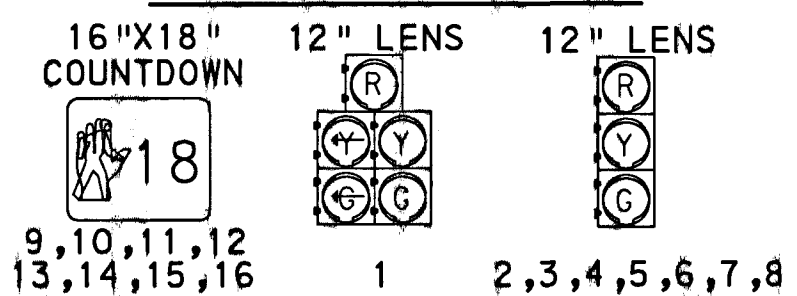
RANGE OF DETECTION: MIN 0 - MAX 100 FT. FROM STOP BAR
MINIMUM SPEED BOUNDARY 1 MPH
ZONE MAY BE ADJUSTED IN FIELD.

[illegible]













SIGNAL INDICATIONS

SIGNALS 1 THROUGH 8 TO HAVE
BACKPLATES.

ALL VEHICULAR SIGNAL HEADS
SHALL HAVE RED, YELLOW, AND
GREEN LEDS.



LEGEND

	CONTROLLER CABINET	4"/DY	4" WIDTH / DOUBLE YELLOW LINE
	POLE NUMBER/MAST ARM	4"/Y	4" WIDTH / SOLID YELLOW LINE
	SIGNAL HEAD/ IDENTIFYING NUMBER	4"/W	4" WIDTH / SOLID WHITE LINE
	SIGN/ IDENTIFYING LETTER	6"/W	6" WIDTH / SOLID WHITE LINE
	PEDESTRIAN SIGNAL HEAD W/ IDENTIFYING NUMBER	24"/W	24" WIDTH / SOLID WHITE LINE
	PEDESTRIAN PUSHBUTTON	Ø4	PHASE NUMBER
	RADAR STOP BAR DETECTOR		LUMINAIRE
	PRESENCE DETECTION ZONE		GUIDE RAIL
	ADVANCE DILEMMA/DENSITY ZONE DETECTOR		ZONE 1 DETECTION ZONE

COUNTY:

LANCASTER

MUNICIPALITY:

MOUNT JOY TOWNSHIP

INTERSECTION:

MARKET ST (SR 0230) &

MARKET STREET SQUARE &

SPEEDWAY DRIVEWAY

REVIEWED:

0. 4 .

Patricia J. Sweeney
MUNICIPAL OFFICIAL

RECOMMENDED:

4/7/2017

DIST TRAFFIC ENGR

DATE _____

T-175

GENERAL NOTES

INSTALLATION, OPERATION AND MAINTENANCE OF THIS TRAFFIC SIGNAL SHALL BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS ON OFFICIAL TRAFFIC CONTROL DEVICES.

NO MODIFICATION OF THIS INSTALLATION IS PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE DEPARTMENT.

ALL MAINTENANCE NECESSARY FOR PROPER VISIBILITY OF THE SIGNAL, INCLUDING TRIMMING TREES, IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND SHALL BE INSTALLED AND MAINTAINED BY THE PERMITTEE, UNLESS OTHERWISE INDICATED. EXCEPT THE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS, WHICH WILL BE MAINTAINED BY THE DEPARTMENT.

POST MOUNTED SIGNALS SHALL BE INSTALLED WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF THE CURB OR EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS SHALL ALSO HAVE A MINIMUM HORIZONTAL CLEARANCE OF 2 FEET.

THE BOTTOM OF SIGNAL HEADS AND SIGNS ERECTED OVER THE ROADWAY SHALL NOT BE LESS THAN 15 FEET OR MORE THAN 19 FEET ABOVE THE ROADWAY. THE BOTTOM OF POST MOUNTED SIGNAL HEADS SHALL NOT BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNAL HEADS, MEASURED AT RIGHT ANGLES TO THE APPROACH, SHALL BE 8 FEET.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR EMBANKMENT REMOVAL, CURBING, AND/OR SIDEWALK AND DRAINAGE STRUCTURES, CHANGES IN HIGHWAY GEOMETRY, PAVEMENT WIDENING, OR INSTALLATION OF ADDITIONAL LANES.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-7800 SERIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF ACT 237, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, CONSULT WITH UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT MARKING HANDBOOK.

PERMITTEE IS RESPONSIBLE FOR OBTAINING APPROVAL FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES LOCATED OUTSIDE HIGHWAY RIGHT-OF-WAY.

TRAFFIC SIGNALS INSTALLED USING LIQUID TAX FUNDS MUST CONFORM TO DEPARTMENT SPECIFICATIONS AS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENTS AND STANDARD DRAWINGS.

NOTE: SHEAFFER ROAD FORMERLY KNOWN AS SCHWANGER ROAD.

0 25 50 FEET

COUNTY:
LANCASTER
MUNICIPALITY:
MOUNT JOY TOWNSHIP
INTERSECTION:
S. MARKET ST. (SR 0230)
AND SHEAFFER ROAD

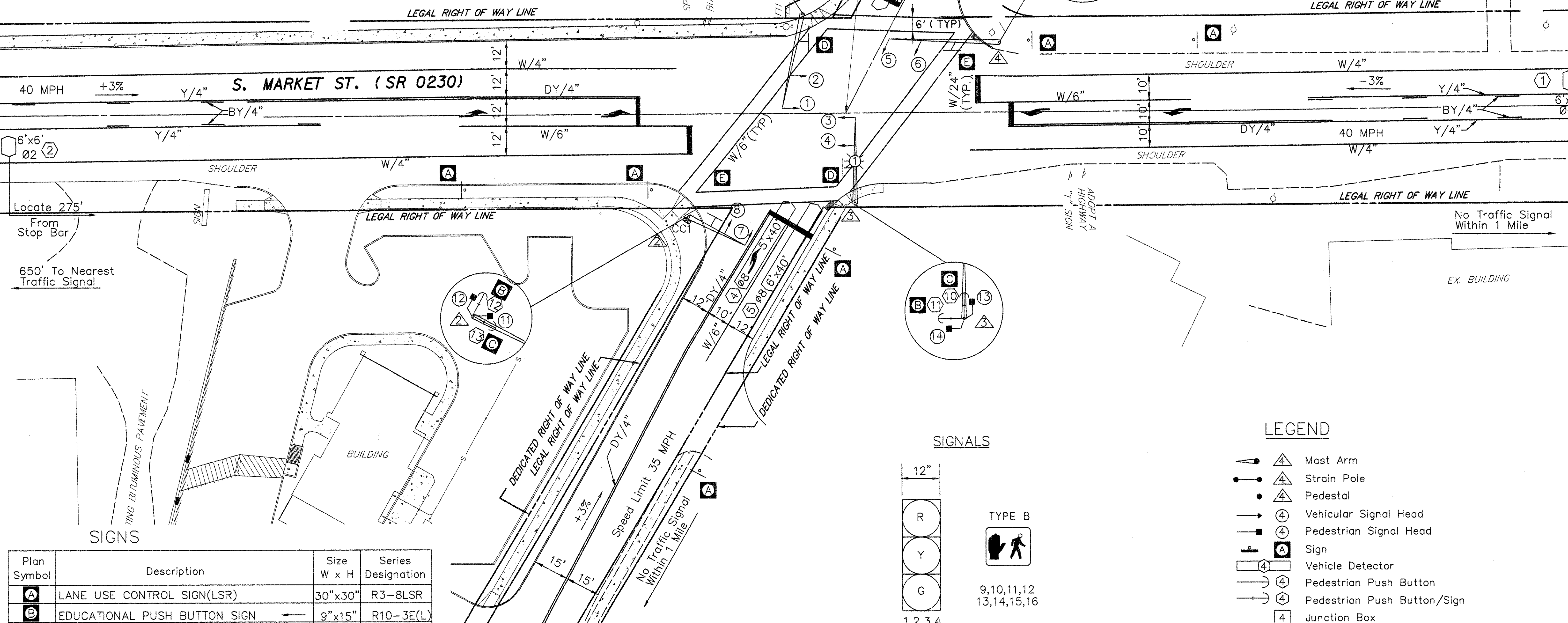
REVIEWED:
Joseph A. Coughlin, P.E., PTOE 05-03-2011
MUNICIPAL OFFICIAL DATE
RECOMMENDED:
John C. Beurlay 05/11/2011
DIST. TRAFFIC ENGR DATE

MOVEMENT, SEQUENCE AND TIMING

PHASE	2 + 6				4 + 8				EMERGENCY FLASHING
	1	2	3	4	1	2	3	4	
1,2,3,4	G	G	Y	R	R	R	R	R	Y
5,6,7,8	R	R	R	R	G	G	Y	R	R
9,12,13,15	H	H	H	H	M	FH	H	H	OFF
10,11,14,16	M	FH	H	H	H	H	H	H	OFF
FIXED			4.3	1.6			4.0	2.0	
MINIMUM	15				3.0				
ADDED INT	3.0								
MAX INT	30								
PASSAGE	6.0				3.0				
TBR	30								
TTR	15								
MIN GAP	3.5				20				
MAX I	45								
MAX II									
PED*	11	13			14	17			
MEMORY	MIN RECALL				NON-LOCKING				

* UPON PEDESTRIAN ACTUATION ONLY

FOR COORDINATED TIMINGS, REFER TO SYSTEM PERMIT I-0002.



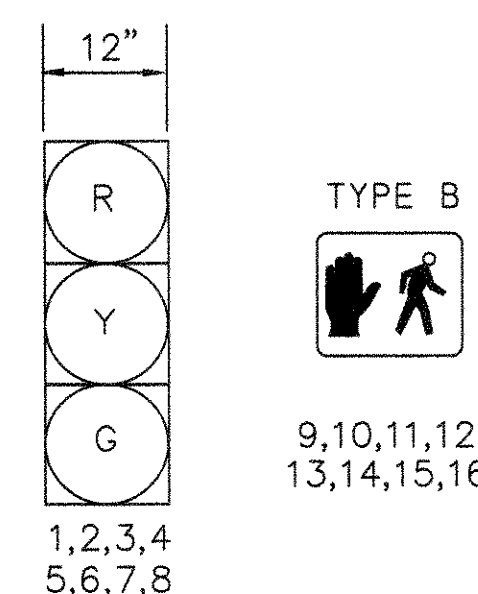
Plan Symbol	Description	Size W x H	Series Designation
A	LANE USE CONTROL SIGN(LSR)	30"x30"	R3-8LSR
B	EDUCATIONAL PUSH BUTTON SIGN	9"x15"	R10-3E(L)
C	EDUCATIONAL PUSH BUTTON SIGN	9"x15"	R10-3E(R)
D	STREET NAME: "Sheaffer Rd"	*	D3-4
E	STREET NAME: "Market St"	*	D3-4

* SIZE AS REQUIRED

DETECTOR NOTES

- DETECTOR 1 CALLS AND EXTENDS PHASE 6 - PRESENCE
- DETECTOR 2 CALLS AND EXTENDS PHASE 2 - PRESENCE
- DETECTOR 3 CALLS AND EXTENDS PHASE 4 - PRESENCE
- DETECTORS 4 AND 5 CALL AND EXTEND PHASE 8 - PRESENCE

SIGNALS



SIGNALS 1 - 8 TO BE EQUIPPED WITH BACKPLATES.

ALL VEHICULAR SIGNAL HEADS SHALL HAVE RED, YELLOW, AND GREEN LEDS.

ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE LUNAR WHITE AND PORTLAND ORANGE LEDS.

LEGEND

- ▲ Mast Arm
- Strain Pole
- Pedestal
- ④ Vehicular Signal Head
- ④ Pedestrian Signal Head
- ④ Sign
- ④ Vehicle Detector
- ④ Pedestrian Push Button
- ④ Pedestrian Push Button/Sign
- ④ Junction Box
- C/2"— Conduit/Size
- CC4 Controller Assembly
- W/4" Solid White Line/Width
- BW/4" Broken White Line/Width
- Y/4" Solid Yellow Line/Width
- BY/4" Broken Yellow Line/Width
- DY/4" Double Solid Yellow Line/Width
- ☼ Luminaire

GENERAL NOTES

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED IN WRITING BY A REPRESENTATIVE OF THE DEPARTMENT OF TRANSPORTATION.

REFER TO TRAFFIC SIGNAL PERMIT DRAWING FOR INDIVIDUAL INTERSECTION OPERATION, GEOMETRY, PHASING AND CRITICAL TIMES.

FOR CONSTRUCTION AND INSPECTION THE SYSTEM PERMIT SHOULD ALWAYS BE ACCOMPANIED WITH TRAFFIC SIGNAL PERMIT DRAWING.

TEST THE SYSTEM AT LOCAL INTERSECTION LEVEL, SUBSYSTEM LEVEL MASTER CONTROLLER LEVEL AND PERSONAL COMPUTER REMOTE DIAL UP LEVEL.

GATHER THE SYSTEM FAILURE CRITICAL ALARMS REPORT AND ARCHIVE THEM WHERE APPLICABLE.

ASSIGN LOOP DETECTORS AND PROGRAM THE CONTROLLERS TO GATHER TRAFFIC VOLUMES IN 15 MINUTE INTERVAL, WHERE APPLICABLE.

EXACT LOCATION OF DETECTORS SHALL BE DETERMINED PRIOR TO INSTALLATION BY A REPRESENTATIVE OF PENNDOT.

OBTAIN POLE ATTACHMENT PERMIT FOR AERIAL FIBER OPTIC INSTALLATION.

MAINTAIN MASTER CONTROLLER COMMUNICATION SUCH AS PHONE DROPS.

PRIOR TO INSTALLATION THE CONTRACTOR SHALL CONSULT WITH THE LOCAL OFFICIALS AND UTILITY COMPANIES TO RESOLVE ANY PROBLEMS WHICH MAY BE CREATED DUE TO THE LOCATION OF UTILITIES.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-7800 SERIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF THE LATEST AMENDMENT TO ACT 287, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, DATED DECEMBER 20, 1974.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR ANY CHANGES IN INTERSECTION GEOMETRY REGARDING EXCAVATION.

TRAFFIC SIGNALS INSTALLED USING LIQUID FUELS TAX FUNDS MUST CONFORM TO DEPARTMENT SPECIFICATIONS AS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENTS AND STANDARD DRAWINGS.

COUNTY:

LANCASTER

MUNICIPALITY:

MOUNT JOY TOWNSHIP

INTERSECTION:

CLOVERLEAF ROAD (SR 4025)

CORRIDOR

REVIEWED:

Sheila A. Carr

MUNICIPAL OFFICIAL

DATE

RECOMMENDED:

Deann C. Bewley

DIST TRAFFIC ENGR

DATE

INTERSECTIONS 12-14

WEEKLY PROGRAM CHART				
EVENT	DAY	TIME	PROGRAM*	REMARKS
1	1-7	0000	MAXIMUM 1	FREE
2	1-5	0600	1	AM PEAK
3	1-5	0900	MAXIMUM 1	FREE
4	1-5	1430	1	PM PEAK
5	1-5	1900	MAXIMUM 1	FREE
6	6	0900	3	WEEKEND PEAK
7	6	1700	MAXIMUM 1	FREE

* DAY 1 = MONDAY
* MAX / FREE WHERE NOTED IN CYCLE / SPLIT / OFFSET MATRIX.

INTERSECTION 15

WEEKLY PROGRAM CHART				
EVENT	DAY	TIME	PROGRAM*	REMARKS
1	1-7	0000	MAXIMUM 1	FREE

* DAY 1 = MONDAY
* MAX / FREE WHERE NOTED IN CYCLE / SPLIT / OFFSET MATRIX.

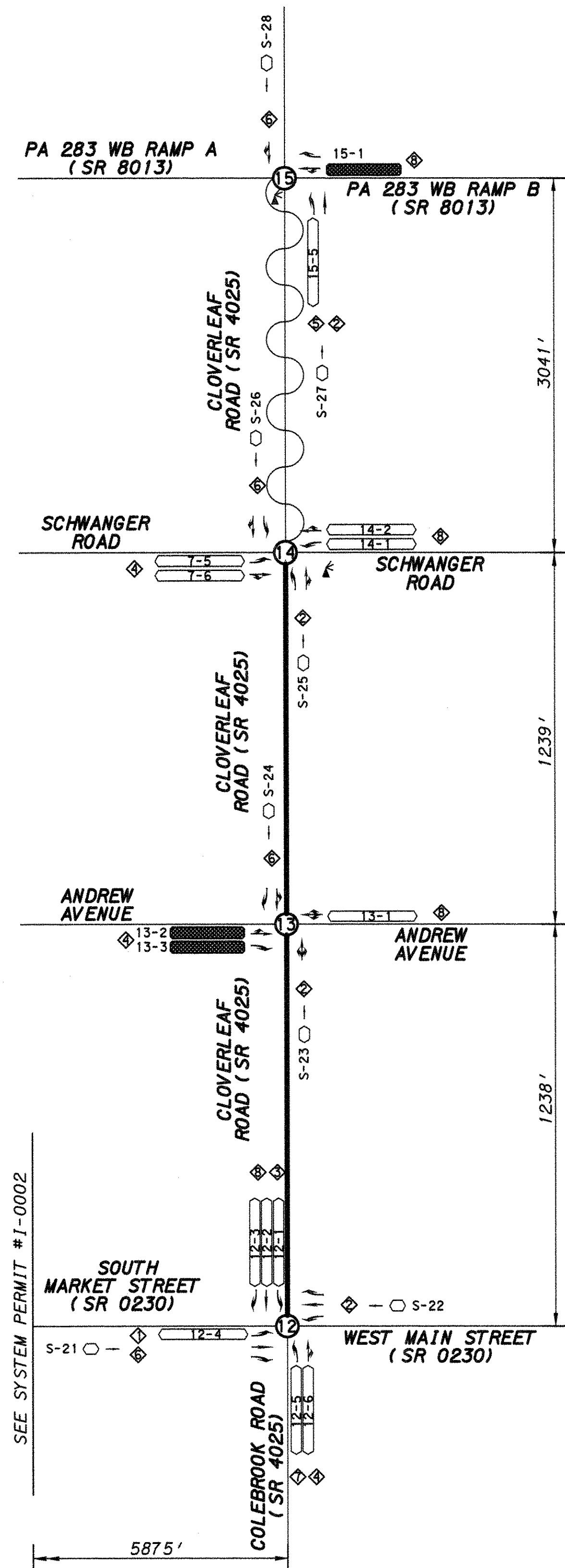
CYCLE / SPLIT / OFFSET

PROGRAM 1 = AM PEAK		PHASE								CYCLE	OFFSET	
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8		
15 CLOVERLEAF ROAD (SR 4025) & PA 283 WB RAMP B (SR 8013)		T-271									FREE	
14 CLOVERLEAF ROAD (SR 4025) & SCHWANGER ROAD		T-273		45		25		45		25	70	0
13 CLOVERLEAF ROAD (SR 4025) & ANDREW AVENUE		T-272		53		17		53		17	70	63
12 HARRISBURG PIKE (SR 0230), CLOVERLEAF ROAD (SR 4025) & COLEBROOK ROAD (SR 4025)		T-044									FREE	
PROGRAM 2 = PM PEAK		PHASE								CYCLE	OFFSET	
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8		
15 CLOVERLEAF ROAD (SR 4025) & PA 283 WB RAMP B (SR 8013)		T-271									FREE	
14 CLOVERLEAF ROAD (SR 4025) & SCHWANGER ROAD		T-273		43		17		43		17	60	0
13 CLOVERLEAF ROAD (SR 4025) & ANDREW AVENUE		T-272		45		15		45		15	60	25
12 HARRISBURG PIKE (SR 0230), CLOVERLEAF ROAD (SR 4025) & COLEBROOK ROAD (SR 4025)		T-044	23(LEAD)	45	20(LEAD)	32		68	15(LEAD)	37	120	107
PROGRAM 3 = WEEKEND PEAK		PHASE								CYCLE	OFFSET	
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8		
15 CLOVERLEAF ROAD (SR 4025) & PA 283 WB RAMP B (SR 8013)		T-271									FREE	
14 CLOVERLEAF ROAD (SR 4025) & SCHWANGER ROAD		T-273		40		20		40		20	60	0
13 CLOVERLEAF ROAD (SR 4025) & ANDREW AVENUE		T-272		44		16		44		16	60	33
12 HARRISBURG PIKE (SR 0230), CLOVERLEAF ROAD (SR 4025) & COLEBROOK ROAD (SR 4025)		T-044									FREE	
PROGRAM 4 = PA283 EB INCIDENT MANAGEMENT		PHASE								CYCLE	OFFSET	
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8		
15 CLOVERLEAF ROAD (SR 4025) & PA 283 WB RAMP B (SR 8013)		T-271									FREE	
14 CLOVERLEAF ROAD (SR 4025) & SCHWANGER ROAD		T-273		110		30		110		30	140	0
13 CLOVERLEAF ROAD (SR 4025) & ANDREW AVENUE		T-272		110		30		110		30	140	119
12 HARRISBURG PIKE (SR 0230), CLOVERLEAF ROAD (SR 4025) & COLEBROOK ROAD (SR 4025)		T-044	98	14	14	14		112	14	14	140	98
PROGRAM 5 = PA283 WB INCIDENT MANAGEMENT		PHASE								CYCLE	OFFSET	
INTERSECTIONS		FILE #	1	2	3	4	5	6	7	8		
15 CLOVERLEAF ROAD (SR 4025) & PA 283 WB RAMP B (SR 8013)		T-271		30			SKIP	30		110	140	118
14 CLOVERLEAF ROAD (SR 4025) & SCHWANGER ROAD		T-273		110		30		110		30	140	0
13 CLOVERLEAF ROAD (SR 4025) & ANDREW AVENUE		T-272		110		30		110		30	140	21
12 HARRISBURG PIKE (SR 0230), CLOVERLEAF ROAD (SR 4025) & COLEBROOK ROAD (SR 4025)		T-044	15	15	55	55		30		110	140	42

Notes:
- ALL SPLIT TIMES INCLUDE YELLOW AND RED TIMES FOR A GIVEN PHASE.
- REFER TO SIGNAL PERMIT PLAN FOR MAX 1, MAX 2 AND CLEARANCE AND PED TIMES.
- SPLIT TIMES AND OFFSETS ARE IN SECONDS.
- OFFSETS REFERENCED TO BEGINNING OF MAIN STREET YELLOW (2+6).

LEGEND

- ④ INTERSECTION ADDRESS
- (S#) SYSTEM LOOP/IDENTIFYING NUMBER
- LOOP SENSOR / INTERSECTION X - LOOP NUMBER Y
- ▨ VIDEO DETECTION AREA
- ◆ PHASE NUMBER
- ⚡ SPREAD SPECTRUM RADIO RECEIVER
- FIBER OPTIC INTERCONNECTION
- ~ RADIO CONNECTION
- NOT TO SCALE



MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

PHASE	1+6	2+6	3+7	3+8	4+7	4+8
1	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
2	G G Y R	G G Y R	R R R R	R R R R	R R R R	R R R R
3, 4	R R R R	R R R R	R R R R	R R R R	R R R R	R R R R
5, 9	R R R R	R R R R	R R R R	R R R R	R R R R	R R R R
6	R R R R	R R R R	R R R R	R R R R	R R R R	R R R R
7	R R R R	R R R R	R R R R	R R R R	R R R R	R R R R
8	R R R R	R R R R	R R R R	R R R R	R R R R	R R R R
10, 11	H H H H	H H H H	H H H H	H H H H	H H H H	H H H H
12, 13	M F H H	M F H H	H H H H	H H H H	H H H H	H H H H
FAIL-SAFE LAMP A						
FAIL-SAFE LAMP B						
FAIL-SAFE LAMP C						
FAIL-SAFE LAMP D						
FIXED	4.5 2	4.5 2	4 3	4 3	4 3	4 3
MINIMUM	3	12	3	3	3	3
PASSAGE	3	0.5	3	3	3	3
MAXIMUM 1	17	55	15	30	15	30
PEDESTRIAN ⑦	⑧	7 24	⑨	⑨	⑨	7 20
MEMORY	NON-LOCKING	MIN. RECALL	NON-LOCKING	NON-LOCKING	NON-LOCKING	NON-LOCKING

OPERATION NOTES

- ① IF FOLLOWED BY 2+6
- ② IF FOLLOWED BY 2+6
- ③ IF FOLLOWED BY 3+8
- ④ IF FOLLOWED BY 4+7
- ⑤ IF FOLLOWED BY 4+8
- ⑥ IF FOLLOWED BY 4+8
- ⑦ UPON PEDESTRIAN ACTUATION ONLY
- ⑧ TIMING WILL BE AS SHOWN IN PHASE 2+6. IT MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN PHASE 2+6.
- ⑨ TIMING WILL BE AS SHOWN IN PHASE 4+8. IT MAY TIME OUT IN THIS PHASE OR BE COMPLETED IN PHASE 4+8.

ADVANCE DILEMMA ZONE NOTES (ZONE 1):

ESTIMATED TIME OF ARRIVAL: MIN 2.5 - MAX 5.5 SEC.
 RANGE OF DETECTION: MIN 50 - MAX 350 FT. FROM STOP BAR
 MINIMUM SPEED BOUNDARY 25 MPH
 ZONE MAY BE ADJUSTED IN FIELD.

DETECTOR NOTES

DETECTION ZONE 1 CALLS AND EXTENDS PHASE 1 - PRESENCE
 DETECTION ZONE 3 CALLS AND EXTENDS PHASE 3 - PRESENCE
 DETECTION ZONE 4 CALLS AND EXTENDS PHASE 4 - PRESENCE
 DETECTION ZONE 7 CALLS AND EXTENDS PHASE 7 - PRESENCE
 DETECTION ZONES 8a & 8b CALL AND EXTEND PHASE 8 - PRESENCE
 DETECTORS 10, 11 CALL PEDESTRIAN SIGNALS FOR PHASE 4+8 - PUSH BUTTON
 DETECTORS 12, 13 CALL PEDESTRIAN SIGNALS FOR PHASE 2+6 - PUSH BUTTON

DENSITY ZONE NOTES (ZONE 2):

RANGE OF DETECTION: MIN 30 - MAX 50 FT. FROM STOP BAR
 MINIMUM SPEED BOUNDARY 5 MPH
 ZONE MAY BE ADJUSTED IN FIELD.

FOR SYSTEM TIMINGS, REFER TO SYSTEM PERMIT I-0003

▲ FOR DURATION OF PRE-EMPTION

* SELECTIVE YELLOW INTERVAL INCLUDES THE NORMAL ALL RED PHASE TIMING.

T-044

PERMIT NUMBER: 8443 SHEET 2 OF 2

DATE ISSUED: 09-11-79 DATE REVISED: 3-25-13

GENERAL NOTES

INSTALLATION, OPERATION, AND MAINTENANCE OF THIS TRAFFIC SIGNAL TO BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS ON OFFICIAL TRAFFIC CONTROL DEVICES.

NO MODIFICATIONS OF THIS INSTALLATION ARE PERMITTED UNLESS PRIOR APPROVAL IS GRANTED, IN WRITING, BY THE DEPARTMENT.

ALL MAINTENANCE NECESSARY FOR PROPER VISIBILITY OF THE SIGNALS, INCLUDING TRIMMING TREES, IS THE RESPONSIBILITY OF THE PERMITTEE.

ALL SIGNS AND PAVEMENT MARKINGS INDICATED ON THIS DRAWING ARE CONSIDERED PART OF THE PERMIT AND ARE TO BE INSTALLED AND MAINTAINED BY THE PERMITTEE, UNLESS OTHERWISE INDICATED. EXCEPT THE LONGITUDINAL PAVEMENT MARKINGS ON STATE HIGHWAYS WHICH WILL BE MAINTAINED BY THE DEPARTMENT.

INSTALL POST MOUNTED SIGNALS WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF THE CURB OR EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS WILL HAVE A MINIMUM HORIZONTAL CLEARANCE OF 2 FEET.

THE BOTTOM OF SIGNAL HEADS AND SIGNS ERECTED OVER THE ROADWAY ARE NOT TO BE LESS THAN 15 FEET NOR MORE THAN 19 FEET ABOVE THE ROADWAY. THE BOTTOM OF POST MOUNTED SIGNAL HEADS ARE NOT TO BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNAL HEADS MEASURED AT RIGHT ANGLES TO THE APPROACH IS TO BE 8 FEET.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR EMBANKMENT REMOVAL, CURBING AND/OR SIDEWALK, DRAINAGE STRUCTURES, CHANGES IN HIGHWAY GEOMETRY, PAVEMENT WIDENING, OR INSTALLATION OF ADDITIONAL LANES.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-8800 SERIES.

THIS DRAWING CANNOT BE USED AS A CONSTRUCTION DRAWING UNLESS THE PERMITTEE COMPLIES WITH THE PROVISIONS OF ACT 181, PREVENTION OF DAMAGE TO UNDERGROUND UTILITIES, EFFECTIVE MARCH 29, 2007.

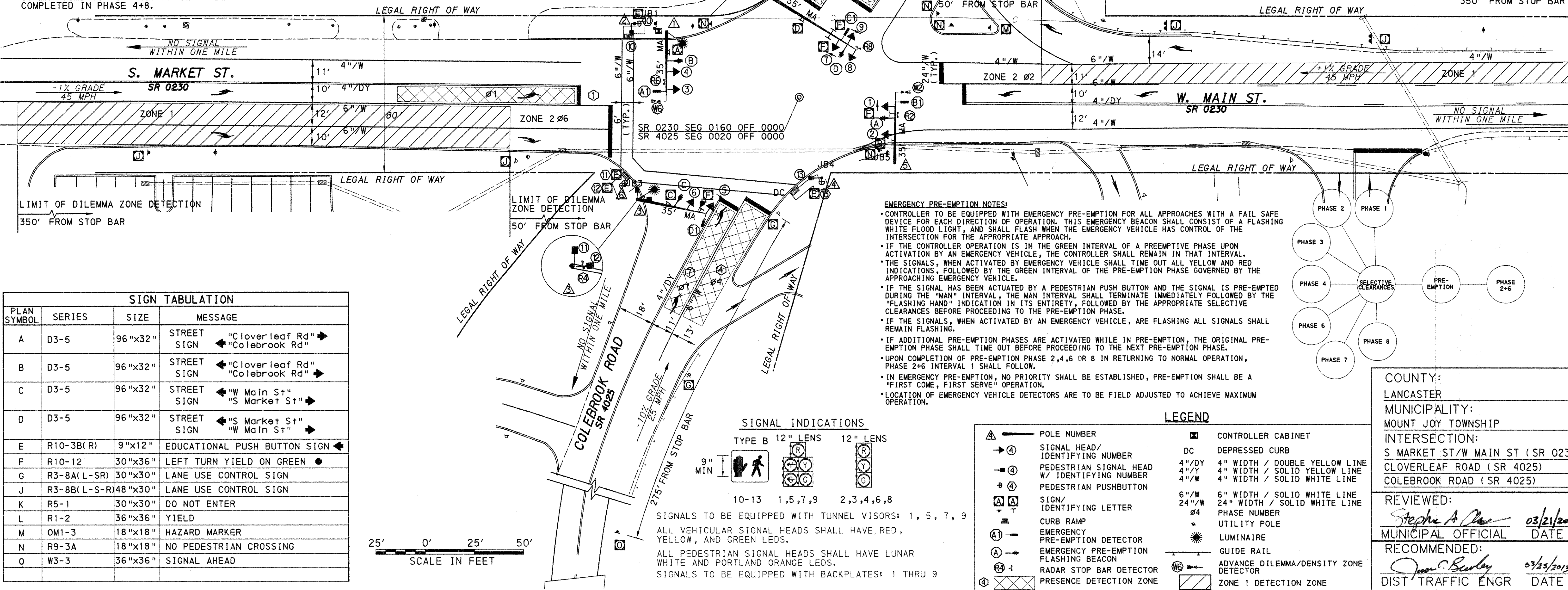
PAVEMENT MARKINGS WILL BE PLACED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT MARKING HANDBOOK.

PERMITTEE IS RESPONSIBLE FOR OBTAINING APPROVAL FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES LOCATED OUTSIDE HIGHWAY RIGHT-OF-WAY.

TRAFFIC SIGNALS INSTALLED USING LIQUID FUELS TAX FUNDS MUST CONFORM TO DEPARTMENT SPECIFICATIONS AS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENTS AND STANDARD DRAWINGS.

LIMIT OF DILEMMA ZONE DETECTION

350' FROM STOP BAR



MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

	2+6				4+8				PRE-EMP A				PRE-EMP C				PRE-EMP B				PRE-EMP D				
PHASE	1	2	3	4	1	2	3	4	SELECTIVE CLEARANCES				SELECTIVE CLEARANCES				SELECTIVE CLEARANCES				SELECTIVE CLEARANCES				EMERGENCY FLASHING
SIGNAL INTERVAL	1	2	3	4	1	2	3	4	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3		
1,2	G	G	Y	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	Y		
3,4	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	Y		
5,6	R	R	R	R	G	G	Y	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R		
7,8	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
9,10,11,12	M	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	OFF		
13,14,15,16	H	H	H	H	M	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	OFF		
FAIL-SAFE LAMP A									ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF		
FAIL-SAFE LAMP B									OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF		
FAIL-SAFE LAMP C									OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF		
FAIL-SAFE LAMP D									OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF		
SIGN G-RED	OFF	OFF	FR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	SR	OFF		
SIGN G-SIGNAL AHEAD	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON		

FIXED	4.5	1.5			3	2.5	▲	4.5	1.5	▲	3	2.5	▲	4.5	1.5	▲	3	2.5
MINIMUM	12				3													
SEC / ACT	4																	
MAXIMUM INITIAL	25																	
PASSAGE	6				3													
TBR	25																	
TTR	13																	
MINIMUM GAP	3																	
MAXIMUM 1	39				20													
FOR COORDINATION TIMINGS, REFER TO SYSTEM PERMIT 1-0003																		
PEDESTRIAN *	7	15			7	15												
MEMORY	MIN	RECALL			NL													

PRE-EMPTION OPERATION NOTES

- ① SIGNAL TO INDICATE G WHEN RETURNING TO NORMAL OPERATION
▲ FOR DURATION OF PRE-EMPTION
* UPON PEDESTRIAN ACTUATION OTHERWISE HAND SYMBOL AT ALL TIMES

DETECTOR NOTES

- DETECTOR 2 CALLS AND EXTENDS PHASE 2 - PRESENCE
DETECTOR 6 CALLS AND EXTENDS PHASE 6 - PRESENCE
DETECTION ZONE 4a CALLS AND EXTENDS PHASE 4 - PRESENCE
DETECTION ZONE 4b CALLS AND EXTENDS PHASE 4 - PRESENCE (5 SECOND DELAY)
DETECTOR 8a CALLS AND EXTENDS PHASE 8 - PRESENCE (5 SECOND DELAY)

EMERGENCY PRE-EMPTION NOTES:

CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION EQUIPMENT FOR ALL APPROACHES OF ANDREW AVENUE WHICH SHALL PROVIDE A SELECTIVE YELLOW INTERVAL, A GREEN INDICATION WILL BE GIVEN TO THE PRE-EMPTED APPROACH AND A RED INDICATION ON ALL OTHER APPROACHES.

EMERGENCY PREEMPTION MAY OCCUR DURING ANY INTERVAL OF THE NORMAL CONTROLLER OPERATIONS. DEPENDING ON THE DIRECTION OF TRAVEL OF THE EMERGENCY VEHICLE, ONE OF THE FOLLOWING PHASES SHALL BE CALLED: EMERGENCY PREEMPTION PHASE A, PHASE B, PHASE C, OR PHASE D. THE SYSTEM SHALL PROVIDE SERVICE ON A FIRST-COME, FIRST-SERVE BASIS. ONCE THE FIRST PRIORITY VEHICLE CALLS THE SYSTEM, IT SHALL PREVENT OTHER PREEMPTIVE VEHICLES FROM ENTERING CALLS UNTIL THE FIRST EMERGENCY VEHICLE RELEASES CONTROL AND CLEARS THE INTERSECTION.

IF THE CONTROLLER OPERATION IS IN THE GREEN INTERVAL OF A NON-PREEMPTIVE VEHICLE PHASE, UPON ACTIVATION BY AN EMERGENCY VEHICLE, THE CONTROLLER SHALL TERMINATE THE INTERVAL IMMEDIATELY AND PROCEED NORMALLY THROUGH THE YELLOW AND ALL RED INTERVALS BEFORE PROCEEDING TO THE PREEMPTIVE PHASE.

IF THE CONTROLLER OPERATION IS IN THE GREEN INTERVAL OF A PREEMPTIVE PHASE, UPON ACTIVATION BY AN EMERGENCY VEHICLE, THE CONTROLLER SHALL REMAIN IN THAT INTERVAL.

IF THE CONTROLLER OPERATION IS IN THE YELLOW, YELLOW ARROW, OR ALL RED INTERVAL OF ANY VEHICLE PHASE, UPON ACTIVATION BY AN EMERGENCY VEHICLE, THE CONTROLLER SHALL TIME OUT OF THOSE INTERVALS NORMALLY AND PROCEED TO THE PREEMPTION PHASE.

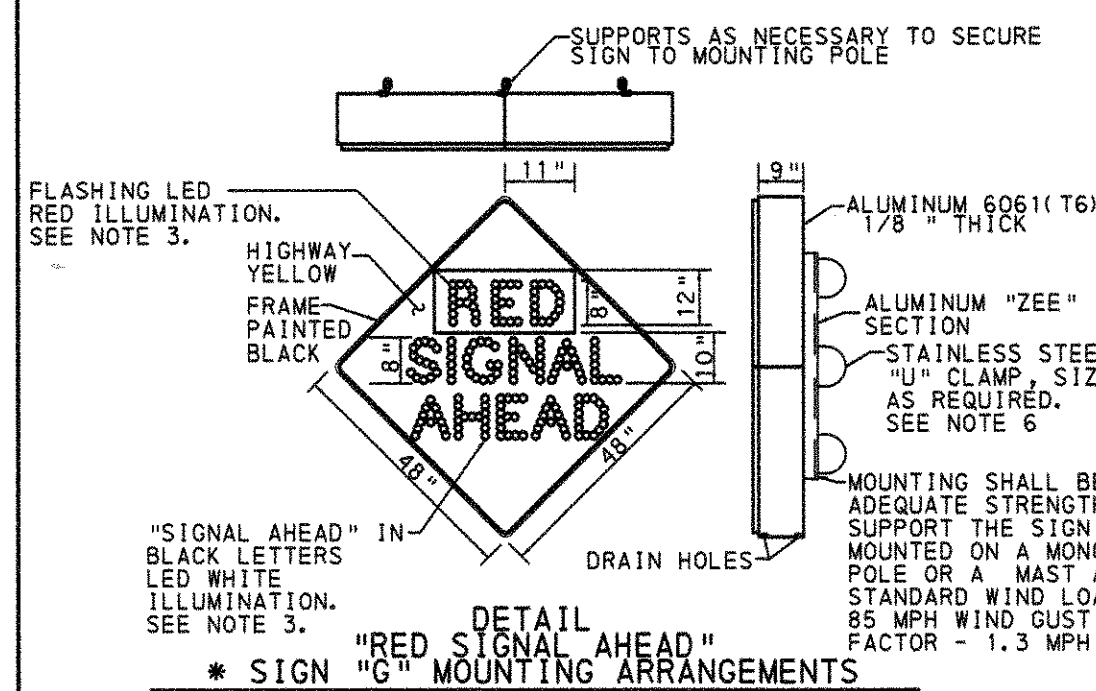
THE GREEN INTERVAL SHALL EXTEND FOR THE LENGTH OF THE PREEMPTION ACTUATION BUT SHALL BE A MAXIMUM OF 30 SECONDS FOR EACH EMERGENCY PREEMPTION PHASE. UPON TERMINATION OF THE PREEMPTION PHASE, THE CONTROLLER SHALL PROCEED NORMALLY THROUGH THE YELLOW, YELLOW ARROW, AND ALL RED INTERVALS TO THE PRE-DESIGNATED POST PREEMPTION PHASE, THEN TO NORMAL "PHASE NEXT" OPERATION.

GENERAL NOTES FOR "RED SIGNAL AHEAD" SIGN

- INTERNALLY ILLUMINATED "RED SIGNAL AHEAD" SIGN SHALL BE LED.
- THE LED LAMPS SHALL BE ARRANGED SO THAT FAILURE OF ONE LAMP WILL NOT EXTINGUISH THE LINE OF THE MESSAGE OR A PORTION THEREOF.
- THE WORD "RED" SHALL NOT BE VISIBLE DURING THE GREEN INTERVAL. "SIGNAL AHEAD" SHALL BE CONTINUOUSLY ILLUMINATED.
- THE SIGN CASE SHALL BE FULLY GASKETED AND WATER TIGHT.
- PROVIDE HINGE AND ALL HARDWARE OF STAINLESS STEEL.
- CLAMPS AND ALL CONNECTING HARDWARE SHALL BE PROVIDED FOR MOUNTING ON SHAFT OF PEDESTAL OR OVERHEAD ON MAST ARM.

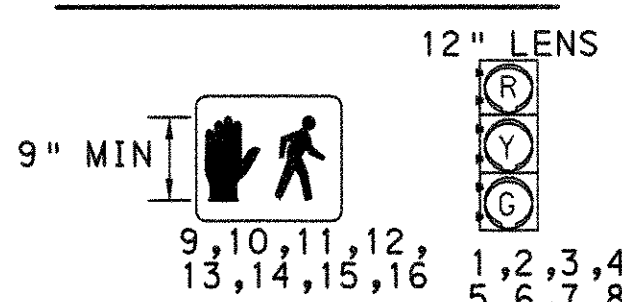
"SIGNAL AHEAD" OPERATIONAL NOTES

- A. DURING INTERVAL 3 (PHASE 2+6) THE WORD "RED" SHALL BE IN THE FLASHING MODE.
B. THE "RED" SHALL BE STEADY BURN RED DURING INTERVAL 4 (PHASE 2+6) AND 1,2,3,4 (PHASE 4+8).



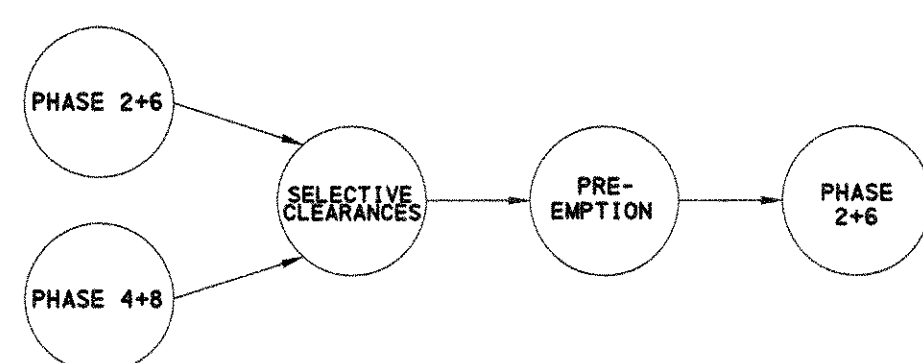
PLAN SYMBOL	SERIES	SIZE	MESSAGE
①	D3-4	84"x16"	STREET SIGN "Cloverleaf Rd"
②	D3-5	96"x28"	STREET SIGN "← Andrew Ave"
③	D3-5	96"x28"	STREET SIGN "← Norlanco Dr"
④	R3-8A(LS-R)	30"x30"	LANE USE CONTROL SIGN
⑤	R10-6AL	24"x30"	STOP HERE ON RED
⑥	R10-4B(L/R)	9"x12"	EDUCATIONAL PUSH BUTTON SIGN ←OR→
⑦	SPECIAL	48"x48"	SIGNAL RED AHEAD

SIGNAL INDICATIONS



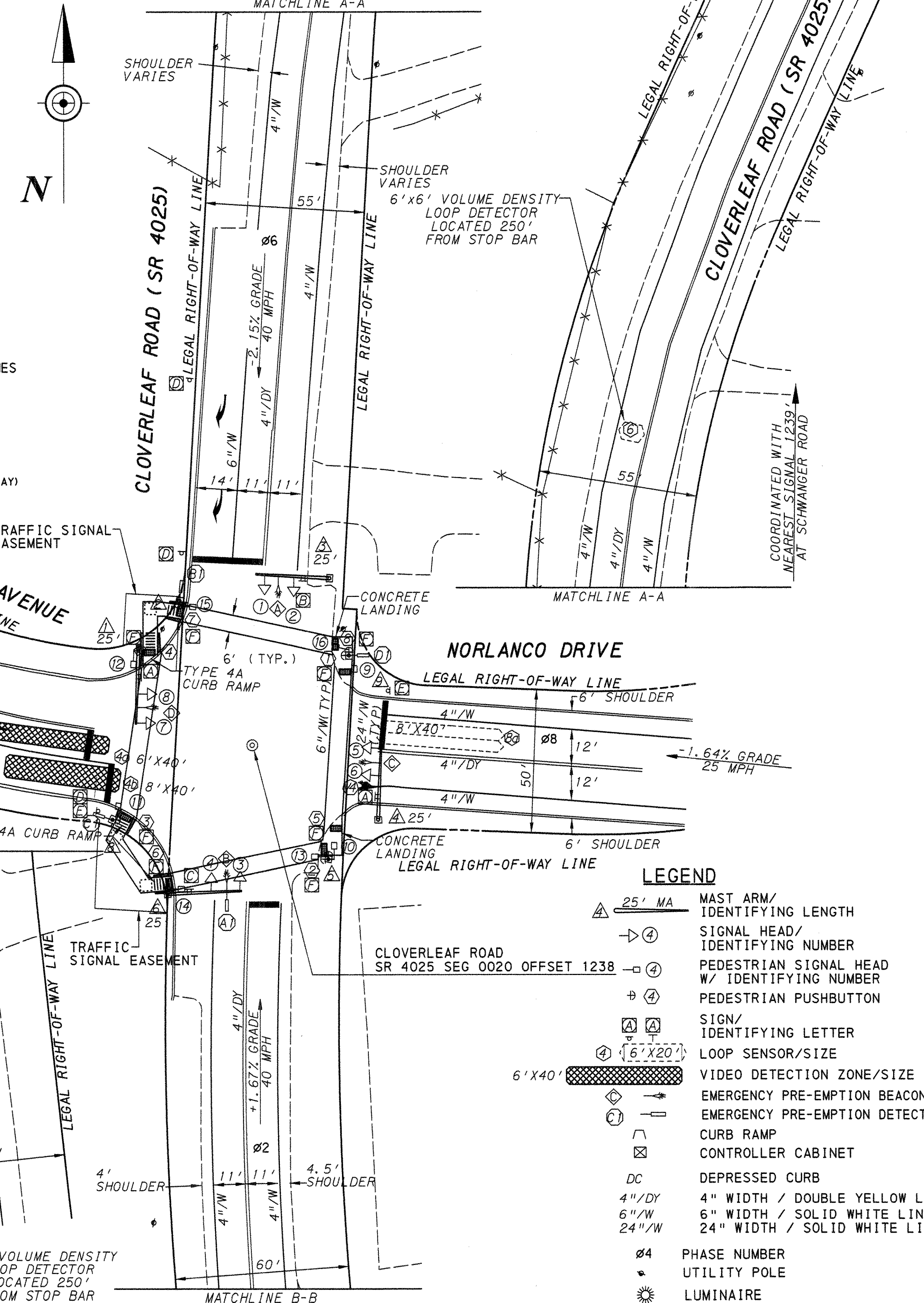
ALL VEHICULAR SIGNAL HEADS SHALL HAVE RED, YELLOW, AND GREEN LEADS.

SIGNALS TO BE EQUIPPED WITH BACKPLATES 1-8



SUPPLEMENTAL EMERGENCY PREEMPTION DETECTOR

MAST ARM LOCATED 570' FROM STOP BAR



LEGEND

- ① 25' MA MAST ARM/ IDENTIFYING LENGTH
② ④ SIGNAL HEAD/ IDENTIFYING NUMBER
③ ④ PEDESTRIAN SIGNAL HEAD W/ IDENTIFYING NUMBER
④ PEDESTRIAN PUSHBUTTON
④ SIGN/ IDENTIFYING LETTER
④ LOOP SENSOR/SIZE
④ EMERGENCY PRE-EMPTION BEACON
④ EMERGENCY PRE-EMPTION DETECTOR
④ CURB RAMP
④ CONTROLLER CABINET
DC DEPRESSION CURB
④ 4" / DY 4" WIDTH / DOUBLE YELLOW LINE
④ 6" / W 6" WIDTH / SOLID WHITE LINE
④ 24" / W 24" WIDTH / SOLID WHITE LINE
④ PHASE NUMBER
④ UTILITY POLE
④ LUMINAIRE
④ FENCE
④ VIDEO DETECTOR

GENERAL NOTES

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INSTALL POST MOUNTED SIGNALS WITH THE SIGNAL HEADS A MINIMUM OF 2 FEET BEHIND THE FACE OF THE CURB OR EDGE OF THE SHOULDER. SUPPORT POLES FOR OVERHEAD SIGNALS WILL HAVE A MINIMUM HORIZONTAL CLEARANCE OF 2 FEET.

THE BOTTOM OF SIGNAL HEADS AND SIGNS ERECTED OVER THE ROADWAY ARE NOT TO BE LESS THAN 15 FEET NOR MORE THAN 19 FEET ABOVE THE ROADWAY. THE BOTTOM OF POST MOUNTED SIGNAL HEADS ARE NOT TO BE LESS THAN 8 FEET NOR MORE THAN 15 FEET ABOVE THE SIDEWALK OR PAVEMENT GRADE.

THE MINIMUM HORIZONTAL DISTANCE BETWEEN SIGNAL HEADS MEASURED AT RIGHT ANGLES TO THE APPROACH IS TO BE 8 FEET.

PERMITTEE SHALL OBTAIN A HIGHWAY OCCUPANCY PERMIT FOR EMBANKMENT REMOVAL, CURBING AND/OR SIDEWALK, DRAINAGE STRUCTURES, CHANGES IN HIGHWAY GEOMETRY, PAVEMENT WIDENING, OR INSTALLATION OF ADDITIONAL LANES.

CONDUIT INSTALLED IN BITUMINOUS ROADWAY LESS THAN 5 YEARS OLD, OR CONCRETE ROADWAY REGARDLESS OF AGE, MUST BE BORED OR JACKED UNDER THE ROADWAY. INSTALL IN ACCORDANCE WITH TRAFFIC SIGNAL STANDARDS TC-7800 SERIES.

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PAVEMENT MARKINGS WILL BE PLACED IN ACCORDANCE WITH THE DEPARTMENT OF TRANSPORTATION PAVEMENT MARKING HANDBOOK.

PERMITTEE IS RESPONSIBLE FOR OBTAINING APPROVAL FOR INSTALLATION OF TRAFFIC SIGNAL DEVICES LOCATED OUTSIDE HIGHWAY RIGHT-OF-WAY.

TRAFFIC SIGNALS INSTALLED USING LIQUID FUELS TAX FUNDS MUST CONFORM TO DEPARTMENT SPECIFICATIONS AS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENTS AND STANDARD DRAWINGS.

25' 0' 25' 50'
SCALE IN FEET

COUNTY:

LANCASTER COUNTY

MUNICIPALITY:

MOUNT JOY TOWNSHIP

INTERSECTION:

CLOVERLEAF ROAD (SR 4025)
ANDREW AVENUE, AND
NORLANCO DRIVE

REVIEWED:

Debra A. Gault 8/1/2011
MUNICIPAL OFFICIAL DATE

RECOMMENDED:

Queen C. Bawley 08/25/2011
DIST TRAFFIC ENGR DATE

T-273

GENERAL NOTES

INSTALLATION, OPERATION, AND MAINTENANCE OF THIS TRAFFIC SIGNAL TO BE IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF TRANSPORTATION REGULATIONS ON OFFICIAL TRAFFIC CONTROL DEVICES.

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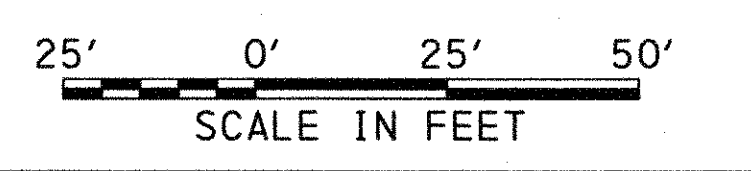
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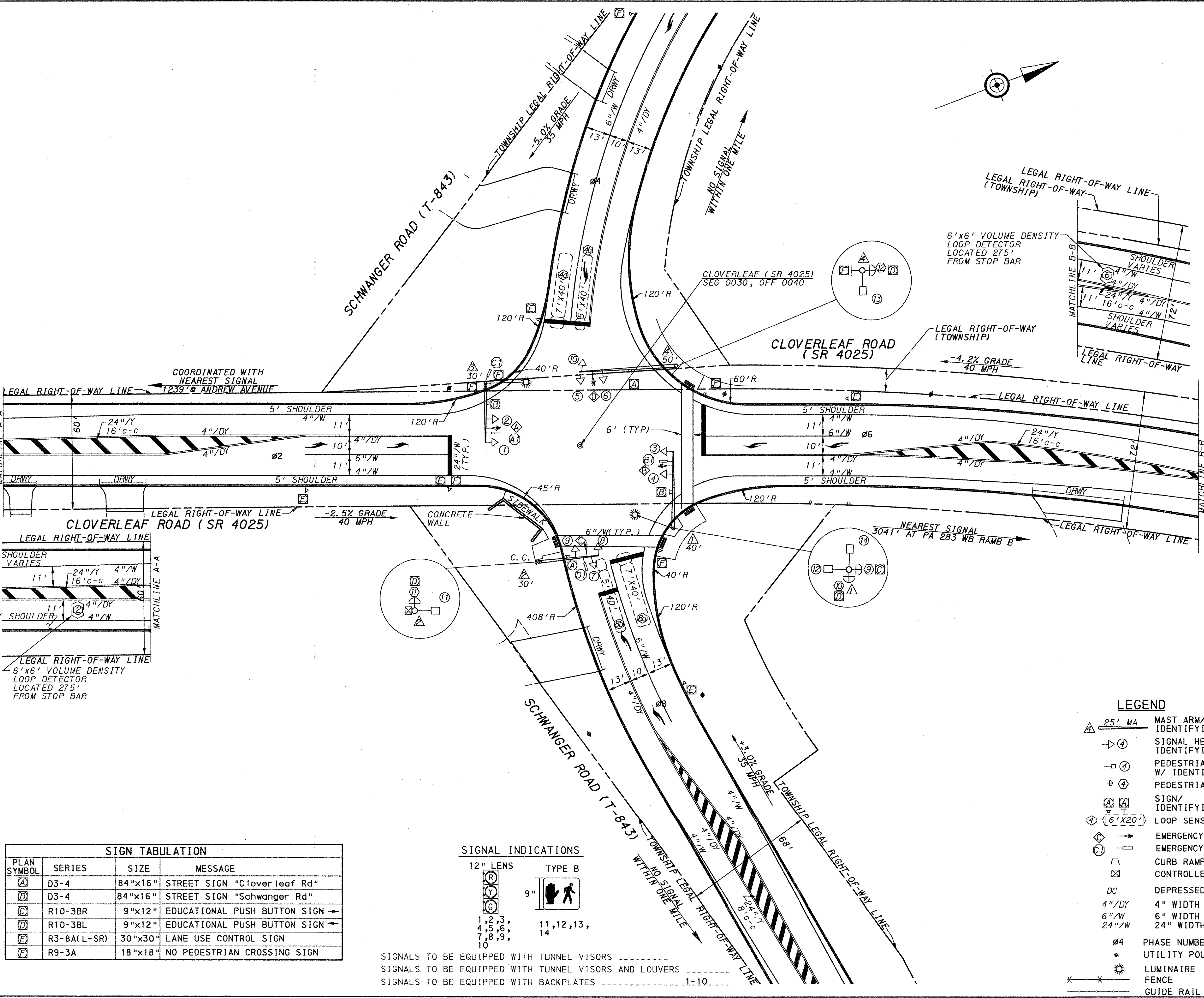
LEGEND

- 25' MA MAST ARM/ IDENTIFYING LENGTH
- 4 SIGNAL HEAD/ IDENTIFYING NUMBER
- 4 PEDESTRIAN SIGNAL HEAD W/ IDENTIFYING NUMBER
- 4 PEDESTRIAN PUSHBUTTON
- 4 SIGN/ IDENTIFYING LETTER
- 4 LOOP SENSOR/ SIZE
- 4 EMERGENCY PRE-EMPTION BEACON
- 4 EMERGENCY PRE-EMPTION DETECTOR
- 4 CURB RAMP
- 4 CONTROLLER CABINET
- DC DEPRESSED CURB
- 4" / DY 4" WIDTH / DOUBLE YELLOW LINE
- 6" / W 6" WIDTH / SOLID WHITE LINE
- 24" / W 24" WIDTH / SOLID WHITE LINE
- Ø4 PHASE NUMBER
- UTILITY POLE
- LUMINAIRE
- FENCE
- GUIDE RAIL

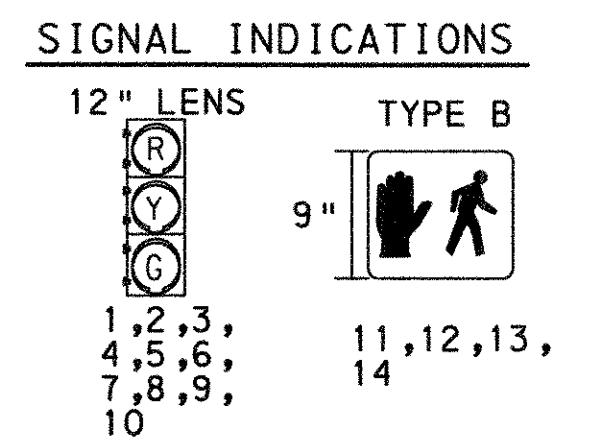


COUNTY: LANCASTER COUNTY
MUNICIPALITY: MOUNT JOY TOWNSHIP
INTERSECTION: CLOVERLEAF ROAD (SR 4025) AND SCHWANGER ROAD (T-843)

REVIEWED: Robert W. [Signature] 5/15/08
APPROVED: [Signature] 05/21/08
DIST TRAFFIC ENGR DATE



SIGN TABULATION			
PLAN SYMBOL	SERIES	SIZE	MESSAGE
A	D3-4	84"x16"	STREET SIGN "Cloverleaf Rd"
B	D3-4	84"x16"	STREET SIGN "Schwanger Rd"
C	R10-3BR	9"x12"	EDUCATIONAL PUSH BUTTON SIGN →
D	R10-3BL	9"x12"	EDUCATIONAL PUSH BUTTON SIGN ←
E	R3-8A(L-SR)	30"x30"	LANE USE CONTROL SIGN
F	R9-3A	18"x18"	NO PEDESTRIAN CROSSING SIGN



SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS
SIGNALS TO BE EQUIPPED WITH TUNNEL VISORS AND LOUVERS
SIGNALS TO BE EQUIPPED WITH BACKPLATES 1-10

T-273

GENERAL NOTES

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MOVEMENT, SEQUENCE, AND TIMING DIAGRAM

PHASE	2+6				4+8				PRE-EMP PHASE A				PRE-EMP PHASE B				PRE-EMP PHASE C				PRE-EMP PHASE D				EMERGENCY FLASHING
SIGNAL INTERVAL	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
1,2	G	G	Y	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	Y
3,4	G	G	Y	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	Y
5,6,7	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R
8,9,10	R	R	R	R	G	G	Y	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R
11,12	M	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	OFF	OFF
13,14	H	H	H	H	M	FH	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	OFF	OFF
FAIL-SAFE LAMP	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
FIXED			4.5	2			4	2			4.5	2			4.5	2			4	2			4	2	
MINIMUM	12						3																		
SEC / ACT	3																								
MAXIMUM INITIAL	28																								
PASSAGE	6						3																		
TIME BEFORE REDUCTION	14																								
TIME TO REDUCTION	14																								
MINIMUM GAP	3																								
MAXIMUM 1	56						23																		
MAXIMUM 2																									
PEDESTRIAN	②	14	16				11	12																	
MEMORY																									

▲ FOR DURATION OF PRE-EMPTION

• THIS SIGNAL TO BE COORDINATED WITH THE FOLLOWING SIGNALS ALONG CLOVERLEAF ROAD (S.R. 4025) AT: ANDREW AVENUE AND ROUTE 230 VIA GPS TIME CLOCKS

PRE-EMPTION OPERATION NOTES

① SIGNAL TO INDICATE G WHEN RETURNING TO NORMAL OPERATION

OPERATION NOTES

② UPON PEDESTRIAN ACTUATION ONLY

DETECTOR NOTES

DETECTOR 10 AND 11 CALL PED SIGNALS FOR PHASE 2+6
DETECTOR 9 AND 12 CALL PED SIGNALS FOR PHASE 4+8
DETECTOR 4a, 4b, 8a AND 8b CALL AND EXTEND PHASE 4+8 PRESENCE
DETECTOR 2 AND 6 CALL AND EXTEND PHASE 2+6 PRESENCE

EMERGENCY PRE-EMPTION NOTES:

CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION EQUIPMENT FOR BOTH THE NORTHBOUND AND SOUTHBOUND APPROACHES OF CLOVERLEAF ROAD (SR 4025) AND THE EASTBOUND AND WESTBOUND APPROACHES OF SCHWANGER ROAD WHICH SHALL PROVIDE A SELECTIVE YELLOW INTERVAL, A GREEN INDICATION WILL BE GIVEN TO THE PRE-EMPTED APPROACH AND A RED INDICATION ON ALL OTHER APPROACHES.

EMERGENCY PREEMPTION MAY OCCUR DURING ANY INTERVAL OF THE NORMAL CONTROLLER OPERATIONS. DEPENDING ON THE DIRECTION OF TRAVEL OF THE EMERGENCY VEHICLE, ONE OF THE FOLLOWING PHASES SHALL BE CALLED: EMERGENCY PREEMPTION PHASE A, PHASE B, PHASE C, OR PHASE D. THE SYSTEM SHALL PROVIDE SERVICE ON A FIRST-COME, FIRST-SERVE BASIS. ONCE THE FIRST PRIORITY VEHICLE CALLS THE SYSTEM, IT SHALL PREVENT OTHER PREEMPTIVE VEHICLES FROM ENTERING CALLS UNTIL THE FIRST EMERGENCY VEHICLE RELEASES CONTROL AND CLEARS THE INTERSECTION.

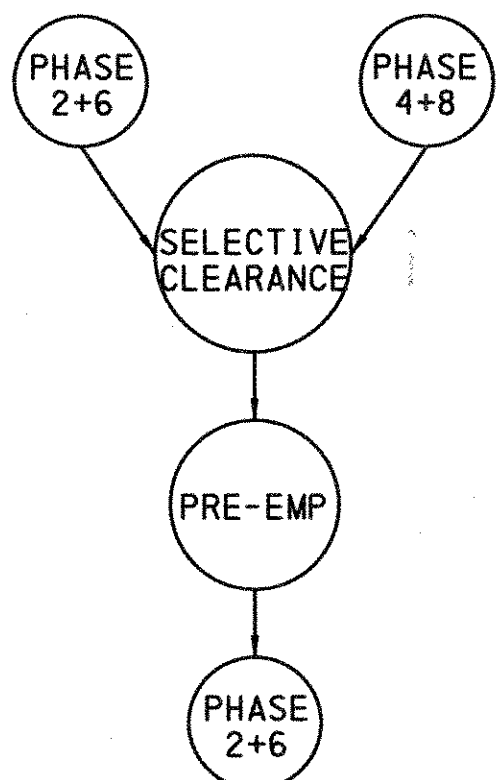
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THE GREEN INTERVAL SHALL EXTEND FOR THE LENGTH OF THE PREEMPTION ACTUATION BUT SHALL BE A MAXIMUM OF 30 SECONDS FOR EACH EMERGENCY PREEMPTION PHASE. UPON TERMINATION OF THE PREEMPTION PHASE, THE CONTROLLER SHALL PROCEED NORMALLY THROUGH THE YELLOW, YELLOW ARROW, AND ALL RED INTERVALS TO THE PRE-DESIGNATED POST PREEMPTION PHASE, THEN TO NORMAL "PHASE NEXT" OPERATION.

EMERGENCY PRE-EMPTION



LEGEND

- 25' MA MAST ARM/ IDENTIFYING LENGTH
- ④ SIGNAL HEAD/ IDENTIFYING NUMBER
- ④ PEDESTRIAN SIGNAL HEAD W/ IDENTIFYING NUMBER
- ⊕ ④ PEDESTRIAN PUSHBUTTON
- ④ ④ SIGN/ IDENTIFYING LETTER
- ④ ④ ④ LOOP SENSOR/SIZE
- ④ → EMERGENCY PRE-EMPTION BEACON
- ④ → EMERGENCY PRE-EMPTION DETECTOR
- ∩ CURB RAMP
- ⊠ CONTROLLER CABINET
- DC DEPRESSED CURB
- 4"/DY 4" WIDTH / DOUBLE YELLOW LINE
- 6"/W 6" WIDTH / SOLID WHITE LINE
- 24"/W 24" WIDTH / SOLID WHITE LINE
- Ø4 PHASE NUMBER
- UTILITY POLE
- ☼ LUMINAIRE
- × × FENCE
- — — — — GUIDE RAIL

25' 0' 25' 50'
SCALE IN FEET

COUNTY:

LANCASTER COUNTY

MUNICIPALITY:

MOUNT JOY TOWNSHIP

INTERSECTION:

CLOVERLEAF ROAD (SR 4025)

AND

SCHWANGER ROAD (T-843)

REVIEWED:

Robert N. [Signature] 5/15/08
MUNICIPAL OFFICIAL DATE

APPROVED:

John C. [Signature] 05/21/08
DIST TRAFFIC ENGR DATE

PERMIT NUMBER: 87-258 SHEET 2 OF 2
DATE ISSUED: 04-30-07 DATE REVISED: 7-1-11

T-271

INSTALLATION, OPERATION, AND MAINTENANCE
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TRAFFIC SIGNALS INSTALLED USING LIQUID FUELS TAX FUNDS MUST CONFORM TO DEPARTMENT SPECIFICATIONS AS SET FORTH IN CURRENT PUBLICATION 408, SUPPLEMENTS AND STANDARD DRAWINGS.

[illegible]

▲ FOR DURATION OF PRE-EMPTION
MAXIMUM 2 TO OPERATE FROM 2:00 PM TO 7:00 PM, MONDAY THRU FRIDAY
MAXIMUM 1 TO OPERATE ALL OTHER TIMES

DETECTOR NOTES

- ① ~~G~~ IF FOLLOWED BY 2+6
- ② G IF FOLLOWED BY 2+6
- ③ SIGNAL TO INDICATE G WHEN RETURNING TO NORMAL OPERATION

DETECTOR NOTES

DETECTOR 2 CALLS AND EXTENDS PHASE 2 - PRESENCE

DETECTOR 5a CALLS AND EXTENDS PHASE 5 - PRESENCE

DETECTOR 6 CALLS AND EXTENDS PHASE 6 - PRESENCE

DETECTION ZONE 8a CALLS AND EXTENDS PHASE 8 - PRESENCE















CONTROLLER TO BE EQUIPPED WITH EMERGENCY PRE-EMPTION EQUIPMENT FOR BOTH THE NORTHBOUND AND SOUTHBOUND APPROACHES OF CLOVERLEAF ROAD (SR 4025) AND THE WESTBOUND OFF-RAMP OF PA 0283 WHICH SHALL PROVIDE A SELECTIVE YELLOW INTERVAL, A GREEN INDICATION WILL BE GIVEN TO THE PRE-EMPTED APPROACH AND A RED INDICATION ON ALL OTHER APPROACHES.

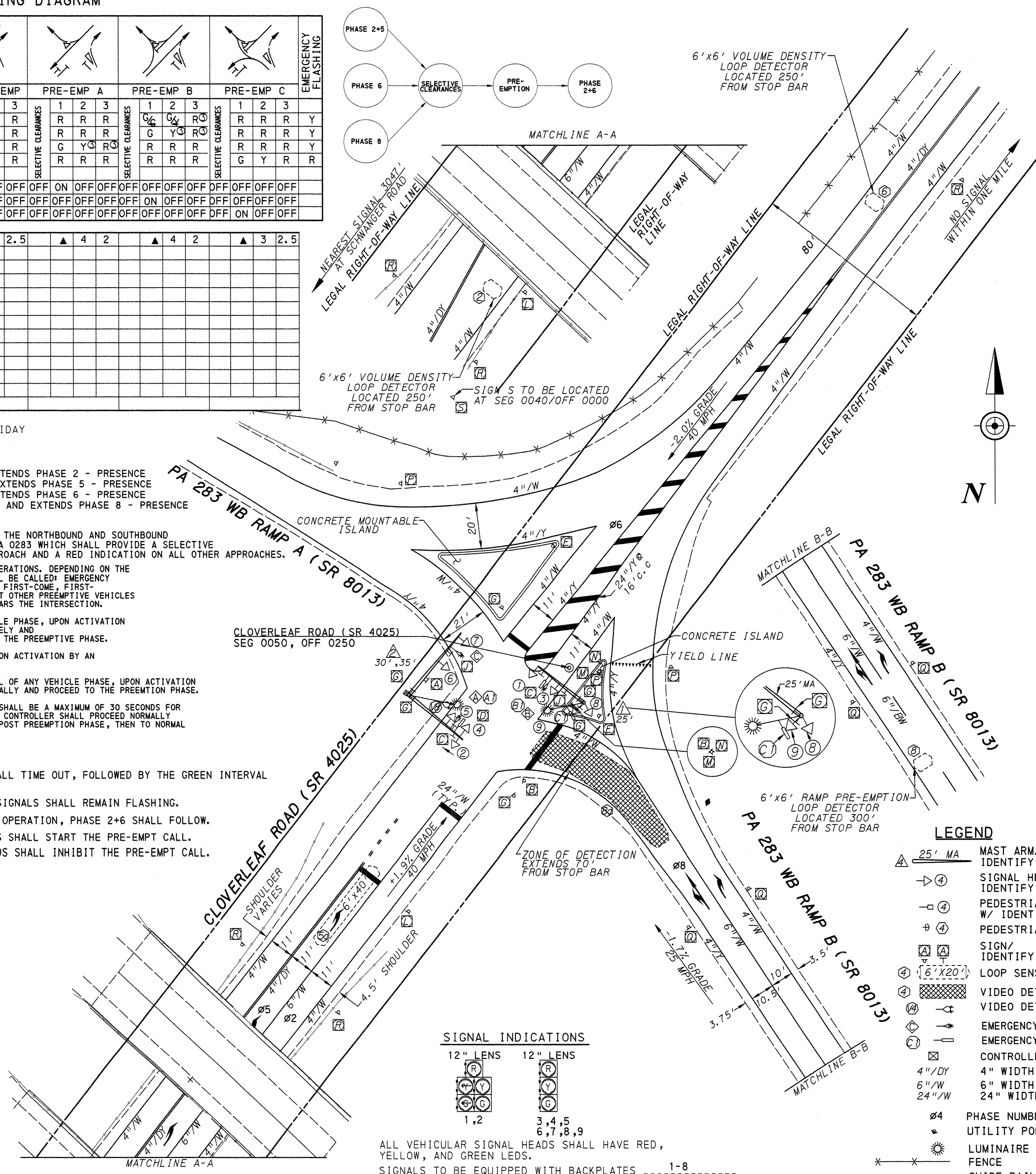
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- 1.) IF THE CONTROLLER OPERATION IS IN THE GREEN INTERVAL OF A NON-PREEMPTIVE VEHICLE PHASE, UPON ACTIVATION BY AN EMERGENCY VEHICLE, THE CONTROLLER SHALL TERMINATE THE INTERVAL IMMEDIATELY AND PROCEED NORMALLY THROUGH THE YELLOW AND ALL RED INTERVALS BEFORE PROCEEDING TO THE PREEMPTIVE PHASE.
- 2.) IF THE CONTROLLER OPERATION IS IN THE GREEN INTERVAL OF A PREEMPTIVE PHASE, UPON ACTIVATION BY AN EMERGENCY VEHICLE, THE CONTROLLER SHALL REMAIN IN THAT INTERVAL.
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- 4.) THE GREEN INTERVAL SHALL EXTEND FOR THE LENGTH OF THE PREEMPTION ACTIVATION BUT SHALL BE A MAXIMUM OF 30 SECONDS FOR EACH EMERGENCY PREEMPTION PHASE. UPON TERMINATION OF THE PREEMPTION PHASE, THE CONTROLLER SHALL PROCEED NORMALLY THROUGH THE YELLOW, YELLOW ARROW, AND ALL RED INTERVALS TO THE PRE-DESIGNATED POST PREEMPTION PHASE, THEN TO NORMAL "PHASE NEXT" OPERATION.

- WHEN PREEMPTION IS ACTIVATED, ALL YELLOW AND RED INDICATIONS, SHALL TIME OUT, FOLLOWED BY THE GREEN INTERVAL OF THE PRE-EMPTION PHASE.

- IF THE SIGNALS ARE FLASHING WHEN ACTIVATED FOR PRE-EMPTION, ALL SIGNALS SHALL REMAIN FLASHING.
- UPON COMPLETION OF THE PRE-EMPTION PHASE, IN RETURNING TO NORMAL OPERATION, PHASE 2+6 SHALL FOLLOW.
- A CONSTANT CALL ON THE RAMP PRE-EMPTION DETECTOR 8 FOR 10 SECONDS SHALL START THE PRE-EMPT CALL.
- A CONSTANT CALL ON THE RAMP PRE-EMPTION DETECTOR 8 FOR 180 SECONDS SHALL INHIBIT THE PRE-EMPT CALL.

SIGN TABULATION			
PLAN SYMBOL	SERIES	SIZE	MESSAGE
	D3-4	84"x16"	STREET SIGN "Cloverleaf Rd"
	R5-1	36"x36"	DO NOT ENTER
	R10-12	30"x36"	LEFT TURN YIELD ON GREEN ●
	R3-3	36"x36"	NO TURNS SIGN
	W12-1	36"x36"	DOUBLE ARROW SIGN
	R9-3	18"x18"	NO PEDESTRIAN CROSSING
	R3-1	36"x36"	NO RIGHT TURN SIGN
	R3-8A (L-S)	30"x30"	LANE USE CONTROL SIGN
	R6-1L	36"x12"	HORIZONTAL LEFT ONE WAY SIGN
	R6-1R	36"x12"	HORIZONTAL RIGHT ONE WAY SIGN
	R1-2	48"x48"	YIELD SIGN
	R3-8A(LS-R)	30"x30"	LANE USE CONTROL SIGN
	R8-3	24"x24"	NO PARKING SYMBOL SIGN
	W3-3	36"x36"	SIGNAL AHEAD



ALL VEHICULAR SIGNAL HEADS SHALL HAVE RED,
YELLOW, AND GREEN LEDS.

SIGNALS TO BE EQUIPPED WITH BACKPLATES ----- 1-8

\\Fs:\Traffic Signal Permits\Intersections\T-271 Cloverleaf Road & PA 283 WB Ramp B\Revised permit: 2011-06\08Permit.t.dgn
5/17/2011 8:40:02 AM unfilled

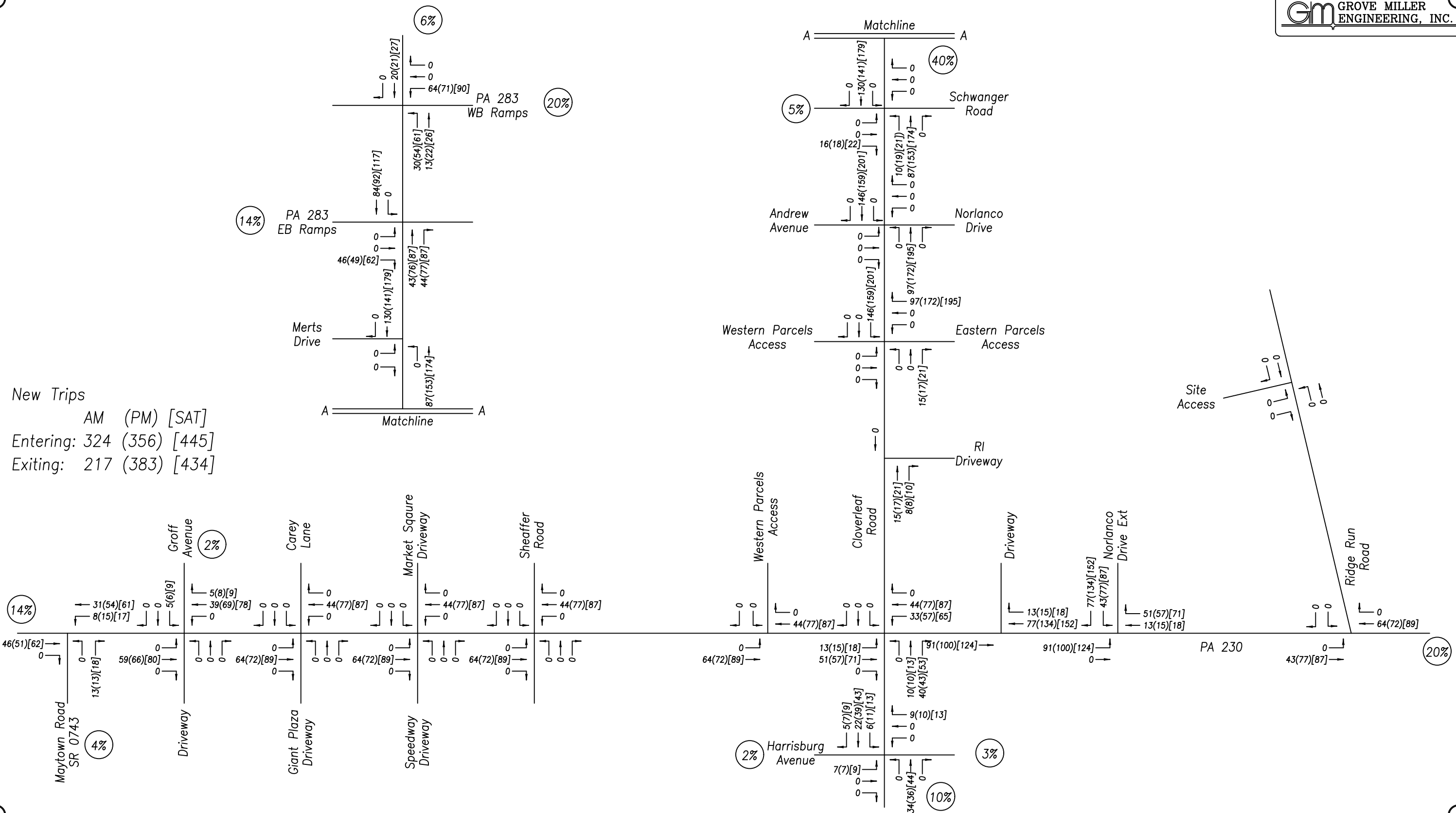


FIGURE 4a. TRIP DISTRIBUTION, PHASE 1 NEW TRIPS

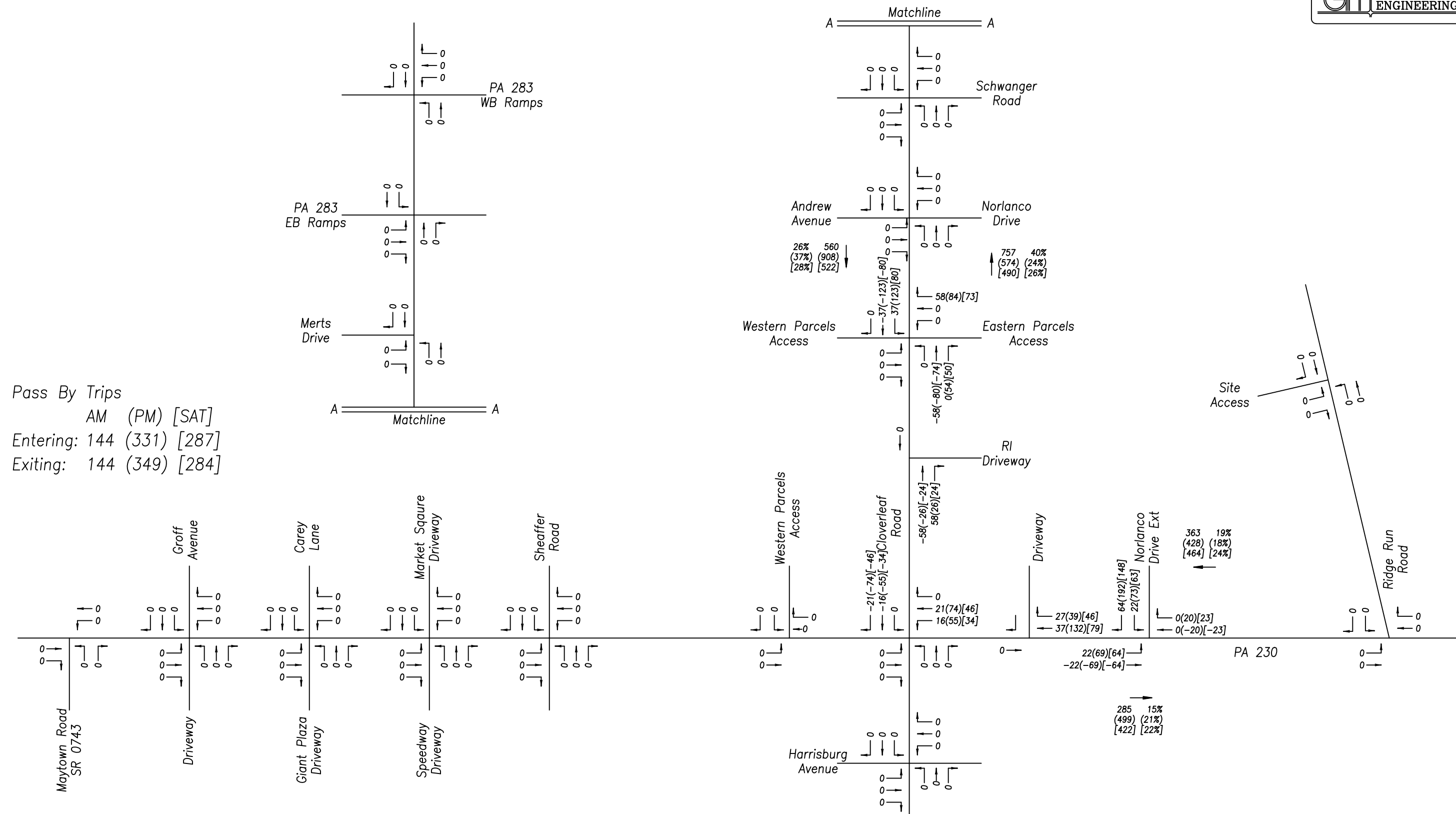


FIGURE 4b. TRIP DISTRIBUTION, PHASE 1 PASS BY TRIPS

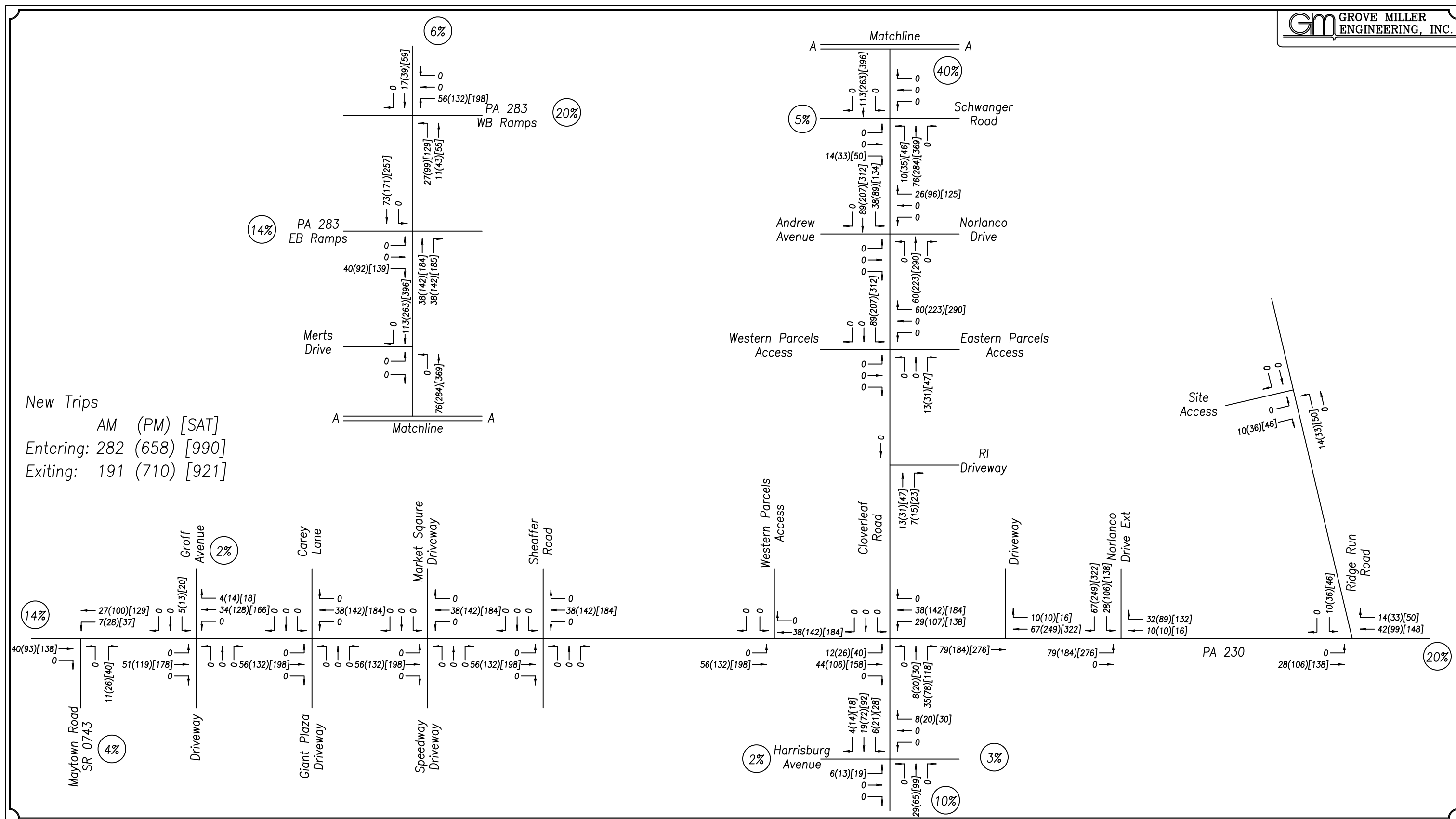


FIGURE 4c. TRIP DISTRIBUTION, PHASES 1 & 2 NEW TRIPS

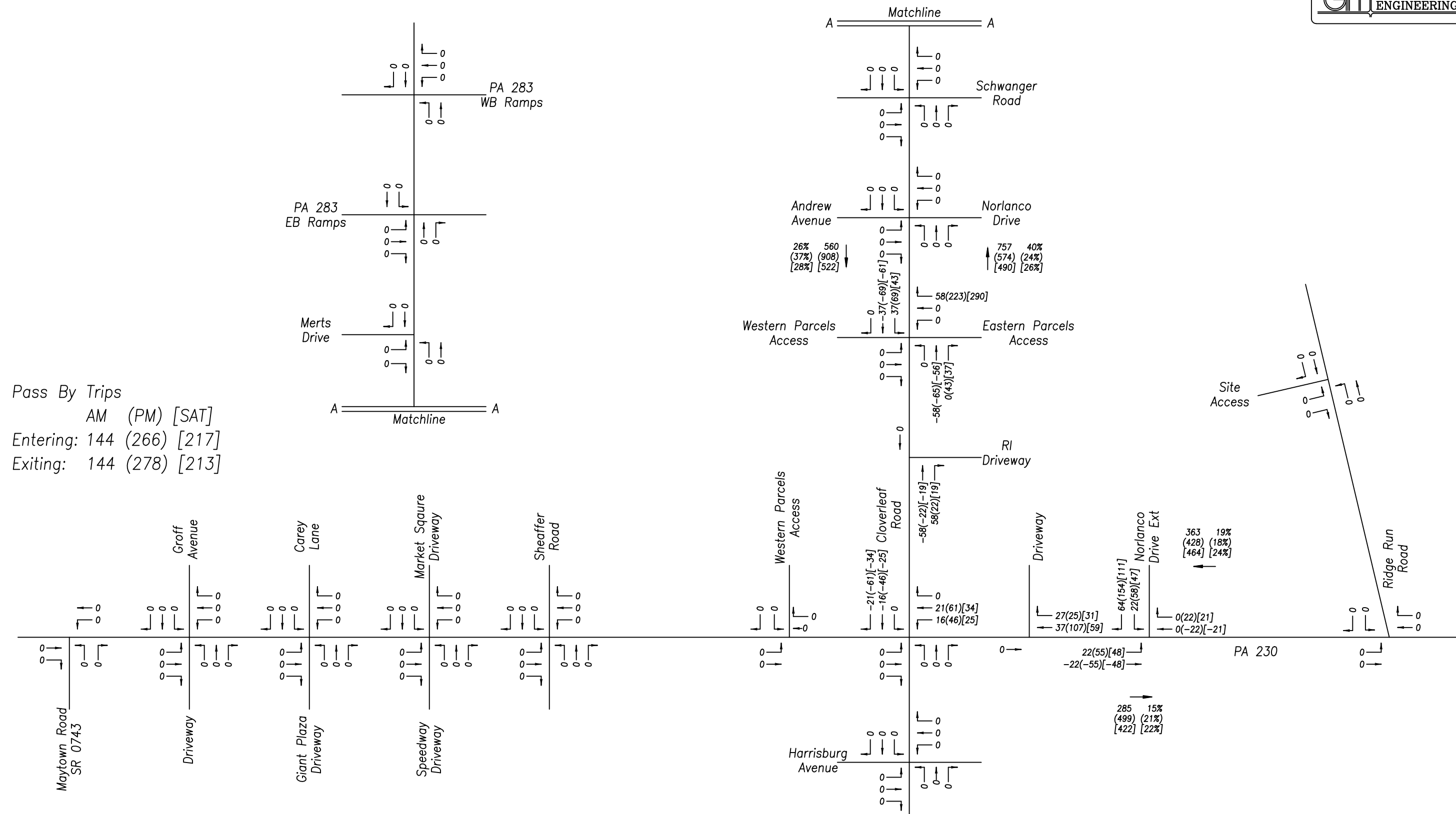


FIGURE 4d. TRIP DISTRIBUTION, PHASES 1 & 2 PASS BY TRIPS

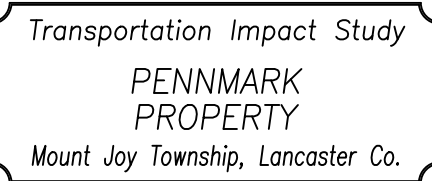


FIGURE 4e. TRIP DISTRIBUTION, PHASE 3 NEW TRIPS

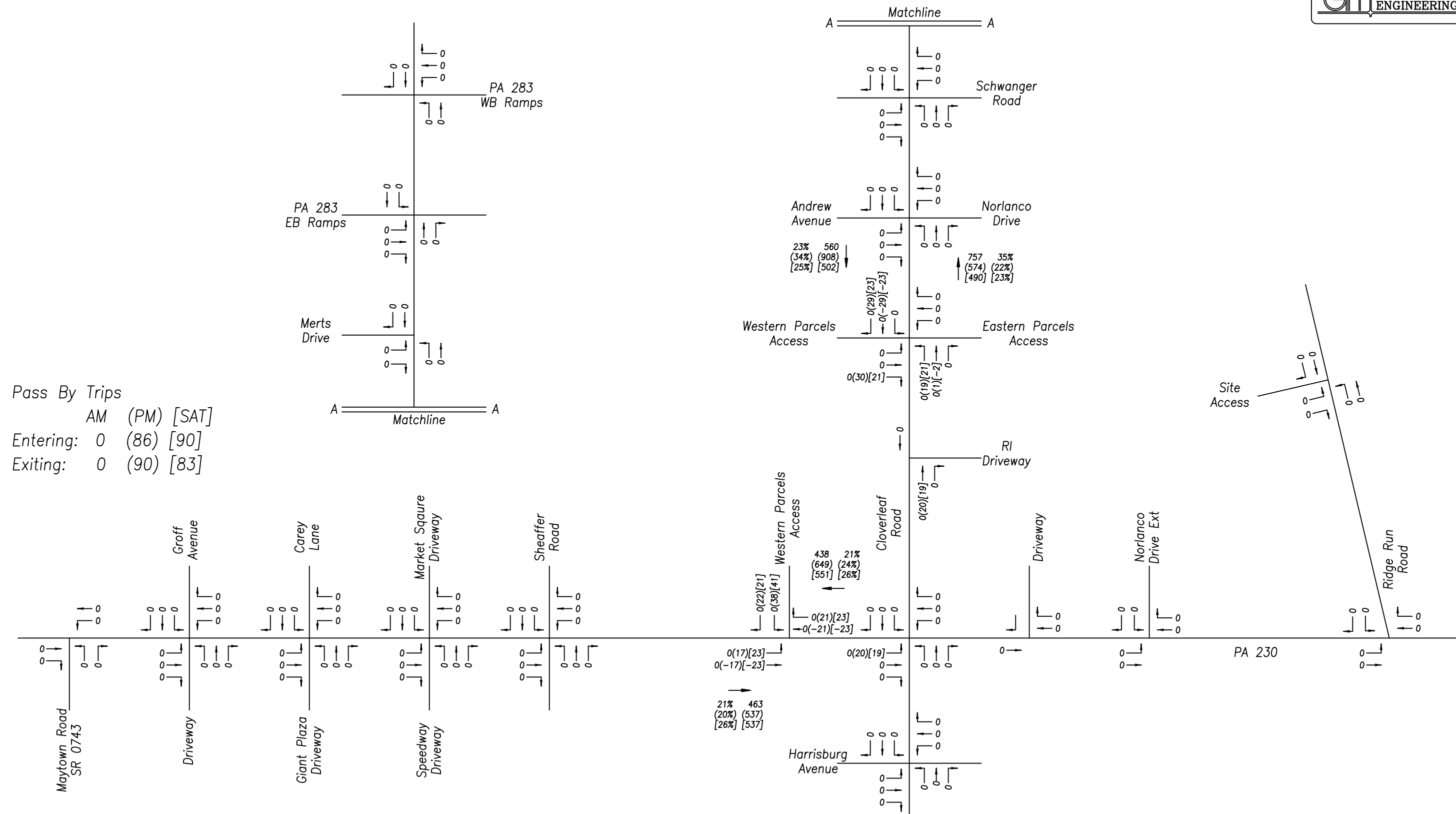


FIGURE 4f. TRIP DISTRIBUTION, PHASE 3 PASS BY TRIPS

APPENDIX C

OPENING YEAR CONDITIONS

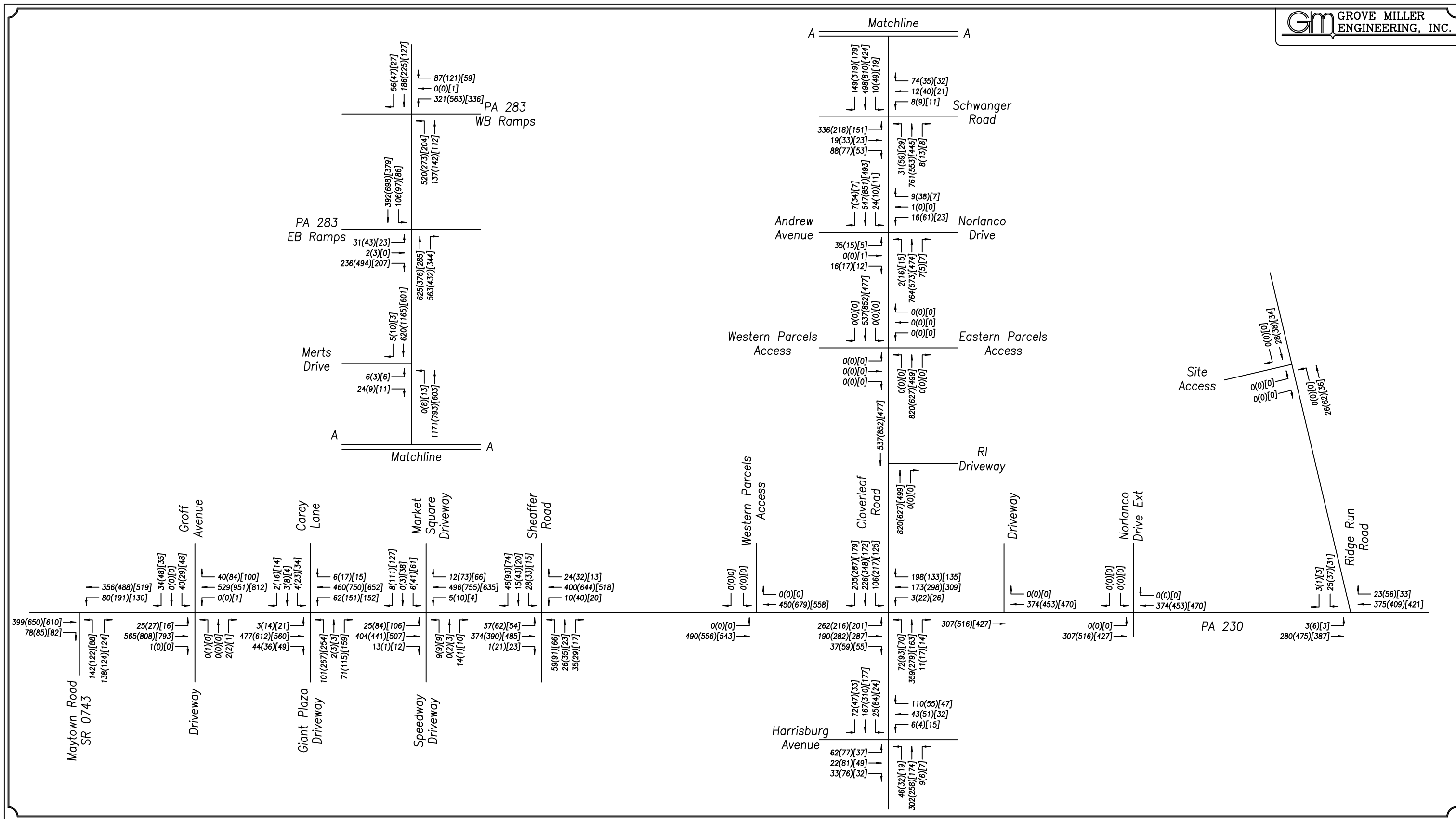


FIGURE 5a. 2024 PHASE 1 OPENING YEAR TRAFFIC VOLUMES, NO BUILD

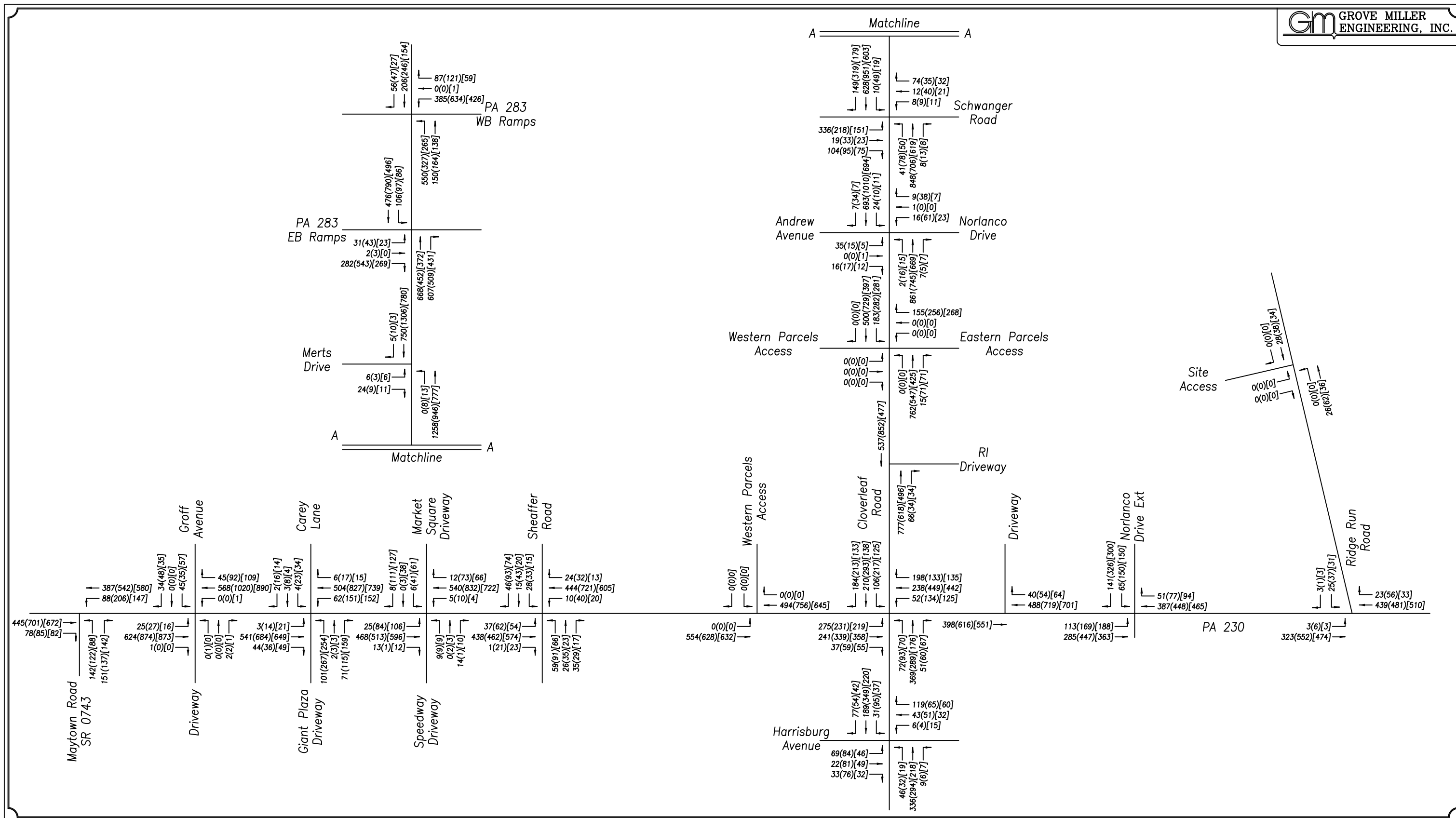


FIGURE 5b. 2024 PHASE 1 OPENING YEAR TRAFFIC VOLUMES, BUILD

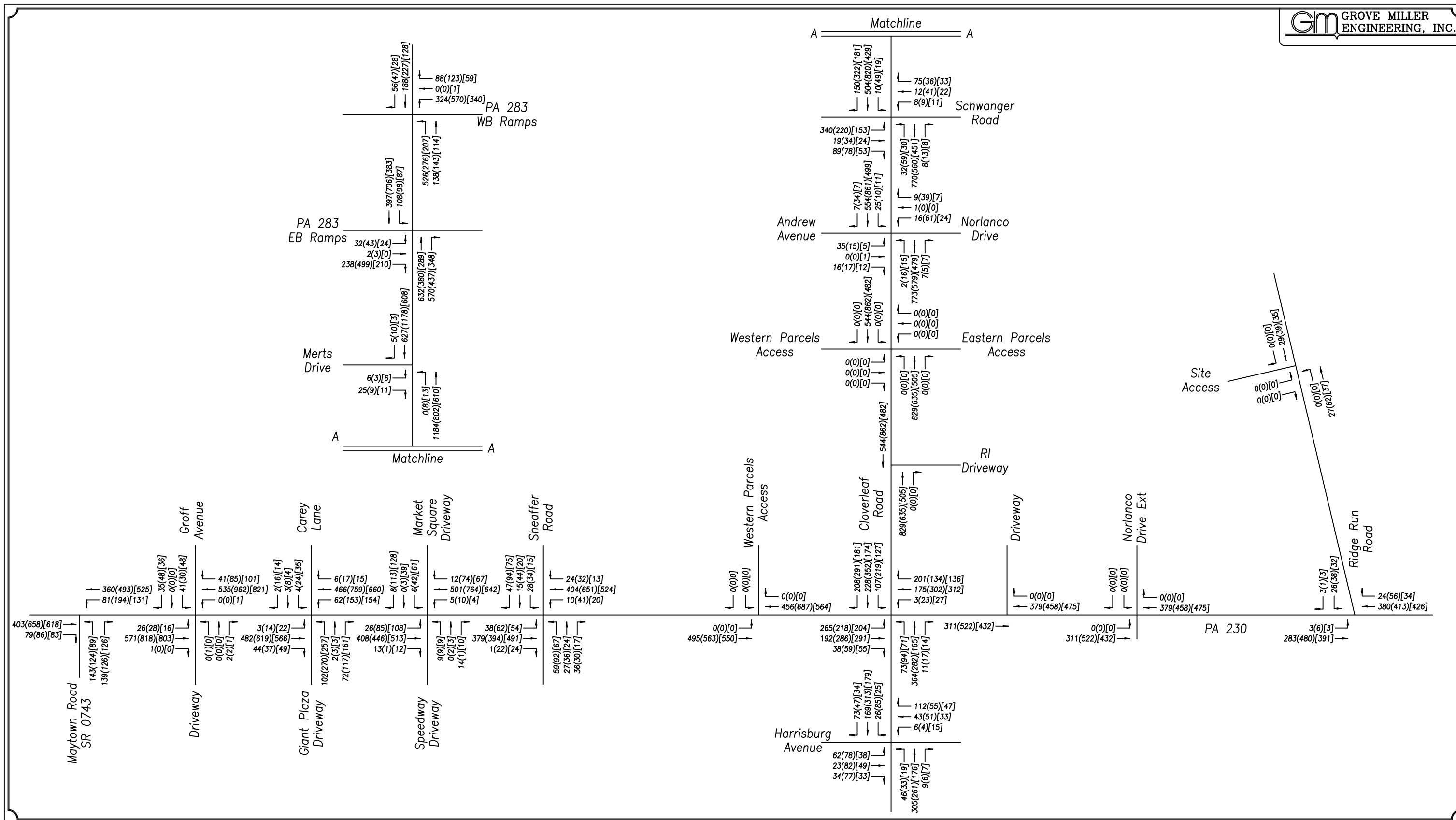


FIGURE 5c. 2026 PHASE 2 OPENING YEAR TRAFFIC VOLUMES, NO BUILD

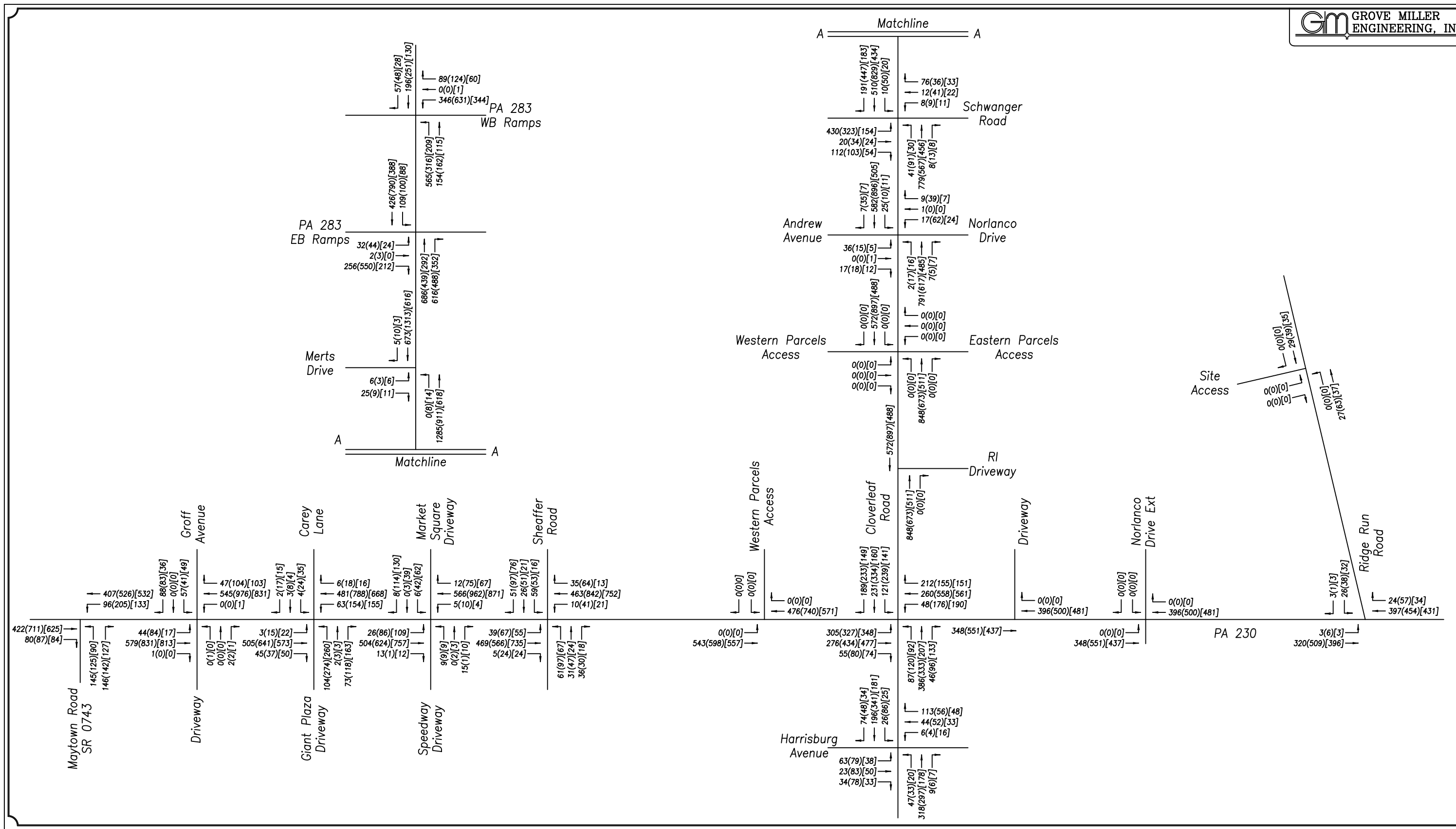
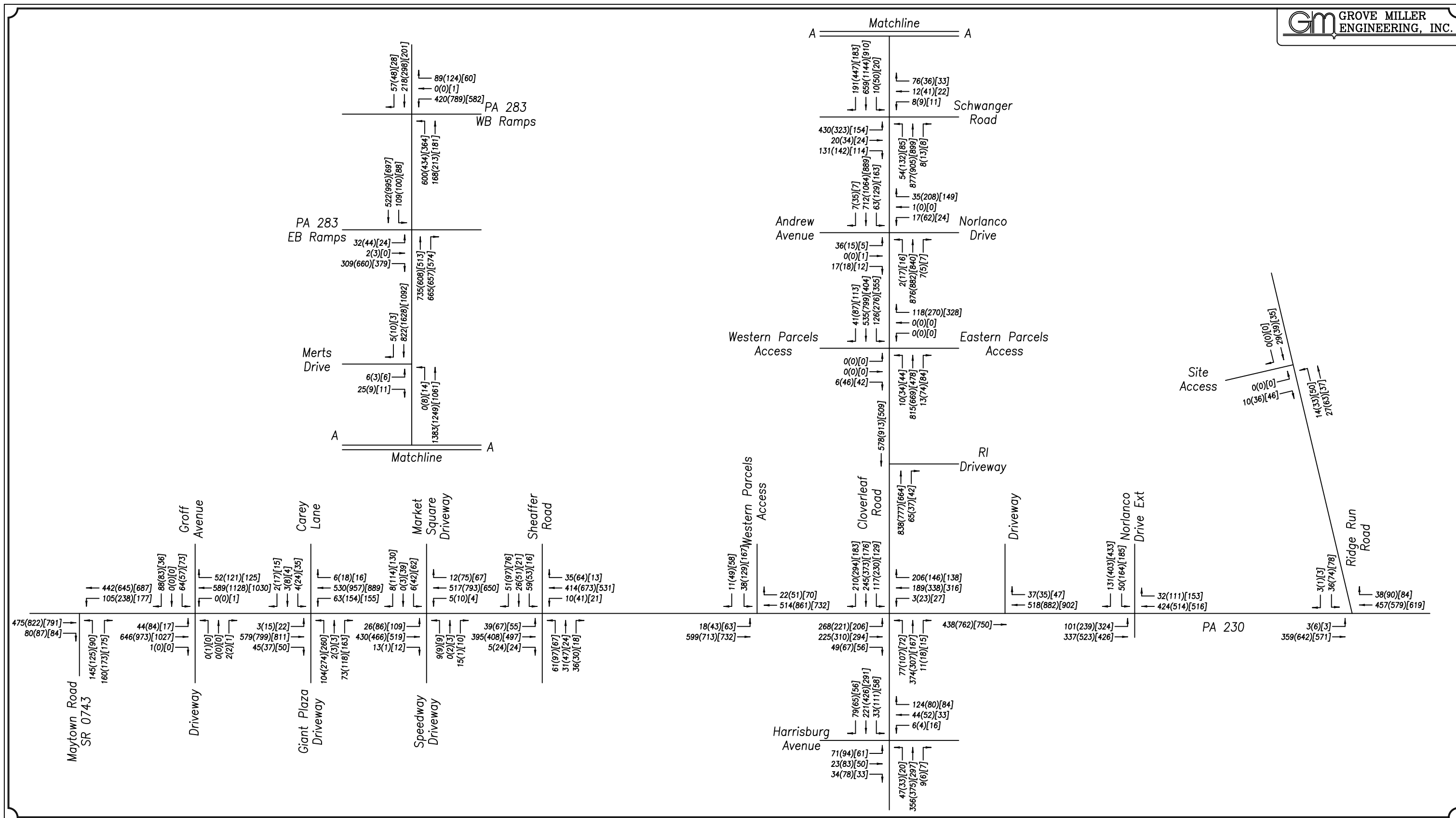
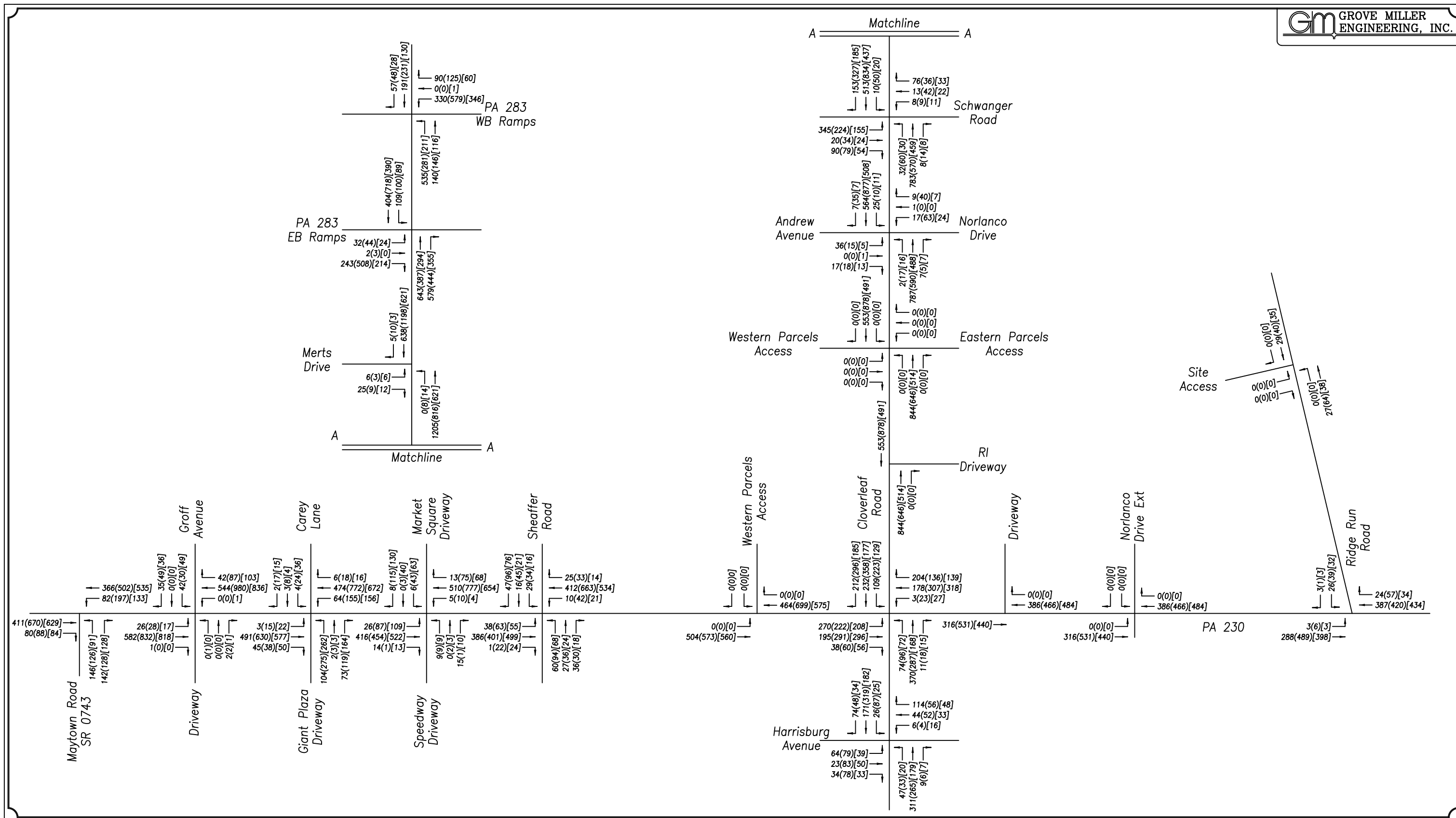


FIGURE 5e. 2028 PHASE 3 OPENING YEAR TRAFFIC VOLUMES, NO BUILD



APPENDIX D

HORIZON YEAR CONDITIONS



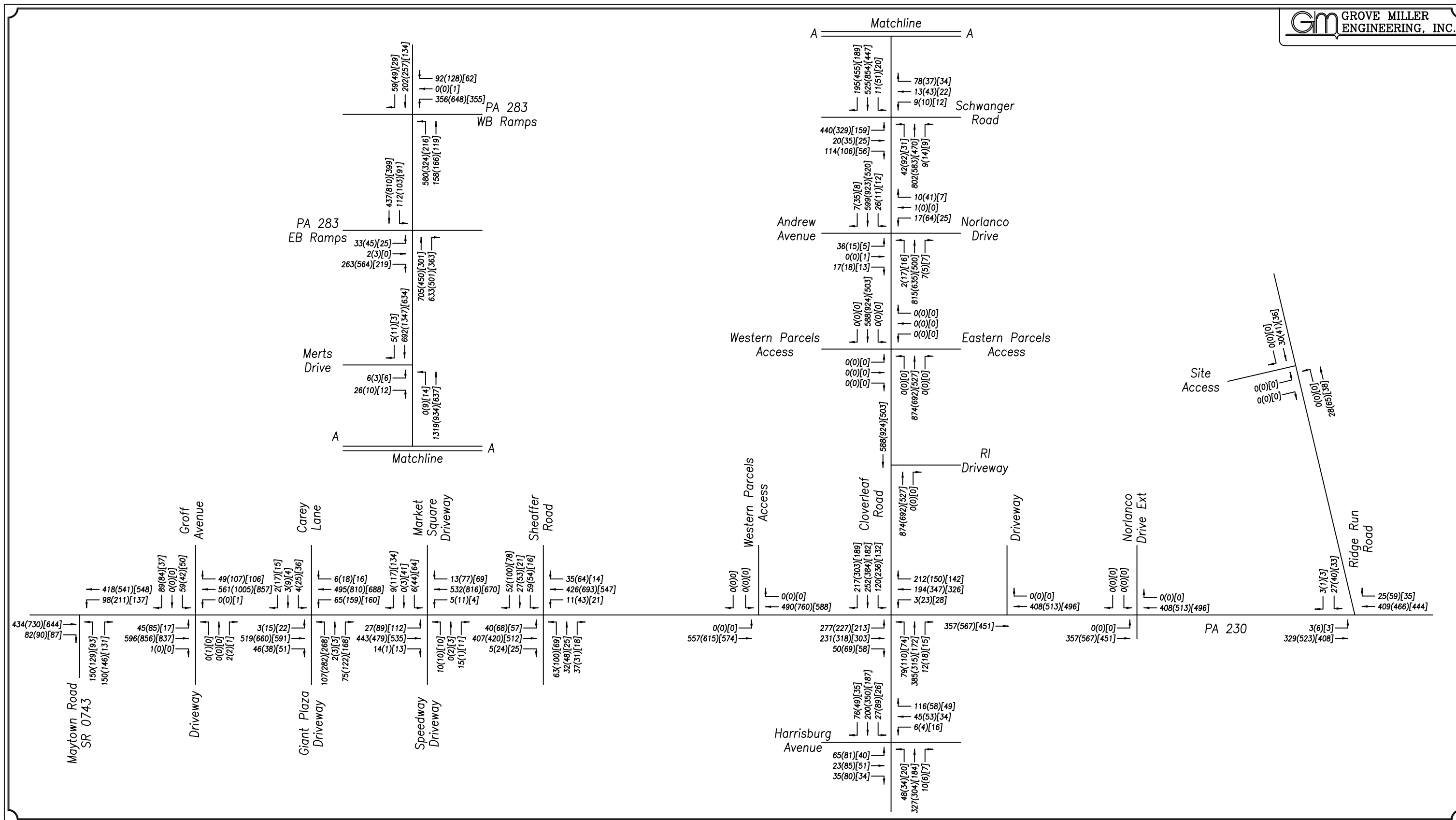


FIGURE 6e. 2033 PHASE 3 HORIZON YEAR TRAFFIC VOLUMES, NO BUILD

APPENDIX E

EXISTING TRANSPORTATION CONDITIONS

PROJECT: 804.02
INTERSECTION: SR 0230 &
Groff Avenue
DATE: 3/2022
DRAWN BY: GEC

EASTBOUND

STREET: SR 0230
GRADE: -3.0
MPH: 40

WESTBOUND

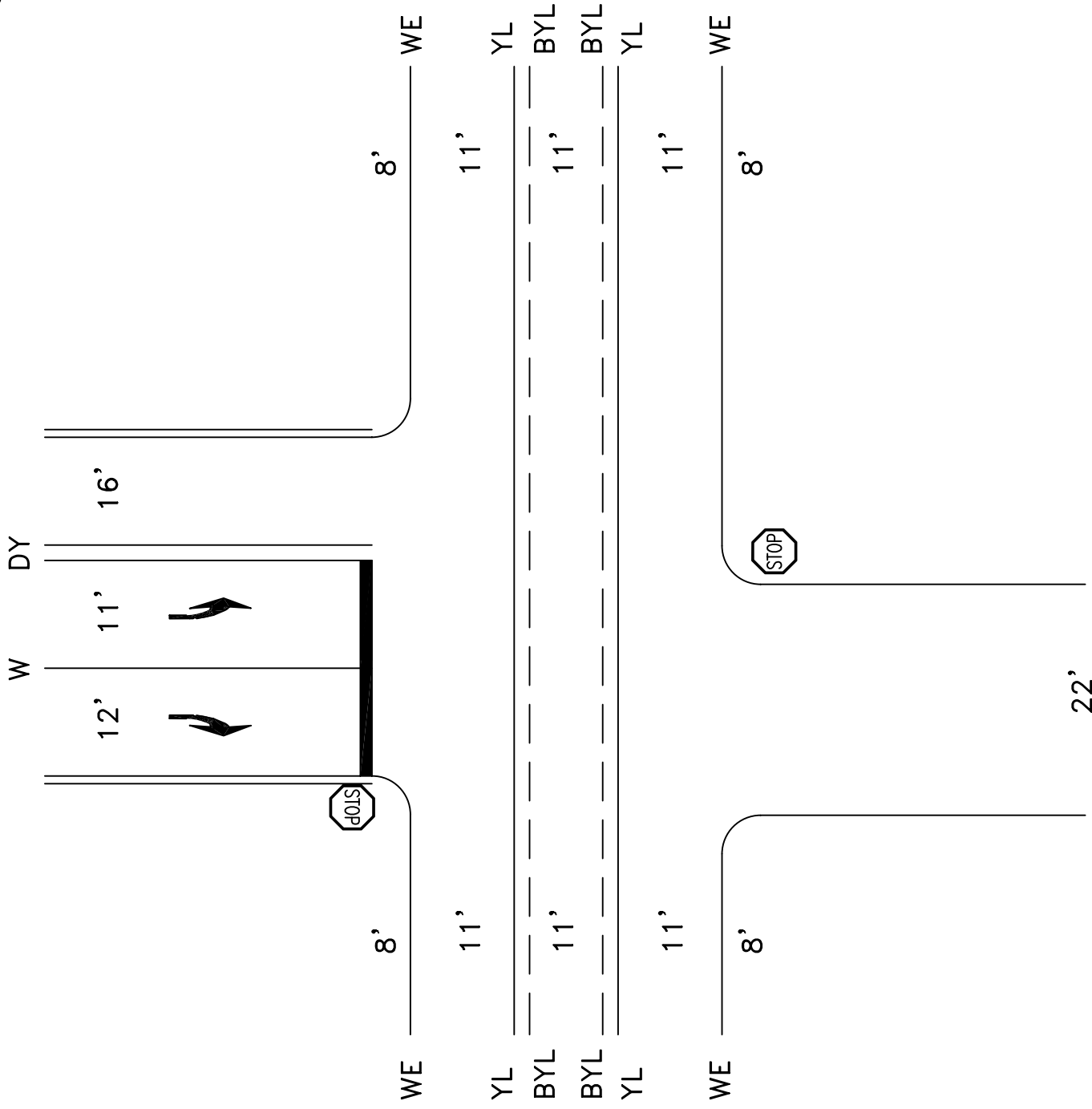
STREET: SR 0230
GRADE: +6.0
MPH: 40

NORTHBOUND

STREET: DRIVEWAY
GRADE: -2.0
MPH: NOT POSTED

SOUTHBOUND

STREET: Groff Avenue
GRADE: -3.0
MPH: 35



PROJECT: 804.02
INTERSECTION: SR 0230 &
Ridge Run Road
DATE: 3/2022
DRAWN BY: GEC

EASTBOUND

STREET: SR 0230
GRADE: -1.0
MPH: 55

WESTBOUND

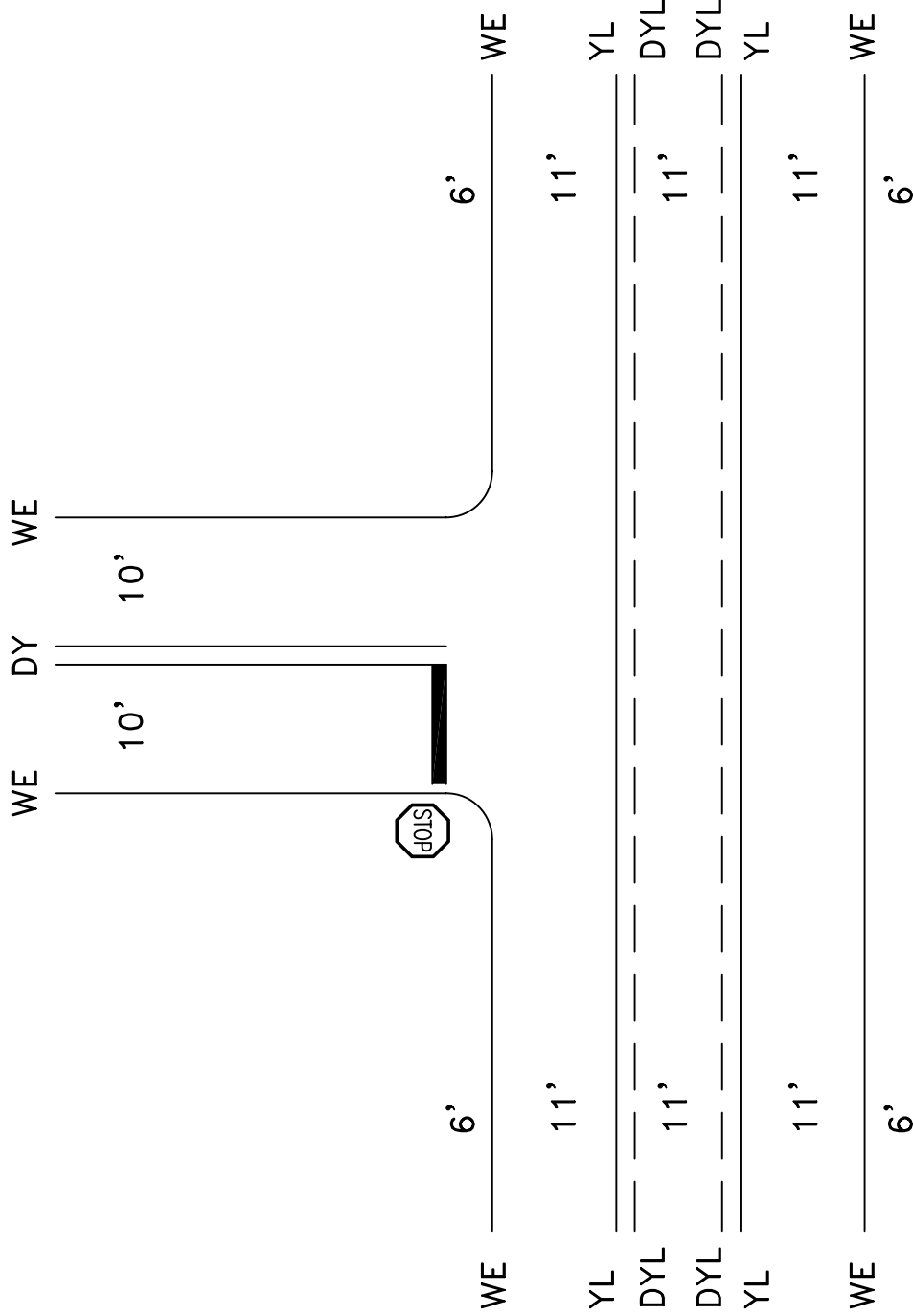
STREET: SR 0230
GRADE: +1.0
MPH: 55

NORTHBOUND

STREET: N/A
GRADE: N/A
MPH: N/A

SOUTHBOUND

STREET: Ridge Run Rd
GRADE: +2.0
MPH: 35



PROJECT: 804.02
INTERSECTION: Colebrook Rd
& Harrisburg Avenue
DATE: 3/2022
DRAWN BY: GEC

EASTBOUND

STREET: Harrisburg Avenue
GRADE: -1%
MPH: 35

WESTBOUND

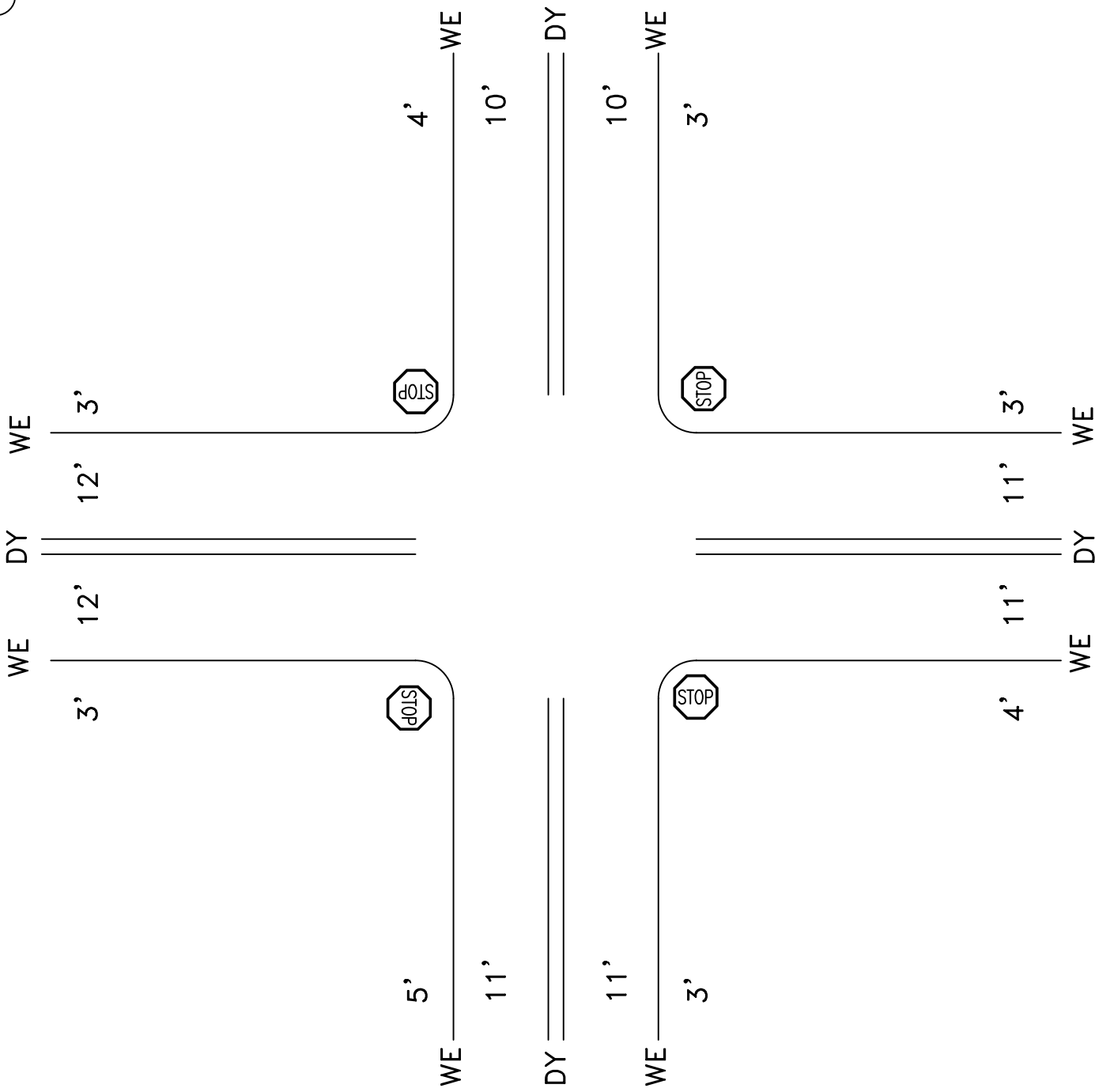
STREET: Harrisburg Avenue
GRADE: -1%
MPH: 35

NORTHBOUND

STREET: Colebrook Road
GRADE: +1%
MPH: 25

SOUTHBOUND

STREET: Colebrook Road
GRADE: -5%
MPH: 25





PROJECT: 804.02
INTERSECTION: Cloverleaf Rd
& Merts Drive
DATE: 3/2022
DRAWN BY: GEC

EASTBOUND

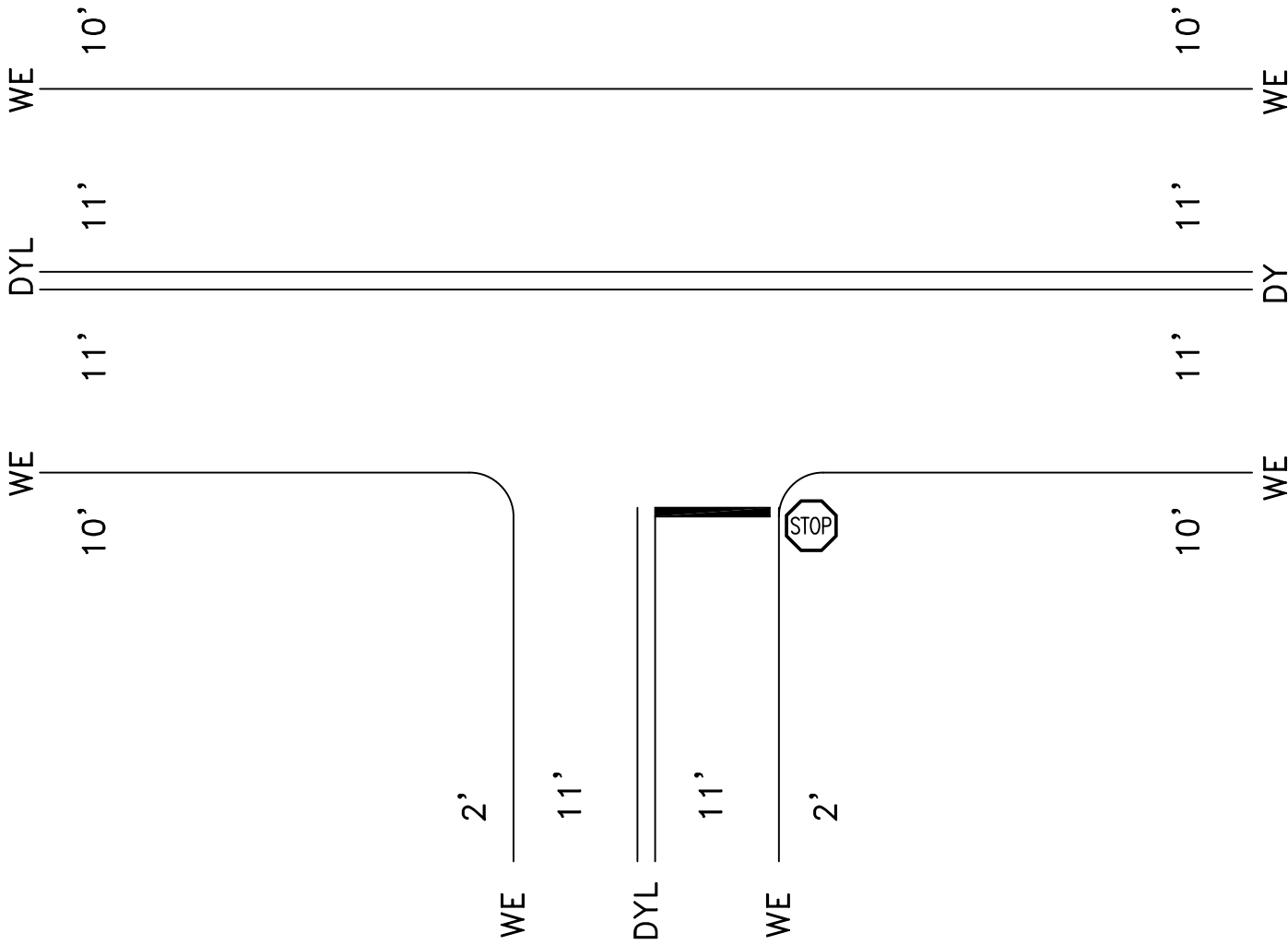
STREET: Merts Drive
GRADE: 0%
MPH: 25

NORTHBOUND

STREET: Cloverleaf Road
GRADE: -2%
MPH: 40

SOUTHBOUND

STREET: Cloverleaf Road
GRADE: +2
MPH: 40



PROJECT: 804.02
INTERSECTION: Cloverleaf Rd
& PA 283 EB Ramps
DATE: 3/2022
DRAWN BY: GEC

EASTBOUND

STREET: PA 283 EB Off-Ramp
GRADE: -3.0
MPH: Not Posted

WESTBOUND

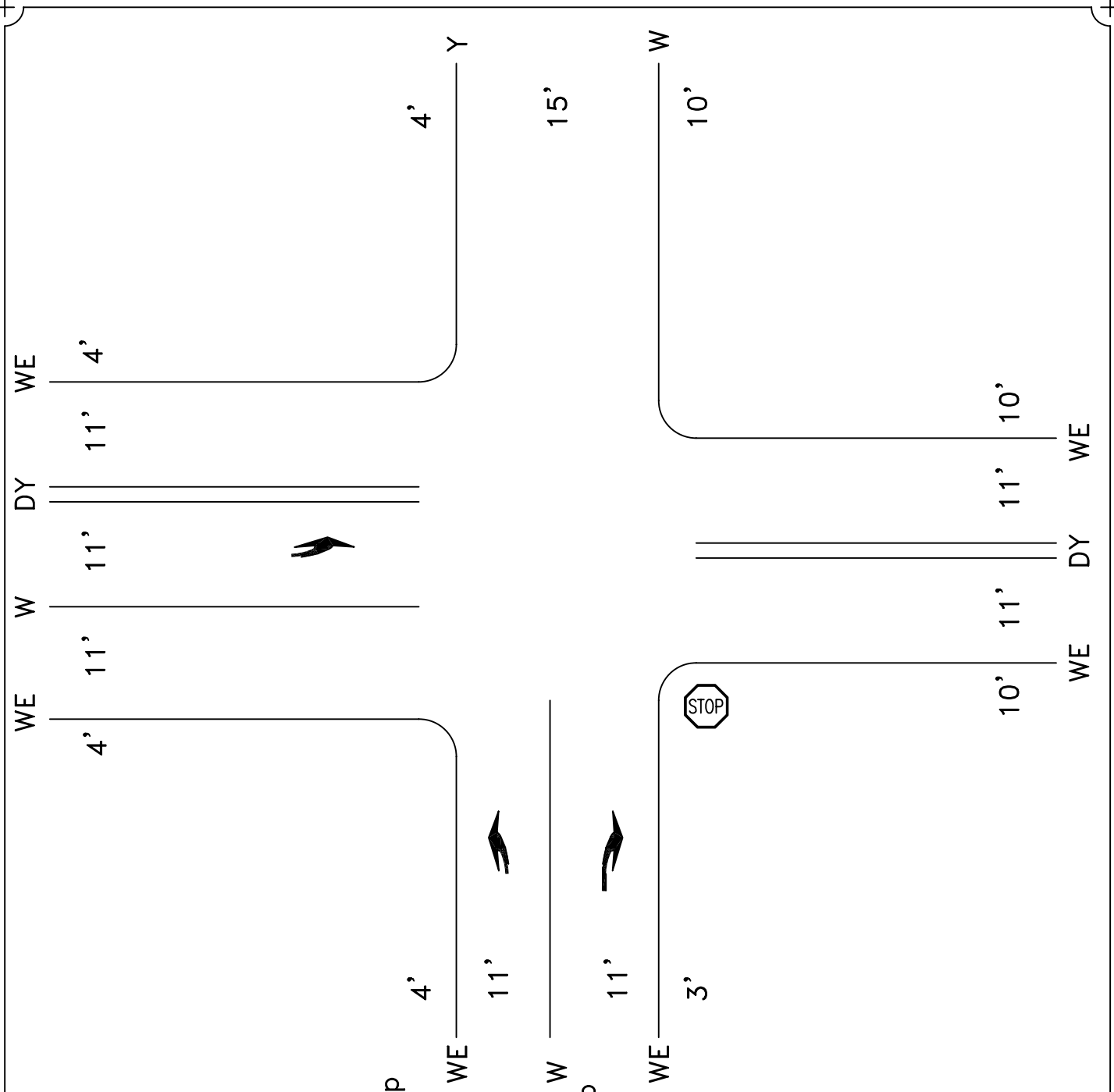
STREET: PA 283 EB On-Ramp
GRADE: +3.0
MPH: Not Posted

NORTHBOUND

STREET: Cloverleaf Rd
GRADE: -2
MPH: 40

SOUTHBOUND

STREET: Cloverleaf Road
GRADE: -2
MPH: 40



RURAL

to

Rural Places

Suburban Neighborhood

Suburban Corridor

Suburban Center



Figure 5.1 Roads in Context



URBAN

**Town/Village
Neighborhood**



Town Center



Urban Core



REGIONAL

**Regional
Arterial**

**Community
Arterial**

**Community
Collector**


**Neighborhood
Collector**

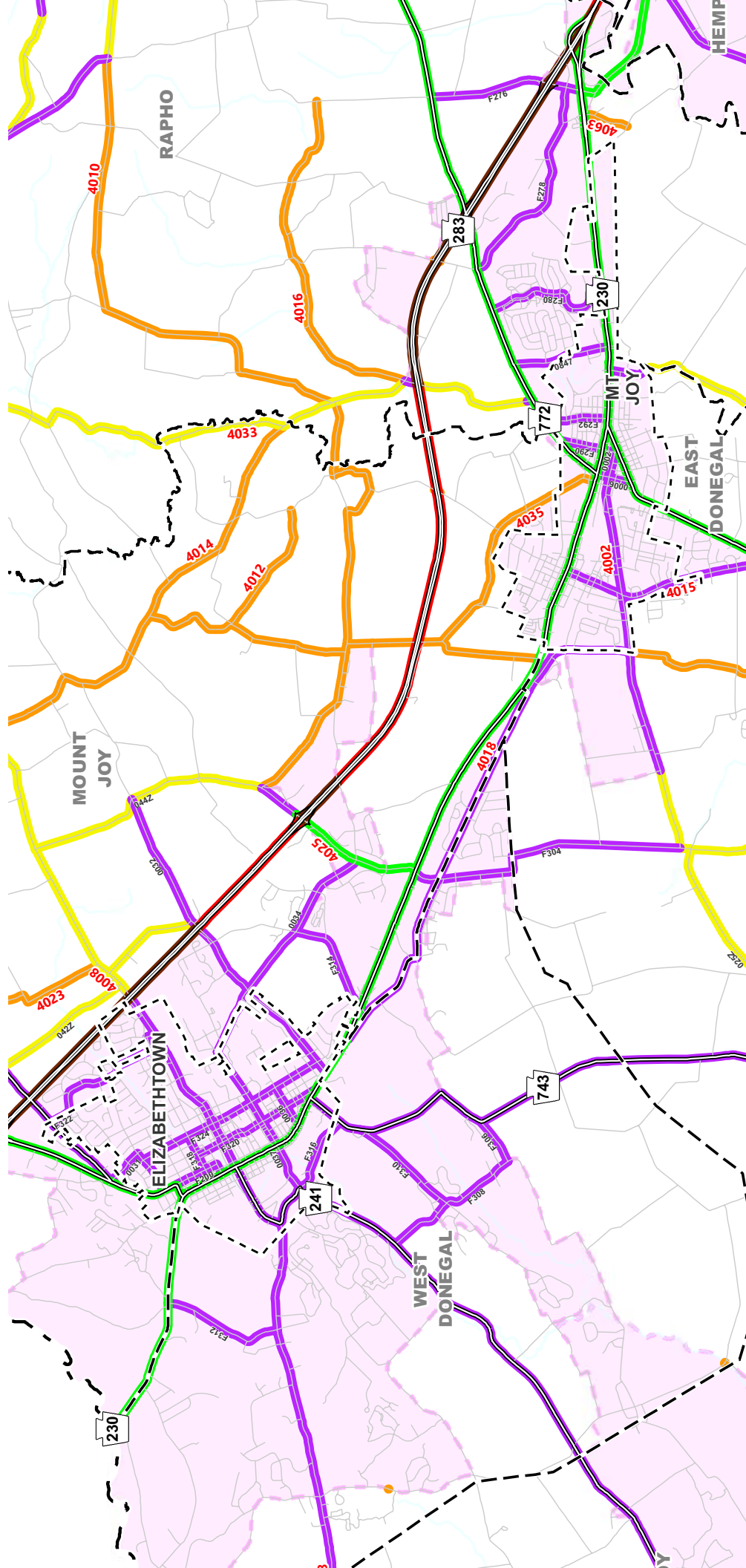
**Local Road/
Street**

to

LOCAL












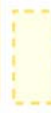



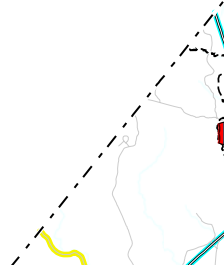
 The photos enclosed in a yellow box indicate the Town Center and Core City streets that also operate as a local or regional Main Street.



N

Legend

-  STATE
-  COUNTY
-  CITY or BORO
-  TOWNSHIP
-  INTERSTATE HIGHWAYS
-  OTHER FREEWAYS AND EXPRESSWAYS
-  OTHER PRINCIPAL ARTERIAL HIGHWAYS
-  MINOR ARTERIALS
-  MAJOR COLLECTOR
-  MINOR COLLECTOR
-  LOCAL ROADS
-  2010 SMALL URBAN BOUNDARY
-  2010 LARGE URBAN BOUNDARY



APPENDIX F

STUDY AREA PHOTOGRAPHS



SR 0230 looking east (200') at SR 0743



SR 0230 looking east (50') at SR 0743



SR 0230 looking west (200') at SR 0743



SR 0230 looking west (50') at SR 0743



SR 0743 looking north (200') at SR 0230



SR 0743 looking north (50') at SR 0230



SR 0230 looking east (200') at Groff Avenue



SR 0230 looking east (50') at Groff Avenue



SR 0230 looking west (200') at Groff Avenue



SR 0230 looking west (50') at Groff Avenue



Groff Avenue looking south (200') at SR 0230



Groff Avenue looking south (50') at SR 0230



SR 0230 looking east (200') at Carey Lane/Giant Plaza Driveway



SR 0230 looking east (50') at Carey Lane/Giant Plaza Driveway



SR 0230 looking west (200') at Carey Lane/Giant Plaza Driveway



SR 0230 looking west (50') at Carey Lane/Giant Plaza Driveway



Giant Plaza Driveway looking north (200') at SR 0230



Giant Plaza Driveway looking north (50') at SR 0230



Carey Lane looking south (200') at SR 0230



Carey Lane looking south (50') at SR 0230



SR 0230 looking east (200') at Hess Driveway/Market Square Driveway



SR 0230 looking east (50') at Hess Driveway/Market Square Driveway



SR 0230 looking west (200') at Hess Driveway/Market Square Driveway



SR 0230 looking west (50') at Hess Driveway/Market Square Driveway



Market Square Driveway looking south (200') at SR 0230



Market Square Driveway looking south (50') at SR 0230



Hess Driveway looking north at SR 0230



SR 0230 looking east (200') at Sheaffer Road



SR 0230 looking east (50') at Sheaffer Road



SR 0230 looking west (200') at Sheaffer Road



SR 0230 looking west (50') at Sheaffer Road



Sheaffer Road looking north (200') at SR 0230



Sheaffer Road looking north (50') at SR 0230



Sheaffer Road looking south (200') at SR 0230



Sheaffer Road looking south (50') at SR 0230



SR 0230 looking east (200') at Cloverleaf Road



SR 0230 looking east (50') at Cloverleaf Road



SR 0230 looking west (200') at Cloverleaf Road



SR 0230 looking west (50') at Cloverleaf Road



Colebrook Road looking north (200') at SR 0230



Colebrook Road looking north (50') at SR 0230



Cloverleaf Road looking south (200') at SR 0230



Cloverleaf Road looking south (50') at SR 0230



SR 0230 looking east (200') at Ridge Run Road



SR 0230 looking east (50') at Ridge Run Road



SR 0230 looking west (200') at Ridge Run Road



SR 0230 looking west (50') at Ridge Run Road



Ridge Run Road looking south (200') at SR 0230



Ridge Run Road looking south (50') at SR 0230



Harrisburg Avenue looking east (200') at Colebrook Road



Harrisburg Avenue looking east (50') at Colebrook Road



Harrisburg Avenue looking west (200') at Colebrook Road



Harrisburg Avenue looking west (50') at Colebrook Road



Colebrook Road looking north (200') at Harrisburg Avenue



Colebrook Road looking north (50') at Harrisburg Avenue



Colebrook Road looking south (200') at Harrisburg Avenue



Colebrook Road looking south (50') at Harrisburg Avenue



Andrew Avenue looking east (200') at Cloverleaf Road



Andrew Avenue looking east (50') at Cloverleaf Road



Norlanco Drive looking west (200') at Cloverleaf Road



Norlanco Drive looking west (50') at Cloverleaf Road



Cloverleaf Road looking north (200') at Andrew Avenue/Norlanco Drive



Cloverleaf Road looking north (50') at Andrew Avenue/Norlanco Drive



Cloverleaf Road looking south (200') at Andrew Avenue/Norlanco Drive



Cloverleaf Road looking south (50') at Andrew Avenue/Norlanco Drive



Schwanger Road looking east (200') at Cloverleaf Road



Schwanger Road looking east (50') at Cloverleaf Road



Schwanger Road looking west (200') at Cloverleaf Road



Schwanger Road looking west (50') at Cloverleaf Road



Cloverleaf Road looking north (200') at Schwanger Road



Cloverleaf Road looking north (50') at Schwanger Road



Cloverleaf Road looking south (200') at Schwanger Road



Cloverleaf Road looking south (50') at Schwanger Road



Merts Drive looking east (200') at Cloverleaf Road



Merts Drive looking east (50') at Cloverleaf Road



Cloverleaf Road looking north (200') at Merts Drive



Cloverleaf Road looking north (50') at Merts Drive



Cloverleaf Road looking south (200') at Merts Drive



Cloverleaf Road looking south (50') at Merts Drive



PA 283 EB Ramps looking east (200') at Cloverleaf Road



PA 283 EB Ramps looking east (50') at Cloverleaf Road



PA 283 EB Ramps looking west (200') at Cloverleaf Road



PA 283 EB Ramps looking west (50') at Cloverleaf Road



Cloverleaf Road looking north (200') at PA 283 EB Ramps



Cloverleaf Road looking north (50') at PA 283 EB Ramps



Cloverleaf Road looking south (200') at PA 283 EB Ramps



Cloverleaf Road looking south (50') at PA 283 EB Ramps



PA 283 WB Ramps looking east (200') at Cloverleaf Road



PA 283 WB Ramps looking east (50') at Cloverleaf Road



PA 283 WB Ramps looking west (200') at Cloverleaf Road



PA 283 WB Ramps looking west (50') at Cloverleaf Road



Cloverleaf Road looking north (200') at PA 283 WB Ramps



Cloverleaf Road looking north (50') at PA 283 WB Ramps



Cloverleaf Road looking south (200') at PA 283 WB Ramps



Cloverleaf Road looking south (50') at PA 283 WB Ramps