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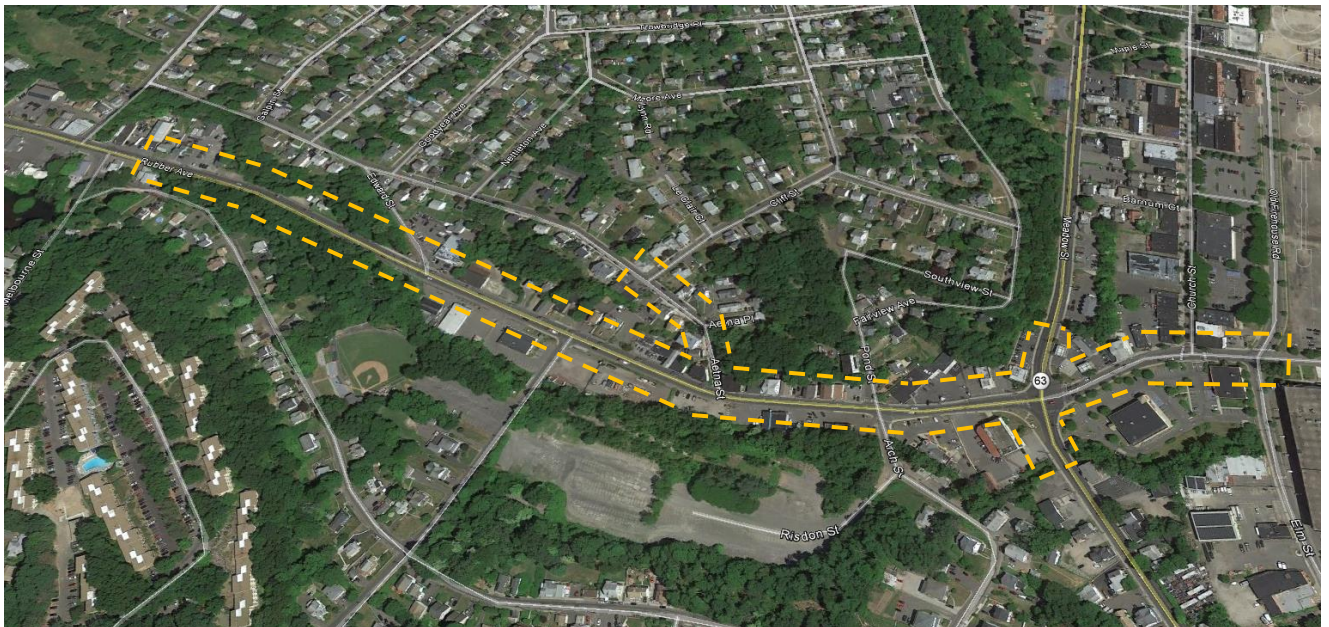
273 Dividend Road
Rocky Hill, CT 06067
tel: 860.513.1473

APPLICATION

April 2020

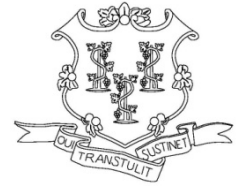
BOROUGH OF
Naugatuck
CONNECTICUT

LOTICIP Application
Rubber Avenue Reconstruction





Connecticut Department of Transportation



Local Transportation Capital Improvement Program Application

Municipality:	Naugatuck	COG:	Naugatuck Valley COG
Route/Road:	Rubber Avenue		
Project Title:	Rubber Avenue Reconstruction		
Roadway Functional Classification (if applicable):	Urban Collector		
COG Contact Information:	Karen Svetz	Regional Transportation Eng	
	Name	Title	
	203-489-0374	ksvetz@nvcogct.org	
	Phone Number	Email	
Municipal Contact Information:	N. Warren "Pete" Hess III	Mayor	
	Name	Title	
	203-720-7000	nwhess@naugatuck-ct.gov	
	Phone Number	Email	

The applicant must answer the questions below which are intended to address basic issues about existing conditions, project management, project costs, impacts on private property, utilities, wetlands, etc. **You may provide your answer in the space provided below or submit separate answer sheets. It is important that the application be as thorough as possible as missing information will delay the review process. All project- related sections must be completely filled out or the application will be returned and will require resubmittal.**

The intent of the application is to establish eligibility, service life, and to ensure the municipality is considering all pertinent aspects associated with major infrastructure improvements consistent with the purpose and need of the project.

(A) Project Information

1. Select the type of proposed improvement (select all that apply):

Please note: The entire application must be completed for all projects in addition to any necessary supplemental sections (K through P) as determined by the type of project.

- ☒ Roadway Geometric Improvement
- ☐ Stand-Alone Sidewalk Construction
- ☐ Bicycle/Pedestrian Improvement, including Multi-Use Trail Facilities
- ☒ Intersection Improvement

Provide additional information as required in section K

- ☐ Bridge Rehabilitation/Replacement

Provide additional information as required in section L

- ☐ Major Drainage Improvement

Provide additional information as required in section M

- ☒ Pavement Structure Improvement

Provide additional information as required in section N

- ☒ Traffic Signal Replacement/Upgrade/New Installation/Coordination

Provide additional information as required in section O

- ☒ Other (please specify): Minor Drainage Improvements

Provide additional information as required in section P

2. Describe the purpose and need of the project (i.e what are the problems to be corrected?). Please provide adequate detail to clearly convey the nature of the problem(s) to be corrected. Provide photographs to document the existing conditions and support the purpose and need.

See Extended Application Answers in Appendix A.

3. Provide a project description which specifically describes how the proposed improvements will correct the problem(s) identified in the purpose and need. Describe what alternative(s) were considered?

See Extended Application Answers in Appendix A.

4. Provide concept plans of the proposed improvement. The plans must be sufficiently developed and provide enough detail on a scaled drawing (including aerial photography base mapping if possible) to identify the following:

Inc. N/A

- ☒ Project location
- ☒ Limits of project
- ☒ ☐ Approximate limits and extent of any pavement widening or realignment
- ☒ ☐ Proposed number of lanes, widths, and arrangements
- ☐ ☐ Approximate limits and extent of any anticipated ROW acquisitions (based on available ROW information from Assessors maps, GIS data, etc.)
- ☒ ☐ Structures (i.e. Retaining walls, bridges)
- ☒ ☐ Watercourses
- ☒ ☐ Typical Cross Section including lane and shoulder widths, pavement structure, etc.

5. Have the improvements at this location been submitted to the Department previously for funding? ☒ No ☐ Yes

If yes, when and under what program?

-
6. Does the project impact any State-owned Facilities (i.e. roads, bridges, etc.)?
☐ No ☒ Yes

If yes, describe the impacts:

The intersection with Route 63 is within the projects limits.

7. In the area of the project, are there any known proposed developments?

☐ No ☒ Yes

If yes, describe the proposed developments:

The Borough anticipates development of the Risdon Property, located along the south side of Rubber Avenue across from Aetna St. In preparation for this application, potential development concepts were prepared, and potential traffic is included in the design volumes and traffic analysis.

8. Design Standards to be used:

☒ Established municipal standards

☒ AASHTO Policy on Geometric Design of Highways and Streets

☒ Connecticut Department of Transportation Highway Design Manual

☐ AASHTO LRFD Bridge Design Specifications and Connecticut Department of Transportation Bridge Design Manual

☐ Other, please specify: _____

(B) Rights of Way

1. Are any Right of Way (ROW) impacts anticipated? ☐ No ☒ Yes

If yes, describe the nature, extent, and type of impacts:

A portion of the proposed sidewalk between Andrew Avenue and Arch Street is located beyond the ROW line. The roundabout as shown in the attached concept will require sidewalk easements, and a partial property take on the southeastern corner of the intersection.

2. If ROW acquisitions will be required, who does the municipality plan to have perform acquisition activities?

☒ Municipal staff ☐ Consultant hired by municipality ☐ State

3. If ROW acquisitions are to be performed by the municipality's staff or their consultant, will the municipality be seeking reimbursement for ROW costs?

☐ No ☒ Yes

(C) Utilities

1. List all utilities within the project area, including their owners.

<u>Overhead</u>	<u>Underground</u>
Eversource Energy	Water
Cable	Sewer
	Gas

2. Are any utility impacts anticipated? ☐ No ☒ Yes

If yes, explain the nature and extent of the impacts:

Utility impacts include relocation of overhead poles, many of which are located in the middle of existing sidewalks. The proposed drainage design will attempt to avoid conflicts with all underground utilities. In 2015, CT Water replaced the water main. The Sanitary Sewer lines were video inspected and were determined to be in serviceable condition.

Note: Costs associated with utility betterments/upgrades that are not required to accommodate the proposed transportation improvement are not eligible project costs.

3. Have the utility companies been contacted to identify any plans to expand or improve existing utilities that would that would compromise the service life of the proposed improvements?

☒ No ☐ Yes

If yes, describe any proposed improvements and their schedule:

(D) Storm water drainage system and under drains

1. Do any existing storm water drainage problems exist? ☐ No ☒ Yes

If yes, describe the problem(s):

Ponding during heavy rain storms.

2. Is any storm water drainage system work anticipated, including any new or modified drainage outlets? ☐ No ☒ Yes

If yes, explain the nature and extent of the improvements:

Pipes will be upgraded as necessary to meet current criteria, new catch basins will be added as needed. It is intended to use the existing outlet locations.

3. Are there any existing watercourse crossings that are proposed to be modified, rehabilitated, or replaced as part of the project? ☒ No ☐ Yes

If yes, indicate the type of improvement needed and the reason for it. Please also indicate if any existing watercourse crossings have inadequate hydraulic capacity:

(E) Rail Crossings

1. Are there any railroad crossings that are likely to be impacted as part of the project?

☒ No

☐ Yes

☐ At-grade

☐ Grade separated

If yes, describe impacts and any necessary modifications:

(F) Pedestrian/Bicycle Safety and Mobility

1. Complete and attach the Department's Bicycle and Pedestrian Needs Assessment Form to this application (a copy of this form is included in Appendix D). In accordance with Connecticut General Statutes, Section 13a – 153f, and the Department's focus on accommodating non-motorized travel modes, accommodation of all users shall be a routine part of the planning, design, construction, and operating activities of all highways. The need for inclusion of accommodations for bicyclists and pedestrians, including those with disabilities, must be reviewed for every project, regardless of funding source.

(G) Traffic

The information below needs to be provided or reviewed (as specified) by the designer for all project types except for stand-alone sidewalk projects and bicycle/pedestrian improvements, and multi-use trail facilities that do not involve pedestrian crossings

1. Volumes

Provide existing and 20-year Projected ADTs and Turning Volumes. Refer to the Preliminary Engineering/Preliminary Design section for guidance on traffic volumes.

2. Accident Experience

Provide a summary of accident experience (most current three years data. An accident diagram is preferred.)

3. Traffic Signals

Review the existing traffic signal plans for projects involving signalized intersections

4. Speed Data

Provide 85th percentile speeds in the project area

Provide all posted speed limits in the project area

(H) Environmental Resource Involvement

Refer to Application Process/Preliminary Project Submittals - Information Provided by the Department for more information.

1. Parks, Cemeteries, Historic Structures

- a. Are there any parks, cemeteries, or historic structures that are likely to be affected by the project? ☒ No ☐ Yes

If yes, describe the type and extent of the anticipated impact.

2. Wetlands

- a. Are there any wetlands that are likely to be affected by the project?

☒ No ☐ Yes

If yes, describe the type and extent of the anticipated impact.

3. Hazardous or Contaminated Sites

- a. Has the potential for hazardous or contaminated sites and materials in the project area been investigated? ☒ No ☐ Yes

If yes, describe the type and extent of the anticipated impact.

(I) Public Involvement

Refer to Preliminary Engineering/Project Design - Public Involvement section for more information.

1. Has public involvement been conducted? ☐ No ☒ Yes

If yes, was there significant public opposition to the project? Describe below:

A public information meeting was held on June 25, 2019, specifically for public feedback regarding the proposed modern roundabout at the Rubber Avenue and Route 63 intersection. General information for the entire project was also provided. The Board of Mayor and Burgesses voted in favor of moving forward with the roundabout on August 6, 2019.

(J) Cost Estimate

1. Attach a preliminary cost estimate identifying:
 - a. Approximate quantities and assumed unit prices of the major contract items
 - b. An allowance for minor items (percentage of a)
 - c. Standard lump sum items (i.e. clearing and grubbing, mobilization, construction staking, maintenance and protection of traffic) as applicable (percentages of a + b)
 - d. Total contract items (a + b + c)
 - e. Contingencies (10% of d)
 - f. Incidentals to construction, (i.e. construction inspection, materials testing) (10% of d)
 - g. Rights of way costs

- h. Eligible utility relocation costs (in accordance with CGS13a-98f)
Note: Costs associated with utility betterments/upgrades that are not required to accommodate the proposed transportation improvement are not eligible project costs
- i. Total project costs (d + e + f + g + h)

Sample cost estimate form provided in Appendix M

Refer to the Department's most current Cost Estimating Guidelines for cost estimate guidance or use town generated unit prices. The anticipated costs for each phase of the project shall be well documented and based on reasonable anticipated costs.

The guidelines are located at: <http://www.ct.gov/dot/cwp/view.asp?a=3194&q=484094>

ADDITIONAL INFORMATION TO BE PROVIDED BASED ON IMPROVEMENT TYPE SELECTED IN SECTION (A)1:

(K) Intersection Improvements

Capacity Analyses (For build and no-build conditions using existing and projected traffic volumes).*

(L) Bridge Rehabilitation/Replacement

Latest Condition Report

(M) Major Drainage Improvement

Material, Age, Hydraulic adequacy assessment of existing drainage system (Condition Report, post-cleaning is preferred)

(N) Pavement Structure Improvement

The level of investigation will be dependent upon the proposed improvements. Cores or test pits must be performed such that a representative sample of the existing roadway condition is obtained. If varying pavement conditions exist along the roadway indicating the possibility of different pavement conditions, a test pit should be performed in each roadway section. Pavement thickness and type, sub-base thickness and type, and the presence of fines and/or groundwater should be noted. Attach the data obtained. If full depth reconstruction is proposed, cores or test pits are not required.

Approximate percentage of heavy vehicles: AM 5%, PM 1%

What is the existing pavement type, condition, and thickness?

See Extended Application Answers in Appendix A.

(Cont'd)

What is the anticipated pavement design? Describe the type and depth of each course including the base that is suitable for the ADT and percentage of heavy vehicles. Does it meet current design standards? Describe the cross-section (i.e. lanes and shoulder widths, etc.).

Describe how the service life requirement for the proposed pavement design was determined:

(O) Traffic Signal Replacement/Upgrade/New Installation/Coordination

Who is/will be responsible for ownership, maintenance, and electrical costs

Age of existing signals

Capacity Analyses (For build and no-build conditions using existing and projected traffic volumes).*

Warrant Analysis for new signals

Systems Engineering Analysis Form (SEAFORM) for Intelligent Transportation Systems (ITS) projects

(P) Other

To be determined based on type of improvement proposed

***Capacity Analysis:** For the purposes of this application, a simplified analysis may be performed for signalized intersections that do not require detailed assumptions, proprietary software or specialized traffic engineering skills. The “Quick Estimation Method” is described in detail in the 2010 Highway Capacity Manual, with accompanying worksheets that can be completed by hand. A brief description of the method is also described in Section 3.3.6 of the FHWA Signal Timing Manual, where it is referred to as a “Critical Movement Analysis.” The relevant section of the FHWA publication can be accessed at: <http://ops.fhwa.dot.gov/publications/fhwahop08024/chapter3.htm#3.3>. This simplified analysis will yield an approximate critical volume/capacity ratio that can be used to assess overall operation of the intersection. The build and no-build conditions should be analyzed for the existing and projected traffic volumes.

APPLICATION SUBMISSION

This application and supporting documents must be submitted by the municipality to their COG. At such time when the application is to be forwarded to the Department of Transportation by the COG, it must be addressed to:

Mr. Hugh H. Hayward, P.E.
Department of Transportation
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546

Prepared by: Lisa Slonus, Project Manager Date: 4/17/2020

Name, Title and stamp of Responsible P.E. (Municipal or Consultant)

Signature

(Stamp)

Reviewed/Recommended by: N. Warren "Pete" Hess III Date: _____

Name & Title of Municipal Chief Administrative Officer

Signature

Endorsed/Recommended by: Rick Dunne, Executive Director Date: _____

Name & Title of COG Executive Director

Signature

ATTACHMENTS

Appendix A. Extended Application Answers

Appendix B. Conceptual Roadway Plans

Appendix C. Bicycle and Pedestrian Travel Needs Assessment Form

Appendix D. Traffic and Crash Data

Appendix E. Operational Analysis

Appendix F. Conceptual Design Cost Estimate

Appendix G. Boring Logs

\\wse03.local\\WSE\\Projects\\CT\\Naugatuck CT\\2180733_Rubber Ave Reconstruction\\Docs\\LOTICIP Application\\LOTICIP_App_Text.docx

APPENDIX A

Extended Application Answers

(A) Project Information

Answer #2:

The purpose of this project is to reconstruct Rubber Avenue including pavement, sidewalk and stormwater drainage from the intersection with Melbourne Street to the intersection with Elm Street, in a contextually sensitive manner. The project also includes a section on Aetna Street, which will involve updating the storm drainage system, top course pavement. Rubber Avenue contains 14' to 19'-wide travel lanes with concrete sidewalk and monolithic curb. Within the project limits there are three unsignalized intersections and two signalized intersections. Aetna Street contains 13'-wide travel lanes with concrete sidewalk and monolithic curb.

Rubber Avenue is classified by the Connecticut Department of Transportation (CTDOT) as an "Urban Collector". Rubber Avenue connects the center of Naugatuck to western Naugatuck and eastern Oxford. Residential properties are located on Rubber Avenue between Melbourne Street and Edward Street. Single family homes are typically set-back 20 to 40-feet from the edge of road, and driveways are located every few hundred feet. From Edward Street to Elm Street, the adjacent properties are commercial and industrial. In this section, driveways are located every few hundred feet.

The pavement along Rubber Avenue is deteriorating due to the large volume of traffic. The heavy volume of vehicles includes automobiles, service trucks, tankers, construction vehicles and associated equipment. Multiple pavement overlays have been implemented. Photos 1 through 7 on the following pages illustrate the existing pavement conditions. The sidewalk is also damaged. To the west of Edward Street, the bituminous sidewalk contains utility poles located in the center of the sidewalk (see Photos 1-3). To the east of Edward Street, the concrete sidewalk is cracked (see Photo 6).

As a roadway improvement project, geometric deficiencies are identified and mitigated if possible within the context of the project. Rubber Avenue is a Built Up Urban Collector Street. The posted speed limit is 25 miles per hour (mph) and the design speed is 35 mph. Rubber Avenue slopes downhill from west to east. The maximum slope is around 6.5%, which is less than the allowable maximum slope of 10%. Rubber Avenue contains six horizontal curves. The horizontal alignment contains sharp curves with limited clear zones that impact sight distance. Between Melbourne Street and Edward Street, there is limited sight distance due to the curve and adjacent woods to the south of the road. See Photos 1-3. At the intersection with Aetna Street, sight distance is limited by a sharp curve and buildings located close to the street (see Photo 5).

Edward Street intersects Rubber Avenue at a sharp angle that makes right turns awkward. The intersection between Pond Street and Arch Street has excess pavement.

The road stormwater drainage system is minimal with catch basins spaced over 500' from each other. During heavy rains, Rubber Avenue experiences ponding of water.



Photo 1. Pavement Condition – Rubber Ave. east of intersection with Melbourne Street, looking southeast



Photo 2. Horizontal Curve - Rubber Ave. west of intersection with Edward St., looking southeast



Photo 3. Intersection of Rubber Ave. and Edward St., looking northwest



Photo 4. Pavement and Sidewalk Condition – Aetna St., looking north



Photo 5. Horizontal Curve - Intersection of Aetna Street., looking east



Photo 6. Sidewalk Condition – Rubber Ave. east of Intersection with Pond St., looking west



Photo 7. Pavement Condition – Rubber Ave. between Meadow St. and Church St.– Looking south

(A) Project Information

Answer #3:

Proposed improvements on Rubber Avenue include full depth pavement reconstruction, new concrete sidewalk and curbing, and improvements to the existing drainage system. The road will be designed for a 25-year life span. Minor modifications to horizontal and vertical alignments are proposed with a consistent roadway width of 30 feet. A roundabout is proposed at the intersection of Rubber Avenue and Route 63. The design of the intersection will be coordinated with CTDOT. Mill and overlay, new sidewalk and drainage improvements are proposed for Aetna Street. The proposed typical roadway cross section, conceptual roadway plans, and profiles are provided in Appendix B.

Pavement Reconstruction

Full depth pavement reconstruction will replace the existing pavement structure. Full depth pavement reconstruction includes removing sections of the concrete subbase. The proposed pavement structure is the standard Naugatuck pavement detail, which is illustrated on Drawing TYP-1 provided in Appendix B.

Drainage Improvements

Improvements to the existing drainage system are essential in reducing ponding during large storm events and protecting the reconstructed pavement. During the design, storm drainage calculations will be performed, and additional catch basins proposed as needed for capacity. Changes to the existing drainage patterns are not proposed. Existing curbing will be replaced. Existing end walls will be inspected for structural soundness, and repaired or replaced as needed. Drainage easements will also be formalized, should they not already exist.

According to the Nettleton Avenue Drainage Study, Naugatuck, CT, the drainage system on Aetna Street is under capacity. The Study proposes that the system on Aetna Street be upgraded from 30" pipes to 54" and 60" pipes to convey the 25-year storm.

Geometric Modifications

The footprint of the reconstruction of Rubber Avenue is proposed to generally remain within the Town Right of Way (ROW), which limits changes to the existing road geometry. The existing vertical alignment meets the standards of an Urban Collector with a design speed of 35 mph. The existing horizontal alignment contains curves with radii that are allowable with superelevation, but the road is not superelevated. Superelevation is not proposed because the vertical geometry will be maintained to tie into existing driveways and building entrances. Minor adjustments to the horizontal alignment are proposed to improve sight distance. At the intersection with Aetna Street, the horizontal curve is shifted to the south to increase the radius of the curve and improve sight distance.

Intersection Improvements

As stated in Answer 2, there are five intersections of which two operate as signalized. Presently, Edward Street intersects Aetna Street at an angle less than ninety degrees. This intersection is

unsignalized, and Edward Street is one-way with traffic moving from north to south toward Rubber Avenue; however, Edward Street also serves as the entrance to an auto body business. The intersection will be modified to provide a standard T-type intersection (see conceptual plans in Appendix B).

The unsignalized intersection between Aetna Street and Rubber Avenue will be improved with the proposed modifications to the horizontal alignment. Aetna Street is one-way with traffic moving from south to north onto Aetna Street from Rubber Avenue. The stopping sight distance will improve with the adjusted horizontal geometry.

The intersection at Pond Street and Arch Street will be improved by reducing lane widths to standard lane widths. This will provide the adjacent properties with more land and reduce the pavement area.

A roundabout is proposed between the intersection of Route 63 and Rubber Avenue. A roundabout would reduce the pavement area. The roundabout will also reduce potential collisions by eliminating left turn movements.

The intersection of Church Street, a commercial driveway and Rubber Avenue contains a signal with a flashing red light and operates as an all way stop. Intersection improvements include removing the traffic signal and installing stop signs.

(G) Traffic

Answer #1 – Volumes:

Daily traffic volumes were collected between Andrew Avenue and Aetna Street. The counts captured 24-hours of traffic volumes during a typical weekday (Tuesday, Wednesday, Thursday) and 24-hours of traffic volumes during a typical Saturday. The traffic count (conducted December 12 through December 16, 2018) indicated an Average Daily Traffic volume (ADT) of 12,726 vehicular trips.

Based on historical traffic volumes and census data, traffic volumes and population have shown essentially no growth in recent years and in some instances show decline. A conservative growth rate of 0.5 percent per year was utilized to develop opening year (2020) and future year (2040) design volumes. The year 2040 volumes also traffic volumes generated for possible development of the Risdon property, located opposite Aetna Street. Year 2018 existing, 2020, and 2040 design year intersection volumes are provided in Appendix D. It is anticipated that Rubber Avenue will experience a 2040 design year ADT of 15,650 vehicular trips.

Answer #2 – Accident Experience:

Accident data for the most recent three year period (2016, 2017, 2018) from the Connecticut Crash Data Repository was reviewed for the Rubber Avenue project area. This data, provided in Appendix D, indicates a total of 115 crashes along Rubber Avenue from just west of Edward Avenue to east of Church Street. Of these crashes 24 included injuries, 3 included pedestrians, and there were no fatalities.

The largest volume of crashes were concentrated at the Route 63 intersection with 65 crashes, 15 of which included injuries. Crash patterns included 28 rear-ends, 15 angle crashes, 13 sideswipes, and 3 angle crashes involving nearby driveways.

The Andrew Avenue and Arch Street intersections experienced the next highest volume of crashes with 15 and 10, respectively. At the Andrew Avenue intersection, the majority of crashes were rear-end collisions (10), followed by angle type collisions (3). Three of the crashes involved injuries. Angle and rear-end crashes were the most common at the Arch Street intersection, followed by sideswipes. The Arch Street crashes involved property damage only, no injuries.

The Aetna Street, Church Street, and Edward Street intersections experienced the lowest volume of crashes with 9, 10, and 6, respectively. In total these three intersections included 6 injury crashes, one of which involved a pedestrian.

Answer #3 – Traffic Signals:

Three of the Rubber Avenue project intersections are currently signalized:

- Andrew Avenue
- Route 63 (Meadow Street/Cherry Street)
- Church Street

Operational analysis (capacity and queuing) has been prepared for each of these intersections, as well as, the unsignalized intersections within the project area, and is provided in Appendix D. Analysis periods include Weekday AM, PM, and Saturday Midday peak hours for the Existing, 2020 No Build and Build conditions, and 2040 No Build and Build conditions.

The Andrew Avenue intersection is currently operating at an overall level of service (LOS) A, and will continue to operate at this LOS given design volumes. The Church Street intersection, although signalized for many years, has been operating as an all-way stop controlled intersection since the installation of the signal. This intersection currently operates at overall LOS A and B and will continue to do so given design volumes.

The Route 63 intersection is currently operating at LOS C during the weekday AM and Saturday Midday peak hours. During the weekday PM peak hour it is operating over capacity. Given future design volumes, LOS continue to degrade and volume to capacity ratios and queues increase. A roundabout at this location improves intersection operations, reducing delay, increasing capacity, and greatly reducing queues.

Answer #4 – Speed Data:

Speed data was collected concurrently with the traffic counts discussed above. The speed data, provided in Appendix D, indicated an 85th percentile speed along Rubber Avenue near Andrew Avenue of 33 miles per hour (mph).

The posted speed limit along Rubber Avenue is 25 mph.

APPENDIX B

Conceptual Roadway Plans

CONCEPTUAL ROADWAY PLANS

The conceptual roadway plans for this application reference the following information:

- Survey completed by Gesick & Associates
 - Vertical Datum NAVD88
 - Horizontal NAD83
- Aerial Photos
 - Google Earth

Google Earth aerial photos are also provided for reference, see Aerial Photos 1 and 2 proceeding the conceptual roadway plans.



AERIAL PHOTO (1 OF 2)

RUBBER AVENUE
NAUGATUCK, CT

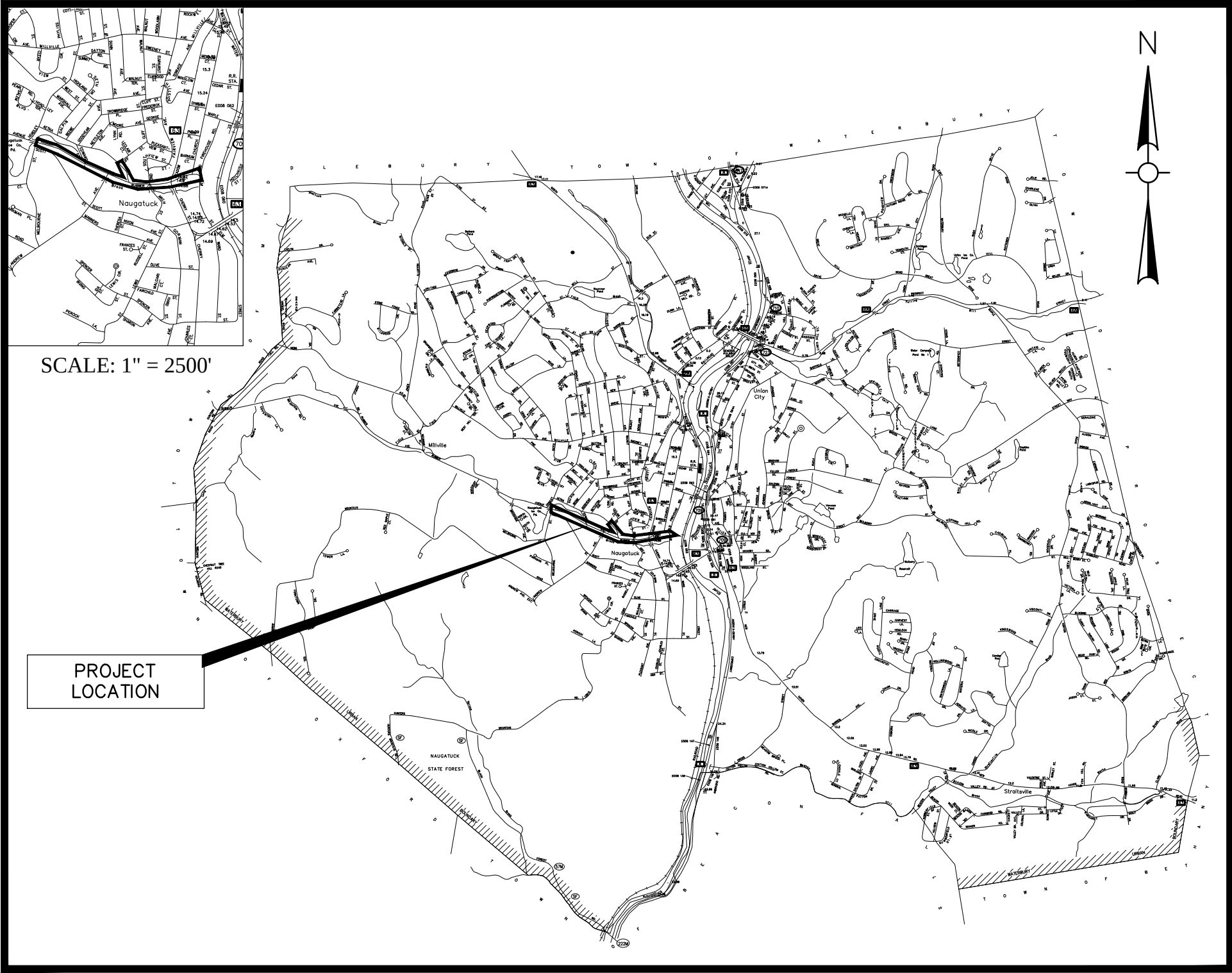
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AERIAL PHOTO (2 OF 2)

RUBBER AVENUE
NAUGATUCK, CT

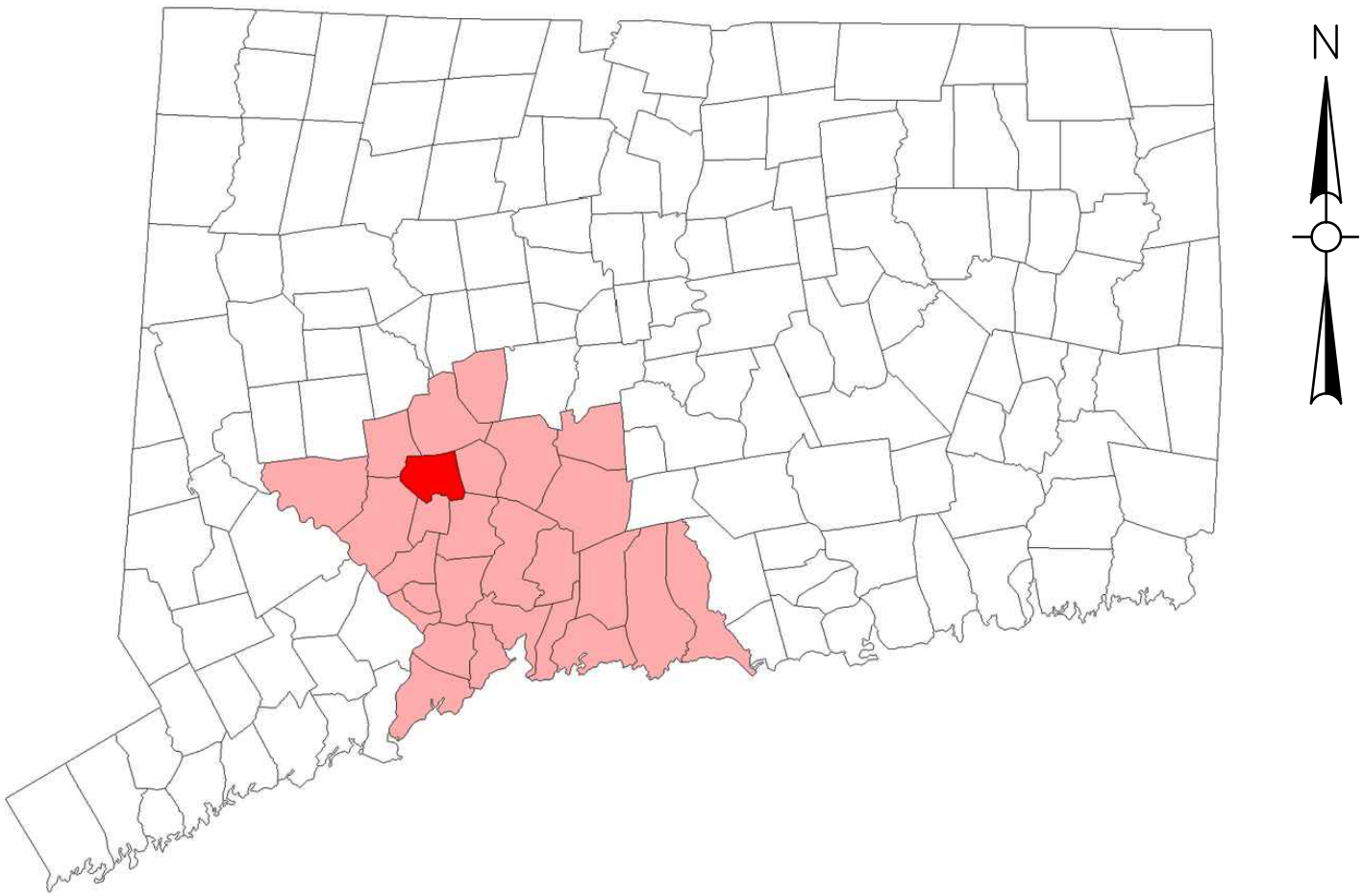
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LOCATION MAP
SCALE: 1" = 5000'

BOROUGH OF NAUGATUCK RUBBER AVENUE RECONSTRUCTION

LOTICIP APPLICATION
AUGUST 2019



NOT TO SCALE

2016 CONNECTICUT DEPARTMENT OF
TRANSPORTATION SPECIFICATIONS FORM 817
AND SUPPLEMENTAL SPECIFICATIONS

SURVEY INFORMATION DERIVED FROM:
GESICK & ASSOCIATES, P.C.
CT DEEP

VERTICAL DATUM - NAVD88
HORIZONTAL DATUM - NAD83

DESIGNED BY:
WESTON & SAMPSON ENGINEERS, INC.
273 DIVIDEND ROAD
ROCKY HILL, CT 06067



N-WARREN "PETE" HESS
MAYOR

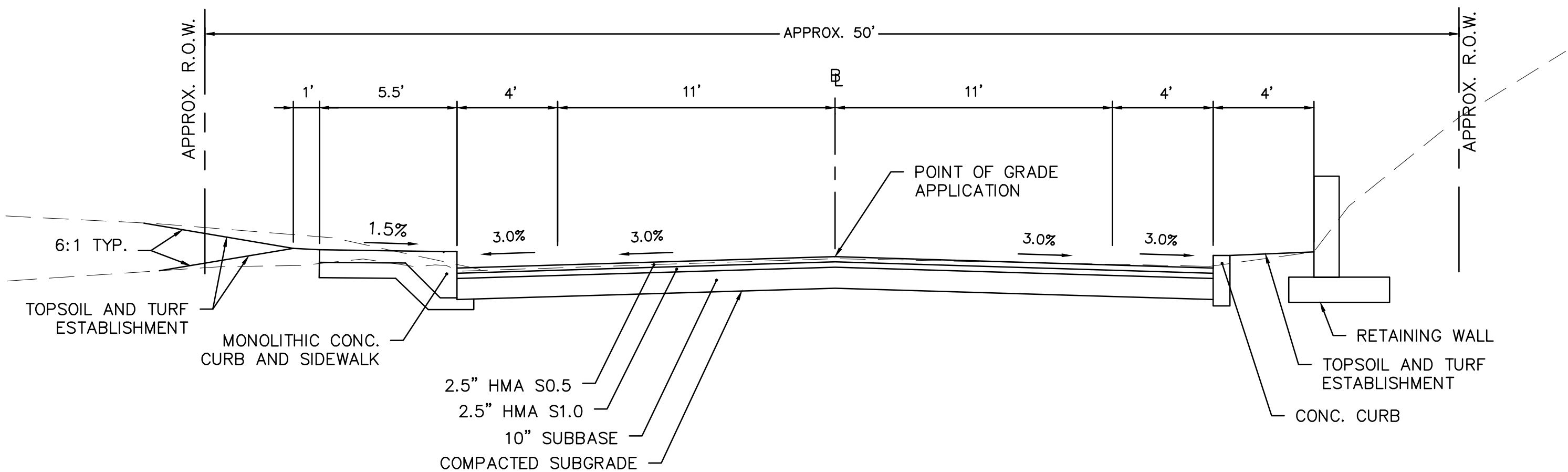
JAMES STEWART, P.E.
DIRECTOR OF
PUBLIC WORKS

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7	HWY-1	ROADWAY PLAN AND PROFILE - RUBBER AVENUE STA. 3+70 TO STA. 12+00
8	HWY-2	ROADWAY PLAN AND PROFILE - RUBBER AVENUE STA. 12+00 TO STA. 24+00
9	HWY-3	ROADWAY PLAN AND PROFILE - RUBBER AVENUE STA. 24+00 TO STA. 34+00
10	HWY-4	ROADWAY PLAN AND PROFILE - RUBBER AVENUE STA. 34+00 TO STA. 38+25
11	HWY-5	ROADWAY PLAN AND PROFILE - AETNA STREET STA. 110+00 TO 114+80
12	HWY-6	PROFILE - CHERRY ST. & MEADOW ST.
13	HWY-7	PROFILE - ROUNDAABOUT STA. 100+00 TO STA. 102+63.89
14	VEH-1	VEHICLE TURNING PLAN (WB-62) ROUNDAABOUT
15	VEH-2	VEHICLE TURNING PLAN (B-40) ROUNDAABOUT

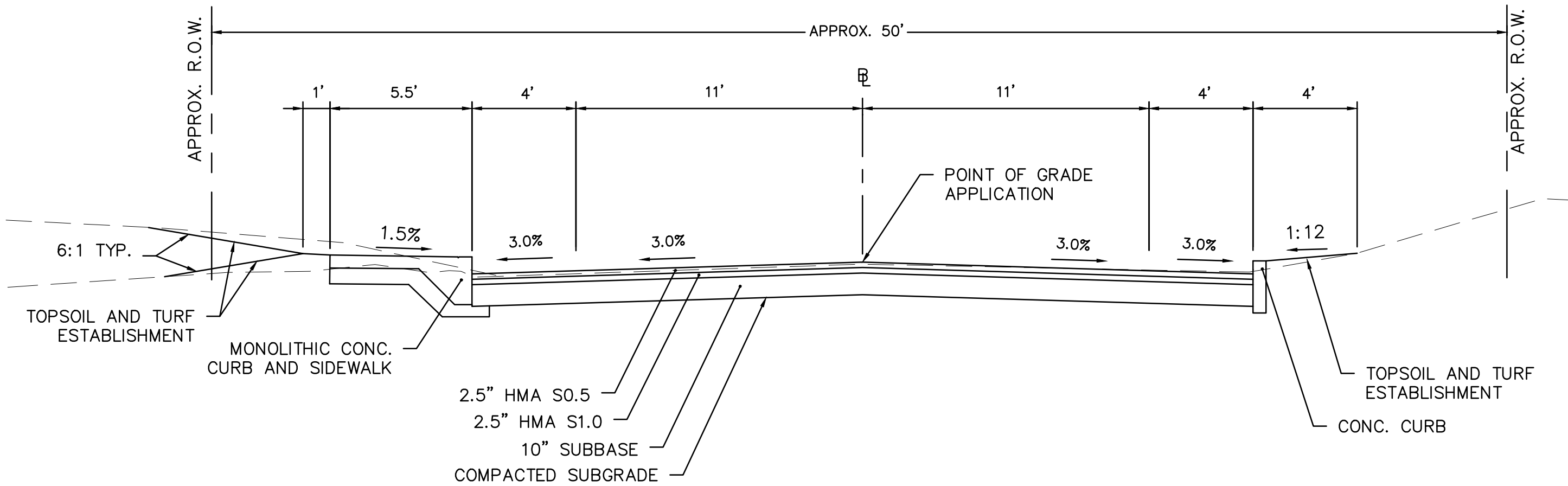


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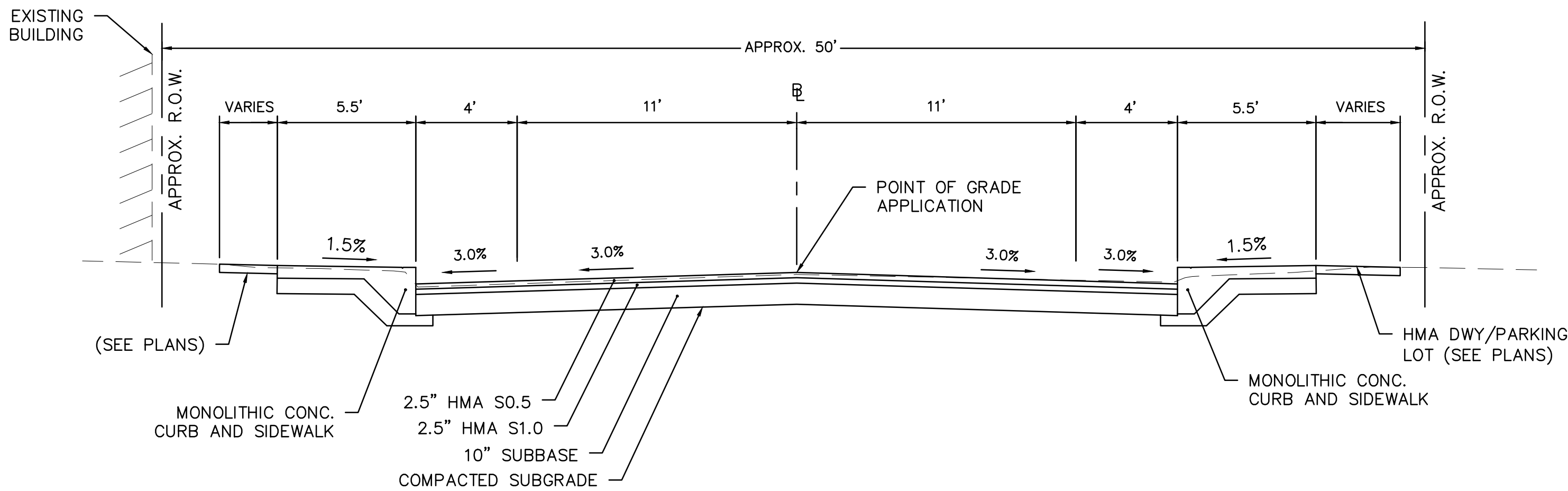
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RUBBER AVENUE
STA 3+70 TO STA 5+50
SCALE: 1"=4'



RUBBER AVENUE
STA 4+70 TO STA 13+38
SCALE: 1"=4'



RUBBER AVENUE
STA 13+38 TO STA 18+30
STA 24+55 TO STA 31+00
SCALE: 1"=4'

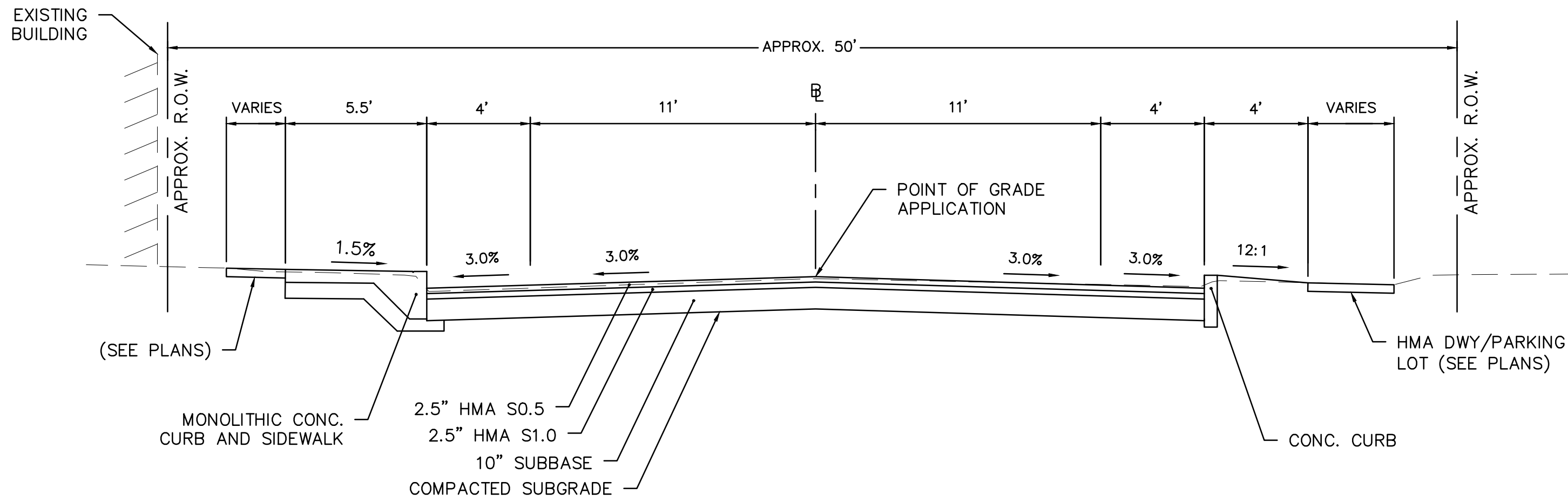
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REGISTERED PROFESSIONAL ENGINEER					DATE

LOT/CP
APPLICATION
08/2019

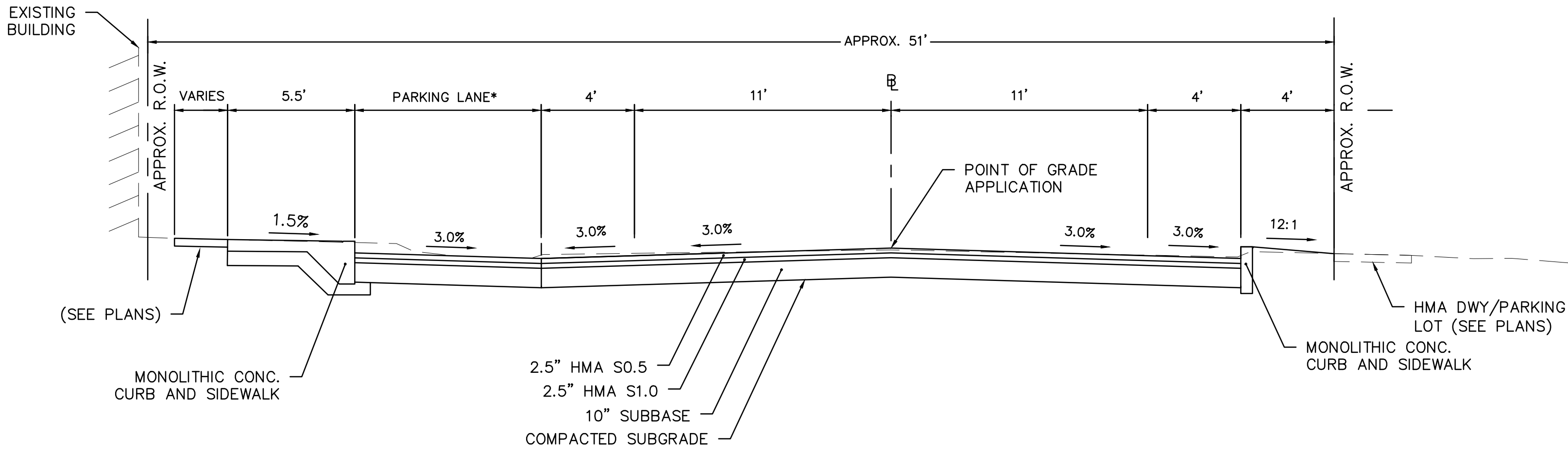
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						CHK.BY
						ALN
						DSN.BY
						LAS
						DR.BY
						LEC
						JOB NO.
						2180733
						CONTRACT:
						AS SHOWN
						SCALE:
						-
						CADD NO.
						-

TYP-1
FILE NO. 1

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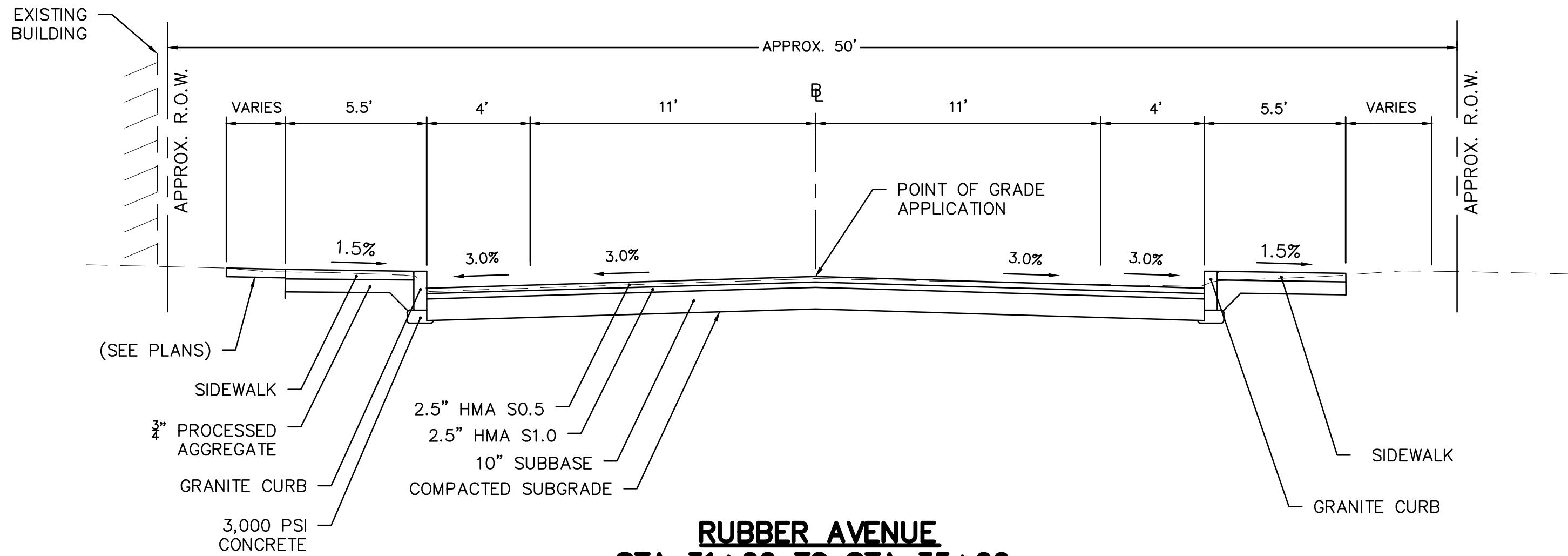


RUBBER AVENUE
STA 13+38 TO STA 18+30
SCALE: 1"=4'



RUBBER AVENUE
STA 20+00 TO STA 24+55
SCALE: 1"=4'

* STA 20+00 TO 23+00 WIDTH 8'
STA 23+00 TO 24+55 WIDTH 7'



RUBBER AVENUE
STA 31+00 TO STA 35+00
SCALE: 1"=4'

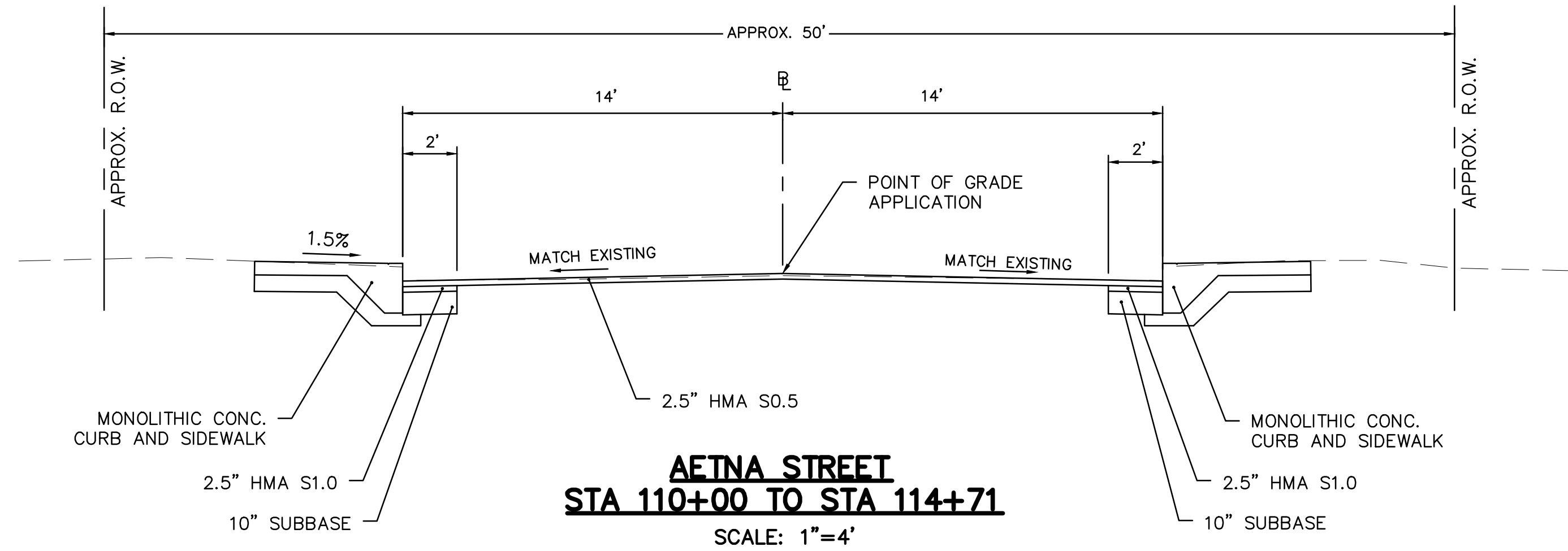
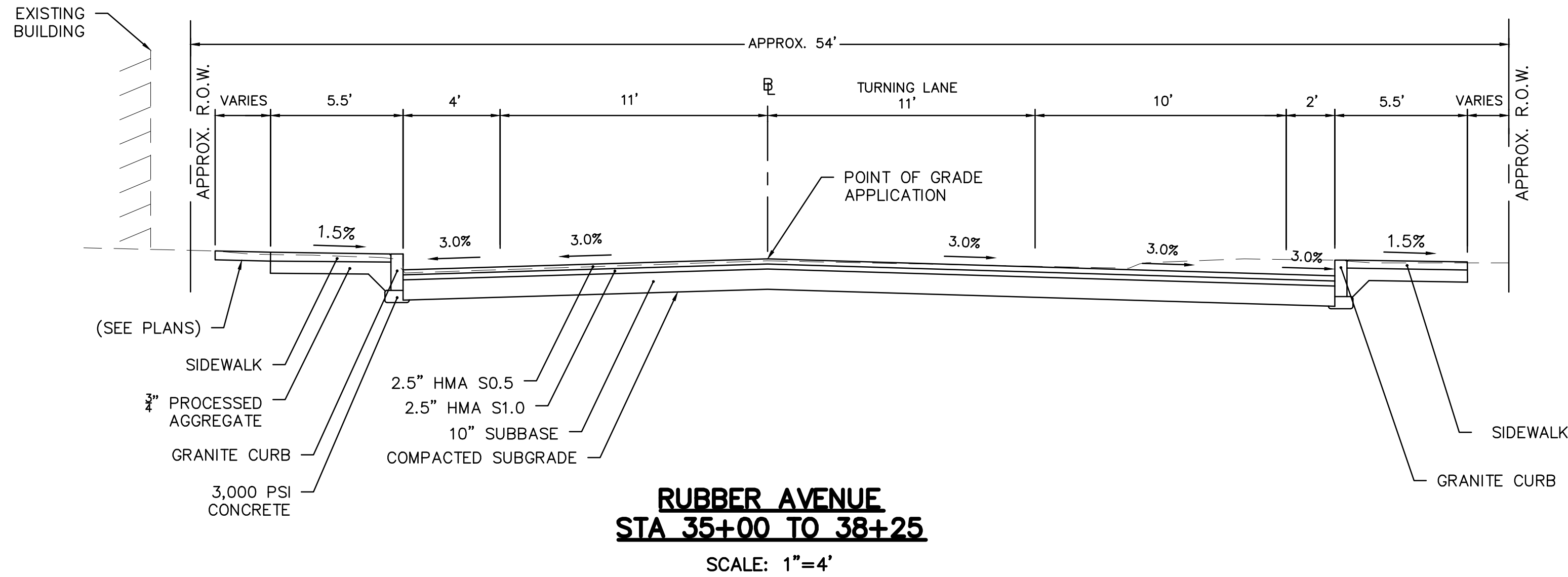
No.	Date	Dr.By	Ch.By	App.By	Description
		A	P	R	O
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					D
REGISTERED PROFESSIONAL ENGINEER					DATE

LOT/CP
APPLICATION
08/2019

BOROUGH OF NAUGATUCK		RUBBER AVENUE RECONSTRUCTION		TYPICAL SECTIONS	
FILE NO.	CADD NO.	SCALE:	CONTRACT:	JOB NO.	DR.BY
2180733	2180733	AS SHOWN		2180733	LEC
CHK.BY	DSN.BY	APP.BY			
ALN	LAS	ALN			

TYP-2
FILE NO. 1

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TYP-3

FILE NO.

BOROUGH OF NAUGATUCK
RUBBER AVENUE RECONSTRUCTION
TYPICAL SECTIONS

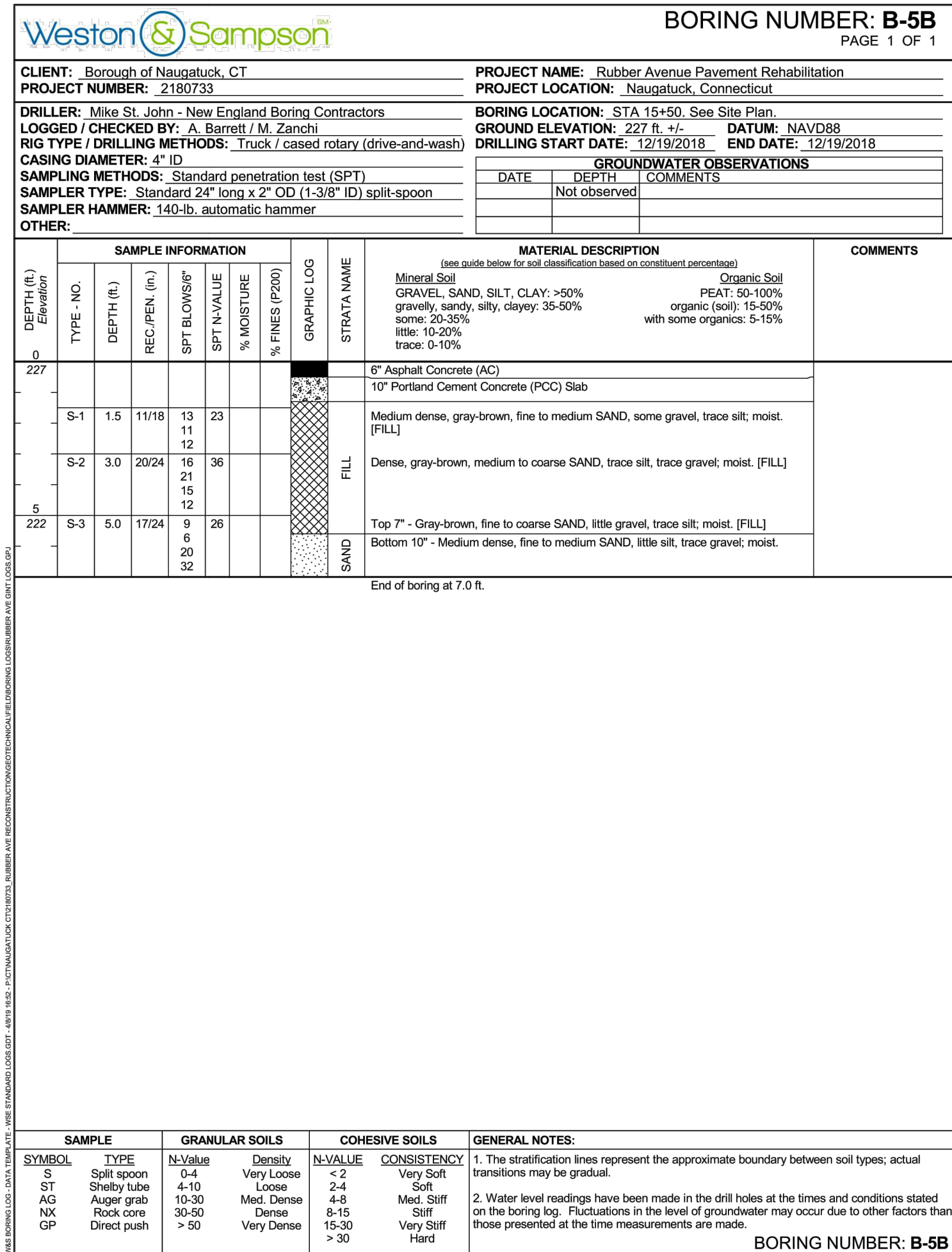
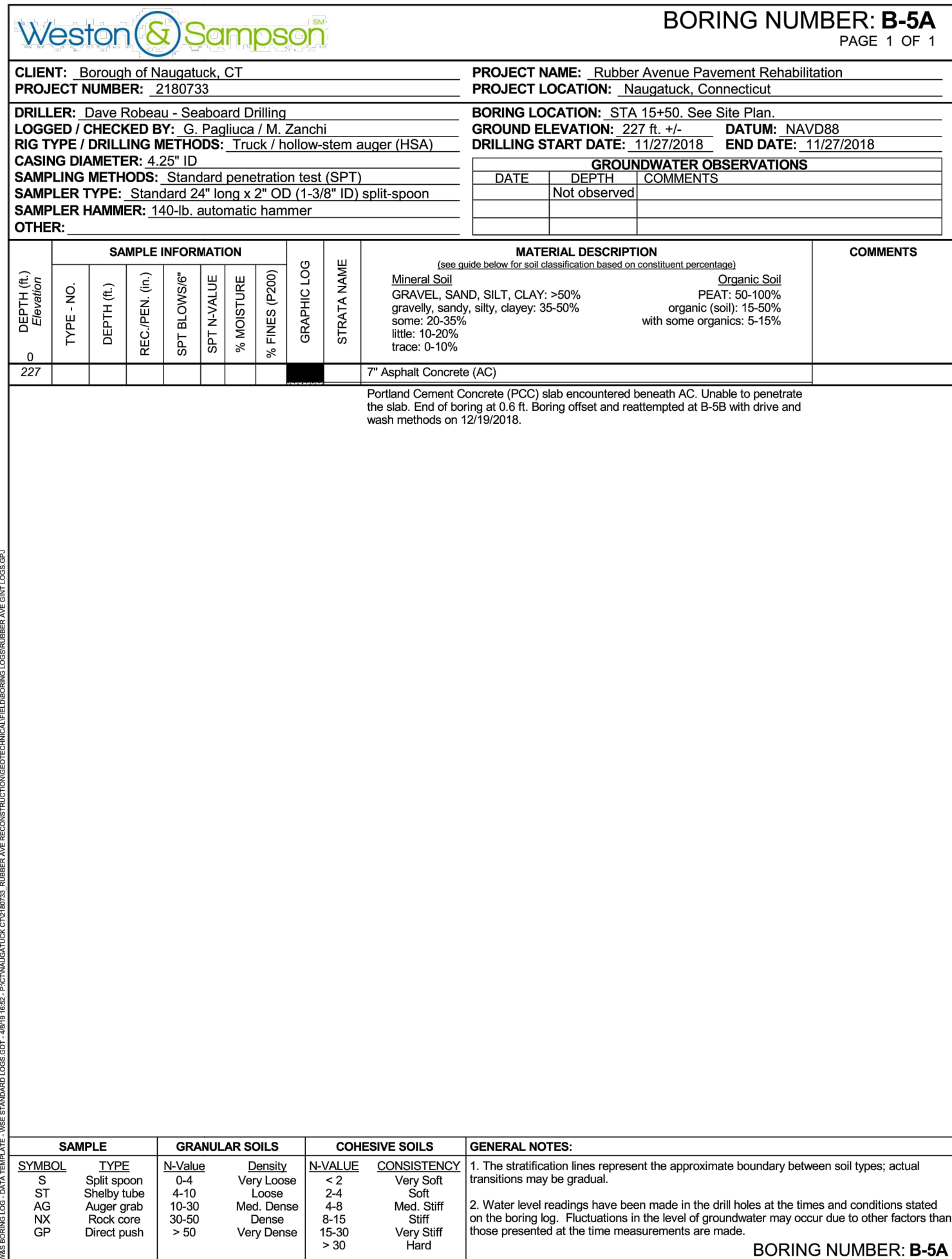
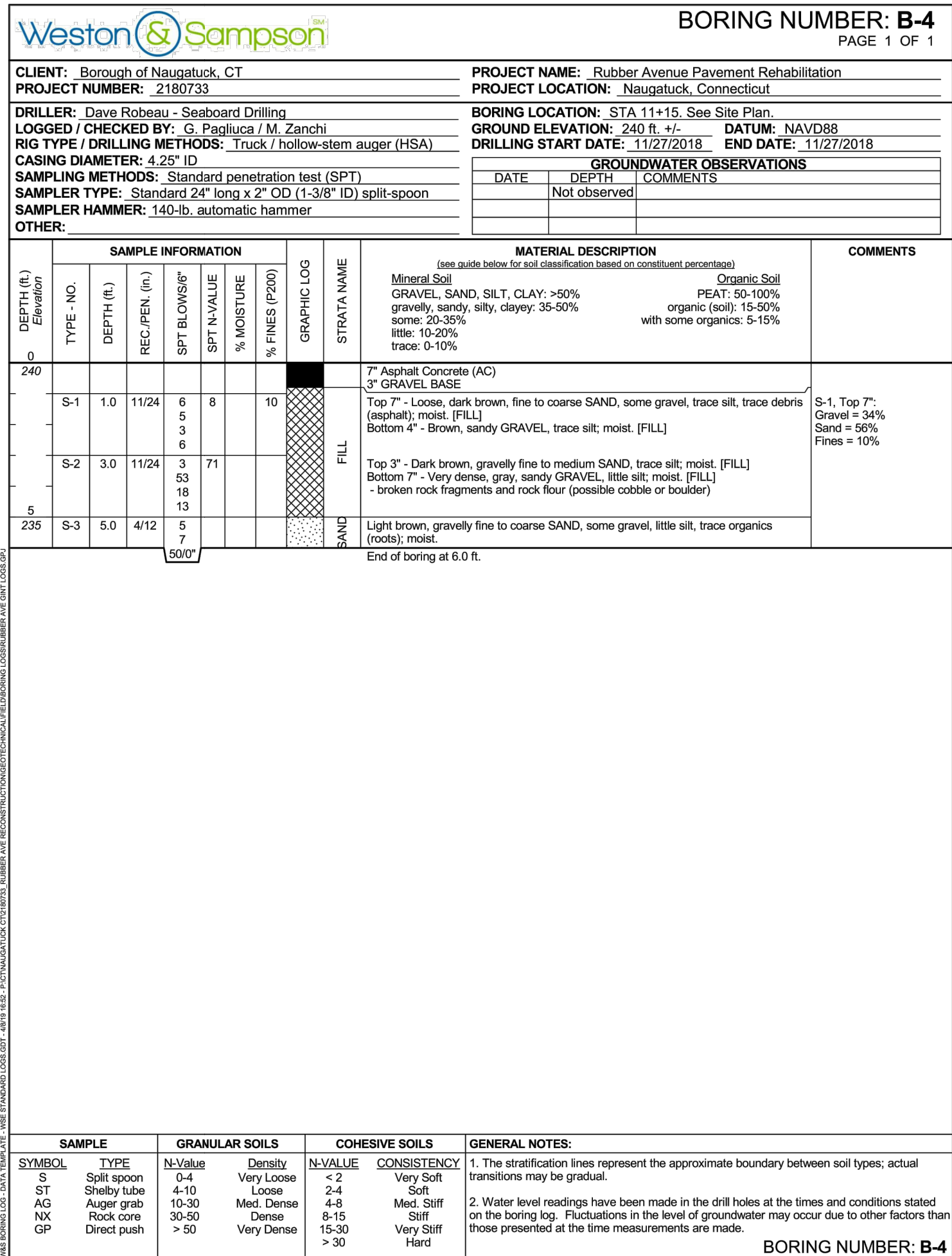
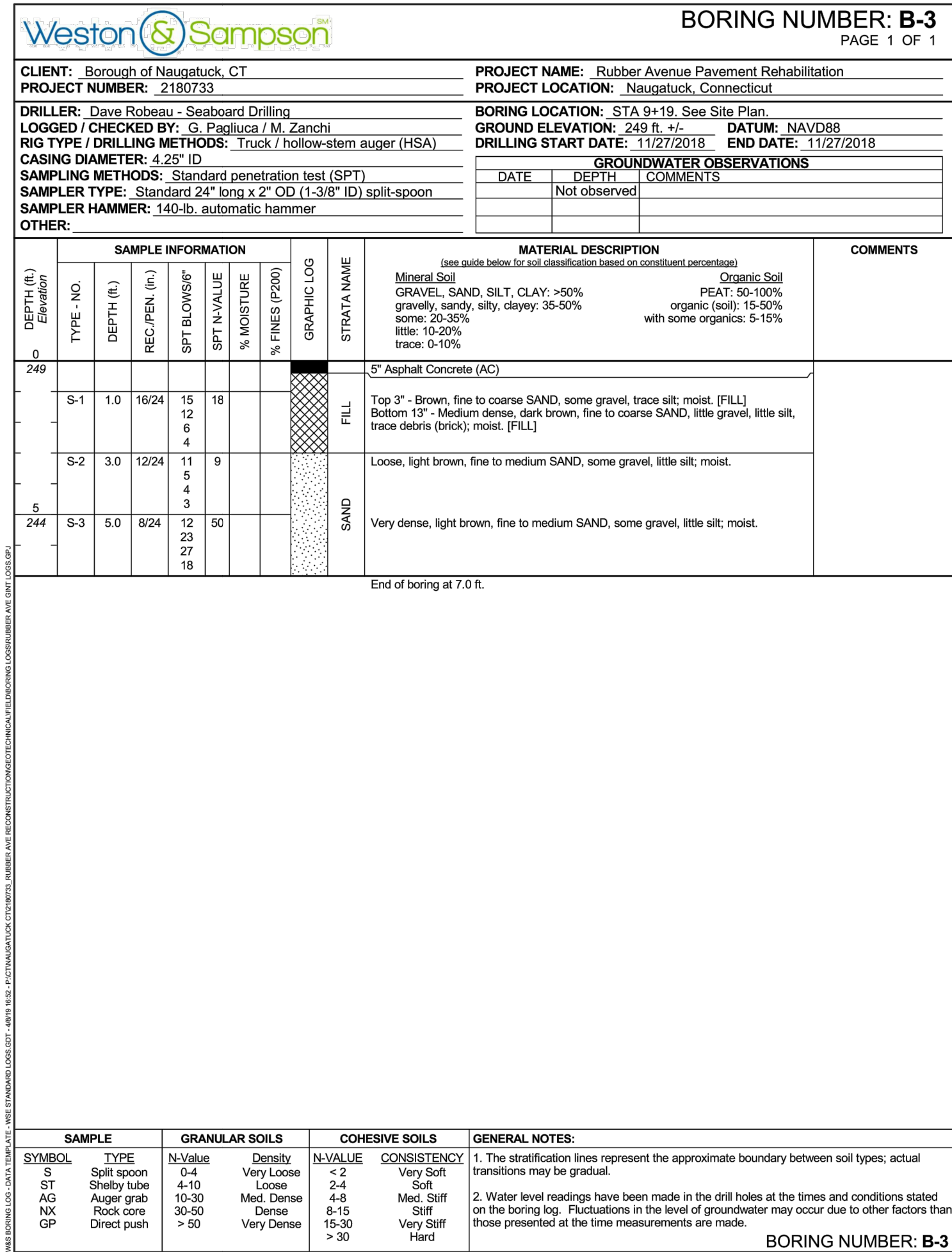
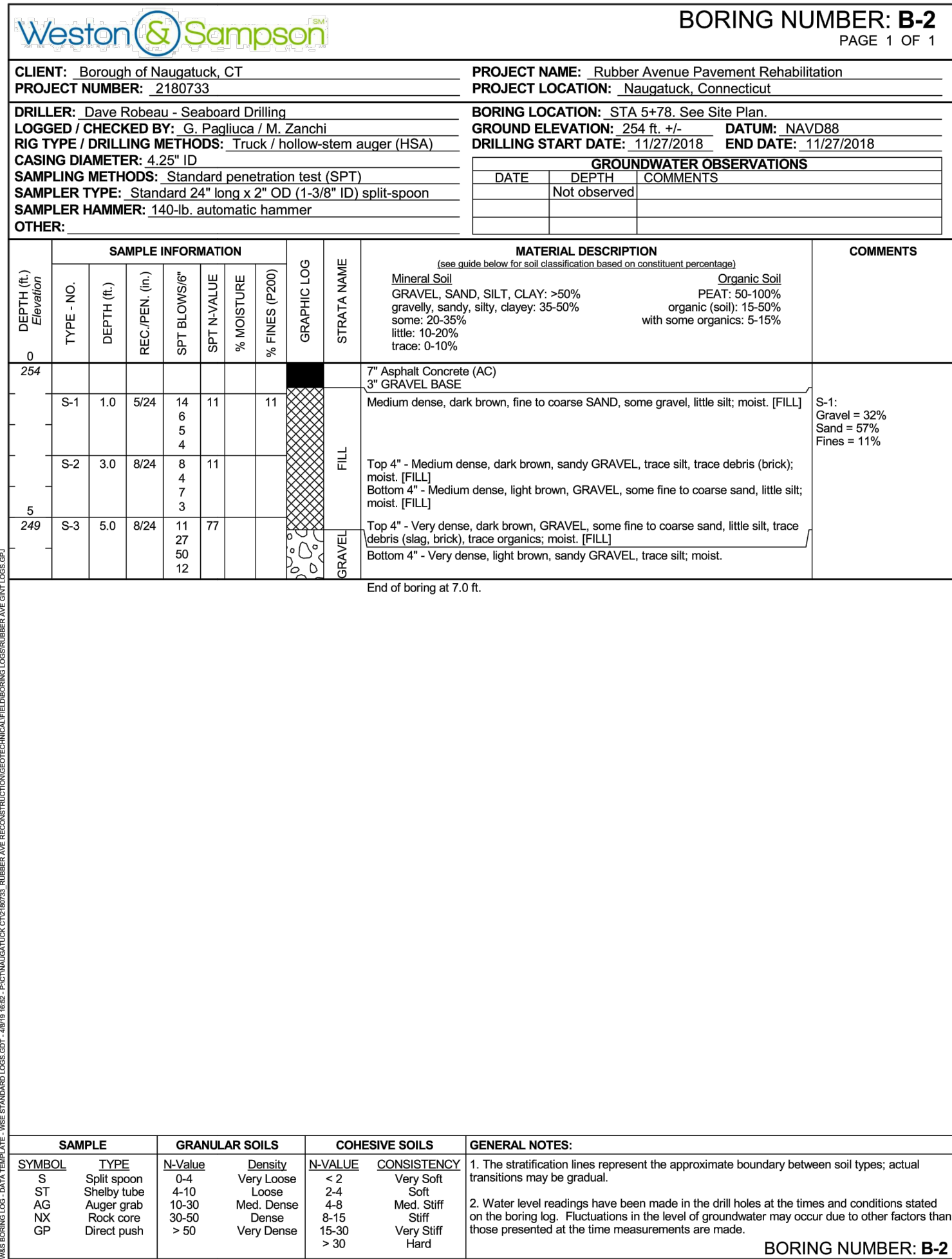
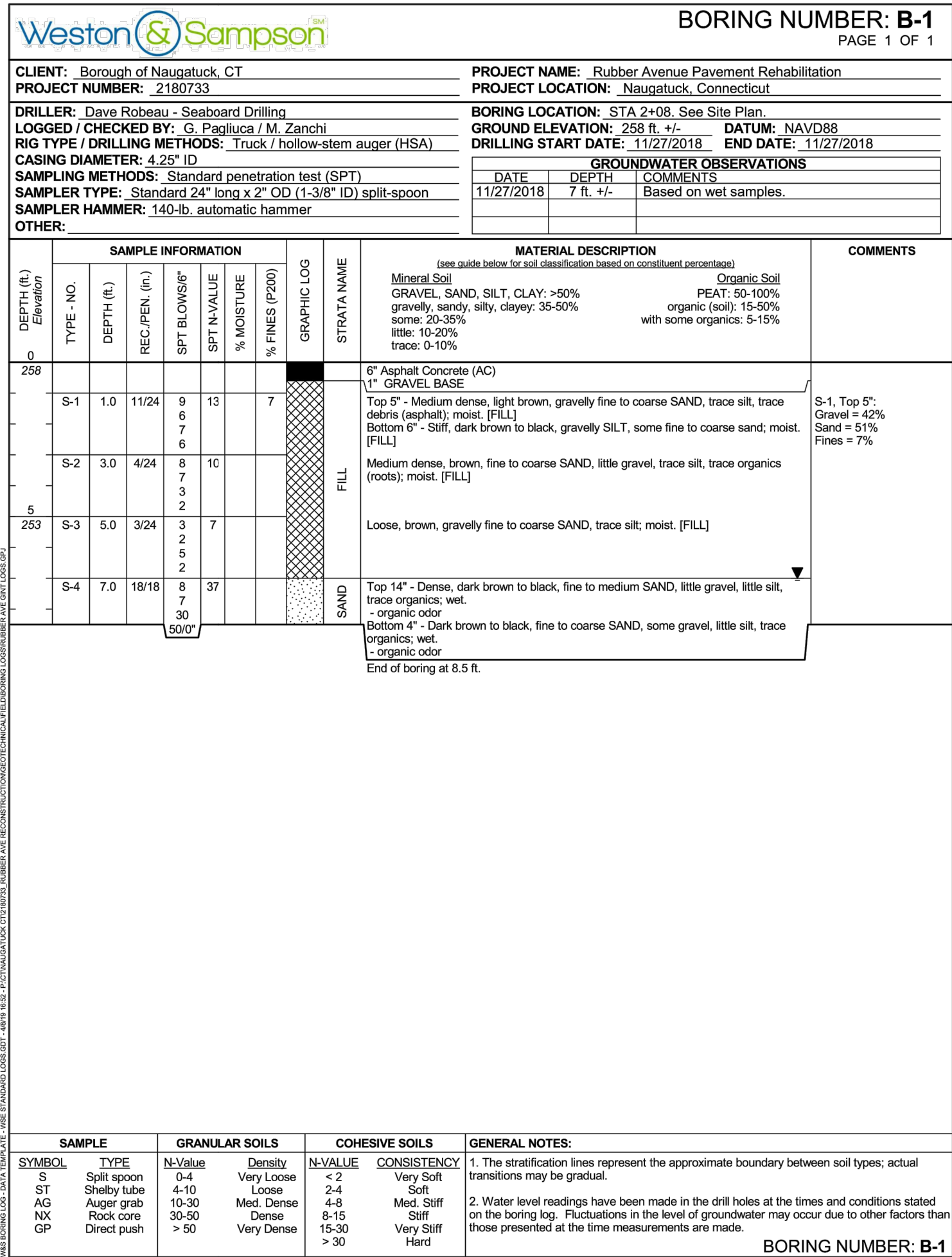
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LOT/CP APPLICATION
08/2019

No.	Date	Dr.By	Ch.By	App.By	Description
A	P	P	R	O	V
					E
					D
REGISTERED PROFESSIONAL ENGINEER					DATE

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BORING NUMBER: B-10

PAGE 1 OF 1

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CLIENT : Borough of Naugatuck, CT

PROJECT NUMBER : 2180733

DRILLER : Dave Robeau - Seaboard Drilling

LOGGED / CHECKED BY : G. Pagliuca / M. Zanchi

RIG TYPE / DRILLING METHODS : Truck / hollow-stem auger (HSA)

CASING DIAMETER : 4.25" ID

SAMPLING METHODS : Standard penetration test (SPT)

SAMPLER TYPE : Standard 24" long x 2" OD (1-3/8" ID) split-spoon

SAMPLER HAMMER : 140-lb. automatic hammer

OTHER :

PROJECT NAME : Rubber Avenue Pavement Rehabilitation

PROJECT LOCATION : Naugatuck, Connecticut

BORING LOCATION : STA 37+51, See Site Plan.

GROUND ELEVATION : 190 ft +/-

DATUM : NAVD88

DRILLING START DATE : 11/27/2018 END DATE : 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

SAMPLE INFORMATION

DEPTH (ft.) Elevation	TYPE - NO.	DEPTH (ft.)	REC.FEN (in)	SPT BLOWS/F	SPT N VALUE	% MOISTURE	% FINES (P200)	GRAPHIC LOG	STRATA NAME
0									
/90									

MATERIAL DESCRIPTION

(see guide below for soil classification based on constituent percentage)

MATERIAL DESCRIPTION	ORGANIC SOIL
Mineral Soil GRAVELL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	PEAT: 85-100% organic (loam): 15-50% with some organics: 5-15%

COMMENTS

⑥ Asphalt Concrete (AC)

Portland Cement Concrete (PCC) slab encountered beneath AC. Unable to penetrate slab. End of boring at 0.5 ft.

SAMPLE

GRANULAR SOILS

COHESIVE SOILS

GENERAL NOTES:

SYMBOL	TYPE	N-VALUE	Density	N-VALUE	CONSISTENCY
S	Split spoon	0-4	Very Loose	< 2	Very Soft
ST	Shelby tube	4-10	Loose	2-4	Soft
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff
NK	Rock core	30-50	Dense	8-15	Stiff
GP	Direct push	> 50	Very Dense	15-30	Very Stiff
				> 30	Hard

- The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
- Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.

BORING NUMBER: B-10



BORING NUMBER: B-9B
PAGE 1 OF 1

CLIENT: Borough of Naugatuck, CT

PROJECT NUMBER: 2189733

DRILLER: Mike St. John - New England Boring Contractors

LOGGED / CHECKED BY: A. Barrett / M. Zanchi

RIG TYPE / DRILLING METHODS: Truck / cased rotary (drive-and-wash)

CASING DIAMETER: 4" ID

SAMPLING METHODS: Standard penetration test (SPT)

SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon

SAMPLER HAMMER: 140-lb. automatic hammer

OTHER:

PROJECT NAME: Rubber Avenue Pavement Rehabilitation

PROJECT LOCATION: Naugatuck, Connecticut

BORING LOCATION: STA 34+85. See Site Plan.

GROUND ELEVATION: 196 ft. +/-

DATUM: NAVD88

DRILLING START DATE: 12/19/2018 **END DATE:** 12/19/2018

GROUNDWATER OBSERVATIONS		
DATE	DEPTH	COMMENTS
	Not observed	

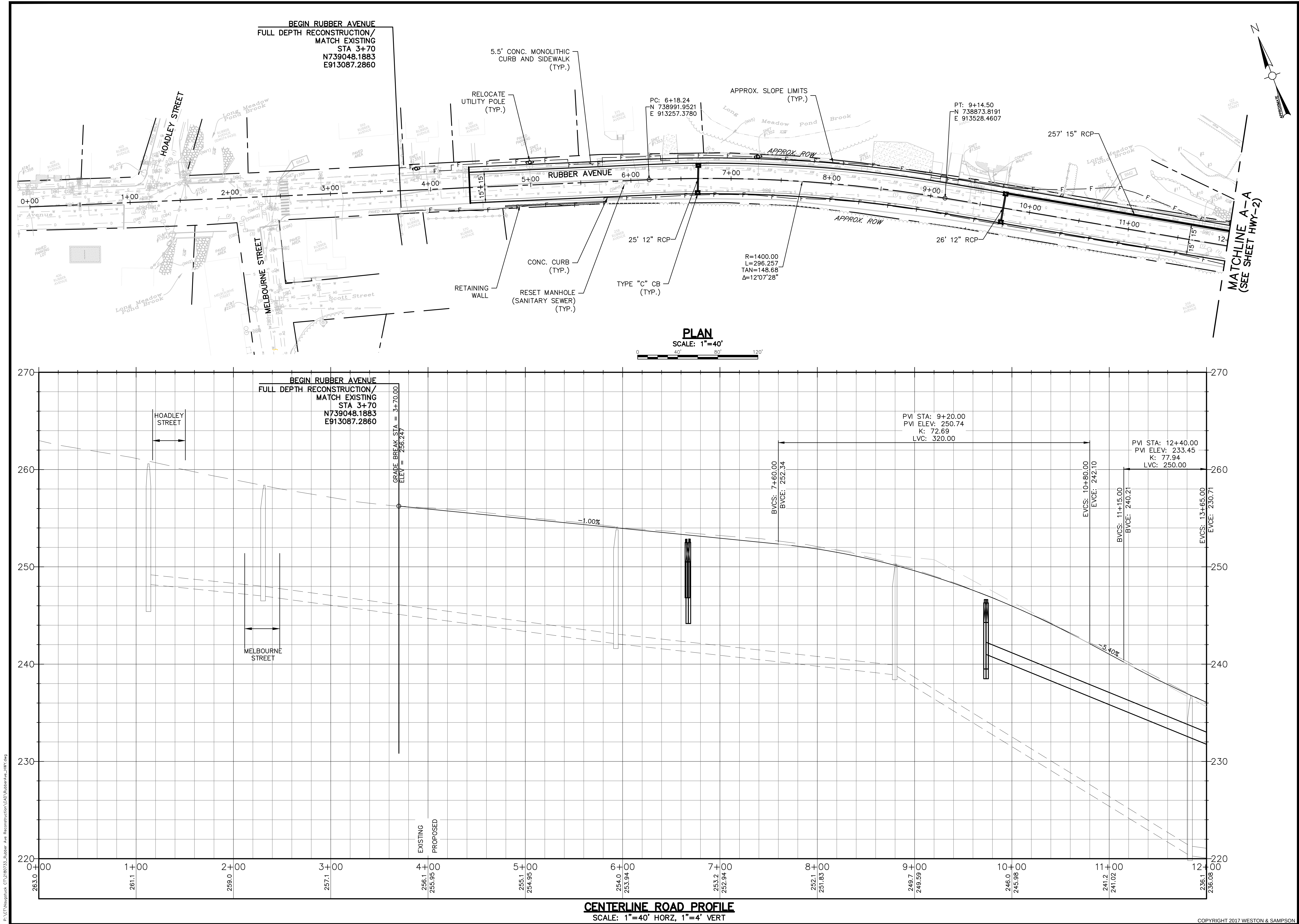
SAMPLE INFORMATION							STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentages)	COMMENTS
DEPTH (ft.) Elevation	TYPE	NO.	DEPTH (ft.)	REG. PEN. (in)	SPT BLOWS/ft	SPT N-VALUE			
						% MOISTURE			
						% FINES (P200)			
							GRAPHIC LOG		
0									
196	S-1	1.0	6/24	5	7			5" Asphalt Concrete (AC)	
				7	10			3" Portland Cement Concrete (PCC) Slab	
				8	7			Medium dense, brown, fine to coarse SAND, some gravel, trace silt; moist:	
	S-2	3.0	14/24	10	10			Top 10" - Medium dense, brown, fine to coarse SAND, some gravel, trace silt; moist.	
				7	4			(FILL)	
				3	4			Bottom 4" - Brown, fine to coarse SAND, trace gravel, trace silt; moist:	
5									
191	S-3	5.0	5/24	6	7			Loose, brown, fine to coarse SAND, little gravel, trace silt; moist:	
				3	4				
				4	4				
	S-4	7.0	5/24	8	17			Medium dense, brown, fine to coarse SAND, some gravel, little silt; moist.	
				14	3				
				8					
	S-5	9.0	12/12	12				Brown, fine to coarse SAND, trace gravel, trace silt; moist.	
				40					
10									
196								End of boring at 10.0 ft.	

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:	
SYMBOL	TYPE	N-VALUE	Density	N-VALUE	CONSISTENCY	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.	
S	Split spoon	0-4	Very Loose	< 2	Very Soft		
ST	Shelby tube	4-10	Loose	2-4	Soft		
AO	Auger grab	10-30	Med. Dense	4-8	Med. Stiff		
NC	Rock core	30-50	Dense	8-15	Stiff		
GP	Direct push	> 50	Very Dense	15-30	Very Stiff		
				> 30	Hard		

BORING NUMBER: B-9B

[illegible]

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No.	Date	Dr.By	Ch.By	App.By	Description			
		A	P	R	O	V	E	D

REGISTERED PROFESSIONAL ENGINEER
DATE

LOT/CP APPLICATION

08/2019

BOROUGH OF NAUGATUCK

RUBBER AVENUE RECONSTRUCTION

ROADWAY PLAN AND PROFILE

RUBBER AVE STA 3+70 TO STA 12+00

HWY-1

FILE NO. 1

AS SHOWN

SCALE:

CONTRACT: 2180733

DR.BY: LEC

DSN.BY: LAS

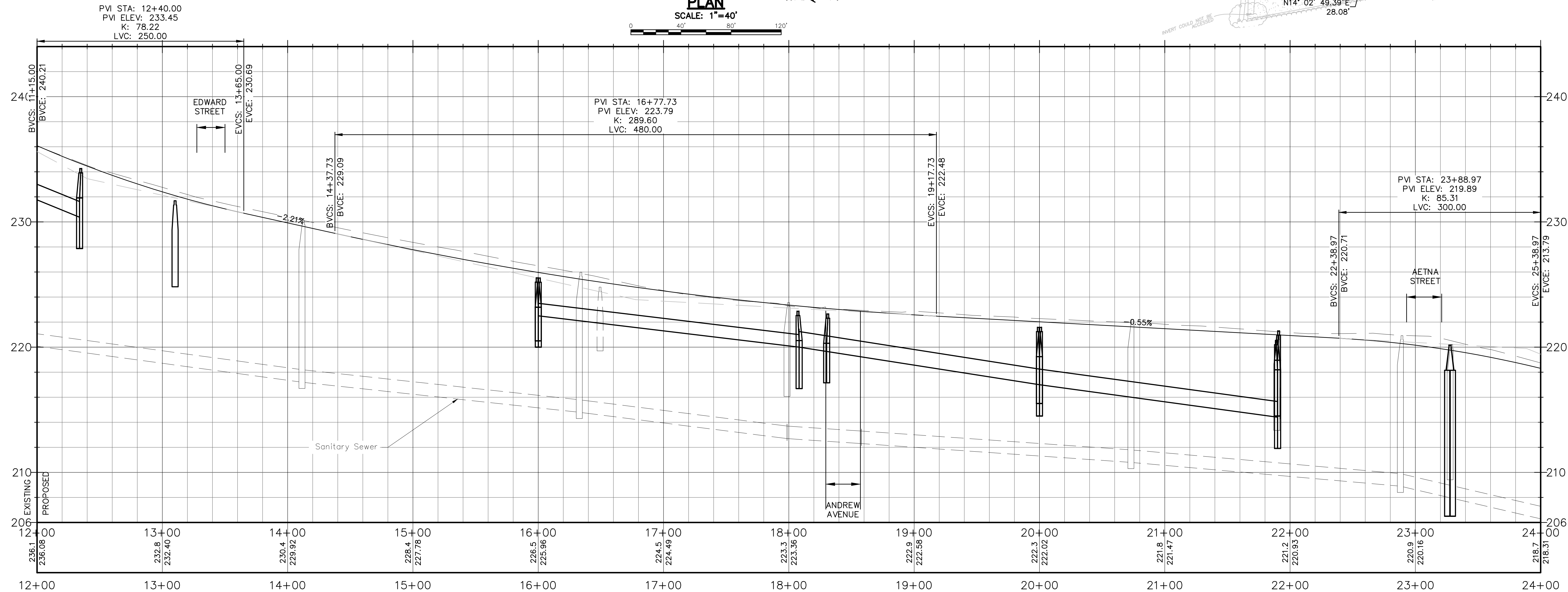
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APP.BY: ALN

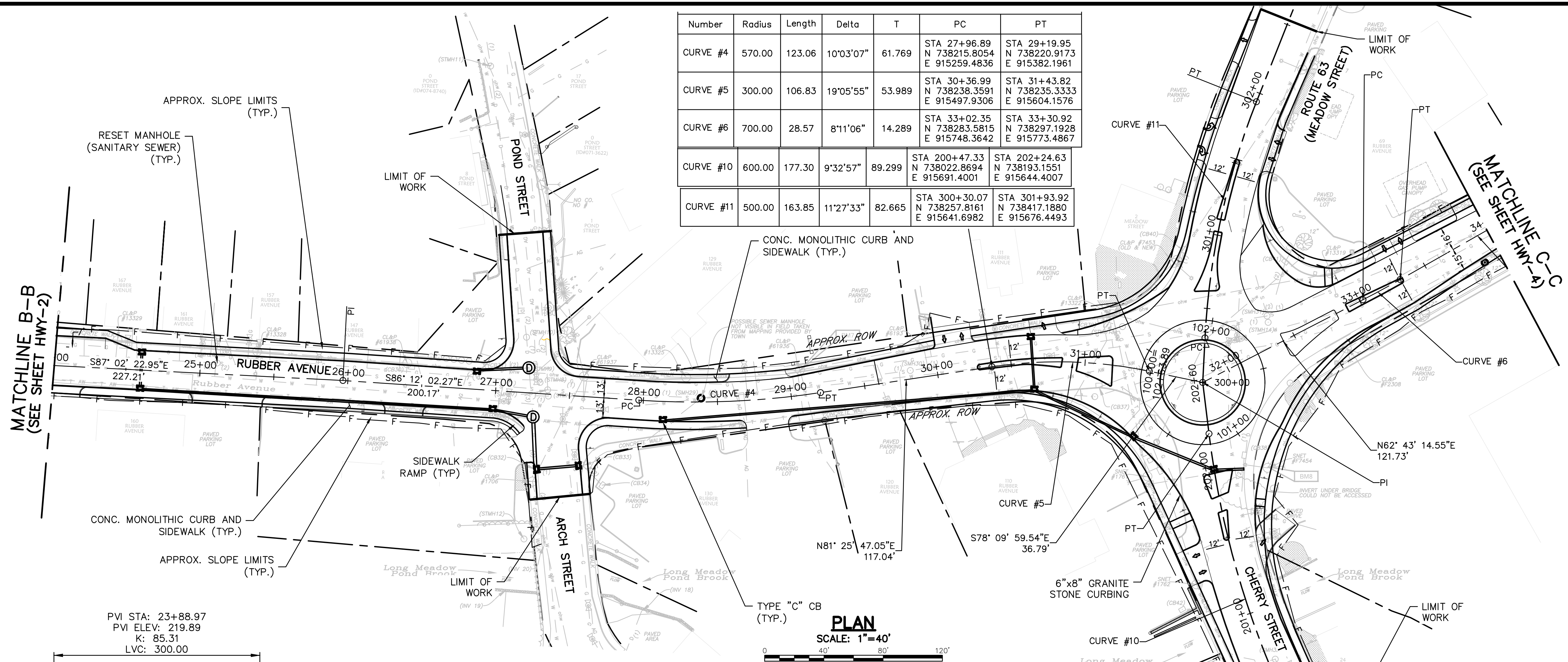
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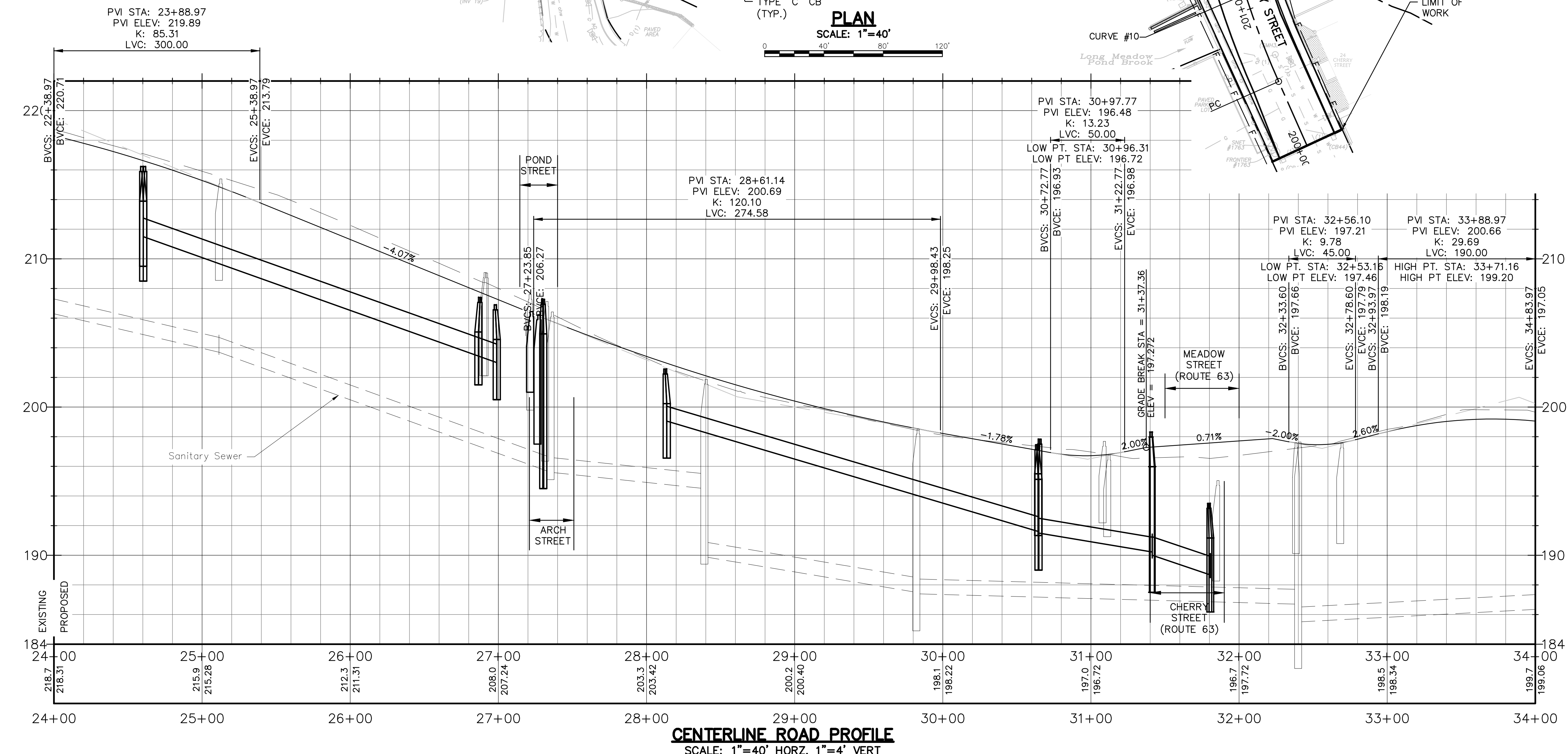
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CURVE #3	390.00	155.31	14°41'28"	78.696	STA 22+14.20 N 738279.0899 E 914683.3918	STA 23+69.51 N 738240.8032 E 914832.8489
CURVE #8	56.66	23.07	101°06'48"	11.697	STA 110+28.08 N 738278.2127 E 914764.7090	STA 110+51.15 N 738302.1827 E 914765.6618
CURVE #9	130.00	90.13	44°04'25"	46.960	STA 111+89.48 N 738438.6981 E 914743.3548	STA 112+79.61 N 738515.8501 E 914700.3394



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Number	Radius	Length	Delta	T	PC	PT
CURVE #4	570.00	123.06	10°03'07"	61.769	STA 27+96.89 N 738215.8054 E 915259.4836	STA 29+19.95 N 738220.9173 E 915382.1961
CURVE #5	300.00	106.83	19°05'55"	53.989	STA 30+36.99 N 738238.3591 E 915497.9306	STA 31+43.82 N 738235.3333 E 915604.1576
CURVE #6	700.00	28.57	8°11'06"	14.289	STA 33+02.35 N 738283.5815 E 915748.3642	STA 33+30.92 N 738297.1928 E 915773.4867
CURVE #10	600.00	177.30	9°32'57"	89.299	STA 200+47.33 N 738022.8694 E 915691.4001	STA 202+24.63 N 738193.1551 E 915644.4007
CURVE #11	500.00	163.85	11°27'33"	82.665	STA 300+30.07 N 738257.8161 E 915641.6982	STA 301+93.92 N 738417.1880 E 915676.4493



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PROGRESS SET
OCTOBER 2019

BOROUGH OF NAUGATUCK

RUBBER AVENUE RECONSTRUCTION

ROADWAY PLAN AND PROFILE

RUBBER AVE STA 24+00 TO STA 34+00

HWY-3

FILE NO. 2180733

No.

Date

Dr. By

Ch. By

App. By

Description

A

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REGISTERED PROFESSIONAL ENGINEER

DATE

CADD NO.

SCALE

CONTRACT

JOB NO.

DR. BY

DSN. BY

CHK. BY

APP. BY

AS SHOWN

2180733

GBC

KAC

LAS

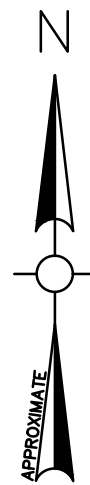
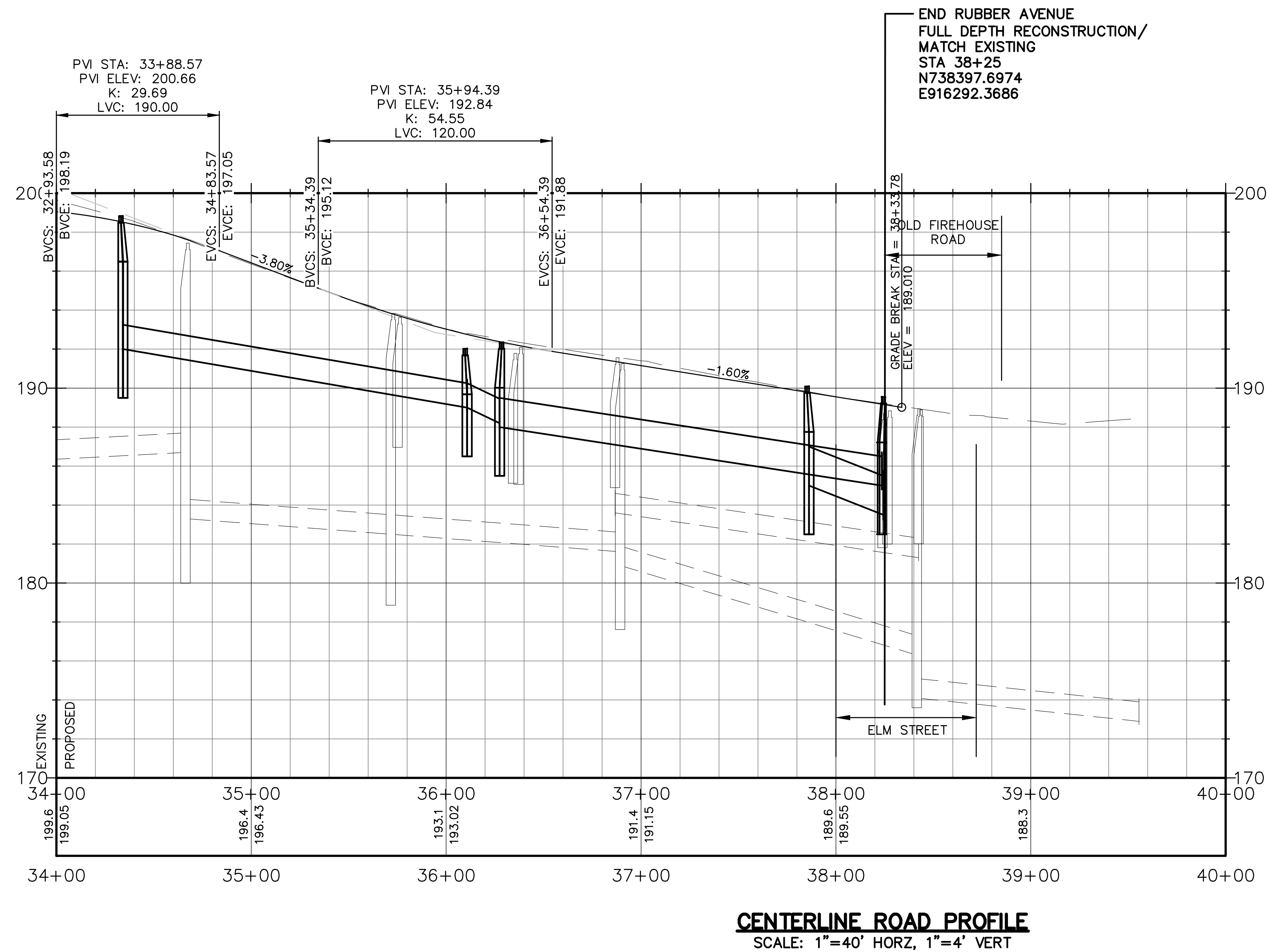
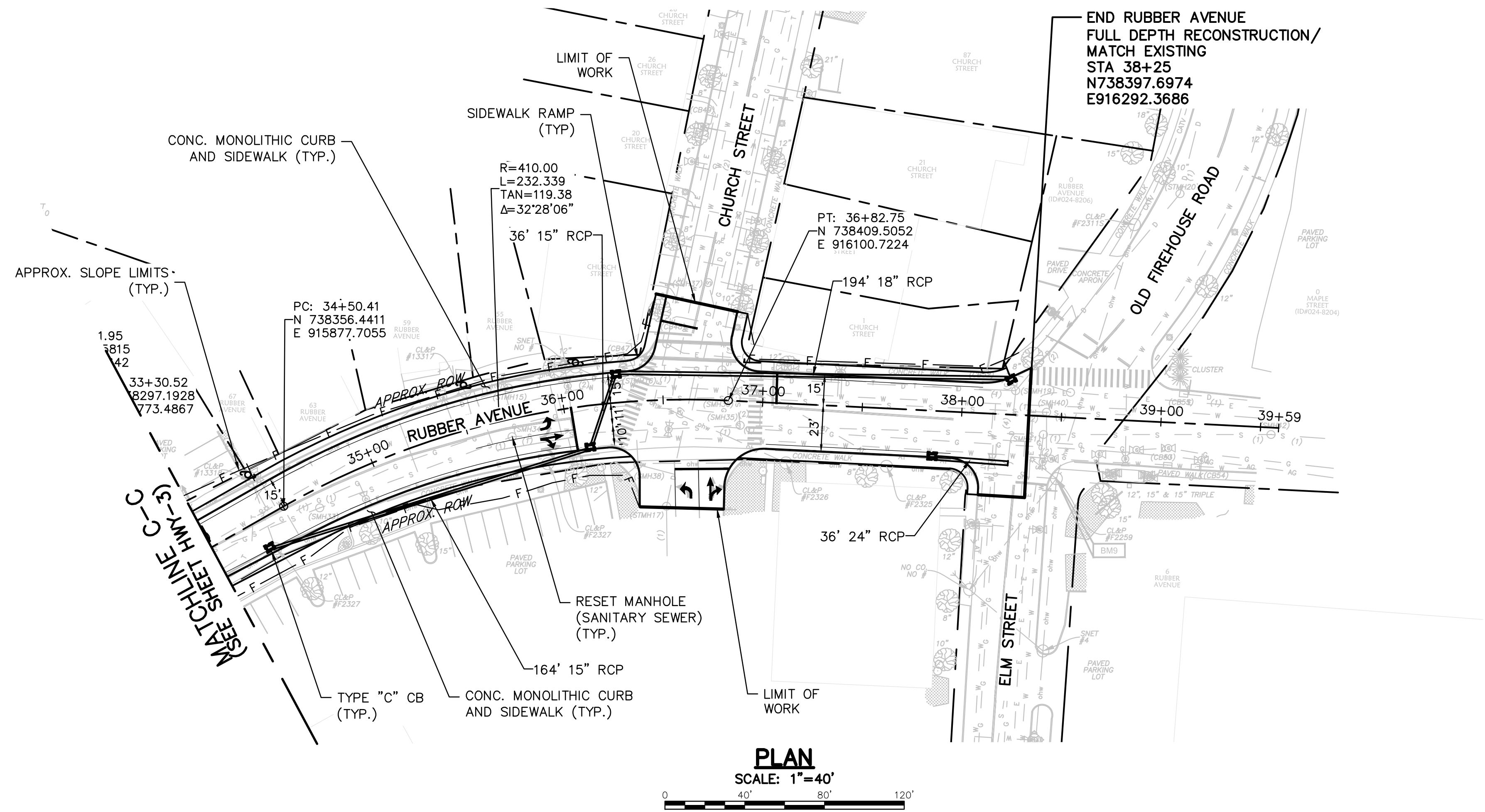
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SHEET 10 OF 16

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HWY-4

FILE NO.

ROADWAY PLAN AND PROFILE
RUBBER AVE STA 34+00 TO STA 38+25

BOROUGH OF NAUGATUCK

RUBBER AVENUE RECONSTRUCTION

CADD NO.	SCALE	CONTRACT	JOB NO.	DR.BY	DSN.BY	CHK.BY	APP.BY
1	AS SHOWN		2180733	LEC	LAS	ALN	ALN

LOT/CP APPLICATION
08/2019

No.	Date	Dr.By	Ch.By	App.By	Description
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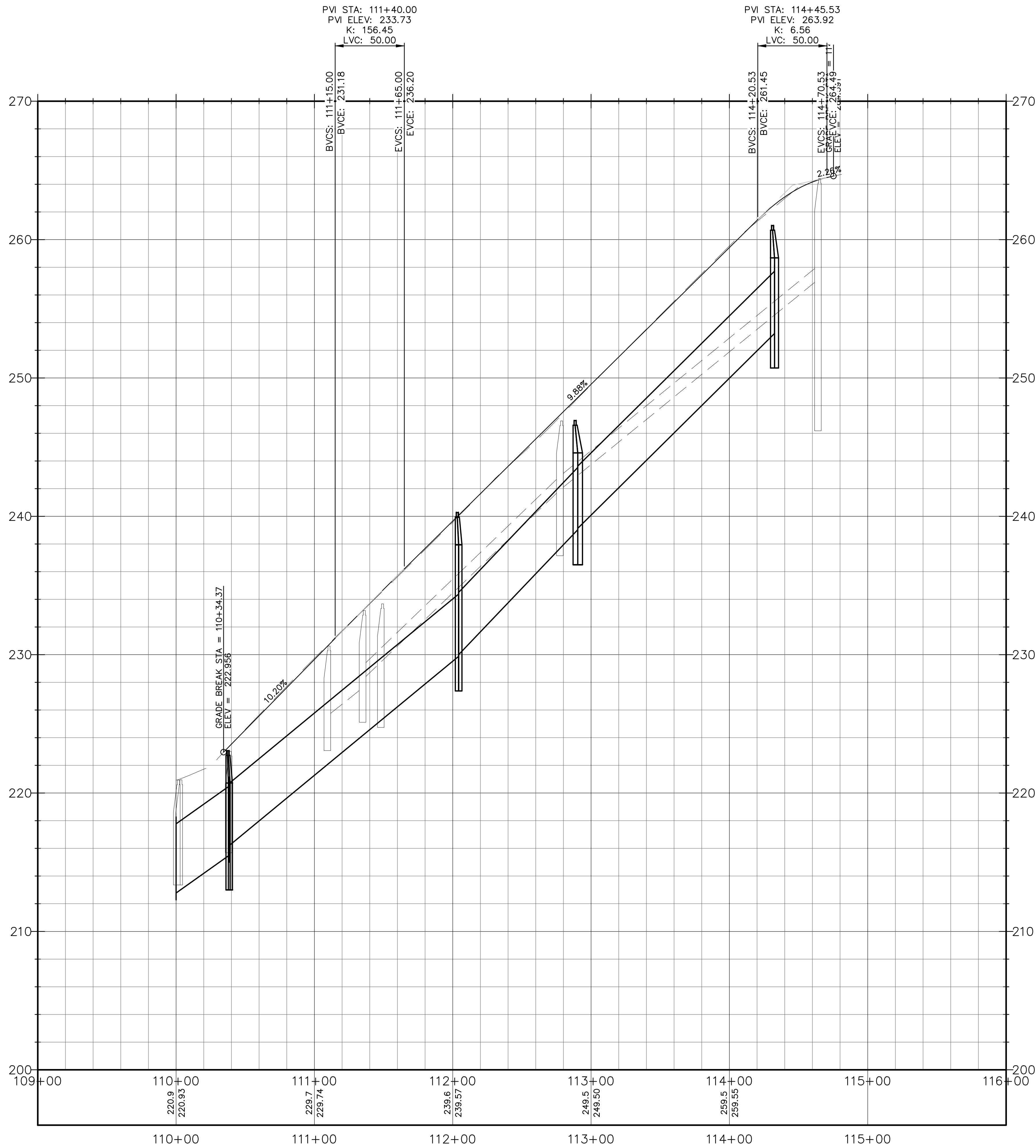
REGISTERED PROFESSIONAL ENGINEER

DATE

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CENTERLINE ROAD PROFILE
SCALE: 1"=40' HORZ, 1"=4' VERT

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HWY-5

FILE NO.

BOROUGH OF NAUGATUCK

RUBBER AVENUE RECONSTRUCTION

ROADWAY PROFILE

AETNA STREET STA 110+00 TO STA 114+80

CADD NO. SCALE: AS SHOWN CONTRACT: JOB NO. 2180733 DR.BY LEC DSN.BY LAS CHK.BY ALN APP.BY ALN

LOT/CP APPLICATION
08/2019

No.	Date	Dr.By	Ch.By	App.By	Description				
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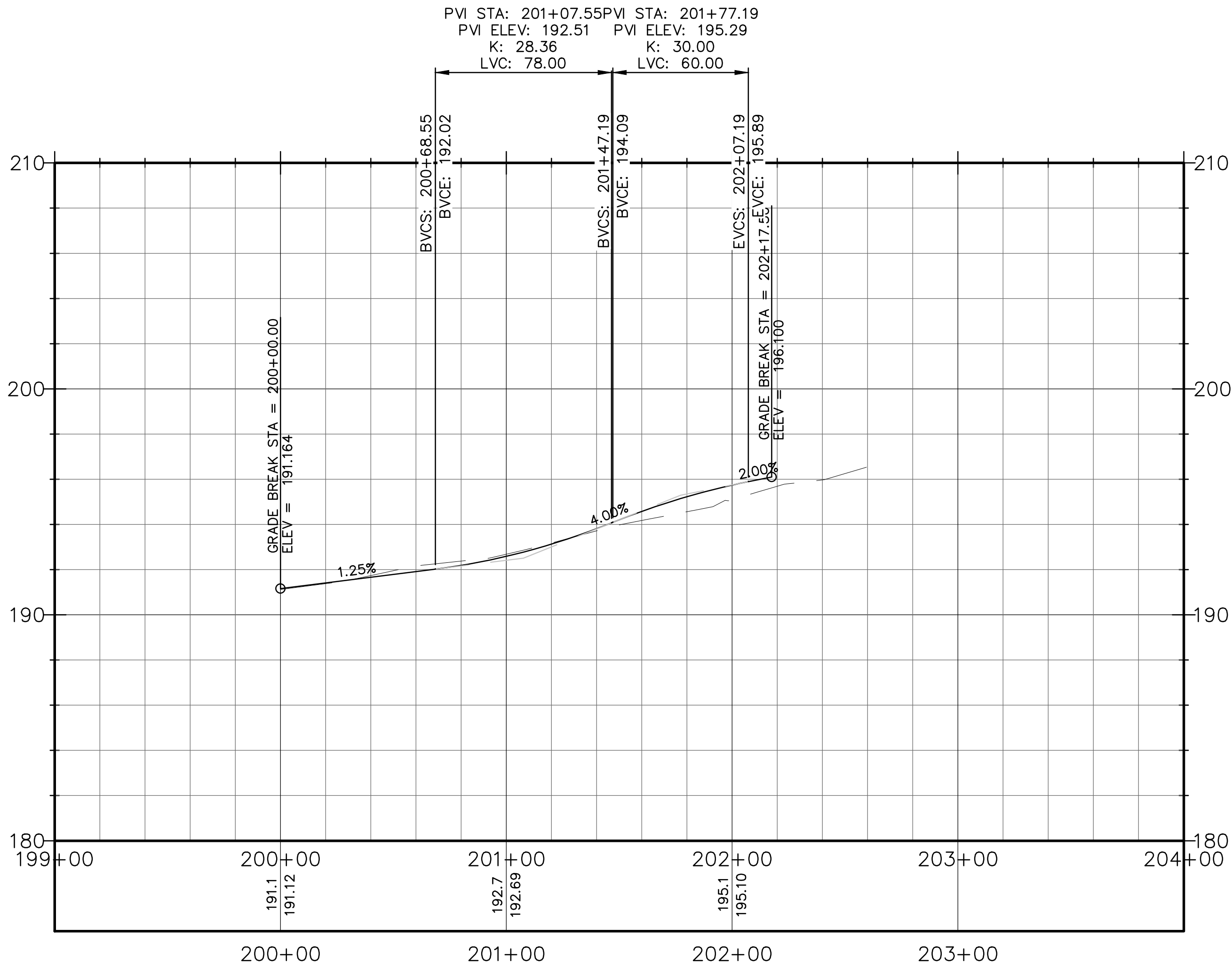
REGISTERED PROFESSIONAL ENGINEER

DATE

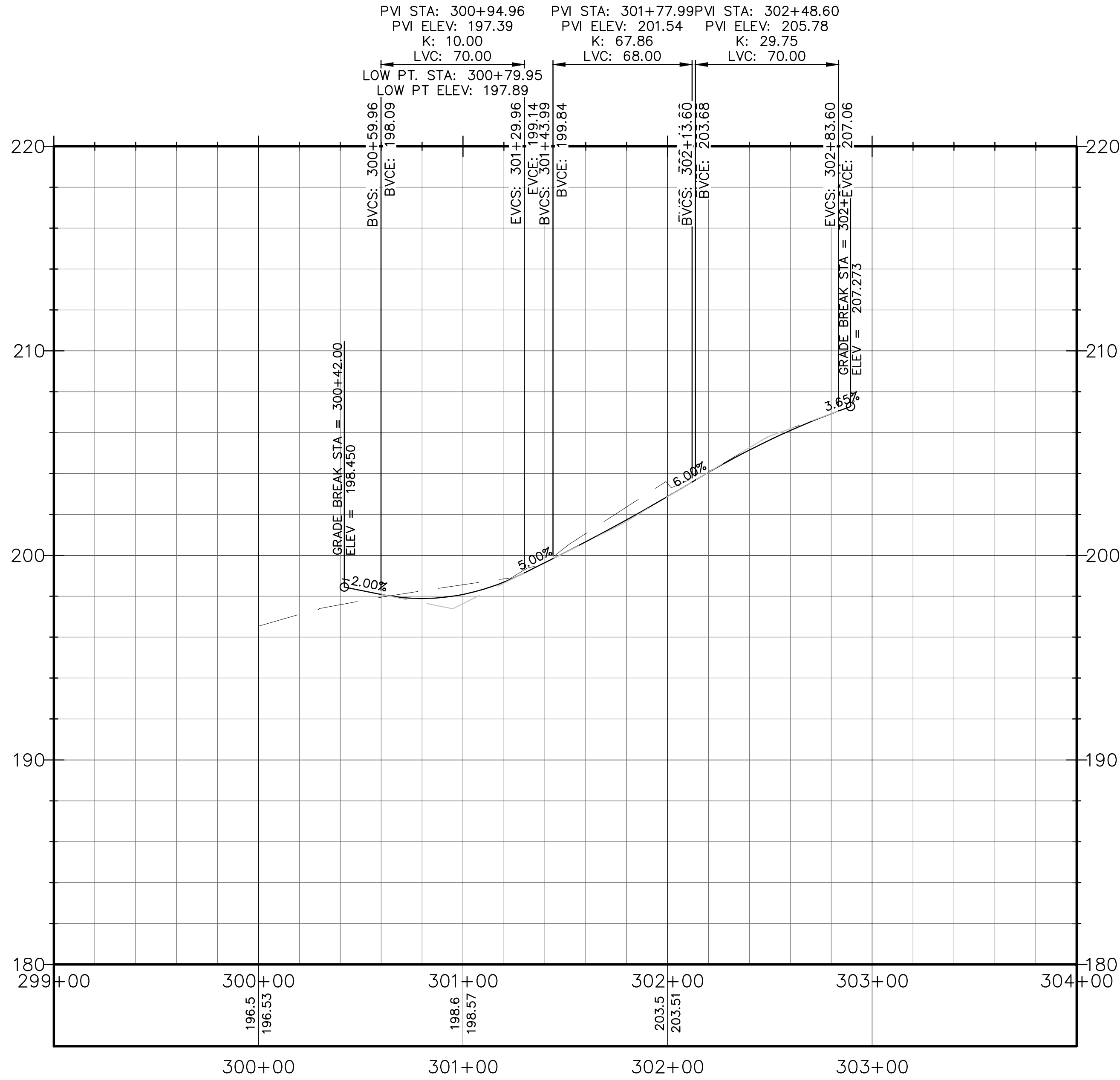
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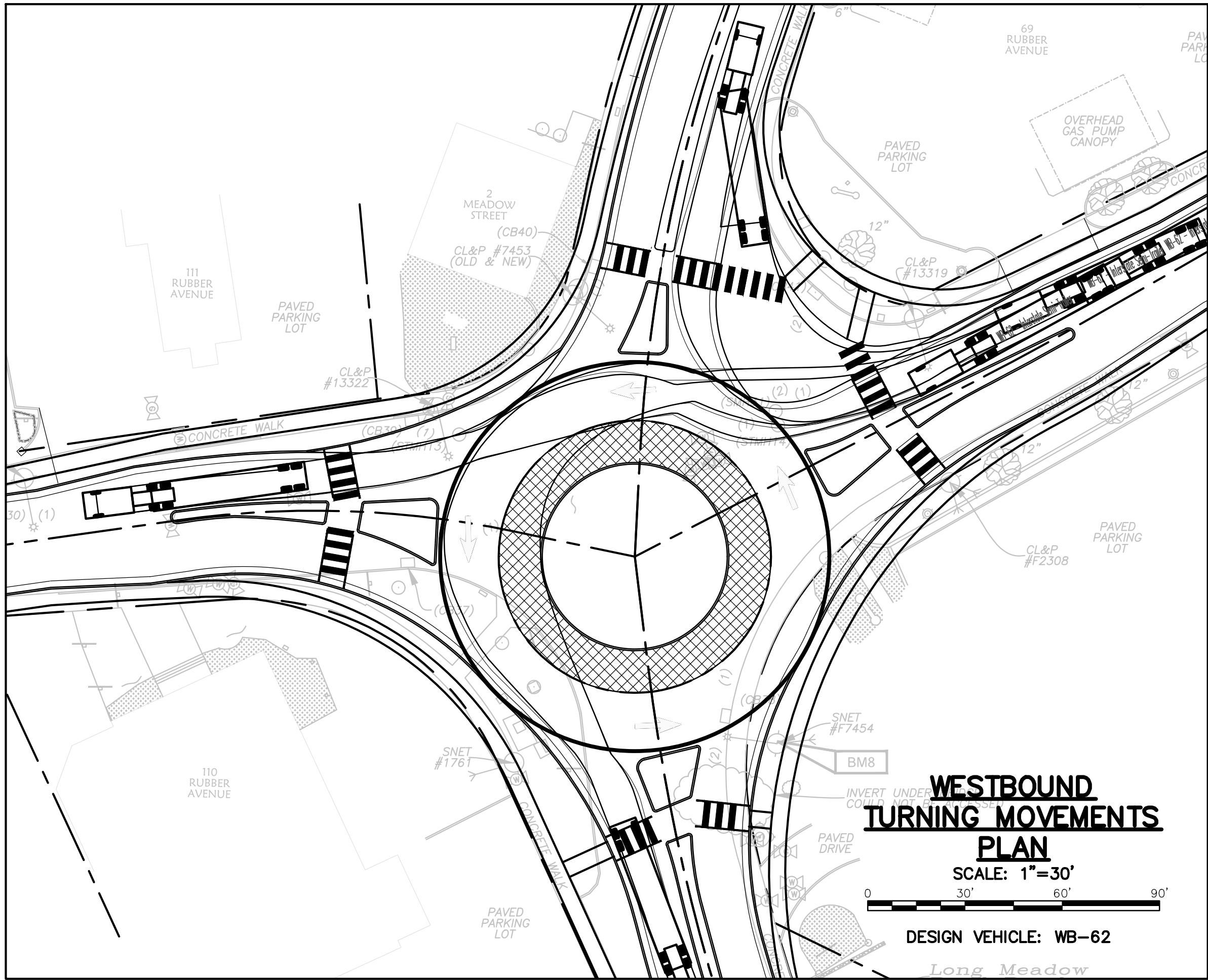
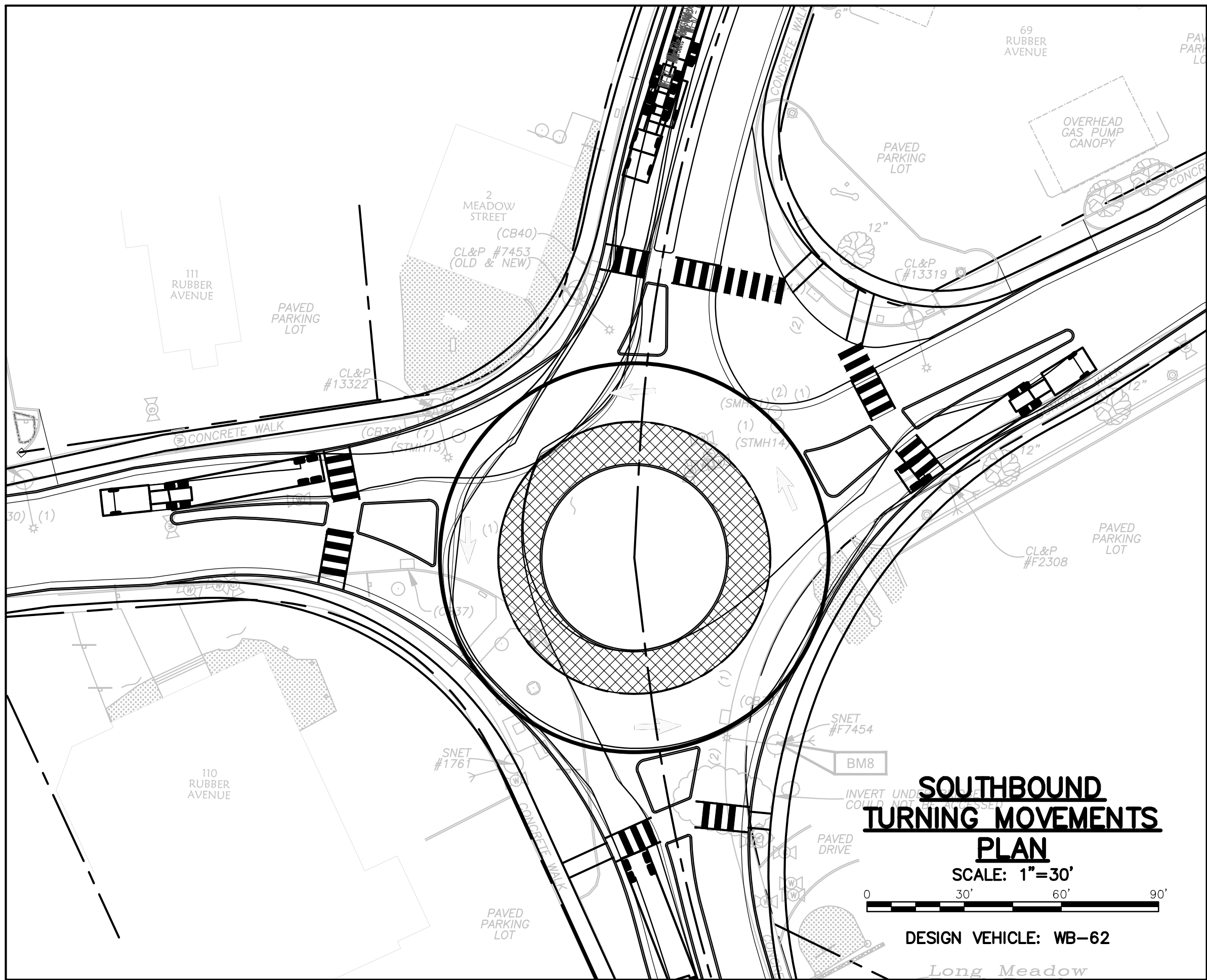
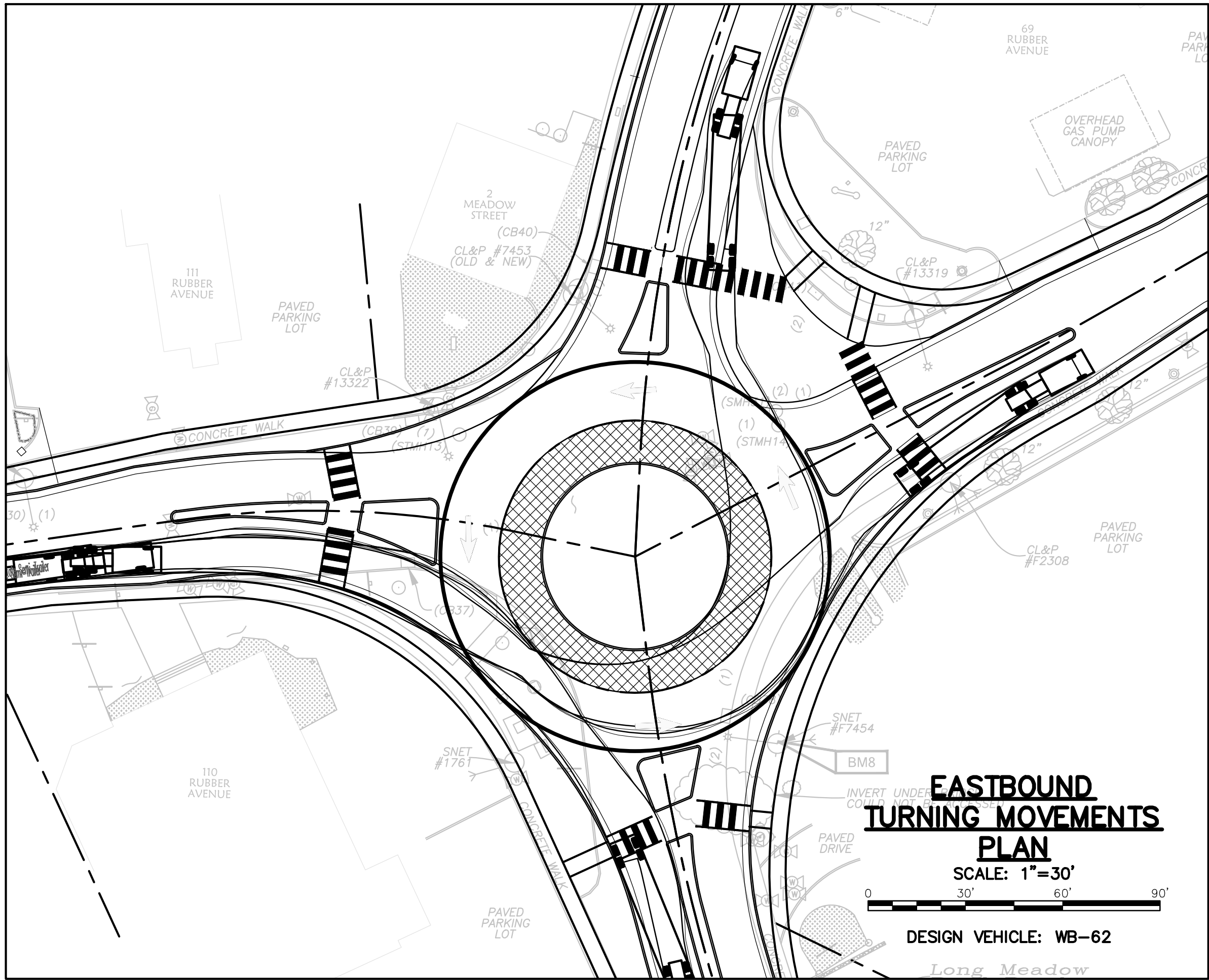
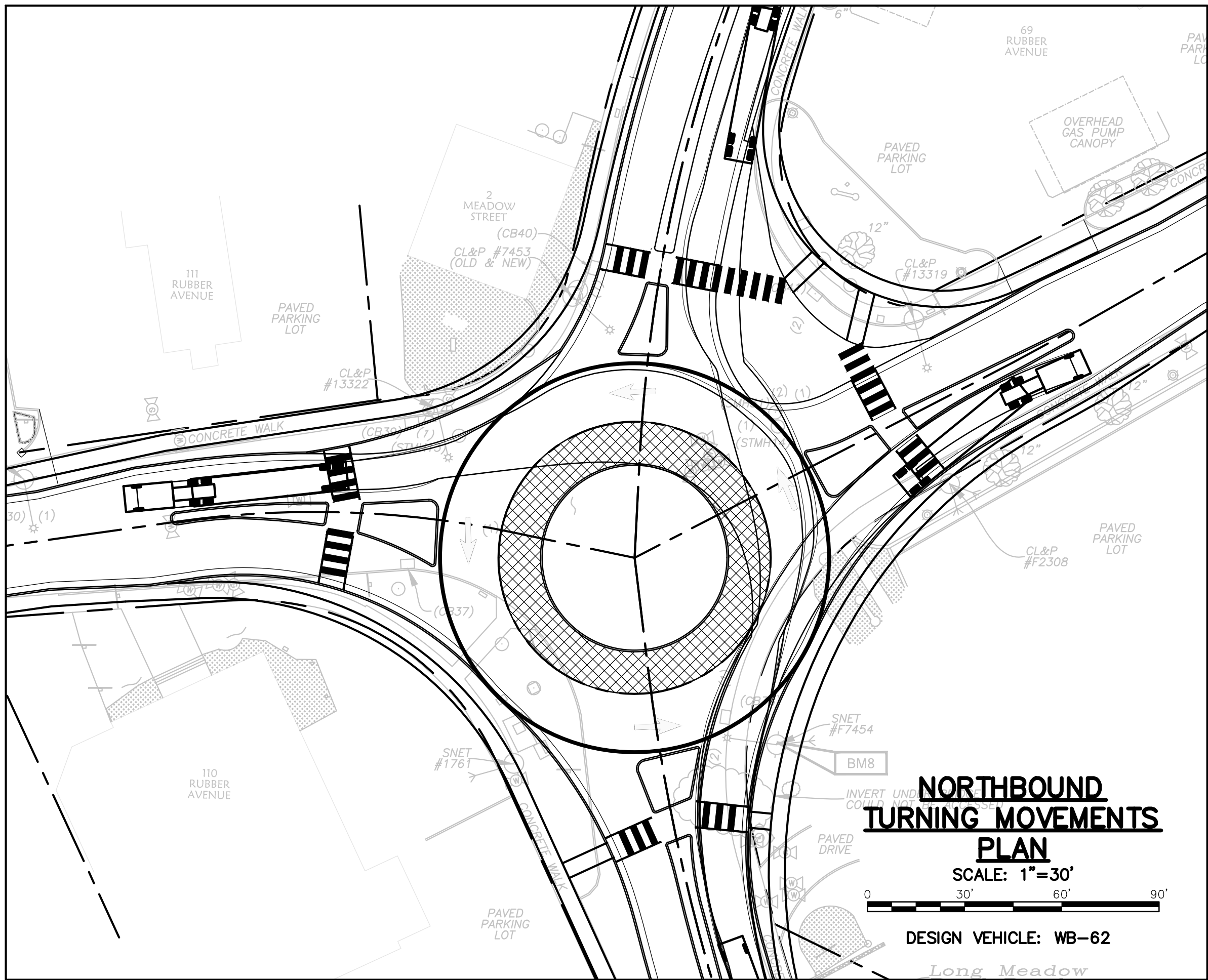


CHERRY STREET
SCALE: 1"=40' HORZ, 1"=4' VERT



MEADOW STREET
SCALE: 1"=40' HORZ, 1"=4' VERT

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VEH-1

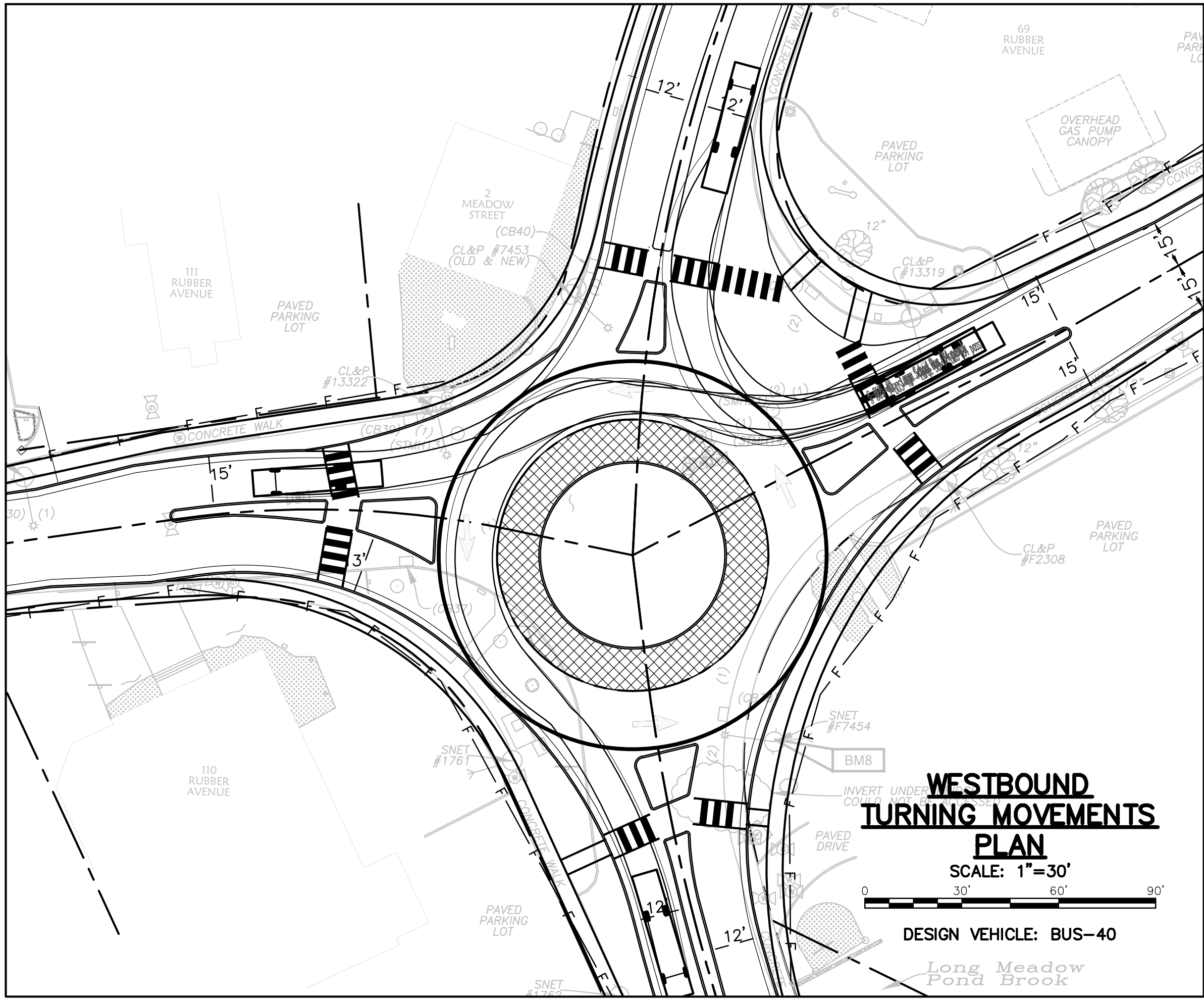
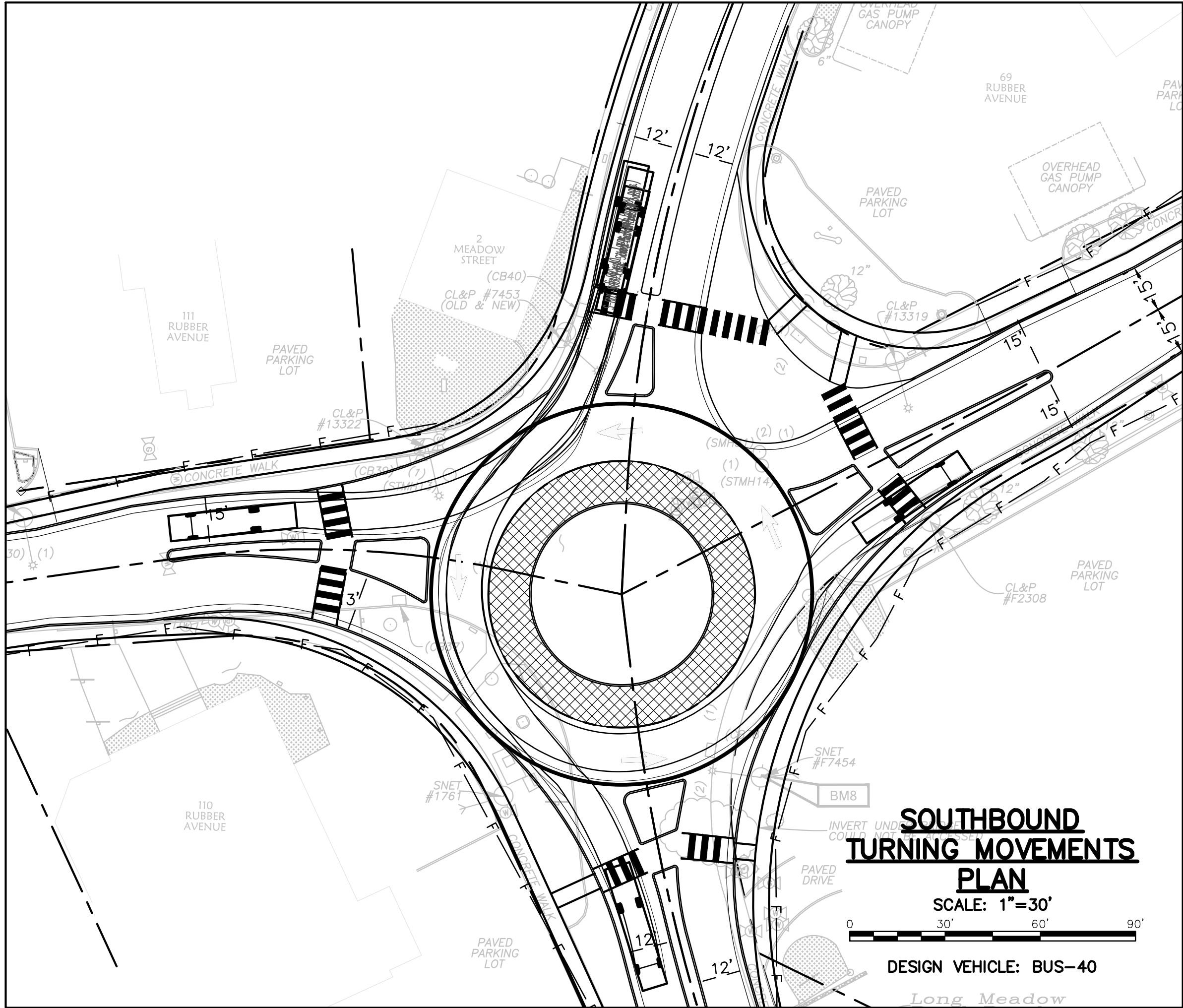
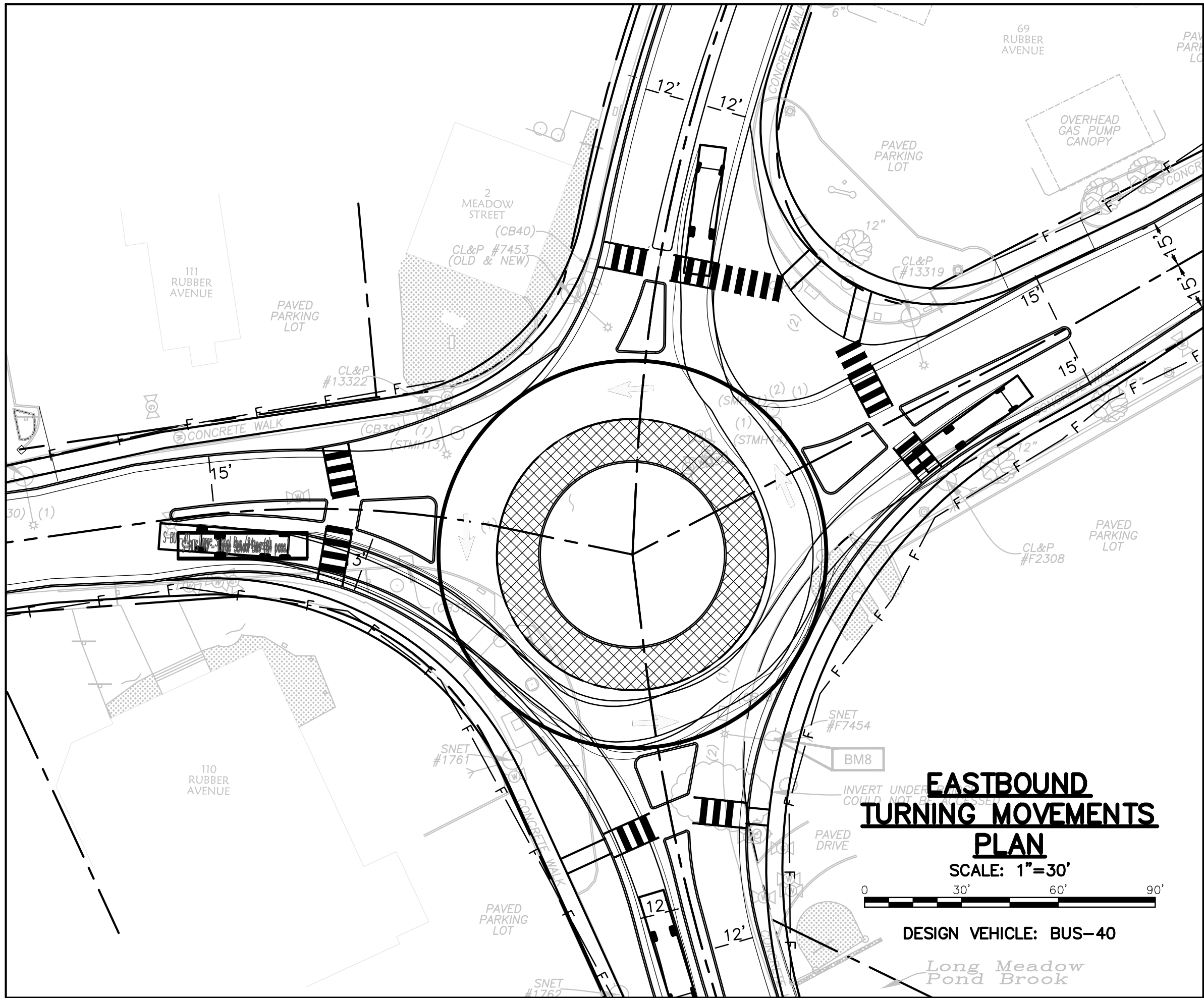
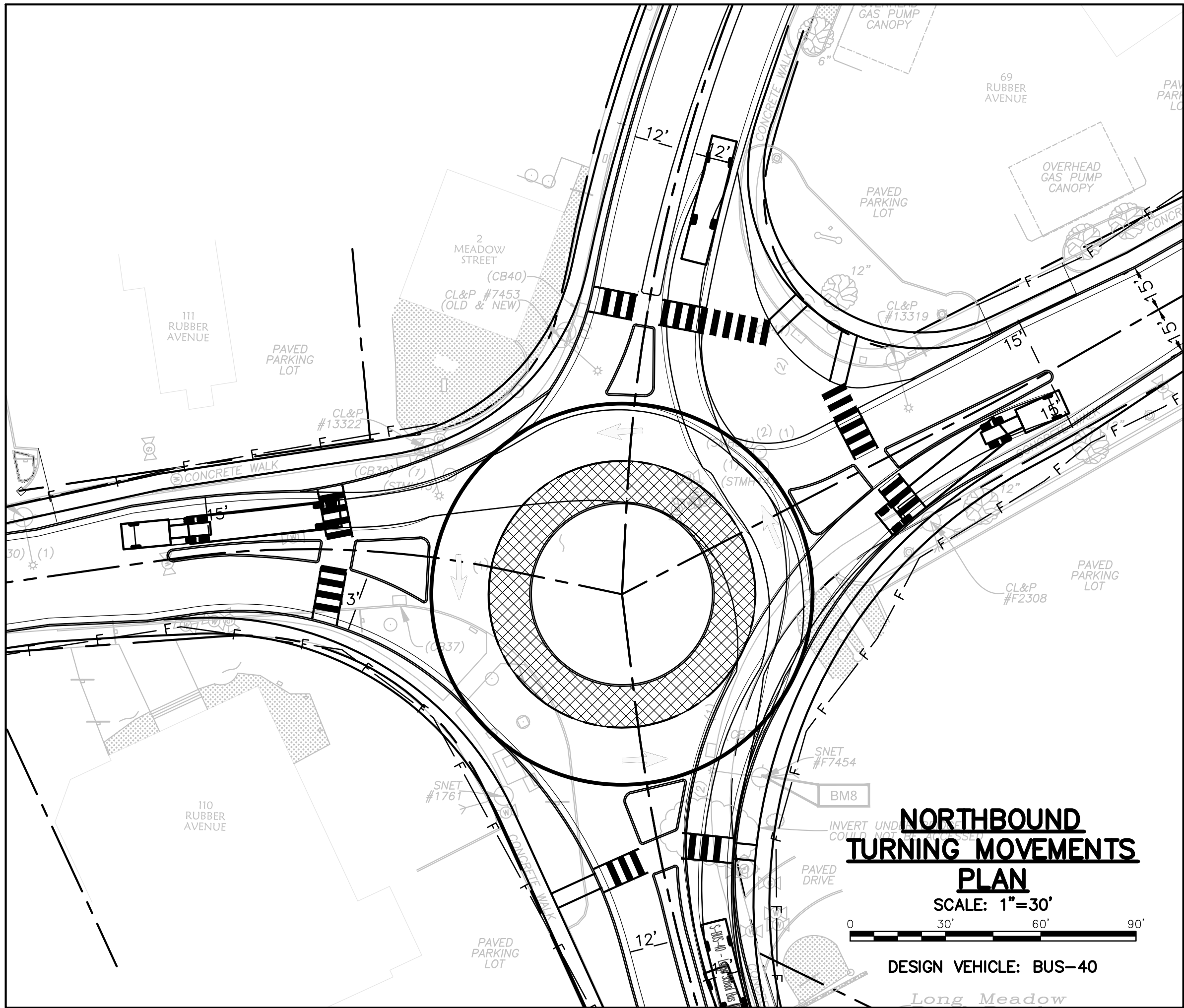
VEHICLE TURNING PLAN (WB-62) ROUNDABOUT

FILE NO.	CADD NO.	SCALE:	CONTRACT:	DR.BY	DSN.BY	CHK.BY	APP.BY
1	2180733	AS SHOWN		LEC	LAS	ALN	ALN

LOT/CP APPLICATION 08/2019

No.	Date	Dr.By	Ch.By	App.By	Description
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VEH-2

**VEHICLE TURNING PLAN (B-40)
ROUNDABOUT**

FILE NO.	CADD NO.	SCALE:	CONTRACT:	DR.BY	DSN.BY	CHK.BY	APP.BY
1	2180733	AS SHOWN		LEC	LAS	ALN	ALN

**LOT/CP
APPLICATION
08/2019**

No.	Date	Dr.By	Ch.By	App.By	Description
A	P	R	O	V	E
D					

APPENDIX C

Bicycle and Pedestrian Travel needs Assessment Form



CONNECTICUT DEPARTMENT OF TRANSPORTATION BICYCLE AND PEDESTRIAN TRAVEL NEEDS ASSESSMENT FORM (BPTNA)



In accordance with Connecticut General Statutes, Section 13a-153f, Accommodations and Provisions of Facilities for All Users and the Department's Policy Statement No. EX.0-31, It is the policy of the Department to consider the needs of all users of all abilities and ages (specifically including pedestrians, bicyclists, transit users, and vehicle operators) in the planning, programming, design, construction, retrofit and maintenance activities related to all roads and streets as a means of providing a "safe, efficient transportation network which enhances quality of life and economic vitality." Therefore, the need for inclusion of accommodations specifically for bicyclists and pedestrians, including those with disabilities, must be reviewed for **every** project.

This form shall apply to all Department projects, mainline utility projects within the state right-of-way, the Office of the State Traffic Administration (OSTA) certificate applications receiving state or federal funding, and municipal transportation projects that receive state or federal funding. This form provides designers the documentation and information needed to make decisions on the need and extent of bicycle and pedestrian features that should be included in a project. This form is not intended to dictate what features should be included in a project design, as guidance on those questions can be found in numerous other reference documents. This form should be completed to the extent practical (at least Sections 1 & 2) during the project scoping phase and finalized by the completion of the Preliminary Design. Once signed, this form should be retained with the project documents.

Project Number(s):	L087-000X	Route(s):	
Project Name:	Rubber Avenue Reconstruction		
Municipality(s):	Naugatuck	Planning Region(s):	Naugatuck Valley COG

SECTION 1: APPLICABILITY

Although bicycle and pedestrian accommodations should be considered for all projects, certain types of projects (e.g. bridge deck patching, culvert re-lining, projects on expressway mainlines) do not typically provide reasonable opportunity to provide improvements for these travel modes. Considering the project type answer the question below. If the question below is answered **no**, please explain why, then skip to the last page, sign the form, and file this form with the project documents. If the answer is **yes**, go to Section 2 and complete the rest of the form.

Does this project type provide reasonable opportunity to provide improvements for non-motorized access?

Yes ☒

No ☐

If no, why?

SECTION 2: ASSESSMENT OF STUDY AREA

2.1 Study Area Map

Identify any non-motorized and/or transit generators located within the Study Area (Study Area is generally defined as approximately ½ mile radius from the project limits). Using the letters in the code column below, create a map from a location plan or aerial photograph indicating the location of existing or planned non-motorized or transit user generators identified below (for planned facilities, precede the letter with a P-).

Non-Motorized/Transit User Generators	Code
<u>Residential Areas:</u> Indicate any general areas of dense residential housing	R
<u>Parks:</u> Include areas that would attract people, whether officially designated as a park or not	P
<u>Recreational Areas:</u> Examples include athletic fields, dog parks	RA
<u>Religious Facilities</u>	C
<u>Schools (including public and private schools, colleges, universities, daycare or other educational institution)</u>	S
<u>Health / Medical Facilities</u>	H
<u>Town Centers:</u> typically would include areas where Town Halls, Libraries and other public facilities exist	TC
<u>Shopping Centers:</u> especially centers with businesses where non-motorized customers might be expected (restaurants, bookstores, drug stores, etc.)	M
<u>Large Employment Businesses:</u> Factories, large office buildings, hospitals, government offices	E
<u>Bus Stops</u>	B
<u>Public Transit Facilities:</u> train/bus stations, airports	T
<u>Shared-use trail access / parking</u>	TA
<u>Other:</u> other known facilities expected to generate or attract non-motorized users _____	O

2.2 Analysis of Study Area

Using the map prepared in Section 2.1, and the resources suggested below, answer the following questions about the study area. **[For State/District-wide or Division of Traffic Engineering projects with many locations use the “Multi-location Table” at: https://www.ct.gov/dot/lib/dot/bptna-table_multiloc.docx to answer questions marked with an (*)]**

Explain as needed (attach additional sheet(s) if needed)

a. * Referencing the CTDOT Interactive Bike Map located at: http://www.ctbikepedplan.org/interactivemap.html is this project located on the Connecticut Statewide On-Road or Off-Road Bicycle Planning Network?	Yes ☐ No ☒	Rubber Ave is not, but it intersects one
b. * Have all existing bicycle, pedestrian and transit features within and just beyond the project limits (such as: features and ADA accessibility of existing bus stops, sidewalks, shoulder widths, bicycle markings/signs, shared-use paths, etc.) been identified and assessed for condition and need? (If assistance is needed identifying Transit requirements a request can be sent to: DOT.PTransBikePed@ct.gov)	Yes ☒ No ☐	
c. * Are there any areas of concern where physical impediments to non-motorized travel through the study area exist? Physical impediments can be excessive grade, limited width of roads/bridges, gaps or need for sidewalks (indicated by worn foot paths), utility poles or other appurtenances restricting access, etc.	Yes ☒ No ☐	Sidewalks are in poor condition, not continuous, and missing wheelchair ramps
d. * Is there any reason to anticipate an increase in travel by non-motorized and /or transit users through the project limits in the future?	Yes ☒ No ☐	Nearby development of large commercial property
e. * Based on the U.S. Access Board’s Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) , are there barriers to mobility inhibiting continuous access between schools, hospitals, senior care, or community centers, etc. for persons with disabilities that cannot be addressed in this project?	Yes ☐ No ☒	
f. * Is there a pattern of bicycle or pedestrian crashes within the project area? Crash information can be found by accessing the UCONN Crash Repository at (https://www.ctcrash.uconn.edu/).	Yes ☒ No ☐	1 pedalcyclist and 3 pedestrian accidents over the last 3 years, located at 4 different locations. Intersection of Rubber Ave and Hoadley St, Aetna St, Church St, and Woodruff Ave

g. Does the project provide <u>unique or primary access</u> (defined as access which is not otherwise available within approximately one-half mile of the project) : • across a river, highway corridor or other natural and/or man-made barrier? • into or out of any of the bicycle and pedestrian generators listed above? • between communities?	Yes ☐ No ☒ Yes ☒ No ☐ Yes ☐ No ☒	Connects to Town Center
h. Is the project located near or provide new access or connectivity to state parks, forests or CT Designated Greenways? Information on State Parks, Forests and Greenways can be found at: http://www.ct.gov/deep/cwp/view.asp?a=2707&q=323852 and http://www.ct.gov/deep/parkmaps If yes, please notify the Trails and Greenways Program Coordinator at the Department of Energy & Environmental Protection, State Parks Division, by sending a location and description of the project to: deep.stateparks@ct.gov. This is for notification and not intended to be a formal review and /or concurrence.	Yes ☐ No ☒	
i. In accordance to the Complete Streets Policy, the Department will include non-motorized users in traffic counts to the extent possible. Has the existing pedestrian and/or bicyclist usage patterns within the project limits, particularly at intersection and midblock crossings, been observed / collected?	Yes ☒ No ☐	
j. Has there been any documented public concern or comments about non-motorized and/or transit needs in the area?	Yes ☐ No ☒	
k. Are there any comprehensive regional or local planning documents (such as Complete Streets Plan, Sidewalk Plan, Plan of Conservation & Development, etc.) that address bicyclists, pedestrian or transit user conditions within or proximate to the project limits? (Can usually be found on applicable website) Contact the RPO Coordination or Intermodal Planning units in the Bureau of Policy and Planning if assistance is needed.	Yes ☒ No ☐	Regional Naugatuck River Greenway Routing Study - Borough of Naugatuck

SECTION 3: NON-MOTORIZED AND TRANSIT ACCOMMODATIONS

Identify any non-motorized and/or transit user accommodations/improvements that may be considered as part of this project. This section is provided as a list of countermeasures that may be appropriate and is not intended to dictate what features should be included in the project design. **[For State/District-wide or Division of Traffic Engineering projects with many locations answer this section by considering all sites as if they were one location]**

3.1 Pedestrian Facilities and Crossing Treatments		3.2 Bike Facilities (Cont.)	
a. New sidewalks	Yes ☒ N/A ☐	e. Signage and/or pavement markings	Yes ☐ N/A ☒
b. Pedestrian median crossing island	Yes ☒ N/A ☐	f. Bicycle parking, bike racks/lockers	Yes ☒ N/A ☐
c. Curb extension/bulb-outs	Yes ☒ N/A ☐	g. Trail Improvements, including parking	Yes ☐ N/A ☒
d. Reduced Corner Radius	Yes ☒ N/A ☐	h. Special height railings	Yes ☐ N/A ☒
e. Pedestrian bridge/tunnel	Yes ☐ N/A ☒	3.3 Bike & Pedestrian Treatments	
f. New or relocated unsignalized or mid-block crossing	Yes ☐ N/A ☒	a. Road diet	Yes ☒ N/A ☐
g. Enhanced illumination at pedestrian crossings	Yes ☒ N/A ☐	b. Narrowing travel lane width	Yes ☒ N/A ☐
h. Pedestrian signing and yield lines	Yes ☒ N/A ☐	c. Corridor-wide speed calming	Yes ☒ N/A ☐
i. Parking restrictions near crossings	Yes ☒ N/A ☐	3.4 Transit Facilities	
j. Pedestrian hybrid beacon [PHB; also known as the High intensity Activated crossWalk (HAWK)]	Yes ☐ N/A ☒	a. New or revised bus stops	Yes ☒ N/A ☐
k. Rectangular rapid flashing beacon (RRFB)	Yes ☐ N/A ☒	b. Bus shelters	Yes ☐ N/A ☒
l. Pedestrian fencing on bridges	Yes ☐ N/A ☒	c. Standing pads	Yes ☐ N/A ☒
		d. New or revised crossing for bus stop	Yes ☐ N/A ☒
		3.5 Streetscape Elements	
3.2 Bike Facilities		a. Landscaping, street trees, planters, buffer strips, etc.	Yes ☒ N/A ☐
a. Dedicated bike lane or cycle track	Yes ☐ N/A ☒	b. Decorative lighting	Yes ☒ N/A ☐
b. Shared-used lanes	Yes ☐ N/A ☒	c. Public seating or benches	Yes ☒ N/A ☐
c. Shared-used path	Yes ☐ N/A ☒	3.6 Other (please specify):	
d. Wider shoulders	Yes ☒ N/A ☐		

Once completed this form should be signed, attached to the Preliminary Design Statement, and filed with the project documents in ProjectWise. If the answer to the question under Section 1 “Applicability” is “Yes”, please email the link to the completed form in ProjectWise (or a PDF copy) to:

CTDOT.BikePedReviews@ct.gov. Comments will be provided if necessary however, designers are not required to obtain concurrence to move forward with design. This form will be maintained and periodically updated by the Office of Strategic Planning & Projects in the Bureau of Policy & Planning.

Prepared By:

Project Engineer - Print Name

Signature

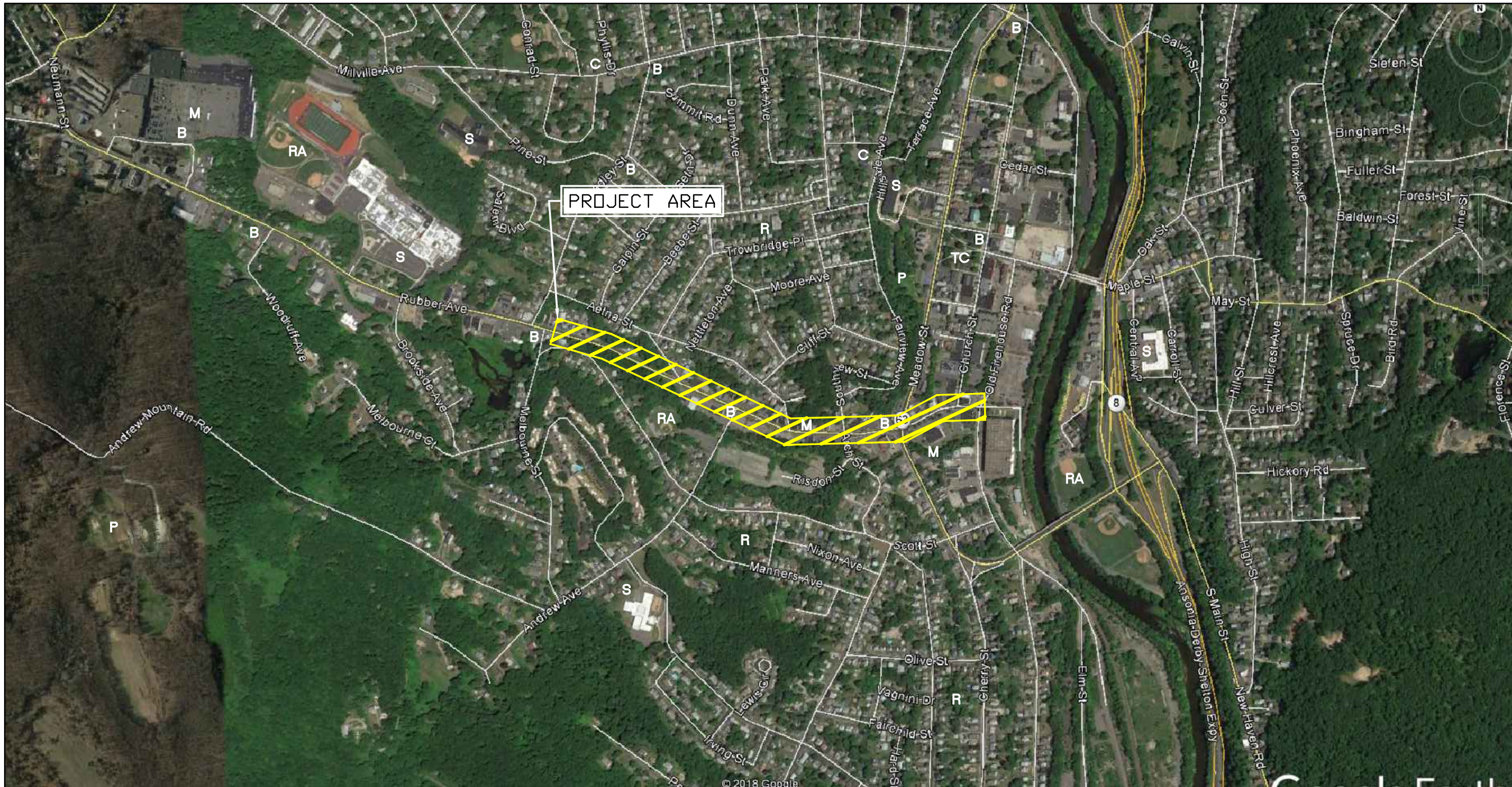
Date: _____

Approved By:

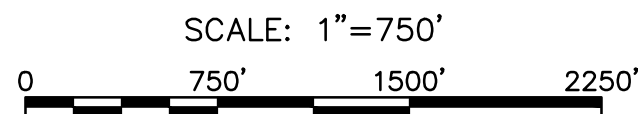
Project Manager - Print Name

Signature

Date _____



NOTE:
1. AERIAL PHOTO FROM GOOGLE EARTH



LEGEND:

- R** RESIDENTIAL
- P** PARK
- RA** RECREATIONAL AREA
- C** RELIGIOUS FACILITIES
- S** SCHOOLS
- TC** TOWN CENTERS
- M** SHOPPING CENTERS
- B** BUS STOPS

FIGURE 1
LAND USE MAP
RUBBER AVENUE
NAUGATUCK, CT

Weston & Sampson

APPENDIX D

Traffic and Crash Data

TRAFFIC COUNTS

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Ave at Edward Street
Naugatuck, Connecticut

File Name : 18335
Site Code : 18335
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

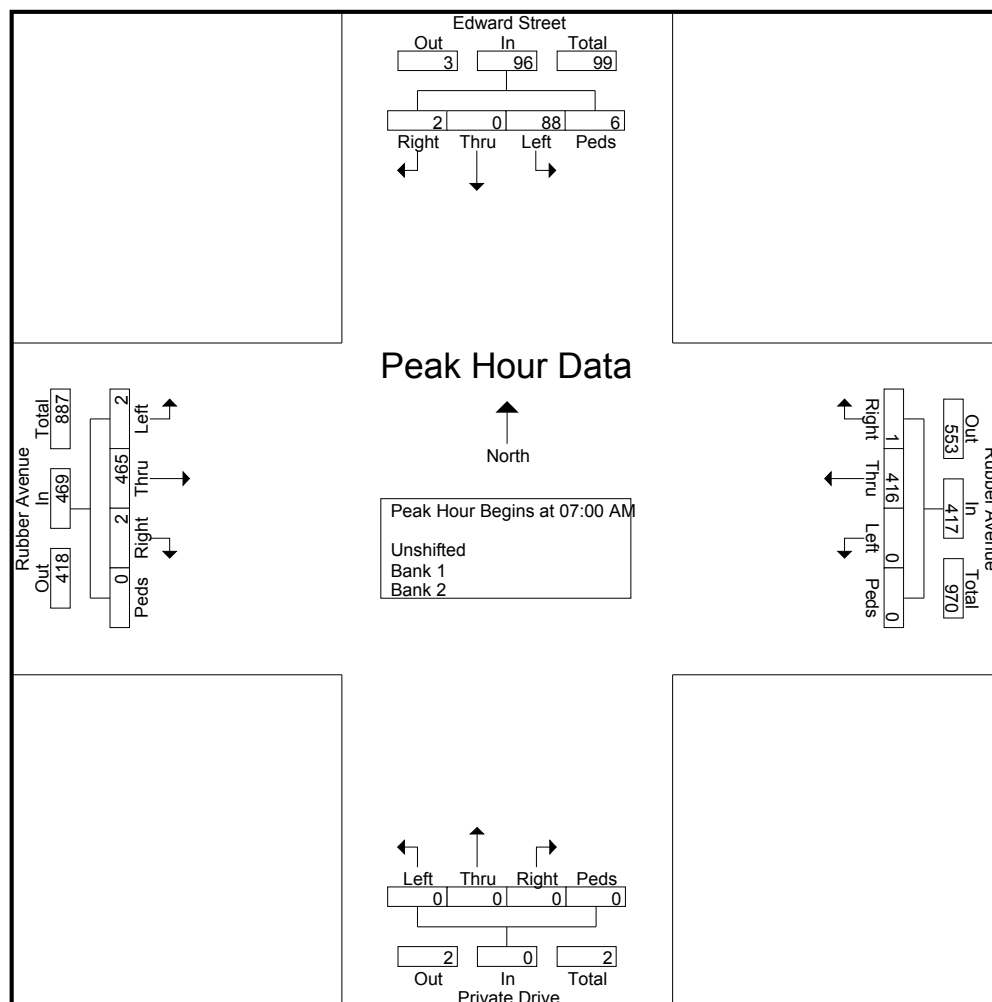
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Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	0	15	4	20	0	133	0	0	133	0	0	0	0	0	0	110	0	0	110	263
07:15 AM	1	0	26	1	28	0	150	0	0	150	0	0	0	0	0	0	169	1	0	170	348
07:30 AM	0	0	20	0	20	1	46	0	0	47	0	0	0	0	0	2	83	1	0	86	153
07:45 AM	0	0	27	1	28	0	87	0	0	87	0	0	0	0	0	0	103	0	0	103	218
Total	2	0	88	6	96	1	416	0	0	417	0	0	0	0	0	2	465	2	0	469	982
08:00 AM	0	0	10	1	11	0	62	0	0	62	0	0	0	0	0	0	76	0	0	76	149
08:15 AM	1	0	17	0	18	0	68	0	0	68	0	0	0	0	0	0	96	1	0	97	183
08:30 AM	0	0	30	0	30	0	76	0	0	76	0	0	0	0	0	0	86	0	0	86	192
08:45 AM	1	0	24	0	25	0	96	0	0	96	0	0	0	0	0	0	99	0	0	99	220
Total	2	0	81	1	84	0	302	0	0	302	0	0	0	0	0	0	357	1	0	358	744
Grand Total	4	0	169	7	180	1	718	0	0	719	0	0	0	0	0	2	822	3	0	827	1726
Apprch %	2.2	0	93.9	3.9		0.1	99.9	0	0		0	0	0	0		0.2	99.4	0.4	0		
Total %	0.2	0	9.8	0.4	10.4	0.1	41.6	0	0	41.7	0	0	0	0	0	0.1	47.6	0.2	0	47.9	
Unshifted	3	0	167	7	177	1	688	0	0	689	0	0	0	0	0	2	776	3	0	781	1647
% Unshifted																					
Bank 1	0	0	1	0	1	0	10	0	0	10	0	0	0	0	0	0	14	0	0	14	25
% Bank 1	0	0	0.6	0	0.6	0	1.4	0	0	1.4	0	0	0	0	0	0	1.7	0	0	1.7	1.4
Bank 2	1	0	1	0	2	0	20	0	0	20	0	0	0	0	0	0	32	0	0	32	54
% Bank 2	25	0	0.6	0	1.1	0	2.8	0	0	2.8	0	0	0	0	0	0	3.9	0	0	3.9	3.1

Connecticut Counts LLC

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(860) 828-1693

File Name : 18335
Site Code : 18335
Start Date : 12/13/2018
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	Edward Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	0	15	4	20	0	133	0	0	133	0	0	0	0	0	0	110	0	0	110	263
07:15 AM	1	0	26	1	28	0	150	0	0	150	0	0	0	0	0	0	169	1	0	170	348
07:30 AM	0	0	20	0	20	1	46	0	0	47	0	0	0	0	0	2	83	1	0	86	153
07:45 AM	0	0	27	1	28	0	87	0	0	87	0	0	0	0	0	0	103	0	0	103	218
Total Volume	2	0	88	6	96	1	416	0	0	417	0	0	0	0	0	2	465	2	0	469	982
% App. Total	2.1	0	91.7	6.2		0.2	99.8	0	0		0	0	0	0		0.4	99.1	0.4	0		
PHF	.500	.000	.815	.375	.857	.250	.693	.000	.000	.695	.000	.000	.000	.000	.000	.250	.688	.500	.000	.690	.705



Connecticut Counts LLC

Kensington, Connecticut 06037
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Rubber Avenue at Edward Street
Naugatuck, Connecticut

File Name : 18336
Site Code : 18336
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

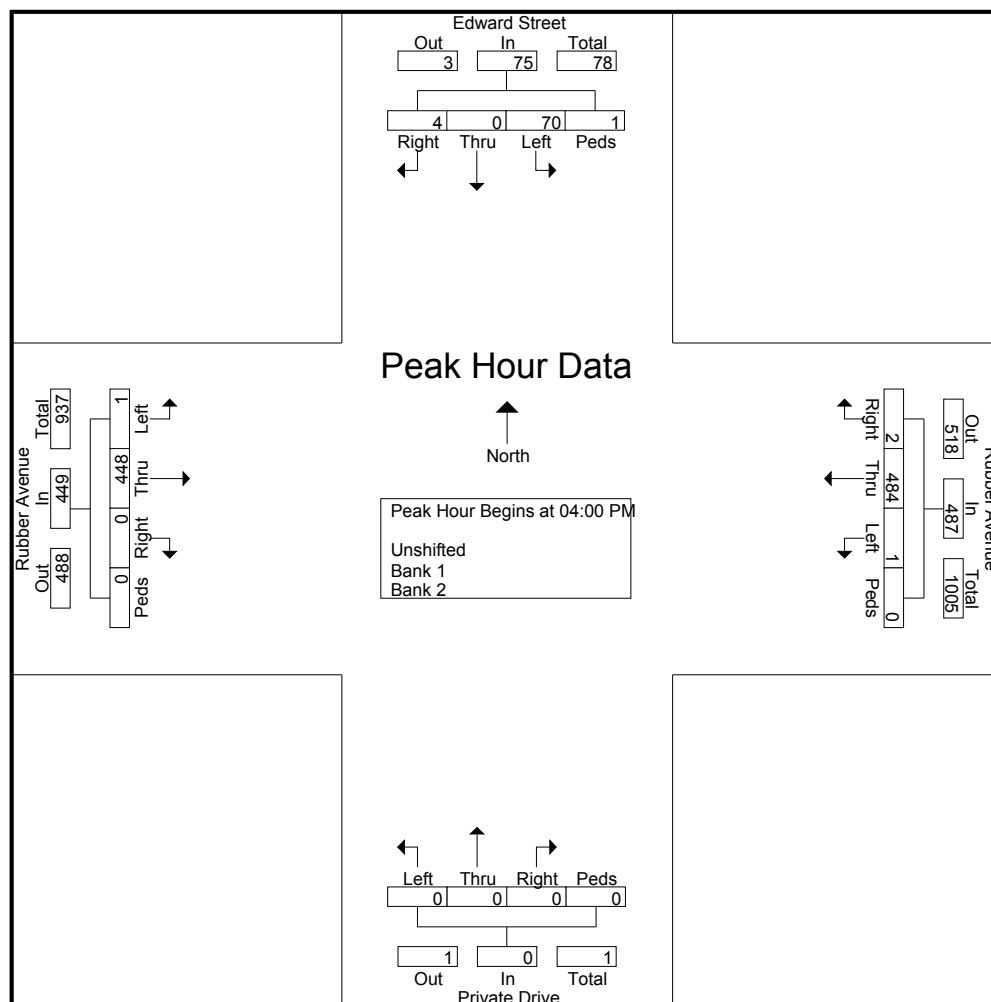
	Edward Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	2	0	17	0	19	0	127	0	0	127	0	0	0	0	0	0	121	0	0	121	267
04:15 PM	0	0	17	1	18	0	123	1	0	124	0	0	0	0	0	0	117	1	0	118	260
04:30 PM	0	0	18	0	18	0	108	0	0	108	0	0	0	0	0	0	110	0	0	110	236
04:45 PM	2	0	18	0	20	2	126	0	0	128	0	0	0	0	0	0	100	0	0	100	248
Total	4	0	70	1	75	2	484	1	0	487	0	0	0	0	0	0	448	1	0	449	1011
05:00 PM	1	0	11	0	12	0	109	0	0	109	0	0	0	0	0	0	107	0	0	107	228
05:15 PM	1	0	11	0	12	0	109	0	0	109	0	0	0	0	0	0	95	0	0	95	216
05:30 PM	1	0	14	1	16	0	127	2	0	129	0	0	0	0	0	0	98	0	0	98	243
05:45 PM	0	0	18	0	18	0	137	0	0	137	0	0	0	0	0	0	105	0	0	105	260
Total	3	0	54	1	58	0	482	2	0	484	0	0	0	0	0	0	405	0	0	405	947
Grand Total	7	0	124	2	133	2	966	3	0	971	0	0	0	0	0	0	853	1	0	854	1958
Apprch %	5.3	0	93.2	1.5		0.2	99.5	0.3	0		0	0	0	0		0	99.9	0.1	0		
Total %	0.4	0	6.3	0.1	6.8	0.1	49.3	0.2	0	49.6	0	0	0	0	0	0	43.6	0.1	0	43.6	
Unshifted	7	0	123	2	132	2	960	3	0	965	0	0	0	0	0	0	838	1	0	839	1936
% Unshifted																					
Bank 1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	8
% Bank 1	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0.6	0	0	0.6	0.4
Bank 2	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	10	0	0	10	14
% Bank 2	0	0	0.8	0	0.8	0	0.3	0	0	0.3	0	0	0	0	0	0	1.2	0	0	1.2	0.7

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File Name : 18336
Site Code : 18336
Start Date : 12/13/2018
Page No : 2

	Edward Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	2	0	17	0	19	0	127	0	0	127	0	0	0	0	0	0	121	0	0	121	267
04:15 PM	0	0	17	1	18	0	123	1	0	124	0	0	0	0	0	0	117	1	0	118	260
04:30 PM	0	0	18	0	18	0	108	0	0	108	0	0	0	0	0	0	110	0	0	110	236
04:45 PM	2	0	18	0	20	2	126	0	0	128	0	0	0	0	0	0	100	0	0	100	248
Total Volume	4	0	70	1	75	2	484	1	0	487	0	0	0	0	0	0	448	1	0	449	1011
% App. Total	5.3	0	93.3	1.3		0.4	99.4	0.2	0		0	0	0	0		0	99.8	0.2	0		
PHF	.500	.000	.972	.250	.938	.250	.953	.250	.000	.951	.000	.000	.000	.000	.000	.000	.926	.250	.000	.928	.947



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Edward Street
Naugatuck, Connecticut

File Name : 18337
Site Code : 18337
Start Date : 12/15/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

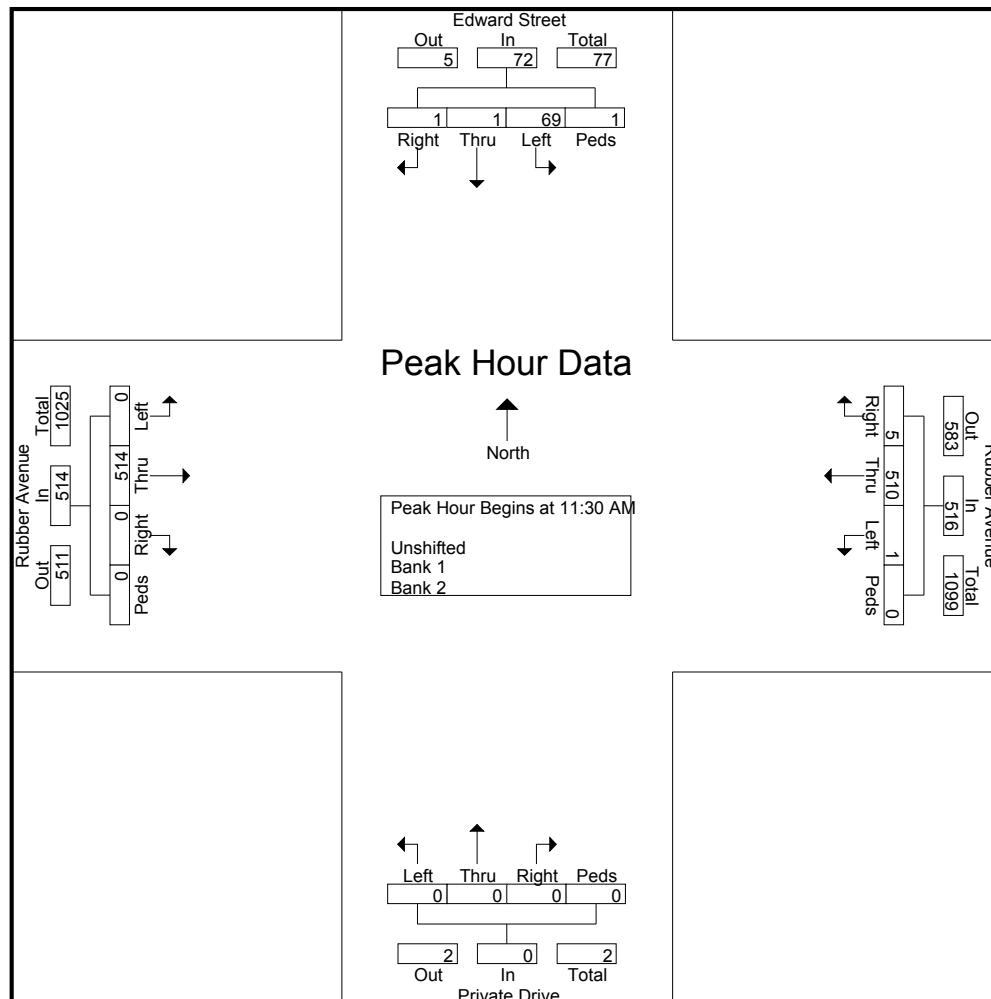
	Edward Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	2	0	16	0	18	0	135	0	0	135	0	0	0	0	0	0	116	2	0	118	271
11:15 AM	1	0	14	0	15	0	112	0	0	112	0	0	0	0	0	0	115	0	0	115	242
11:30 AM	0	1	15	0	16	0	113	0	0	113	0	0	0	0	0	0	129	0	0	129	258
11:45 AM	0	0	13	0	13	3	130	0	0	133	0	0	0	0	0	0	125	0	0	125	271
Total	3	1	58	0	62	3	490	0	0	493	0	0	0	0	0	0	485	2	0	487	1042
12:00 PM	0	0	19	1	20	2	126	0	0	128	0	0	0	0	0	0	140	0	0	140	288
12:15 PM	1	0	22	0	23	0	141	1	0	142	0	0	0	0	0	0	120	0	0	120	285
12:30 PM	3	0	17	0	20	2	90	0	0	92	0	0	0	0	0	0	102	3	0	105	217
12:45 PM	1	0	14	0	15	1	146	0	0	147	0	0	0	0	0	0	142	0	1	143	305
Total	5	0	72	1	78	5	503	1	0	509	0	0	0	0	0	0	504	3	1	508	1095
01:00 PM	1	0	12	0	13	0	102	0	0	102	0	0	0	0	0	0	105	0	0	105	220
01:15 PM	1	0	13	3	17	0	104	0	0	104	0	0	0	0	0	0	107	1	0	108	229
01:30 PM	1	0	7	0	8	0	120	0	0	120	0	0	0	0	0	0	128	0	0	128	256
01:45 PM	1	0	18	2	21	1	111	0	0	112	0	0	0	0	0	0	125	0	0	125	258
Total	4	0	50	5	59	1	437	0	0	438	0	0	0	0	0	0	465	1	0	466	963
Grand Total	12	1	180	6	199	9	1430	1	0	1440	0	0	0	0	0	0	1454	6	1	1461	3100
Apprch %	6	0.5	90.5	3		0.6	99.3	0.1	0		0	0	0	0		0	99.5	0.4	0.1		
Total %	0.4	0	5.8	0.2	6.4	0.3	46.1	0	0	46.5	0	0	0	0	0	0	46.9	0.2	0	47.1	
Unshifted	12	1	180	6	199	9	1427										1450				
% Unshifted	100	100	100	100	100	100	99.8	100	0	99.8	0	0	0	0	0	0	99.7	100	100	99.7	99.8
Bank 1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
% Bank 1	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.2	0	0	0.2	0.2
Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% Bank 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18337
 Site Code : 18337
 Start Date : 12/15/2018
 Page No : 2

	Edward Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	0	1	15	0	16	0	113	0	0	113	0	0	0	0	0	0	129	0	0	129	258
11:45 AM	0	0	13	0	13	3	130	0	0	133	0	0	0	0	0	0	125	0	0	125	271
12:00 PM	0	0	19	1	20	2	126	0	0	128	0	0	0	0	0	0	140	0	0	140	288
12:15 PM	1	0	22	0	23	0	141	1	0	142	0	0	0	0	0	0	120	0	0	120	285
Total Volume	1	1	69	1	72	5	510	1	0	516	0	0	0	0	0	0	514	0	0	514	1102
% App. Total	1.4	1.4	95.8	1.4		1	98.8	0.2	0		0	0	0	0		0	100	0	0		
PHF	.250	.250	.784	.250	.783	.417	.904	.250	.000	.908	.000	.000	.000	.000	.000	.000	.918	.000	.000	.918	.957



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Andrew Ave
Naugatuck, Connecticut

File Name : 18338
Site Code : 18338
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

	From North					Rubber Avenue From East					Andrew Avenue From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	157	4	0	161	18	0	6	0	24	27	134	0	1	162	347
07:15 AM	0	0	0	0	0	0	79	3	0	82	9	0	6	0	15	4	157	0	0	161	258
07:30 AM	0	0	0	0	0	1	55	5	0	61	19	0	6	0	25	4	115	0	0	119	205
07:45 AM	0	0	0	0	0	0	84	9	0	93	14	0	5	0	19	11	117	0	0	128	240
Total	0	0	0	0	0	1	375	21	0	397	60	0	23	0	83	46	523	0	1	570	1050
08:00 AM	0	0	0	0	0	0	72	15	0	87	9	0	7	0	16	3	120	0	0	123	226
08:15 AM	0	0	0	0	0	0	56	9	0	65	14	0	5	0	19	6	75	0	0	81	165
08:30 AM	0	0	1	0	1	0	74	10	0	84	20	0	5	0	25	12	122	0	0	134	244
08:45 AM	0	0	0	0	0	1	86	15	0	102	13	0	10	0	23	8	110	0	0	118	243
Total	0	0	1	0	1	1	288	49	0	338	56	0	27	0	83	29	427	0	0	456	878
Grand Total	0	0	1	0	1	2	663	70	0	735	116	0	50	0	166	75	950	0	1	1026	1928
Apprch %	0	0	100	0		0.3	90.2	9.5	0		69.9	0	30.1	0		7.3	92.6	0	0.1		
Total %	0	0	0.1	0	0.1	0.1	34.4	3.6	0	38.1	6	0	2.6	0	8.6	3.9	49.3	0	0.1	53.2	
Unshifted	0	0	1	0	1	2	641	64	0	707	109	0	47	0	156	70	906	0	1	977	1841
% Unshifted																					
Bank 1	0	0	0	0	0	0	11	2	0	13	2	0	0	0	2	2	15	0	0	17	32
% Bank 1	0	0	0	0	0	0	1.7	2.9	0	1.8	1.7	0	0	0	1.2	2.7	1.6	0	0	1.7	1.7
Bank 2	0	0	0	0	0	0	11	4	0	15	5	0	3	0	8	3	29	0	0	32	55
% Bank 2	0	0	0	0	0	0	1.7	5.7	0	2	4.3	0	6	0	4.8	4	3.1	0	0	3.1	2.9

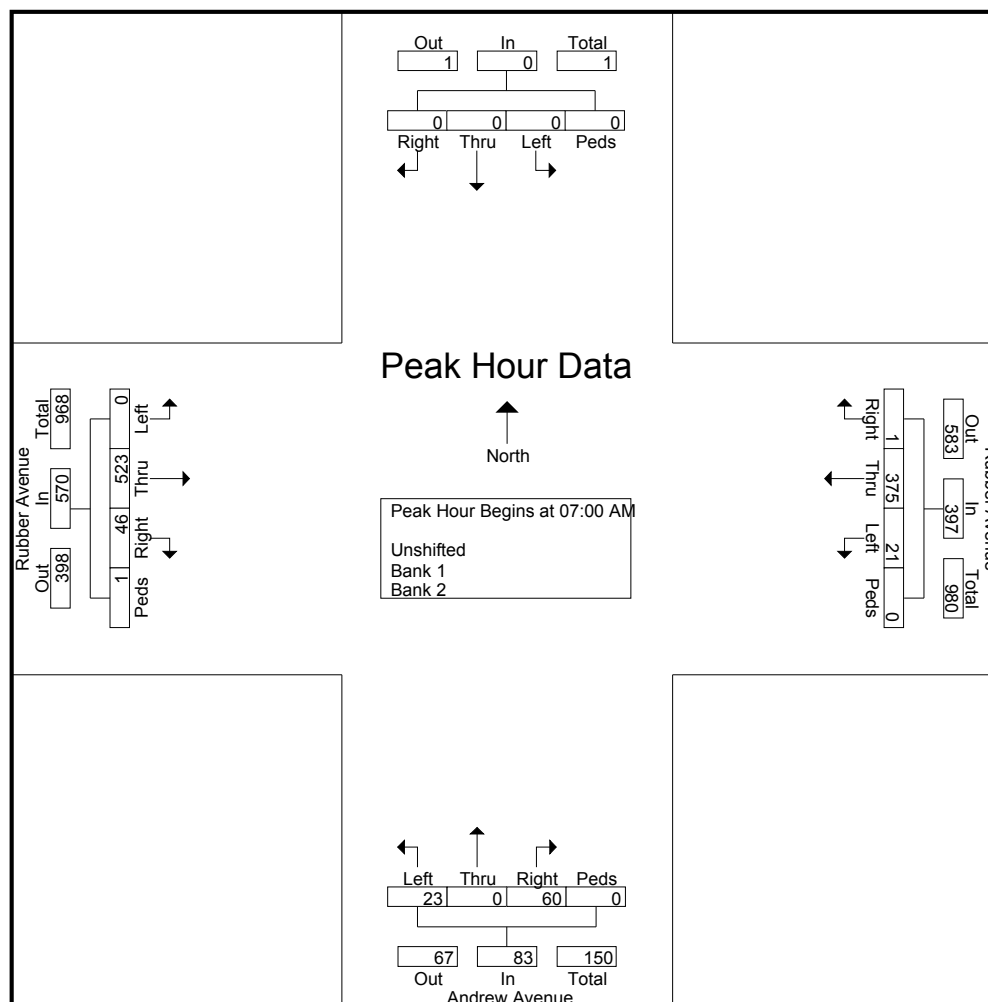
Connecticut Counts LLC

Kensington, Connecticut 06037

(860) 828-1693

File Name : 18338
 Site Code : 18338
 Start Date : 12/13/2018
 Page No : 2

	From North					Rubber Avenue From East					Andrew Avenue From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	157	4	0	161	18	0	6	0	24	27	134	0	1	162	347
07:15 AM	0	0	0	0	0	0	79	3	0	82	9	0	6	0	15	4	157	0	0	161	258
07:30 AM	0	0	0	0	0	1	55	5	0	61	19	0	6	0	25	4	115	0	0	119	205
07:45 AM	0	0	0	0	0	0	84	9	0	93	14	0	5	0	19	11	117	0	0	128	240
Total Volume	0	0	0	0	0	1	375	21	0	397	60	0	23	0	83	46	523	0	1	570	1050
% App. Total	0	0	0	0		0.3	94.5	5.3	0		72.3	0	27.7	0		8.1	91.8	0	0.2		
PHF	.000	.000	.000	.000	.000	.250	.597	.583	.000	.616	.789	.000	.958	.000	.830	.426	.833	.000	.250	.880	.756



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Andrew Avenue
Naugatuck, Connecticut

File Name : 18339
Site Code : 18339
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

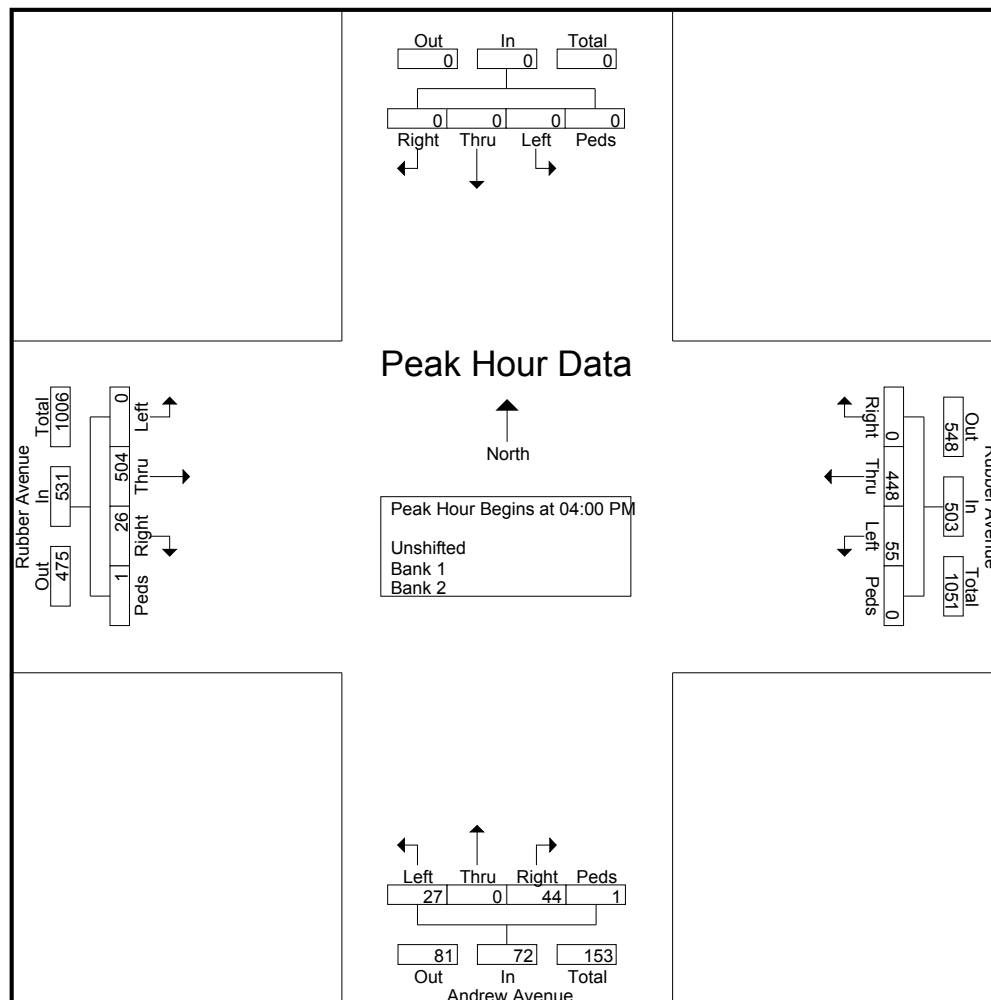
	From North					Rubber Avenue From East					Andrew Avenue From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	117	11	0	128	15	0	5	1	21	9	137	0	1	147	296
04:15 PM	0	0	0	0	0	0	108	9	0	117	12	0	10	0	22	5	131	0	0	136	275
04:30 PM	0	0	0	0	0	0	111	17	0	128	7	0	6	0	13	4	124	0	0	128	269
04:45 PM	0	0	0	0	0	0	112	18	0	130	10	0	6	0	16	8	112	0	0	120	266
Total	0	0	0	0	0	0	448	55	0	503	44	0	27	1	72	26	504	0	1	531	1106
05:00 PM	0	0	0	0	0	1	112	14	0	127	15	0	2	0	17	10	127	4	0	141	285
05:15 PM	0	0	0	0	0	0	115	10	0	125	8	0	4	0	12	6	90	0	0	96	233
05:30 PM	0	0	0	0	0	0	123	10	0	133	7	0	4	0	11	9	105	0	0	114	258
05:45 PM	0	0	0	0	0	0	135	13	0	148	9	0	7	0	16	8	119	0	0	127	291
Total	0	0	0	0	0	1	485	47	0	533	39	0	17	0	56	33	441	4	0	478	1067
Grand Total	0	0	0	0	0	1	933	102	0	1036	83	0	44	1	128	59	945	4	1	1009	2173
Apprch %	0	0	0	0		0.1	90.1	9.8	0		64.8	0	34.4	0.8		5.8	93.7	0.4	0.1		
Total %	0	0	0	0	0	0	42.9	4.7	0	47.7	3.8	0	2	0	5.9	2.7	43.5	0.2	0	46.4	
Unshifted	0	0	0	0	0	1	932	101	0	1034	80	0	42	1	123	58	931	4	1	994	2151
% Unshifted																					
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	6
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0	0	0.6	0.3
Bank 2	0	0	0	0	0	0	1	1	0	2	3	0	2	0	5	1	8	0	0	9	16
% Bank 2	0	0	0	0	0	0	0.1	1	0	0.2	3.6	0	4.5	0	3.9	1.7	0.8	0	0	0.9	0.7

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18339
Site Code : 18339
Start Date : 12/13/2018
Page No : 2

	From North					Rubber Avenue From East					Andrew Avenue From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	117	11	0	128	15	0	5	1	21	9	137	0	1	147	296
04:15 PM	0	0	0	0	0	0	108	9	0	117	12	0	10	0	22	5	131	0	0	136	275
04:30 PM	0	0	0	0	0	0	111	17	0	128	7	0	6	0	13	4	124	0	0	128	269
04:45 PM	0	0	0	0	0	0	112	18	0	130	10	0	6	0	16	8	112	0	0	120	266
Total Volume	0	0	0	0	0	0	448	55	0	503	44	0	27	1	72	26	504	0	1	531	1106
% App. Total	0	0	0	0	0	0	89.1	10.9	0		61.1	0	37.5	1.4		4.9	94.9	0	0.2		
PHF	.000	.000	.000	.000	.000	.000	.957	.764	.000	.967	.733	.000	.675	.250	.818	.722	.920	.000	.250	.903	.934

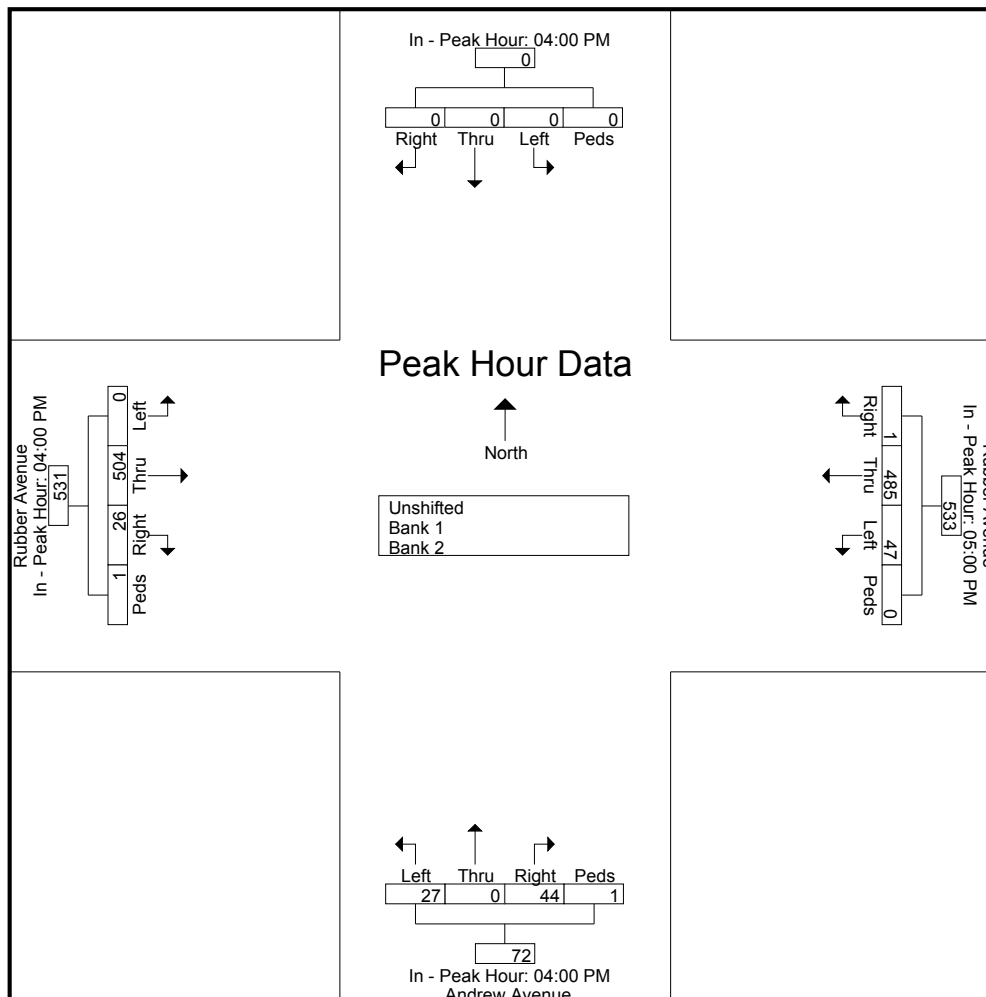


Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18339
Site Code : 18339
Start Date : 12/13/2018
Page No : 3

	From North					Rubber Avenue From East					Andrew Avenue From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					05:00 PM					04:00 PM					04:00 PM					
+0 mins.	0	0	0	0	0	1	112	14	0	127	15	0	5	1	21	9	137	0	1	147	
+15 mins.	0	0	0	0	0	0	115	10	0	125	12	0	10	0	22	5	131	0	0	136	
+30 mins.	0	0	0	0	0	0	123	10	0	133	7	0	6	0	13	4	124	0	0	128	
+45 mins.	0	0	0	0	0	0	135	13	0	148	10	0	6	0	16	8	112	0	0	120	
Total Volume	0	0	0	0	0	1	485	47	0	533	44	0	27	1	72	26	504	0	1	531	
% App. Total	0	0	0	0	0	0.2	91	8.8	0		61.1	0	37.5	1.4		4.9	94.9	0	0.2		
PHF	.000	.000	.000	.000	.000	.250	.898	.839	.000	.900	.733	.000	.675	.250	.818	.722	.920	.000	.250	.903	



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Andrew Avenue
Naugatuck, Connecticut

File Name : 18340
Site Code : 18340
Start Date : 12/15/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

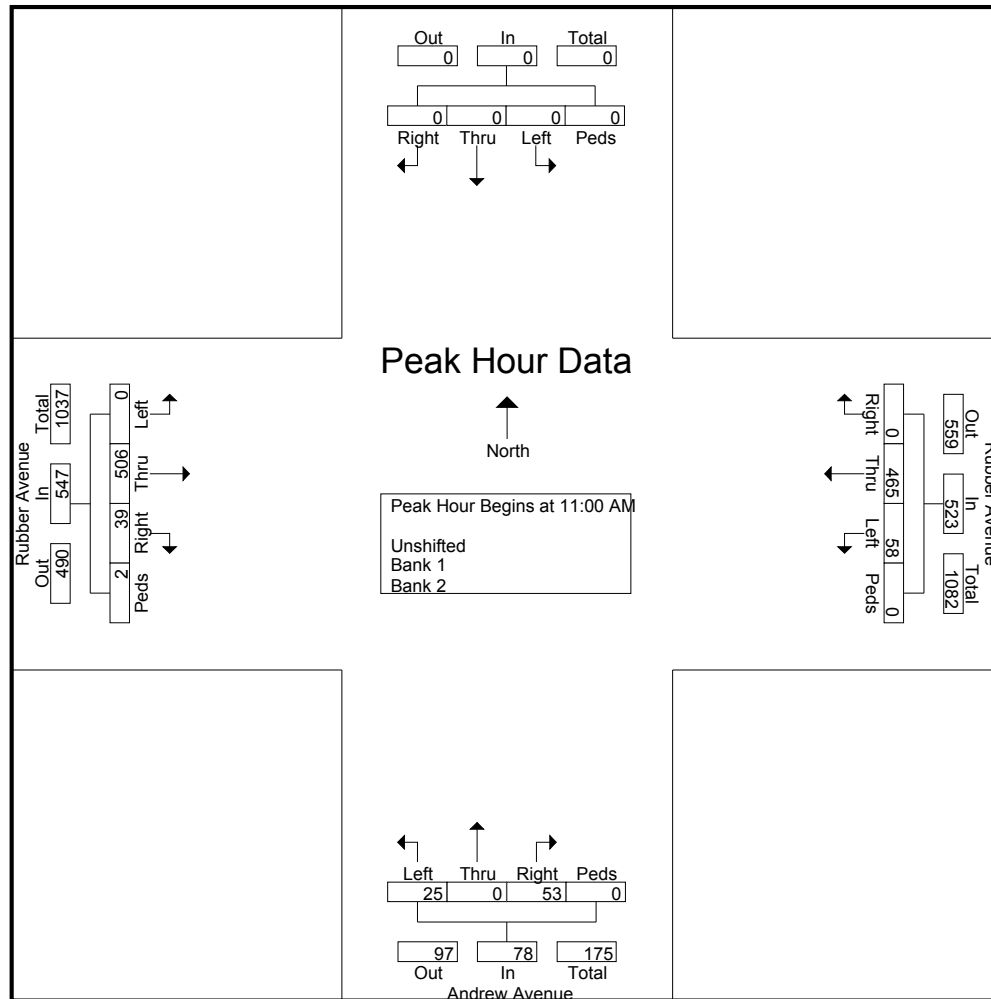
	From North					Rubber Avenue From East					Andrew Avenue From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	0	0	0	0	138	14	0	152	14	0	7	0	21	8	126	0	0	134	307
11:15 AM	0	0	0	0	0	0	121	20	0	141	11	0	5	0	16	9	136	0	1	146	303
11:30 AM	0	0	0	0	0	0	94	14	0	108	9	0	6	0	15	9	118	0	1	128	251
11:45 AM	0	0	0	0	0	0	112	10	0	122	19	0	7	0	26	13	126	0	0	139	287
Total	0	0	0	0	0	0	465	58	0	523	53	0	25	0	78	39	506	0	2	547	1148
12:00 PM	0	0	0	0	0	1	120	11	0	132	12	0	7	0	19	8	142	0	0	150	301
12:15 PM	0	0	0	0	0	0	134	13	0	147	6	0	3	0	9	12	132	0	0	144	300
12:30 PM	0	0	1	0	1	0	96	11	0	107	8	0	6	1	15	9	110	0	0	119	242
12:45 PM	0	0	0	0	0	0	118	12	0	130	9	0	11	0	20	11	133	0	0	144	294
Total	0	0	1	0	1	1	468	47	0	516	35	0	27	1	63	40	517	0	0	557	1137
01:00 PM	0	1	0	2	3	0	120	17	0	137	7	0	5	0	12	10	125	0	0	135	287
01:15 PM	0	0	0	0	0	0	100	20	0	120	8	0	5	0	13	7	110	0	0	117	250
01:30 PM	1	0	0	0	1	1	117	16	0	134	18	0	0	0	18	10	118	0	0	128	281
01:45 PM	0	0	0	0	0	1	108	9	0	118	6	0	7	0	13	7	124	0	0	131	262
Total	1	1	0	2	4	2	445	62	0	509	39	0	17	0	56	34	477	0	0	511	1080
Grand Total	1	1	1	2	5	3	1378	167	0	1548	127	0	69	1	197	113	1500	0	2	1615	3365
Apprch %	20	20	20	40		0.2	89	10.8	0		64.5	0	35	0.5		7	92.9	0	0.1		
Total %	0	0	0	0.1	0.1	0.1	41	5	0	46	3.8	0	2.1	0	5.9	3.4	44.6	0	0.1	48	
Unshifted	1	1	1	2	5	3	1375										1496				
% Unshifted	100	100	100	100	100	100	99.8	100	0	99.8	100	0	100	100	100	100	99.7	0	100	99.8	99.8
Bank 1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
% Bank 1	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.2	0	0	0.2	0.1
Bank 2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Bank 2	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0.1

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18340
Site Code : 18340
Start Date : 12/15/2018
Page No : 2

	From North					Rubber Avenue From East					Andrew Avenue From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	0	0	0	0	0	0	138	14	0	152	14	0	7	0	21	8	126	0	0	134	307
11:15 AM	0	0	0	0	0	0	121	20	0	141	11	0	5	0	16	9	136	0	1	146	303
11:30 AM	0	0	0	0	0	0	94	14	0	108	9	0	6	0	15	9	118	0	1	128	251
11:45 AM	0	0	0	0	0	0	112	10	0	122	19	0	7	0	26	13	126	0	0	139	287
Total Volume	0	0	0	0	0	0	465	58	0	523	53	0	25	0	78	39	506	0	2	547	1148
% App. Total	0	0	0	0	0	0	88.9	11.1	0		67.9	0	32.1	0		7.1	92.5	0	0.4		
PHF	.000	.000	.000	.000	.000	.000	.842	.725	.000	.860	.697	.000	.893	.000	.750	.750	.930	.000	.500	.937	.935



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Aetna Street
Naugatuck, Connecticut

File Name : 18341
Site Code : 18341
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

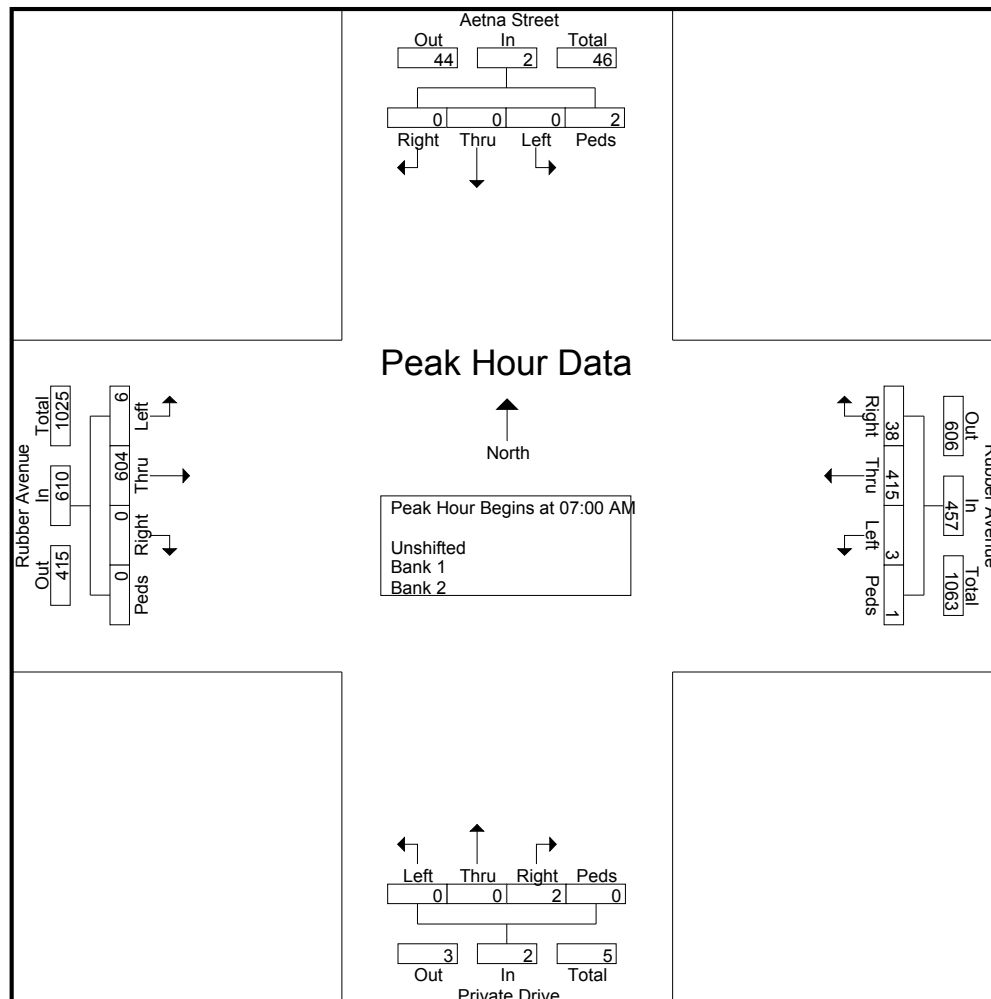
	Aetna Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	2	2	8	140	0	1	149	1	0	0	0	1	0	133	0	0	133	285
07:15 AM	0	0	0	0	0	6	119	1	0	126	0	0	0	0	0	0	172	2	0	174	300
07:30 AM	0	0	0	0	0	12	64	0	0	76	0	0	0	0	0	0	153	2	0	155	231
07:45 AM	0	0	0	0	0	12	92	2	0	106	1	0	0	0	1	0	146	2	0	148	255
Total	0	0	0	2	2	38	415	3	1	457	2	0	0	0	2	0	604	6	0	610	1071
08:00 AM	0	0	0	1	1	6	68	1	0	75	1	0	0	0	1	0	82	1	0	83	160
08:15 AM	0	0	0	0	0	7	73	1	0	81	0	0	0	0	0	0	125	0	0	125	206
08:30 AM	0	0	0	0	0	12	89	0	0	101	0	0	0	0	0	0	121	1	0	122	223
08:45 AM	0	0	0	0	0	9	101	1	1	112	0	0	0	0	0	0	136	0	0	136	248
Total	0	0	0	1	1	34	331	3	1	369	1	0	0	0	1	0	464	2	0	466	837
Grand Total	0	0	0	3	3	72	746	6	2	826	3	0	0	0	3	0	1068	8	0	1076	1908
Apprch %	0	0	0	100		8.7	90.3	0.7	0.2		100	0	0	0		0	99.3	0.7	0		
Total %	0	0	0	0.2	0.2	3.8	39.1	0.3	0.1	43.3	0.2	0	0	0	0.2	0	56	0.4	0	56.4	
Unshifted	0	0	0	3	3	63	709	6	2	780	3	0	0	0	3	0	1017				
% Unshifted	0	0	0	100	100	87.5	95	100	100	94.4	100	0	0	0	100	0	95.2	75	0	95.1	94.8
Bank 1	0	0	0	0	0	2	14	0	0	16	0	0	0	0	0	0	16	0	0	16	32
% Bank 1	0	0	0	0	0	2.8	1.9	0	0	1.9	0	0	0	0	0	0	1.5	0	0	1.5	1.7
Bank 2	0	0	0	0	0	7	23	0	0	30	0	0	0	0	0	0	35	2	0	37	67
% Bank 2	0	0	0	0	0	9.7	3.1	0	0	3.6	0	0	0	0	0	0	3.3	25	0	3.4	3.5

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18341
Site Code : 18341
Start Date : 12/13/2018
Page No : 2

	Aetna Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	2	2	8	140	0	1	149	1	0	0	0	1	0	133	0	0	133	285
07:15 AM	0	0	0	0	0	6	119	1	0	126	0	0	0	0	0	0	172	2	0	174	300
07:30 AM	0	0	0	0	0	12	64	0	0	76	0	0	0	0	0	0	153	2	0	155	231
07:45 AM	0	0	0	0	0	12	92	2	0	106	1	0	0	0	1	0	146	2	0	148	255
Total Volume	0	0	0	2	2	38	415	3	1	457	2	0	0	0	2	0	604	6	0	610	1071
% App. Total	0	0	0	100		8.3	90.8	0.7	0.2		100	0	0	0		0	99	1	0		
PHF	.000	.000	.000	.250	.250	.792	.741	.375	.250	.767	.500	.000	.000	.000	.500	.000	.878	.750	.000	.876	.893



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Aetna Street
Naugatuck, Connecticut

File Name : 18342
Site Code : 18342
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

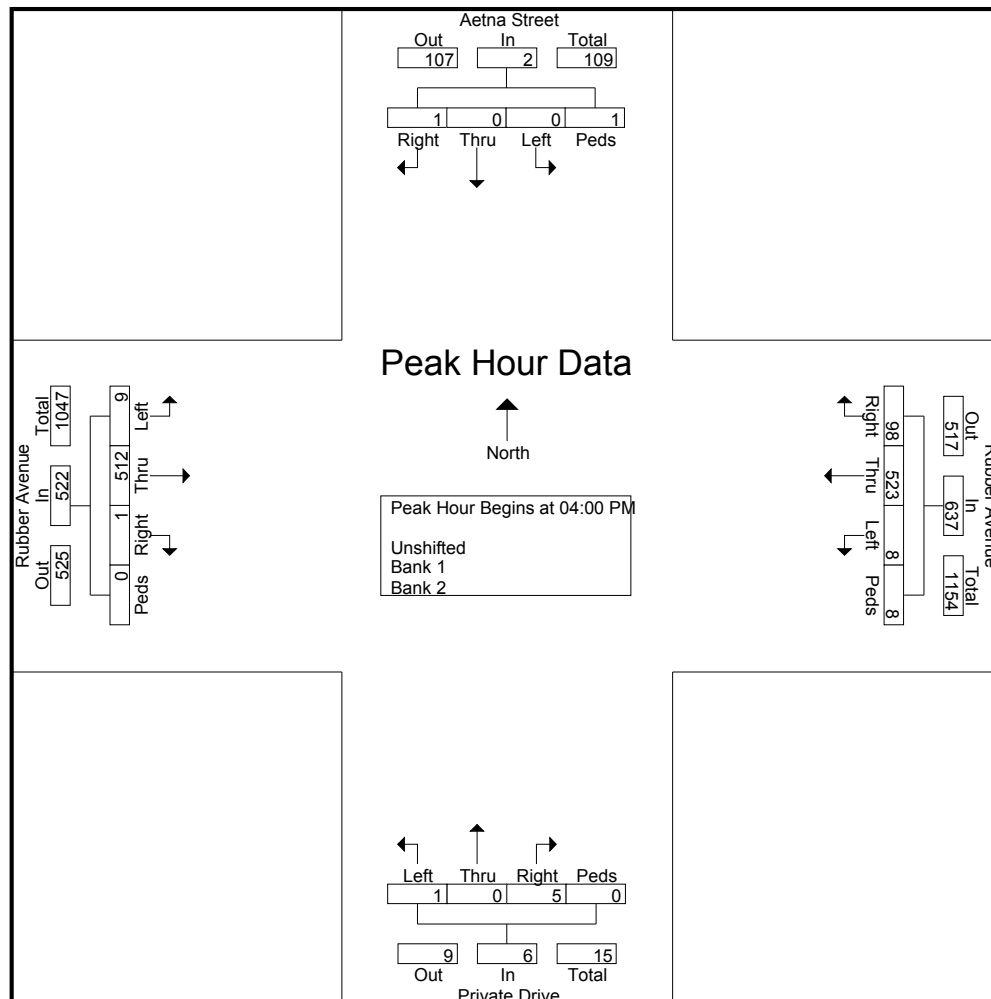
	Aetna Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	26	140	0	1	167	2	0	1	0	3	0	134	2	0	136	306
04:15 PM	0	0	0	1	1	24	123	7	2	156	0	0	0	0	0	0	137	4	0	141	298
04:30 PM	1	0	0	0	1	27	110	0	4	141	2	0	0	0	2	0	122	2	0	124	268
04:45 PM	0	0	0	0	0	21	150	1	1	173	1	0	0	0	1	1	119	1	0	121	295
Total	1	0	0	1	2	98	523	8	8	637	5	0	1	0	6	1	512	9	0	522	1167
05:00 PM	0	0	0	0	0	19	129	0	3	151	1	0	1	0	2	1	122	2	0	125	278
05:15 PM	0	0	0	1	1	36	120	0	0	156	0	0	0	0	0	0	104	0	0	104	261
05:30 PM	0	0	0	3	3	26	133	1	3	163	2	0	0	0	2	1	102	2	0	105	273
05:45 PM	0	0	0	0	0	24	141	4	3	172	1	0	1	0	2	0	121	2	0	123	297
Total	0	0	0	4	4	105	523	5	9	642	4	0	2	0	6	2	449	6	0	457	1109
Grand Total	1	0	0	5	6	203	1046	13	17	1279	9	0	3	0	12	3	961	15	0	979	2276
Apprch %	16.7	0	0	83.3		15.9	81.8	1	1.3		75	0	25	0		0.3	98.2	1.5	0		
Total %	0	0	0	0.2	0.3	8.9	46	0.6	0.7	56.2	0.4	0	0.1	0	0.5	0.1	42.2	0.7	0	43	
Unshifted	1	0	0	5	6	199	1042														
% Unshifted	100	0	0	100	100	98	99.6	100	100	99.4	100	0	100	0	100	100	98	100	0	98.1	98.8
Bank 1	0	0	0	0	0	3	2	0	0	5	0	0	0	0	0	0	7	0	0	7	12
% Bank 1	0	0	0	0	0	1.5	0.2	0	0	0.4	0	0	0	0	0	0	0.7	0	0	0.7	0.5
Bank 2	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	12	0	0	12	15
% Bank 2	0	0	0	0	0	0.5	0.2	0	0	0.2	0	0	0	0	0	0	1.2	0	0	1.2	0.7

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18342
Site Code : 18342
Start Date : 12/13/2018
Page No : 2

	Aetna Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	26	140	0	1	167	2	0	1	0	3	0	134	2	0	136	306
04:15 PM	0	0	0	1	1	24	123	7	2	156	0	0	0	0	0	0	137	4	0	141	298
04:30 PM	1	0	0	0	1	27	110	0	4	141	2	0	0	0	2	0	122	2	0	124	268
04:45 PM	0	0	0	0	0	21	150	1	1	173	1	0	0	0	1	1	119	1	0	121	295
Total Volume	1	0	0	1	2	98	523	8	8	637	5	0	1	0	6	1	512	9	0	522	1167
% App. Total	50	0	0	50		15.4	82.1	1.3	1.3		83.3	0	16.7	0		0.2	98.1	1.7	0		
PHF	.250	.000	.000	.250	.500	.907	.872	.286	.500	.921	.625	.000	.250	.000	.500	.250	.934	.563	.000	.926	.953



Connecticut Counts LLC

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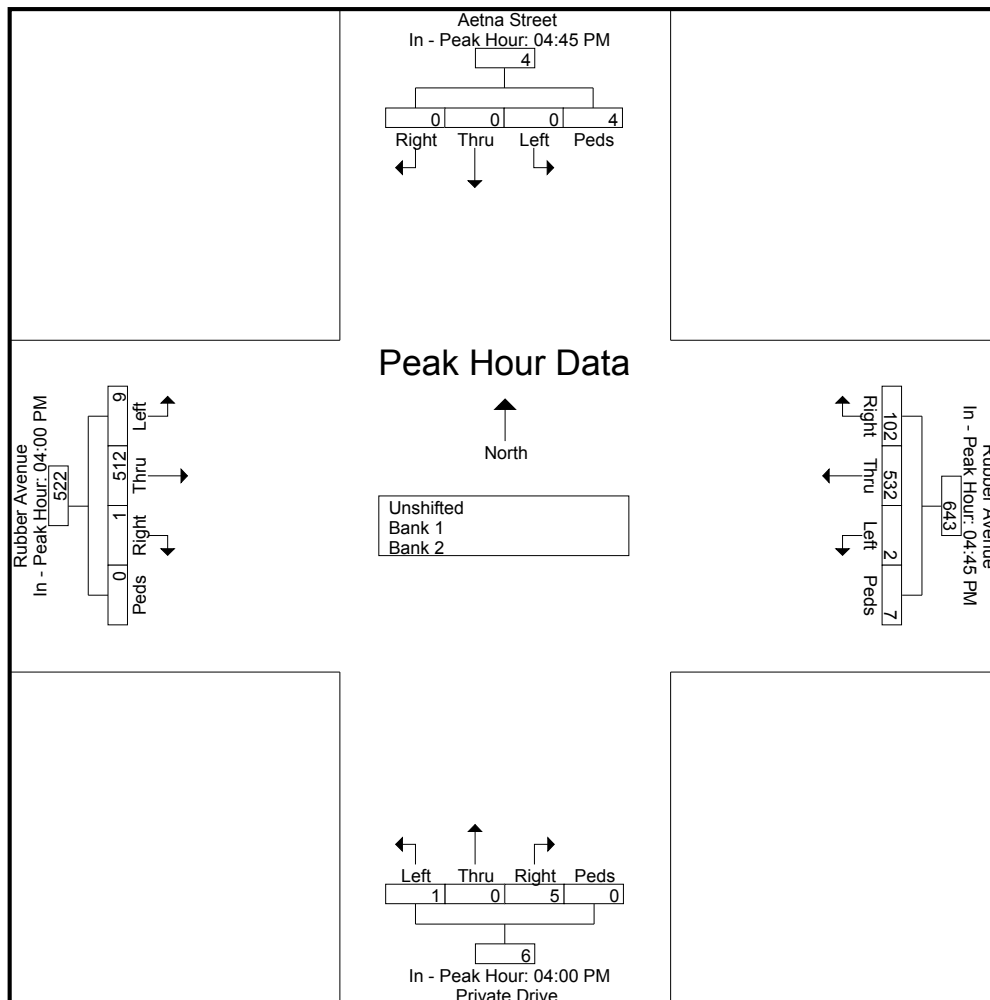
File Name : 18342
Site Code : 18342
Start Date : 12/13/2018
Page No : 3

	Aetna Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:45 PM					04:45 PM					04:00 PM					04:00 PM				
+0 mins.	0	0	0	0	0	21	150	1	1	173	2	0	1	0	3	0	134	2	0	136
+15 mins.	0	0	0	0	0	19	129	0	3	151	0	0	0	0	0	0	137	4	0	141
+30 mins.	0	0	0	1	1	36	120	0	0	156	2	0	0	0	2	0	122	2	0	124
+45 mins.	0	0	0	3	3	26	133	1	3	163	1	0	0	0	1	1	119	1	0	121
Total Volume	0	0	0	4	4	102	532	2	7	643	5	0	1	0	6	1	512	9	0	522
% App. Total	0	0	0	100		15.9	82.7	0.3	1.1		83.3	0	16.7	0		0.2	98.1	1.7	0	
PHF	.000	.000	.000	.333	.333	.708	.887	.500	.583	.929	.625	.000	.250	.000	.500	.250	.934	.563	.000	.926



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Aetna Street
Naugatuck, Connecticut

File Name : 18343
Site Code : 18343
Start Date : 12/15/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

	Aetna Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	0	0	0	6	6	6	147	1	0	154	2	0	0	0	2	0	143	1	0	144	306
11:15 AM	0	0	0	0	0	10	128	0	2	140	2	0	0	0	2	0	140	2	0	142	284
11:30 AM	0	0	0	1	1	14	123	2	1	140	0	0	0	0	0	0	132	3	0	135	276
11:45 AM	0	0	0	1	1	10	129	0	4	143	1	0	2	0	3	0	142	1	0	143	290
Total	0	0	0	8	8	40	527	3	7	577	5	0	2	0	7	0	557	7	0	564	1156
12:00 PM	0	0	0	2	2	14	159	1	2	176	3	0	0	0	3	0	178	2	0	180	361
12:15 PM	0	0	0	0	0	19	131	0	2	152	1	0	0	0	1	0	126	1	0	127	280
12:30 PM	0	0	0	0	0	14	95	1	1	111	1	0	0	0	1	0	118	0	0	118	230
12:45 PM	0	0	0	1	1	19	126	4	10	159	2	0	1	1	4	4	133	3	0	140	304
Total	0	0	0	3	3	66	511	6	15	598	7	0	1	1	9	4	555	6	0	565	1175
01:00 PM	0	0	0	0	0	16	121	3	4	144	1	0	0	0	1	0	109	0	0	109	254
01:15 PM	0	0	0	2	2	13	119	1	1	134	1	0	0	0	1	0	129	1	0	130	267
01:30 PM	0	0	0	1	1	15	126	2	1	144	4	0	0	0	4	0	125	2	0	127	276
01:45 PM	0	0	0	3	3	15	120	3	3	141	2	1	1	0	4	0	143	3	0	146	294
Total	0	0	0	6	6	59	486	9	9	563	8	1	1	0	10	0	506	6	0	512	1091
Grand Total	0	0	0	17	17	165	1524	18	31	1738	20	1	4	1	26	4	1618	19	0	1641	3422
Apprch %	0	0	0	100		9.5	87.7	1	1.8		76.9	3.8	15.4	3.8		0.2	98.6	1.2	0		
Total %	0	0	0	0.5	0.5	4.8	44.5	0.5	0.9	50.8	0.6	0	0.1	0	0.8	0.1	47.3	0.6	0	48	
Unshifted	0	0	0	17	17	165	1520										1612				
% Unshifted	0	0	0	100	100	100	99.7	100	100	99.8	100	100	100	100	100	100	99.6	100	0	99.6	99.7
Bank 1	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	8
% Bank 1	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	0.3	0	0	0.3	0.2
Bank 2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Bank 2	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0.1	0	0	0.1	0.1

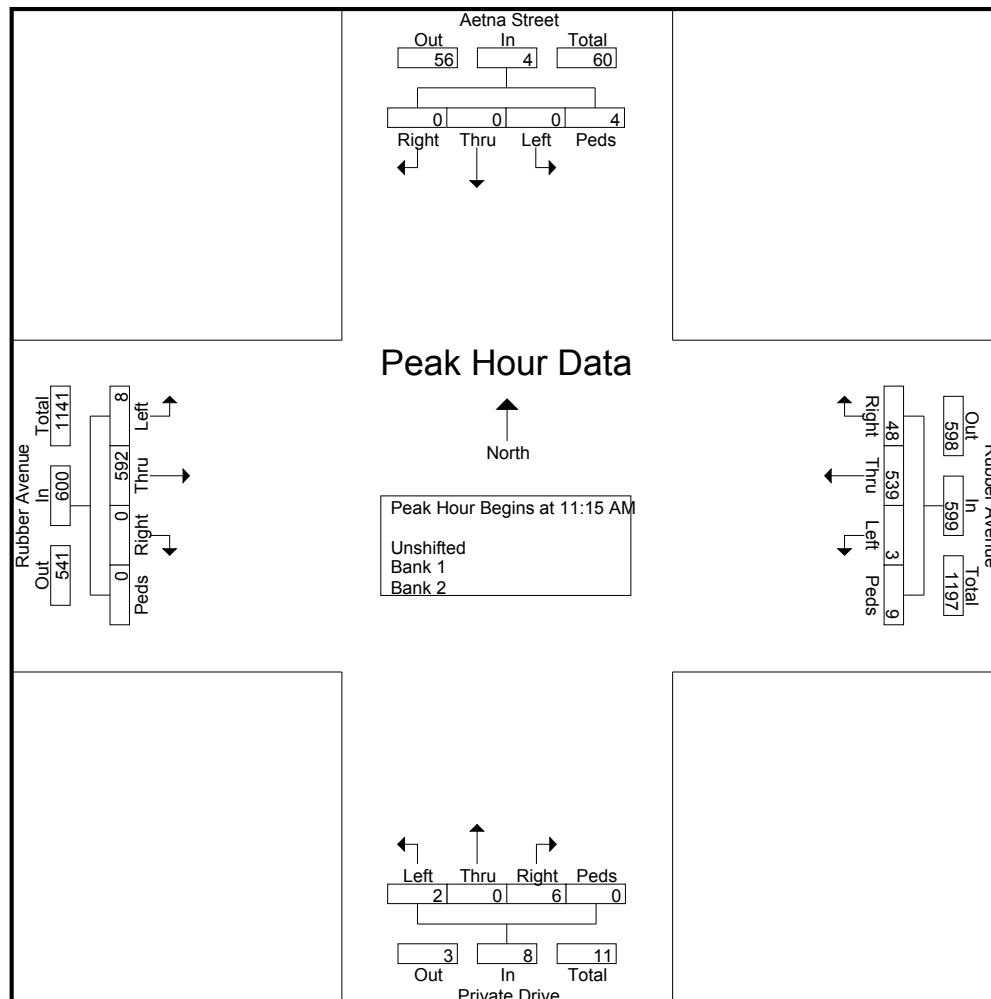
Connecticut Counts LLC

Kensington, Connecticut 06037

(860) 828-1693

File Name : 18343
 Site Code : 18343
 Start Date : 12/15/2018
 Page No : 2

	Aetna Street From North					Rubber Avenue From East					Private Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:15 AM																					
11:15 AM	0	0	0	0	0	10	128	0	2	140	2	0	0	0	2	0	140	2	0	142	284
11:30 AM	0	0	0	1	1	14	123	2	1	140	0	0	0	0	0	0	132	3	0	135	276
11:45 AM	0	0	0	1	1	10	129	0	4	143	1	0	2	0	3	0	142	1	0	143	290
12:00 PM	0	0	0	2	2	14	159	1	2	176	3	0	0	0	3	0	178	2	0	180	361
Total Volume	0	0	0	4	4	48	539	3	9	599	6	0	2	0	8	0	592	8	0	600	1211
% App. Total	0	0	0	100		8	90	0.5	1.5		75	0	25	0		0	98.7	1.3	0		
PHF	.000	.000	.000	.500	.500	.857	.847	.375	.563	.851	.500	.000	.250	.000	.667	.000	.831	.667	.000	.833	.839



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Arch/ Ponds Street
Naugatuck, Connecticut

File Name : 18344
Site Code : 18344
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

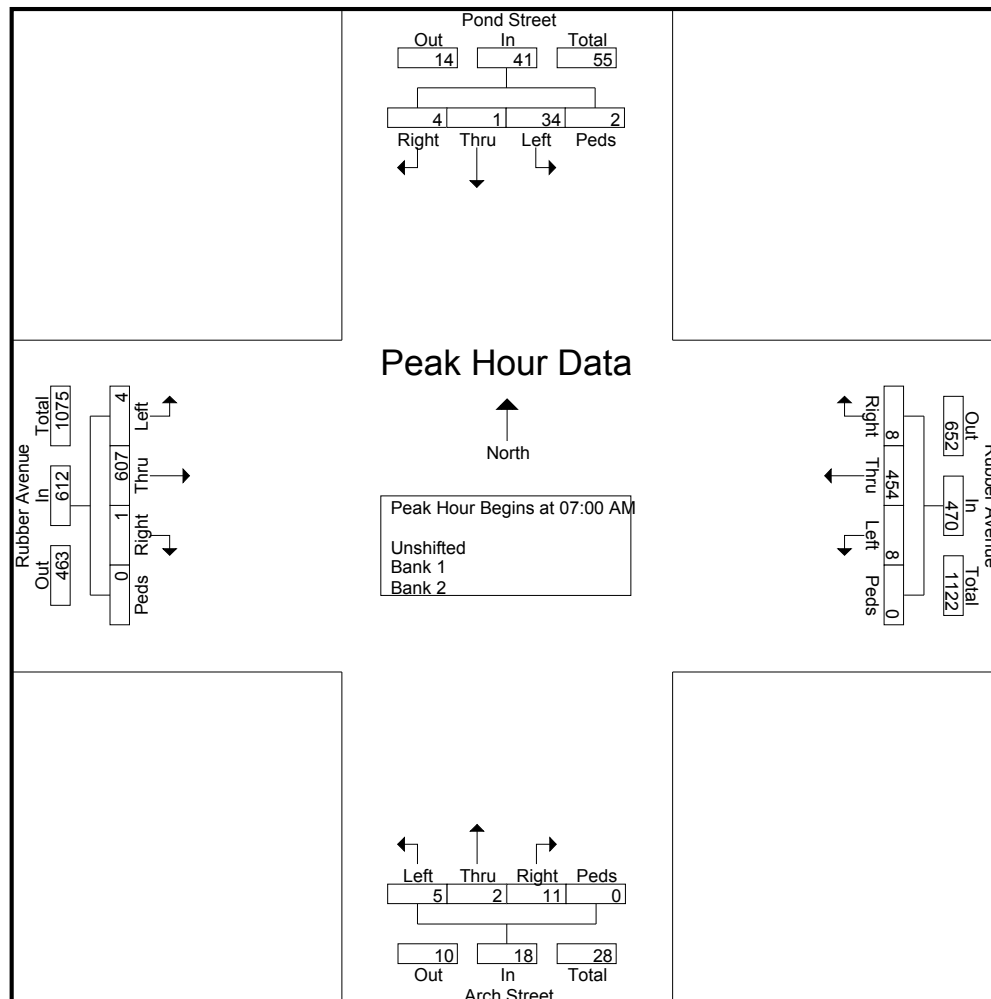
	Pond Street From North					Rubber Avenue From East					Arch Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	1	10	0	13	2	194	1	0	197	4	0	1	0	5	0	184	1	0	185	400
07:15 AM	1	0	11	0	12	1	82	1	0	84	2	0	2	0	4	0	150	1	0	151	251
07:30 AM	1	0	9	0	10	4	65	2	0	71	3	1	2	0	6	1	121	1	0	123	210
07:45 AM	0	0	4	2	6	1	113	4	0	118	2	1	0	0	3	0	152	1	0	153	280
Total	4	1	34	2	41	8	454	8	0	470	11	2	5	0	18	1	607	4	0	612	1141
08:00 AM	0	0	9	1	10	4	75	2	1	82	5	1	2	0	8	0	113	0	0	113	213
08:15 AM	1	1	5	0	7	1	70	1	1	73	5	0	1	0	6	0	87	1	0	88	174
08:30 AM	0	1	12	2	15	2	96	3	0	101	3	0	0	0	3	1	135	0	0	136	255
08:45 AM	2	0	3	0	5	5	114	6	0	125	8	3	1	0	12	1	135	1	0	137	279
Total	3	2	29	3	37	12	355	12	2	381	21	4	4	0	29	2	470	2	0	474	921
Grand Total	7	3	63	5	78	20	809	20	2	851	32	6	9	0	47	3	1077	6	0	1086	2062
Apprch %	9	3.8	80.8	6.4		2.4	95.1	2.4	0.2		68.1	12.8	19.1	0		0.3	99.2	0.6	0		
Total %	0.3	0.1	3.1	0.2	3.8	1	39.2	1	0.1	41.3	1.6	0.3	0.4	0	2.3	0.1	52.2	0.3	0	52.7	
Unshifted	5	3	60	5	73	20	766	20	2	808	32	6	9	0	47	3	1026				
% Unshifted	71.4	100	95.2	100	93.6	100	94.7	100	100	94.9	100	100	100	0	100	100	95.3	83.3	0	95.2	95.2
Bank 1	1	0	0	0	1	0	17	0	0	17	0	0	0	0	0	0	15	0	0	15	33
% Bank 1	14.3	0	0	0	1.3	0	2.1	0	0	2	0	0	0	0	0	0	1.4	0	0	1.4	1.6
Bank 2	1	0	3	0	4	0	26	0	0	26	0	0	0	0	0	0	36	1	0	37	67
% Bank 2	14.3	0	4.8	0	5.1	0	3.2	0	0	3.1	0	0	0	0	0	0	3.3	16.7	0	3.4	3.2

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18344
Site Code : 18344
Start Date : 12/13/2018
Page No : 2

	Pond Street From North					Rubber Avenue From East					Arch Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	2	1	10	0	13	2	194	1	0	197	4	0	1	0	5	0	184	1	0	185	400
07:15 AM	1	0	11	0	12	1	82	1	0	84	2	0	2	0	4	0	150	1	0	151	251
07:30 AM	1	0	9	0	10	4	65	2	0	71	3	1	2	0	6	1	121	1	0	123	210
07:45 AM	0	0	4	2	6	1	113	4	0	118	2	1	0	0	3	0	152	1	0	153	280
Total Volume	4	1	34	2	41	8	454	8	0	470	11	2	5	0	18	1	607	4	0	612	1141
% App. Total	9.8	2.4	82.9	4.9		1.7	96.6	1.7	0		61.1	11.1	27.8	0		0.2	99.2	0.7	0		
PHF	.500	.250	.773	.250	.788	.500	.585	.500	.000	.596	.688	.500	.625	.000	.750	.250	.825	1.00	.000	.827	.713



Connecticut Counts LLC

Kensington, Connecticut 06037
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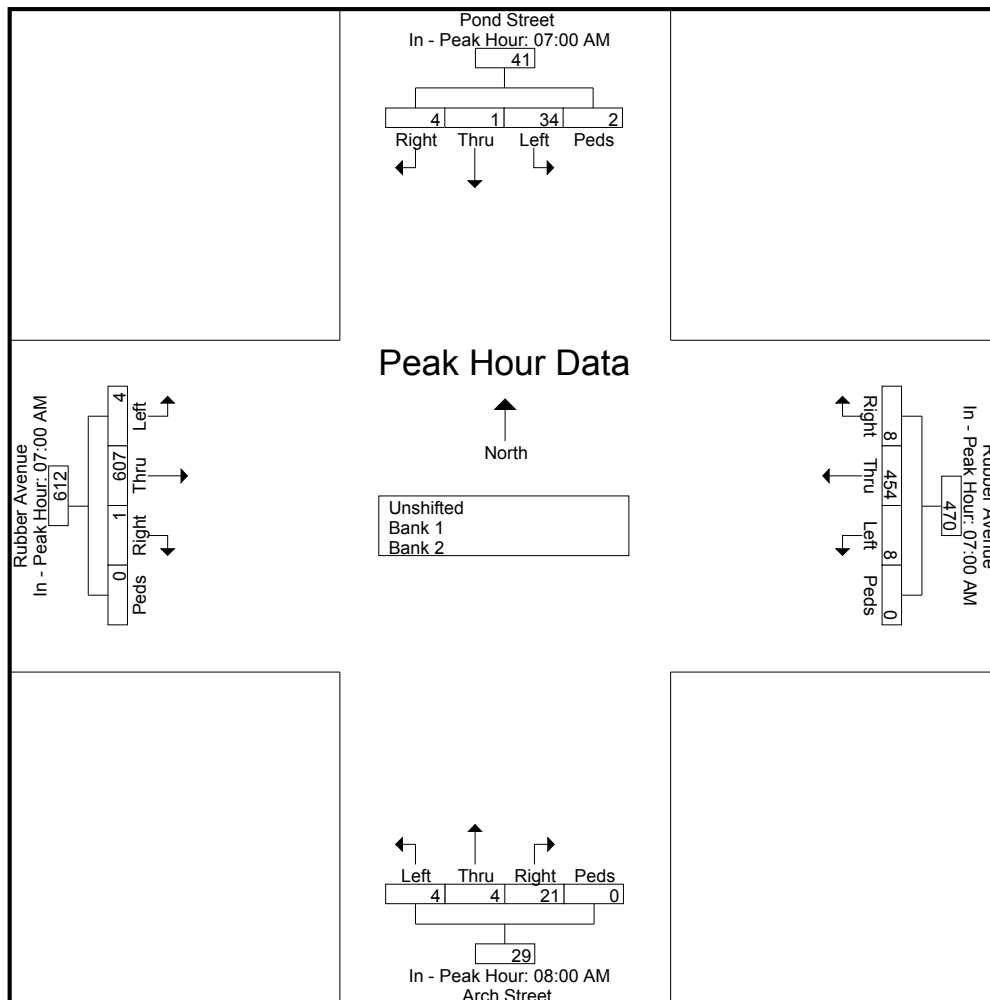
File Name : 18344
Site Code : 18344
Start Date : 12/13/2018
Page No : 3

	Pond Street From North					Rubber Avenue From East					Arch Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00 AM					07:00 AM					08:00 AM					07:00 AM				
+0 mins.	2	1	10	0	13	2	194	1	0	197	5	1	2	0	8	0	184	1	0	185
+15 mins.	1	0	11	0	12	1	82	1	0	84	5	0	1	0	6	0	150	1	0	151
+30 mins.	1	0	9	0	10	4	65	2	0	71	3	0	0	0	3	1	121	1	0	123
+45 mins.	0	0	4	2	6	1	113	4	0	118	8	3	1	0	12	0	152	1	0	153
Total Volume	4	1	34	2	41	8	454	8	0	470	21	4	4	0	29	1	607	4	0	612
% App. Total	9.8	2.4	82.9	4.9		1.7	96.6	1.7	0		72.4	13.8	13.8	0		0.2	99.2	0.7	0	
PHF	.500	.250	.773	.250	.788	.500	.585	.500	.000	.596	.656	.333	.500	.000	.604	.250	.825	1.000	.000	.827



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Pond/Arch Street
Naugatuck, Connecticut

File Name : 18345
Site Code : 18345
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

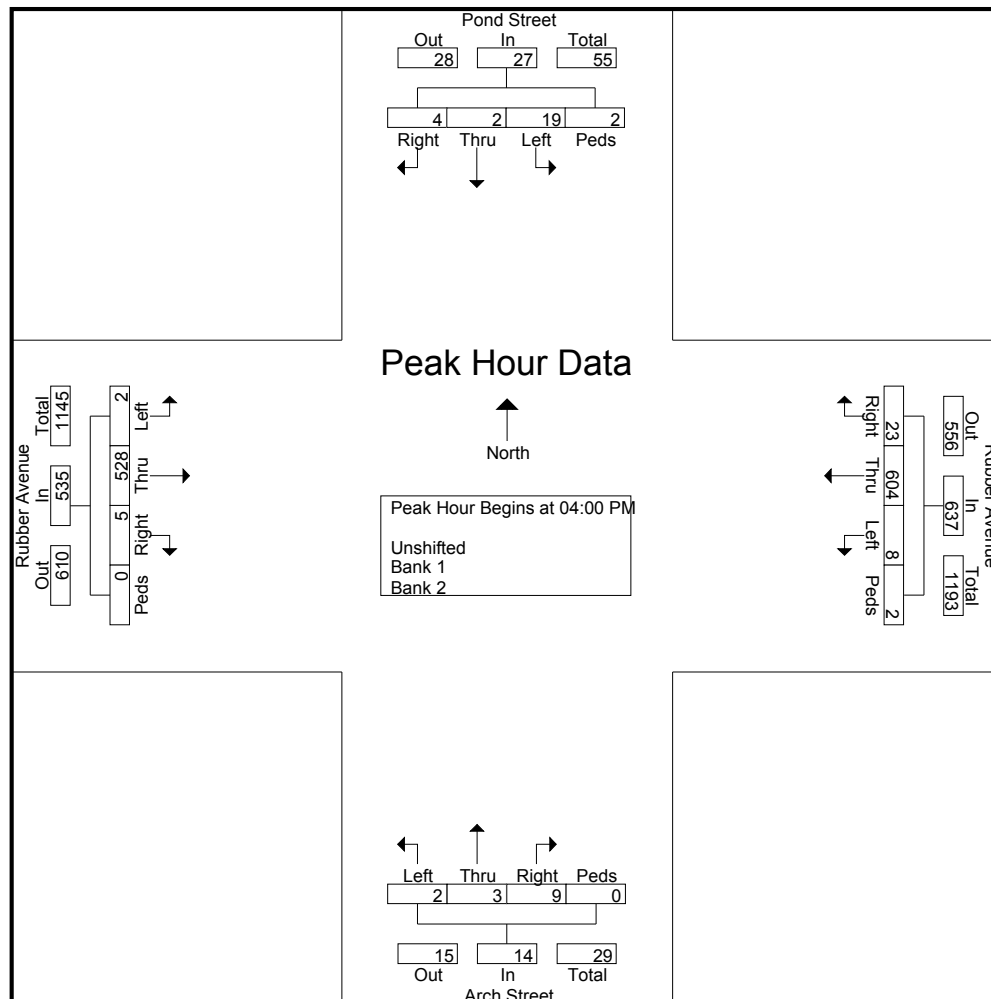
	Pond Street From North					Rubber Avenue From East					Arch Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	1	0	6	0	7	2	148	1	0	151	1	0	1	0	2	1	135	1	0	137	297
04:15 PM	0	0	2	0	2	10	153	3	2	168	3	0	0	0	3	0	145	0	0	145	318
04:30 PM	2	1	10	1	14	7	136	3	0	146	2	2	1	0	5	3	122	1	0	126	291
04:45 PM	1	1	1	1	4	4	167	1	0	172	3	1	0	0	4	1	126	0	0	127	307
Total	4	2	19	2	27	23	604	8	2	637	9	3	2	0	14	5	528	2	0	535	1213
05:00 PM	0	0	6	0	6	3	151	5	0	159	3	2	0	0	5	2	124	0	0	126	296
05:15 PM	1	1	3	0	5	7	159	4	0	170	8	2	0	0	10	2	103	1	0	106	291
05:30 PM	0	0	4	1	5	5	158	1	0	164	2	0	0	0	2	2	107	2	0	111	282
05:45 PM	1	0	4	0	5	5	168	3	0	176	1	0	1	0	2	2	118	8	0	128	311
Total	2	1	17	1	21	20	636	13	0	669	14	4	1	0	19	8	452	11	0	471	1180
Grand Total	6	3	36	3	48	43	1240	21	2	1306	23	7	3	0	33	13	980	13	0	1006	2393
Apprch %	12.5	6.2	75	6.2		3.3	94.9	1.6	0.2		69.7	21.2	9.1	0		1.3	97.4	1.3	0		
Total %	0.3	0.1	1.5	0.1	2	1.8	51.8	0.9	0.1	54.6	1	0.3	0.1	0	1.4	0.5	41	0.5	0	42	
Unshifted	6	3	34	3	46	43	1234														
% Unshifted	100	100	94.4	100	95.8	100	99.5	100	100	99.5	100	100	100	0	100	100	98.1	100	0	98.1	98.9
Bank 1	0	0	2	0	2	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	12
% Bank 1	0	0	5.6	0	4.2	0	0.2	0	0	0.2	0	0	0	0	0	0	0.7	0	0	0.7	0.5
Bank 2	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	12	0	0	12	15
% Bank 2	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0	1.2	0	0	1.2	0.6

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18345
Site Code : 18345
Start Date : 12/13/2018
Page No : 2

	Pond Street From North					Rubber Avenue From East					Arch Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	1	0	6	0	7	2	148	1	0	151	1	0	1	0	2	1	135	1	0	137	297
04:15 PM	0	0	2	0	2	10	153	3	2	168	3	0	0	0	3	0	145	0	0	145	318
04:30 PM	2	1	10	1	14	7	136	3	0	146	2	2	1	0	5	3	122	1	0	126	291
04:45 PM	1	1	1	1	4	4	167	1	0	172	3	1	0	0	4	1	126	0	0	127	307
Total Volume	4	2	19	2	27	23	604	8	2	637	9	3	2	0	14	5	528	2	0	535	1213
% App. Total	14.8	7.4	70.4	7.4		3.6	94.8	1.3	0.3		64.3	21.4	14.3	0		0.9	98.7	0.4	0		
PHF	.500	.500	.475	.500	.482	.575	.904	.667	.250	.926	.750	.375	.500	.000	.700	.417	.910	.500	.000	.922	.954



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Pond/Arch Street
Nauagtuck, Connecticut

File Name : 18346
Site Code : 18346
Start Date : 12/15/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

	Pond Street From North					Rubber Avenue From East					Arch Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	1	0	1	0	2	2	114	2	0	118	1	0	1	0	2	0	114	1	0	115	237
11:15 AM	0	1	0	1	2	0	87	6	0	93	2	0	0	0	2	2	110	0	0	112	209
11:30 AM	1	0	5	1	7	2	111	2	0	115	4	0	2	0	6	5	127	0	0	132	260
11:45 AM	0	1	3	1	5	2	133	4	0	139	3	0	1	0	4	0	129	1	0	130	278
Total	2	2	9	3	16	6	445	14	0	465	10	0	4	0	14	7	480	2	0	489	984
12:00 PM	0	1	3	0	4	2	124	3	0	129	1	0	1	0	2	0	126	2	0	128	263
12:15 PM	0	0	1	0	1	1	111	4	0	116	0	0	0	0	0	1	116	2	0	119	236
12:30 PM	0	0	0	0	0	3	116	5	0	124	2	0	1	0	3	0	116	0	0	116	243
12:45 PM	0	0	0	1	1	2	97	1	0	100	1	0	0	0	1	1	114	1	0	116	218
Total	0	1	4	1	6	8	448	13	0	469	4	0	2	0	6	2	472	5	0	479	960
01:00 PM	0	0	2	0	2	3	127	0	0	130	1	1	1	0	3	0	142	0	0	142	277
01:15 PM	1	0	1	2	4	3	124	0	0	127	2	1	0	0	3	2	137	9	0	148	282
01:30 PM	1	1	1	0	3	4	94	0	0	98	1	0	2	0	3	1	145	0	0	146	250
01:45 PM	1	0	2	0	3	4	185	1	0	190	2	0	4	0	6	0	135	2	0	137	336
Total	3	1	6	2	12	14	530	1	0	545	6	2	7	0	15	3	559	11	0	573	1145
Grand Total	5	4	19	6	34	28	1423	28	0	1479	20	2	13	0	35	12	1511	18	0	1541	3089
Apprch %	14.7	11.8	55.9	17.6		1.9	96.2	1.9	0		57.1	5.7	37.1	0		0.8	98.1	1.2	0		
Total %	0.2	0.1	0.6	0.2	1.1	0.9	46.1	0.9	0	47.9	0.6	0.1	0.4	0	1.1	0.4	48.9	0.6	0	49.9	
Unshifted	5	4	18	6	33	28	1407									1497					
% Unshifted	100	100	94.7	100	97.1	100	98.9	100	0	98.9	100	100	100	0	100	100	99.1	100	0	99.1	99
Bank 1	0	0	1	0	1	0	11	0	0	11	0	0	0	0	0	0	8	0	0	8	20
% Bank 1	0	0	5.3	0	2.9	0	0.8	0	0	0.7	0	0	0	0	0	0	0.5	0	0	0.5	0.6
Bank 2	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	11
% Bank 2	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.4	0.4

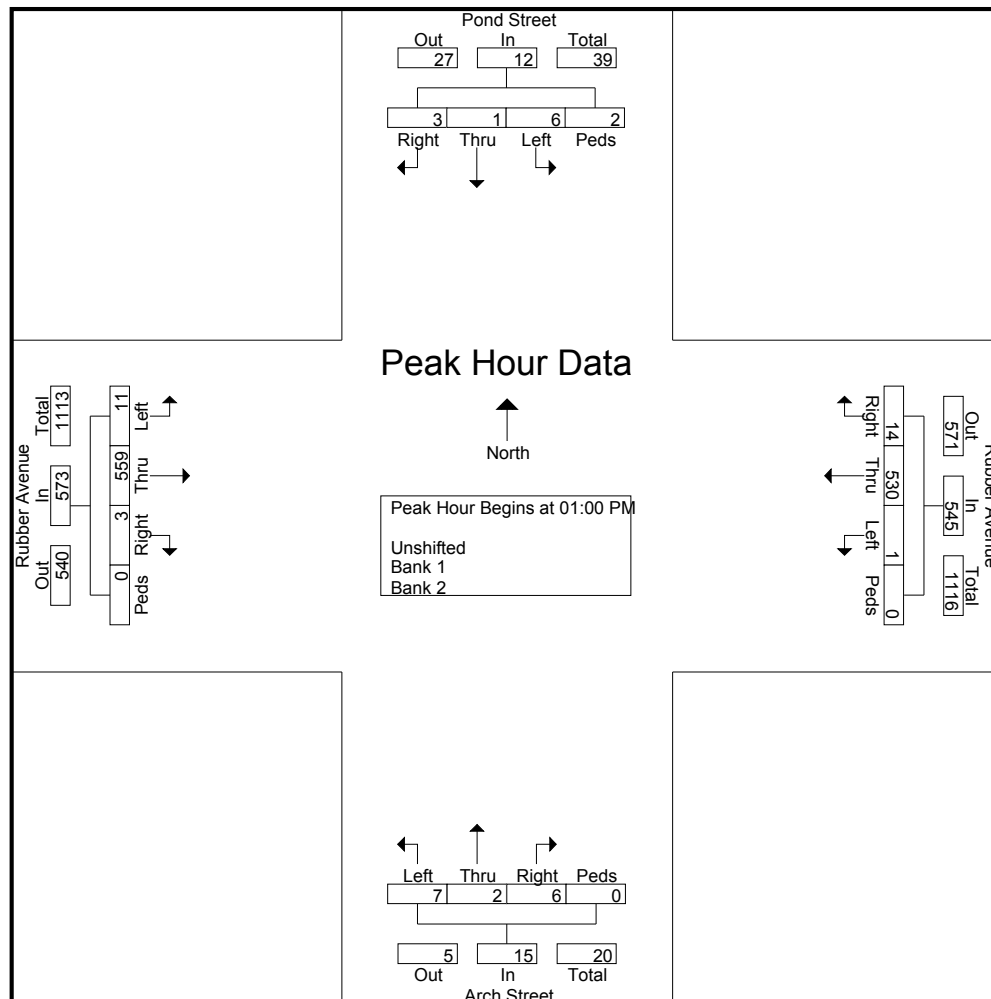
Connecticut Counts LLC

Kensington, Connecticut 06037

(860) 828-1693

File Name : 18346
 Site Code : 18346
 Start Date : 12/15/2018
 Page No : 2

	Pond Street From North					Rubber Avenue From East					Arch Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	0	0	2	0	2	3	127	0	0	130	1	1	1	0	3	0	142	0	0	142	277
01:15 PM	1	0	1	2	4	3	124	0	0	127	2	1	0	0	3	2	137	9	0	148	282
01:30 PM	1	1	1	0	3	4	94	0	0	98	1	0	2	0	3	1	145	0	0	146	250
01:45 PM	1	0	2	0	3	4	185	1	0	190	2	0	4	0	6	0	135	2	0	137	336
Total Volume	3	1	6	2	12	14	530	1	0	545	6	2	7	0	15	3	559	11	0	573	1145
% App. Total	25	8.3	50	16.7		2.6	97.2	0.2	0		40	13.3	46.7	0		0.5	97.6	1.9	0		
PHF	.750	.250	.750	.250	.750	.875	.716	.250	.000	.717	.750	.500	.438	.000	.625	.375	.964	.306	.000	.968	.852



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Meadow/Cherry Street
Naugatuck, Connecticut

File Name : 18347
Site Code : 18347
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

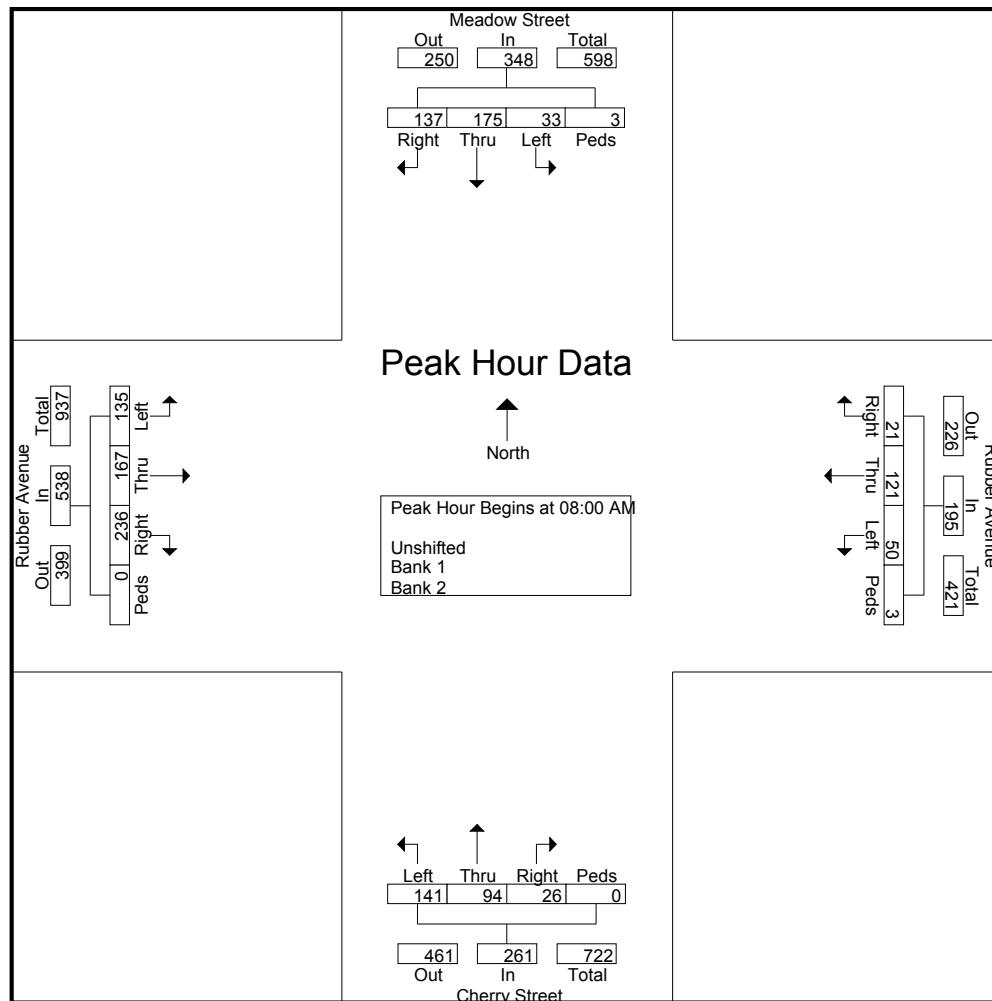
	Meadow Street From North					Rubber Avenue From East					Cherry Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	7	14	0	0	21	0	15	1	0	16	5	9	6	0	20	32	9	10	0	51	108
07:15 AM	15	37	6	0	58	4	30	2	0	36	3	22	25	1	51	69	45	27	0	141	286
07:30 AM	24	38	13	0	75	4	27	15	0	46	5	18	32	0	55	79	48	41	0	168	344
07:45 AM	27	48	6	1	82	7	41	7	2	57	9	23	40	0	72	71	39	27	0	137	348
Total	73	137	25	1	236	15	113	25	2	155	22	72	103	1	198	251	141	105	0	497	1086
08:00 AM	20	48	4	1	73	4	35	12	0	51	4	23	27	0	54	62	31	30	0	123	301
08:15 AM	23	48	10	1	82	5	24	17	1	47	2	22	44	0	68	56	30	36	0	122	319
08:30 AM	38	34	10	1	83	3	30	8	1	42	7	25	37	0	69	65	48	44	0	157	351
08:45 AM	56	45	9	0	110	9	32	13	1	55	13	24	33	0	70	53	58	25	0	136	371
Total	137	175	33	3	348	21	121	50	3	195	26	94	141	0	261	236	167	135	0	538	1342
Grand Total	210	312	58	4	584	36	234	75	5	350	48	166	244	1	459	487	308	240	0	1035	2428
Apprch %	36	53.4	9.9	0.7		10.3	66.9	21.4	1.4		10.5	36.2	53.2	0.2		47.1	29.8	23.2	0		
Total %	8.6	12.9	2.4	0.2	24.1	1.5	9.6	3.1	0.2	14.4	2	6.8	10	0	18.9	20.1	12.7	9.9	0	42.6	
Unshifted	200	302	55	4	561	34	226	69	5	334	40	159	232	1	432	469	293	230	0	992	2319
% Unshifted																					
Bank 1	9	4	1	0	14	2	3	6	0	11	8	4	4	0	16	9	3	4	0	16	57
% Bank 1	4.3	1.3	1.7	0	2.4	5.6	1.3	8	0	3.1	16.7	2.4	1.6	0	3.5	1.8	1	1.7	0	1.5	2.3
Bank 2	1	6	2	0	9	0	5	0	0	5	0	3	8	0	11	9	12	6	0	27	52
% Bank 2	0.5	1.9	3.4	0	1.5	0	2.1	0	0	1.4	0	1.8	3.3	0	2.4	1.8	3.9	2.5	0	2.6	2.1

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18347
Site Code : 18347
Start Date : 12/13/2018
Page No : 2

	Meadow Street From North					Rubber Avenue From East					Cherry Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	20	48	4	1	73	4	35	12	0	51	4	23	27	0	54	62	31	30	0	123	301
08:15 AM	23	48	10	1	82	5	24	17	1	47	2	22	44	0	68	56	30	36	0	122	319
08:30 AM	38	34	10	1	83	3	30	8	1	42	7	25	37	0	69	65	48	44	0	157	351
08:45 AM	56	45	9	0	110	9	32	13	1	55	13	24	33	0	70	53	58	25	0	136	371
Total Volume	137	175	33	3	348	21	121	50	3	195	26	94	141	0	261	236	167	135	0	538	1342
% App. Total	39.4	50.3	9.5	0.9		10.8	62.1	25.6	1.5		10	36	54	0		43.9	31	25.1	0		
PHF	.612	.911	.825	.750	.791	.583	.864	.735	.750	.886	.500	.940	.801	.000	.932	.908	.720	.767	.000	.857	.904



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Meadow/Cherry Street
 Nauagtuck, Connecticut

File Name : 18348
 Site Code : 18348
 Start Date : 12/13/2018
 Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

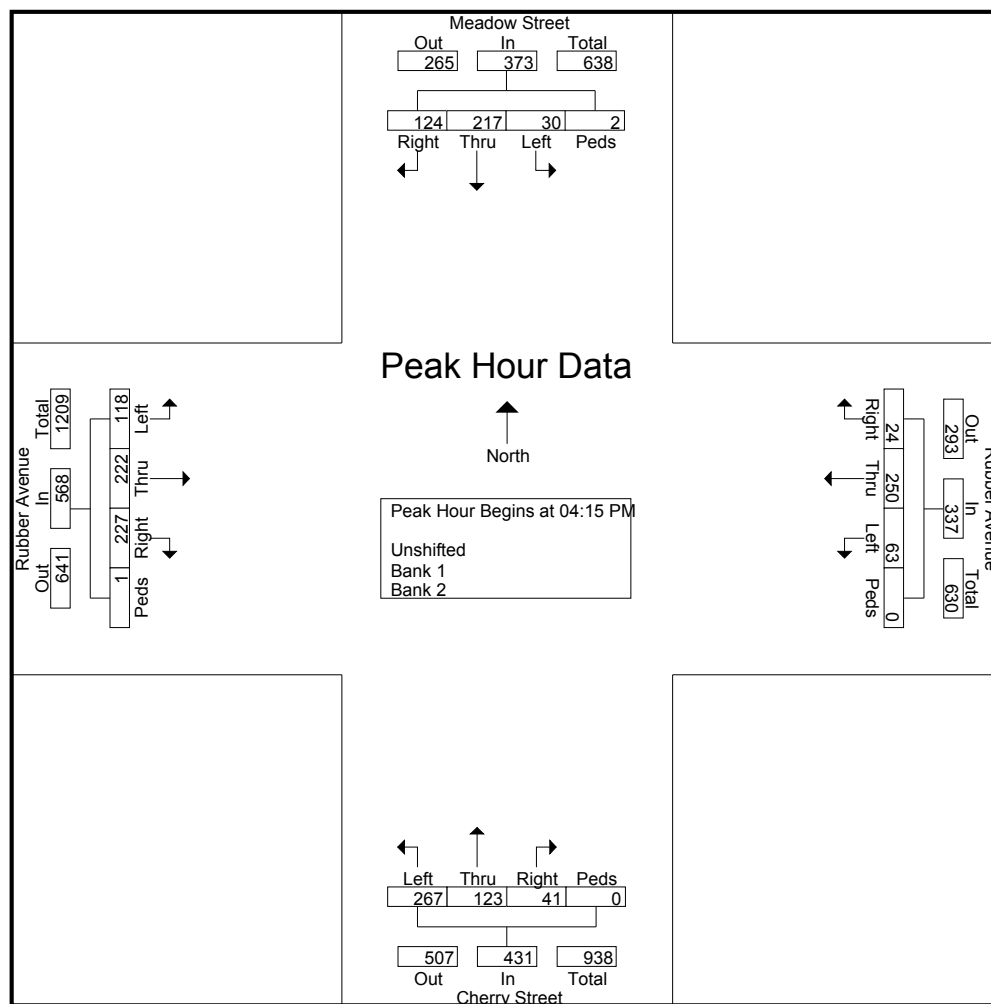
	Meadow Street From North					Rubber Avenue From East					Cherry Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	29	56	9	0	94	11	67	15	0	93	10	29	70	1	110	75	53	37	1	166	463
04:15 PM	24	46	5	0	75	6	52	12	0	70	6	33	73	0	112	47	56	35	1	139	396
04:30 PM	32	47	6	0	85	5	62	19	0	86	18	30	73	0	121	65	65	17	0	147	439
04:45 PM	33	50	9	2	94	6	62	15	0	83	6	25	62	0	93	56	37	33	0	126	396
Total	118	199	29	2	348	28	243	61	0	332	40	117	278	1	436	243	211	122	2	578	1694
05:00 PM	35	74	10	0	119	7	74	17	0	98	11	35	59	0	105	59	64	33	0	156	478
05:15 PM	34	31	4	1	70	5	52	12	0	69	11	13	76	0	100	42	37	20	0	99	338
05:30 PM	30	59	12	1	102	6	67	24	0	97	14	25	89	1	129	45	46	27	2	120	448
05:45 PM	38	43	5	0	86	5	56	20	0	81	14	23	80	0	117	66	36	18	0	120	404
Total	137	207	31	2	377	23	249	73	0	345	50	96	304	1	451	212	183	98	2	495	1668
Grand Total	255	406	60	4	725	51	492	134	0	677	90	213	582	2	887	455	394	220	4	1073	3362
Apprch %	35.2	56	8.3	0.6		7.5	72.7	19.8	0		10.1	24	65.6	0.2		42.4	36.7	20.5	0.4		
Total %	7.6	12.1	1.8	0.1	21.6	1.5	14.6	4	0	20.1	2.7	6.3	17.3	0.1	26.4	13.5	11.7	6.5	0.1	31.9	
Unshifted	254	402	59	4	719	47	486	131	0	664	89	211	579	2	881	444	389	214	4	1051	3315
% Unshifted																					
Bank 1	1	0	1	0	2	2	3	2	0	7	1	2	2	0	5	6	1	3	0	10	24
% Bank 1	0.4	0	1.7	0	0.3	3.9	0.6	1.5	0	1	1.1	0.9	0.3	0	0.6	1.3	0.3	1.4	0	0.9	0.7
Bank 2	0	4	0	0	4	2	3	1	0	6	0	0	1	0	1	5	4	3	0	12	23
% Bank 2	0	1	0	0	0.6	3.9	0.6	0.7	0	0.9	0	0	0.2	0	0.1	1.1	1	1.4	0	1.1	0.7

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18348
Site Code : 18348
Start Date : 12/13/2018
Page No : 2

	Meadow Street From North					Rubber Avenue From East					Cherry Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	24	46	5	0	75	6	52	12	0	70	6	33	73	0	112	47	56	35	1	139	396
04:30 PM	32	47	6	0	85	5	62	19	0	86	18	30	73	0	121	65	65	17	0	147	439
04:45 PM	33	50	9	2	94	6	62	15	0	83	6	25	62	0	93	56	37	33	0	126	396
05:00 PM	35	74	10	0	119	7	74	17	0	98	11	35	59	0	105	59	64	33	0	156	478
Total Volume	124	217	30	2	373	24	250	63	0	337	41	123	267	0	431	227	222	118	1	568	1709
% App. Total	33.2	58.2	8	0.5		7.1	74.2	18.7	0		9.5	28.5	61.9	0		40	39.1	20.8	0.2		
PHF	.886	.733	.750	.250	.784	.857	.845	.829	.000	.860	.569	.879	.914	.000	.890	.873	.854	.843	.250	.910	.894



Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Meadow/Cherry St Naugatuck, Connecticut

File Name : 18349
Site Code : 18349
Start Date : 12/29/2018
Page No : 1

Groups Printed- Cars - Trucks - Buses

	Meadow Street From North						Rubber Avenue From East					Cherry Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total	
11:00 AM	34	52	6	4	96	17	45	20	0	82	11	19	56	0	86	56	41	28	0	125	389	
11:15 AM	36	42	5	3	86	7	51	10	0	68	11	19	65	0	95	64	61	30	0	155	404	
11:30 AM	31	46	6	0	83	4	59	18	0	81	6	17	46	1	70	69	55	41	0	165	399	
11:45 AM	24	33	4	0	61	4	56	9	1	70	13	22	53	0	88	60	45	24	2	131	350	
Total	125	173	21	7	326	32	211	57	1	301	41	77	220	1	339	249	202	123	2	576	1542	
12:00 PM	29	46	5	1	81	5	55	17	0	77	9	17	54	0	80	68	52	44	1	165	403	
12:15 PM	33	51	10	1	95	5	53	12	1	71	10	20	56	1	87	65	36	22	0	123	376	
12:30 PM	40	46	6	3	95	6	63	16	0	85	13	23	57	2	95	53	48	21	0	122	397	
12:45 PM	32	36	2	5	75	6	52	12	1	71	8	30	44	1	83	46	45	20	2	113	342	
Total	134	179	23	10	346	22	223	57	2	304	40	90	211	4	345	232	181	107	3	523	1518	
01:00 PM	30	40	8	5	83	7	76	9	0	92	14	20	55	0	89	62	47	23	2	134	398	
01:15 PM	44	37	10	8	99	4	56	18	0	78	7	32	56	0	95	52	48	28	0	128	400	
01:30 PM	30	44	7	5	86	4	57	7	0	68	7	26	37	1	71	68	52	22	0	142	367	
01:45 PM	32	50	4	1	87	6	52	12	0	70	12	17	43	0	72	41	42	29	0	112	341	
Total	136	171	29	19	355	21	241	46	0	308	40	95	191	1	327	223	189	102	2	516	1506	
Grand Total	395	523	73	36	1027	75	675	160	3	913	121	262	622	6	1011	704	572	332	7	1615	4566	
Approch %	38.5	50.9	7.1	3.5		8.2	73.9	17.5	0.3		12	25.9	61.5	0.6		43.6	35.4	20.6	0.4			
Total %	8.7	11.5	1.6	0.8	22.5	1.6	14.8	3.5	0.1	20	2.7	5.7	13.6	0.1	22.1	15.4	12.5	7.3	0.2	35.4		
Cars	393	521	71	36	1021	71	673	154	3	901	115	260	616	6	997	696	572	330	7	1605	4524	
% Cars	99.5	99.6	97.3	100	99.4	94.7	99.7	96.2	100	98.7	95	99.2	99	100	98.6	98.9	100	99.4	100	99.4	99.1	
Trucks	2	2	2	0	6	4	1	6	0	11	6	2	6	0	14	8	0	2	0	10	41	
% Trucks	0.5	0.4	2.7	0	0.6	5.3	0.1	3.8	0	1.2	5	0.8	1	0	1.4	1.1	0	0.6	0	0.6	0.9	
Buses	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
% Buses	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0	0	

Connecticut Counts LLC

Kensington, Connecticut 06037
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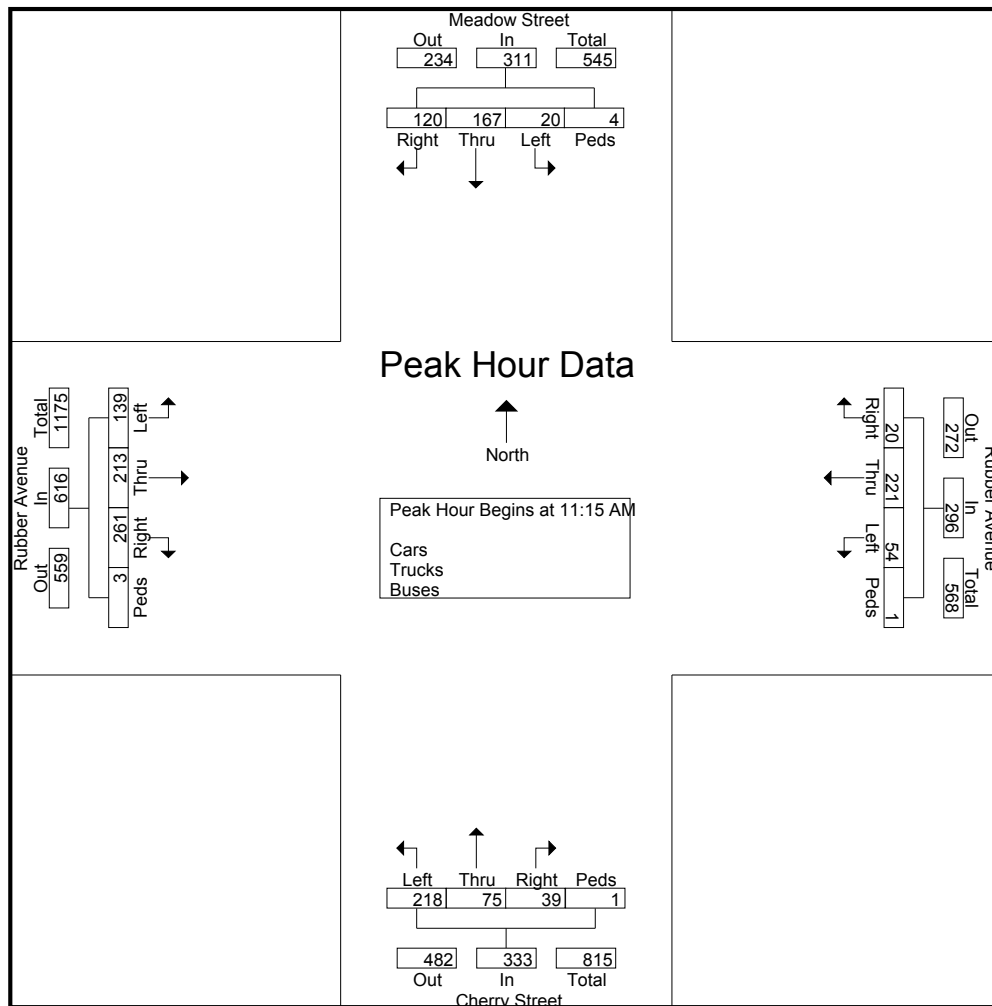
File Name : 18349
Site Code : 18349
Start Date : 12/29/2018
Page No : 2

	Meadow Street From North					Rubber Avenue From East					Cherry Street From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:15 AM

11:15 AM	36	42	5	3	86	7	51	10	0	68	11	19	65	0	95	64	61	30	0	155	404
11:30 AM	31	46	6	0	83	4	59	18	0	81	6	17	46	1	70	69	55	41	0	165	399
11:45 AM	24	33	4	0	61	4	56	9	1	70	13	22	53	0	88	60	45	24	2	131	350
12:00 PM	29	46	5	1	81	5	55	17	0	77	9	17	54	0	80	68	52	44	1	165	403
Total Volume	120	167	20	4	311	20	221	54	1	296	39	75	218	1	333	261	213	139	3	616	1556
% App. Total	38.6	53.7	6.4	1.3		6.8	74.7	18.2	0.3		11.7	22.5	65.5	0.3		42.4	34.6	22.6	0.5		
PHF	.833	.908	.833	.333	.904	.714	.936	.750	.250	.914	.750	.852	.838	.250	.876	.946	.873	.790	.375	.933	.963



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Church Street
Naugatuck, Connecticut

File Name : 18350
Site Code : 18350
Start Date : 12/13/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

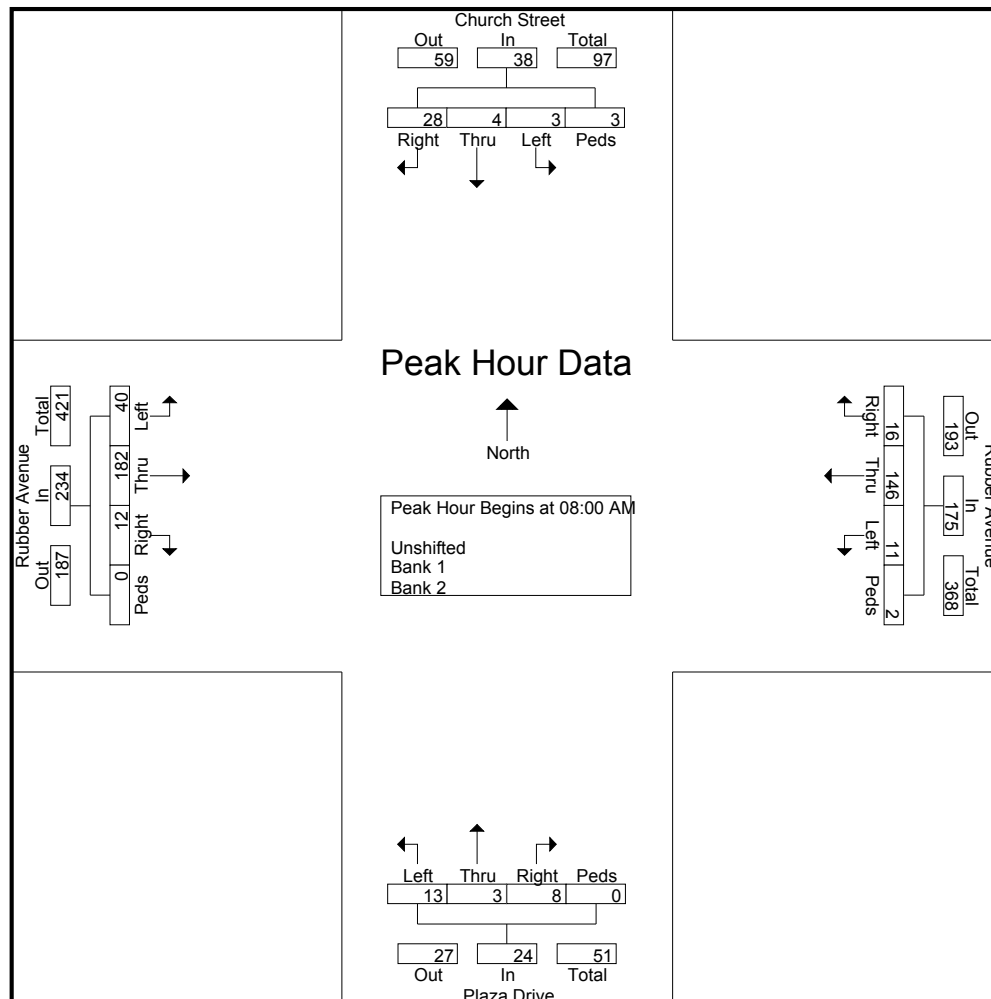
	Church Street From North					Rubber Avenue From East					Plaza Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	4	0	0	0	4	3	87	0	0	90	2	0	1	0	3	2	43	3	2	50	147
07:15 AM	4	0	0	0	4	2	43	0	0	45	0	0	0	0	0	2	52	10	0	64	113
07:30 AM	1	0	3	0	4	3	31	0	0	34	0	0	1	0	1	1	59	9	0	69	108
07:45 AM	4	1	0	3	8	4	36	0	1	41	0	0	1	0	1	0	38	3	0	41	91
Total	13	1	3	3	20	12	197	0	1	210	2	0	3	0	5	5	192	25	2	224	459
08:00 AM	10	1	1	0	12	3	44	3	1	51	0	0	1	0	1	3	43	11	0	57	121
08:15 AM	3	1	1	0	5	2	34	3	0	39	3	0	1	0	4	2	33	8	0	43	91
08:30 AM	8	1	1	3	13	5	24	1	1	31	3	0	5	0	8	1	55	11	0	67	119
08:45 AM	7	1	0	0	8	6	44	4	0	54	2	3	6	0	11	6	51	10	0	67	140
Total	28	4	3	3	38	16	146	11	2	175	8	3	13	0	24	12	182	40	0	234	471
Grand Total	41	5	6	6	58	28	343	11	3	385	10	3	16	0	29	17	374	65	2	458	930
Apprch %	70.7	8.6	10.3	10.3		7.3	89.1	2.9	0.8		34.5	10.3	55.2	0		3.7	81.7	14.2	0.4		
Total %	4.4	0.5	0.6	0.6	6.2	3	36.9	1.2	0.3	41.4	1.1	0.3	1.7	0	3.1	1.8	40.2	7	0.2	49.2	
Unshifted	40	5	5	6	56	27	315	11	3	356	10	2	16	0	28	17	344	65	2	428	868
% Unshifted																					
Bank 1	1	0	0	0	1	0	14	0	0	14	0	1	0	0	1	0	10	0	0	10	26
% Bank 1	2.4	0	0	0	1.7	0	4.1	0	0	3.6	0	33.3	0	0	3.4	0	2.7	0	0	2.2	2.8
Bank 2	0	0	1	0	1	1	14	0	0	15	0	0	0	0	0	0	20	0	0	20	36
% Bank 2	0	0	16.7	0	1.7	3.6	4.1	0	0	3.9	0	0	0	0	0	0	5.3	0	0	4.4	3.9

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18350
Site Code : 18350
Start Date : 12/13/2018
Page No : 2

	Church Street From North					Rubber Avenue From East					Plaza Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	10	1	1	0	12	3	44	3	1	51	0	0	1	0	1	3	43	11	0	57	121
08:15 AM	3	1	1	0	5	2	34	3	0	39	3	0	1	0	4	2	33	8	0	43	91
08:30 AM	8	1	1	3	13	5	24	1	1	31	3	0	5	0	8	1	55	11	0	67	119
08:45 AM	7	1	0	0	8	6	44	4	0	54	2	3	6	0	11	6	51	10	0	67	140
Total Volume	28	4	3	3	38	16	146	11	2	175	8	3	13	0	24	12	182	40	0	234	471
% App. Total	73.7	10.5	7.9	7.9		9.1	83.4	6.3	1.1		33.3	12.5	54.2	0		5.1	77.8	17.1	0		
PHF	.700	1.00	.750	.250	.731	.667	.830	.688	.500	.810	.667	.250	.542	.000	.545	.500	.827	.909	.000	.873	.841



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

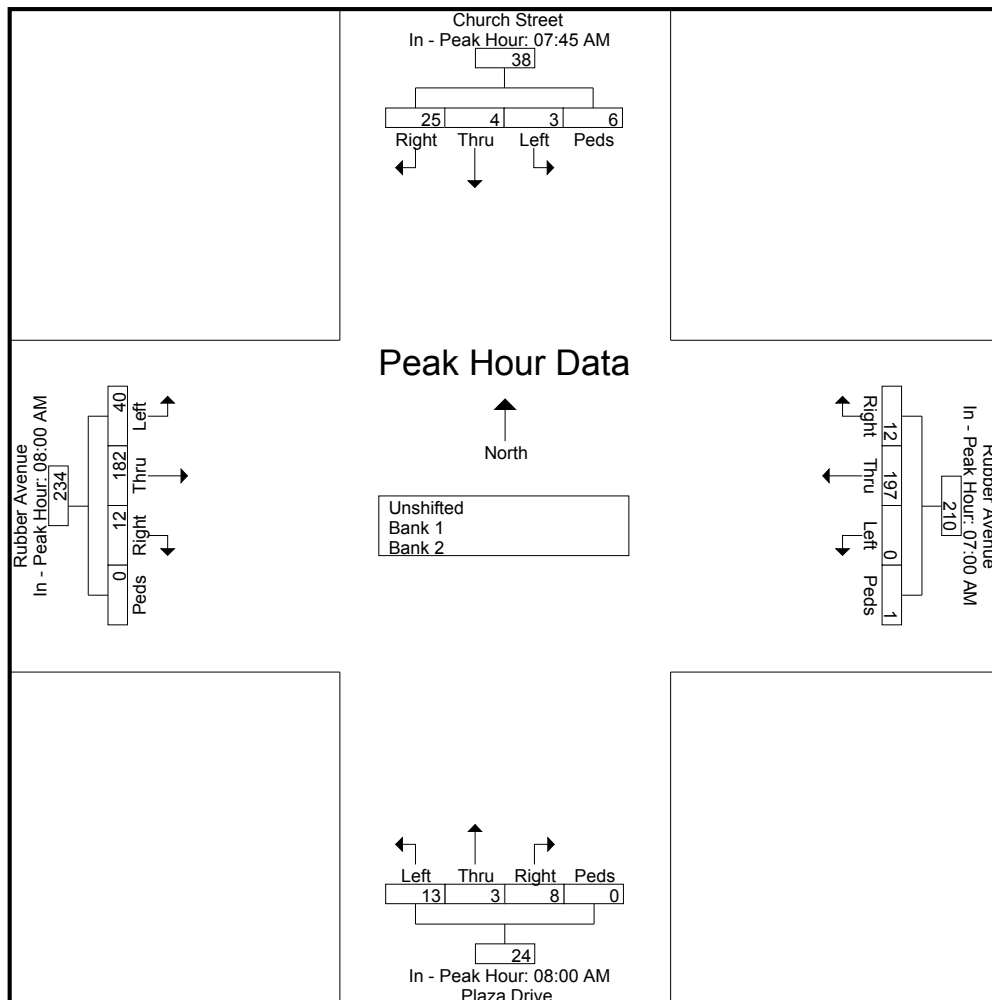
File Name : 18350
Site Code : 18350
Start Date : 12/13/2018
Page No : 3

	Church Street From North					Rubber Avenue From East					Plaza Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45 AM					07:00 AM					08:00 AM					08:00 AM					
+0 mins.	4	1	0	3	8	3	87	0	0	90	0	0	1	0	1	3	43	11	0	57	
+15 mins.	10	1	1	0	12	2	43	0	0	45	3	0	1	0	4	2	33	8	0	43	
+30 mins.	3	1	1	0	5	3	31	0	0	34	3	0	5	0	8	1	55	11	0	67	
+45 mins.	8	1	1	3	13	4	36	0	1	41	2	3	6	0	11	6	51	10	0	67	
Total Volume	25	4	3	6	38	12	197	0	1	210	8	3	13	0	24	12	182	40	0	234	
% App. Total	65.8	10.5	7.9	15.8		5.7	93.8	0	0.5		33.3	12.5	54.2	0		5.1	77.8	17.1	0		
PHF	.625	1.000	.750	.500	.731	.750	.566	.000	.250	.583	.667	.250	.542	.000	.545	.500	.827	.909	.000	.873	



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Church Street
 Nauagtuck, Connecticut

File Name : 18351
 Site Code : 18351
 Start Date : 12/13/2018
 Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

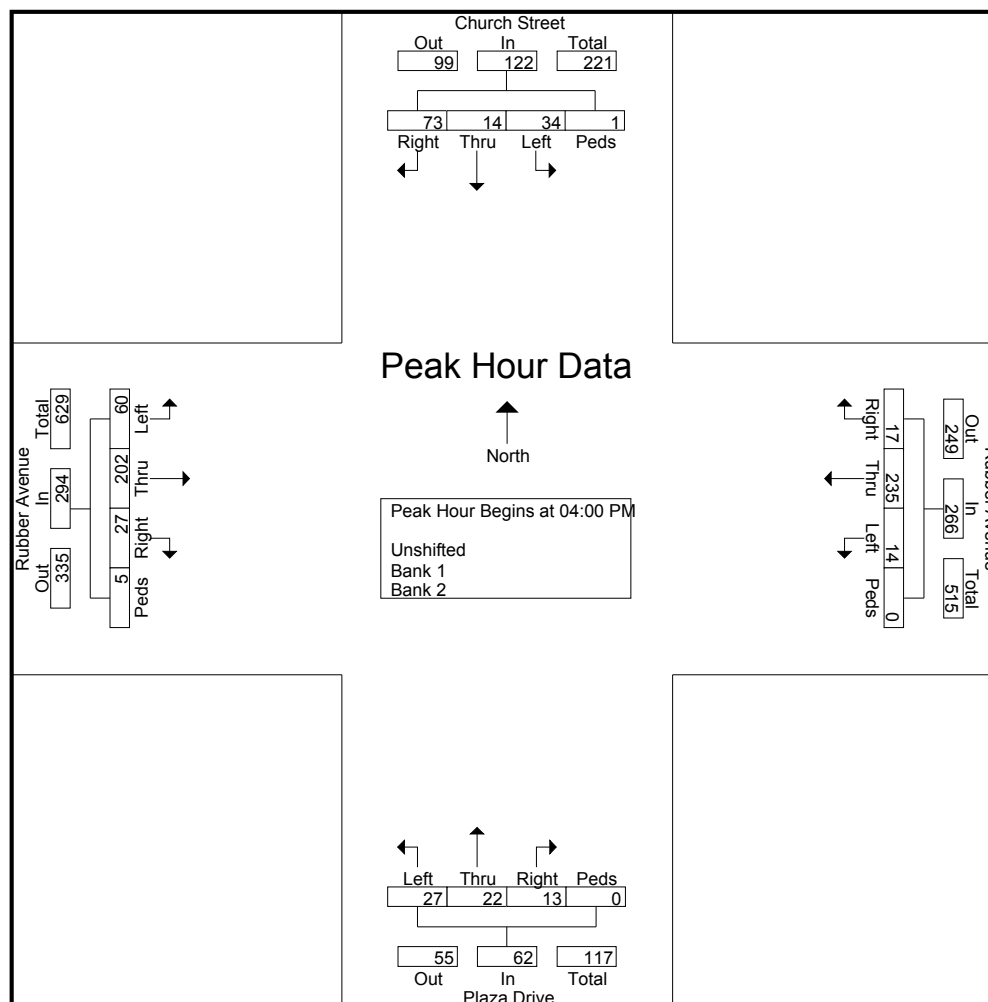
	Church Street From North					Rubber Avenue From East					Plaza Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	18	3	12	1	34	5	67	6	0	78	3	6	8	0	17	9	51	17	1	78	207
04:15 PM	21	5	7	0	33	1	52	2	0	55	2	4	3	0	9	8	54	12	2	76	173
04:30 PM	16	1	8	0	25	5	59	3	0	67	4	6	9	0	19	5	58	17	0	80	191
04:45 PM	18	5	7	0	30	6	57	3	0	66	4	6	7	0	17	5	39	14	2	60	173
Total	73	14	34	1	122	17	235	14	0	266	13	22	27	0	62	27	202	60	5	294	744
05:00 PM	21	2	4	0	27	4	56	0	0	60	3	2	3	0	8	3	51	15	0	69	164
05:15 PM	18	2	4	0	24	7	58	8	0	73	4	0	7	0	11	9	44	11	0	64	172
05:30 PM	19	0	5	0	24	6	61	6	0	73	1	2	10	0	13	4	50	14	0	68	178
05:45 PM	15	3	2	0	20	8	64	5	0	77	4	5	4	0	13	8	45	16	0	69	179
Total	73	7	15	0	95	25	239	19	0	283	12	9	24	0	45	24	190	56	0	270	693
Grand Total	146	21	49	1	217	42	474	33	0	549	25	31	51	0	107	51	392	116	5	564	1437
Apprch %	67.3	9.7	22.6	0.5		7.7	86.3	6	0		23.4	29	47.7	0		9	69.5	20.6	0.9		
Total %	10.2	1.5	3.4	0.1	15.1	2.9	33	2.3	0	38.2	1.7	2.2	3.5	0	7.4	3.5	27.3	8.1	0.3	39.2	
Unshifted	144	21	49	0	214	41	467	33	0	541	25	31	51	0	107	51	385	115	5	556	1418
% Unshifted																					
Bank 1	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	6
% Bank 1	0.7	0	0	0	0.5	0	0.4	0	0	0.4	0	0	0	0	0	0	0.8	0	0	0.5	0.4
Bank 2	1	0	0	1	2	1	5	0	0	6	0	0	0	0	0	0	4	1	0	5	13
% Bank 2	0.7	0	0	100	0.9	2.4	1.1	0	0	1.1	0	0	0	0	0	0	1	0.9	0	0.9	0.9

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18351
 Site Code : 18351
 Start Date : 12/13/2018
 Page No : 2

	Church Street From North					Rubber Avenue From East					Plaza Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	18	3	12	1	34	5	67	6	0	78	3	6	8	0	17	9	51	17	1	78	207
04:15 PM	21	5	7	0	33	1	52	2	0	55	2	4	3	0	9	8	54	12	2	76	173
04:30 PM	16	1	8	0	25	5	59	3	0	67	4	6	9	0	19	5	58	17	0	80	191
04:45 PM	18	5	7	0	30	6	57	3	0	66	4	6	7	0	17	5	39	14	2	60	173
Total Volume	73	14	34	1	122	17	235	14	0	266	13	22	27	0	62	27	202	60	5	294	744
% App. Total	59.8	11.5	27.9	0.8		6.4	88.3	5.3	0		21	35.5	43.5	0		9.2	68.7	20.4	1.7		
PHF	.869	.700	.708	.250	.897	.708	.877	.583	.000	.853	.813	.917	.750	.000	.816	.750	.871	.882	.625	.919	.899



Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

Rubber Avenue at Church Street
Naugatuck, Connecticut

File Name : 18352
Site Code : 18352
Start Date : 12/15/2018
Page No : 1

Groups Printed- Unshifted - Bank 1 - Bank 2

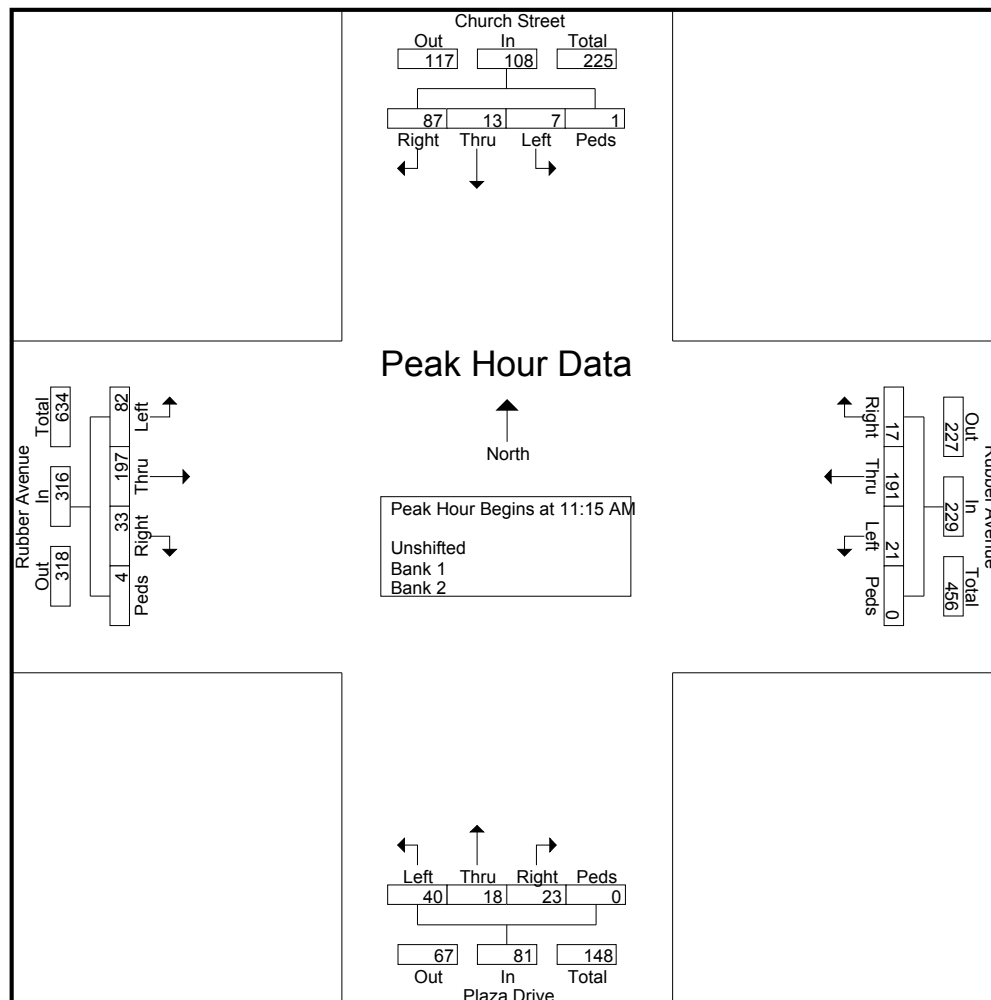
	Church Street From North					Rubber Avenue From East					Plaza Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
11:00 AM	23	2	4	0	29	1	58	7	0	66	4	2	10	0	16	8	39	16	0	63	174
11:15 AM	20	7	1	1	29	7	53	7	0	67	5	6	14	0	25	8	55	26	2	91	212
11:30 AM	22	2	1	0	25	3	34	7	0	44	8	4	9	0	21	11	39	18	1	69	159
11:45 AM	23	2	2	0	27	4	47	2	0	53	6	3	10	0	19	8	42	22	0	72	171
Total	88	13	8	1	110	15	192	23	0	230	23	15	43	0	81	35	175	82	3	295	716
12:00 PM	22	2	3	0	27	3	57	5	0	65	4	5	7	0	16	6	61	16	1	84	192
12:15 PM	17	4	0	1	22	4	57	4	2	67	5	4	10	0	19	8	45	9	0	62	170
12:30 PM	16	1	5	2	24	3	44	5	0	52	3	3	7	0	13	9	48	10	2	69	158
12:45 PM	16	1	2	0	19	3	52	4	0	59	6	1	9	0	16	12	45	15	0	72	166
Total	71	8	10	3	92	13	210	18	2	243	18	13	33	0	64	35	199	50	3	287	686
01:00 PM	20	3	1	0	24	3	54	6	0	63	5	4	8	0	17	6	49	11	2	68	172
01:15 PM	18	4	2	0	24	3	54	5	1	63	5	6	11	0	22	7	52	18	0	77	186
01:30 PM	31	1	4	0	36	4	46	3	0	53	5	5	7	0	17	11	44	14	0	69	175
01:45 PM	26	3	6	0	35	3	45	7	1	56	4	4	10	0	18	9	45	25	0	79	188
Total	95	11	13	0	119	13	199	21	2	235	19	19	36	0	74	33	190	68	2	293	721
Grand Total	254	32	31	4	321	41	601	62	4	708	60	47	112	0	219	103	564	200	8	875	2123
Apprch %	79.1	10	9.7	1.2		5.8	84.9	8.8	0.6		27.4	21.5	51.1	0		11.8	64.5	22.9	0.9		
Total %	12	1.5	1.5	0.2	15.1	1.9	28.3	2.9	0.2	33.3	2.8	2.2	5.3	0	10.3	4.9	26.6	9.4	0.4	41.2	
Unshifted	254	32	31	4	321	41	588	62	4	695	60	47	112	0	219	103	551	200	8	862	2097
% Unshifted																					
Bank 1	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	12	0	0	12	24
% Bank 1	0	0	0	0	0	0	2	0	0	1.7	0	0	0	0	0	0	2.1	0	0	1.4	1.1
Bank 2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
% Bank 2	0	0	0	0	0	0	0.2	0	0	0.1	0	0	0	0	0	0	0.2	0	0	0.1	0.1

Connecticut Counts LLC

Kensington, Connecticut 06037
(860) 828-1693

File Name : 18352
Site Code : 18352
Start Date : 12/15/2018
Page No : 2

	Church Street From North					Rubber Avenue From East					Plaza Drive From South					Rubber Avenue From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:15 AM																					
11:15 AM	20	7	1	1	29	7	53	7	0	67	5	6	14	0	25	8	55	26	2	91	212
11:30 AM	22	2	1	0	25	3	34	7	0	44	8	4	9	0	21	11	39	18	1	69	159
11:45 AM	23	2	2	0	27	4	47	2	0	53	6	3	10	0	19	8	42	22	0	72	171
12:00 PM	22	2	3	0	27	3	57	5	0	65	4	5	7	0	16	6	61	16	1	84	192
Total Volume	87	13	7	1	108	17	191	21	0	229	23	18	40	0	81	33	197	82	4	316	734
% App. Total	80.6	12	6.5	0.9		7.4	83.4	9.2	0		28.4	22.2	49.4	0		10.4	62.3	25.9	1.3		
PHF	.946	.464	.583	.250	.931	.607	.838	.750	.000	.854	.719	.750	.714	.000	.810	.750	.807	.788	.500	.868	.866



Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 8281693

Page 1

Rubber Ave East of Andrew Ave
Naugatuck, Connecticut

Site Code:
Station ID: 4968

Latitude: 0' 0.0000 Undefined

Start Time	10-Dec-18		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	Westboun	Eastboun	Westbou	Eastboun	Westbou	Eastboun	Westboun	Eastboun	Westboun	Eastboun	Westboun	Eastboun	Westbou	Eastboun	Westbou	Eastboun
12:00 AM	*	*	*	*	*	*	30	28	31	30	66	47	65	57	48	40
01:00	*	*	*	*	*	*	12	17	23	16	44	29	32	34	28	24
02:00	*	*	*	*	*	*	11	15	11	12	23	23	20	23	16	18
03:00	*	*	*	*	*	*	12	21	8	24	12	20	19	13	13	20
04:00	*	*	*	*	*	*	12	48	19	51	13	26	16	18	15	36
05:00	*	*	*	*	*	*	42	185	34	188	21	71	11	36	27	120
06:00	*	*	*	*	*	*	182	318	149	303	45	114	51	74	107	202
07:00	*	*	*	*	*	*	352	558	374	566	130	200	*	*	285	441
08:00	*	*	*	*	*	*	316	463	329	476	253	305	*	*	299	415
09:00	*	*	*	*	*	*	287	351	322	385	316	386	*	*	308	374
10:00	*	*	*	*	*	*	264	305	335	376	413	464	*	*	337	382
11:00	*	*	*	*	*	*	323	361	396	416	435	458	*	*	385	412
12:00 PM	*	*	*	*	*	*	348	376	389	483	467	514	*	*	401	458
01:00	*	*	*	*	328	334	352	385	446	423	445	461	*	*	393	401
02:00	*	*	*	*	344	465	362	478	441	573	358	471	*	*	376	497
03:00	*	*	*	*	407	455	491	442	467	494	356	458	*	*	430	462
04:00	*	*	*	*	487	488	476	517	459	513	393	446	*	*	454	491
05:00	*	*	*	*	476	439	464	394	546	506	359	346	*	*	461	421
06:00	*	*	*	*	384	350	369	332	418	435	330	338	*	*	375	364
07:00	*	*	*	*	285	257	288	266	311	305	234	256	*	*	280	271
08:00	*	*	*	*	236	220	241	246	229	296	186	179	*	*	223	235
09:00	*	*	*	*	128	118	154	174	182	169	172	194	*	*	159	164
10:00	*	*	*	*	78	66	99	97	153	170	124	165	*	*	114	124
11:00	*	*	*	*	60	35	58	54	90	105	104	92	*	*	78	72
Lane	0	0	0	0	3213	3227	5545	6431	6162	7315	5299	6063	214	255	5612	6444
Day	0		0		6440		11976		13477		11362		469		12056	
AM Peak	-	-	-	-	-	-	07:00	07:00	11:00	07:00	11:00	10:00	00:00	06:00	11:00	07:00
Vol.	-	-	-	-	-	-	352	558	396	566	435	464	65	74	385	441
PM Peak	-	-	-	-	16:00	16:00	15:00	16:00	17:00	14:00	12:00	12:00	-	-	17:00	14:00
Vol.	-	-	-	-	487	488	491	517	546	573	467	514	-	-	461	497

Comb. Total	0	0	6440	11976	13477	11362	469	12056
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ADT	ADT 12,726	AADT 12,726
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SPEED SURVEY

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 8281693

Rubber Ave East of Andrew Ave
Naugatuck, Connecticut

Site Code:
Station ID: 4968

Latitude: 0' 0.0000 Undefined

Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12/12/18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	20	16	21	111	104	50	4	0	0	0	0	0	0	2	328	26-35	215
14:00	23	26	30	73	131	50	9	0	0	2	0	0	0	0	344	26-35	204
15:00	28	24	63	129	113	40	8	0	1	0	0	0	0	1	407	26-35	242
16:00	20	30	50	122	186	68	6	0	1	0	0	0	0	4	487	26-35	308
17:00	20	27	69	143	163	46	7	1	0	0	0	0	0	0	476	26-35	306
18:00	11	13	44	134	150	28	3	1	0	0	0	0	0	0	384	26-35	284
19:00	2	5	28	79	121	44	5	1	0	0	0	0	0	0	285	26-35	200
20:00	6	6	22	65	93	38	3	2	0	0	1	0	0	0	236	26-35	158
21:00	0	3	8	28	65	19	3	1	0	1	0	0	0	0	128	26-35	93
22:00	0	3	3	21	22	22	4	1	1	1	0	0	0	0	78	31-40	44
23:00	1	0	5	17	25	9	1	1	1	0	0	0	0	0	60	26-35	42
Total	131	153	343	922	1173	414	53	8	4	4	1	0	0	7	3213		
Percent	4.1%	4.8%	10.7%	28.7%	36.5%	12.9%	1.6%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.2%			
AM Peak Vol.																	
PM Peak Vol.	15:00 28	16:00 30	17:00 69	17:00 143	16:00 186	16:00 68	14:00 9	20:00 2	15:00 1	14:00 2	20:00 1			16:00 4	16:00 487		

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 8281693

Rubber Ave East of Andrew Ave
Naugatuck, Connecticut

Site Code:
Station ID: 4968

Latitude: 0' 0.0000 Undefined

Westbound																
Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Pace Speed
12/13/18	0	0	2	6	14	5	1	2	0	0	0	0	0	0	30	26-35
01:00	0	0	1	5	4	1	0	1	0	0	0	0	0	0	12	26-35
02:00	0	0	2	4	3	1	1	0	0	0	0	0	0	0	11	24-33
03:00	0	0	0	1	5	5	1	0	0	0	0	0	0	0	12	31-40
04:00	0	0	0	2	5	4	1	0	0	0	0	0	0	0	12	31-40
05:00	0	0	3	7	15	15	2	0	0	0	0	0	0	0	42	31-40
06:00	12	10	19	45	62	28	5	0	0	0	0	0	0	1	182	26-35
07:00	36	27	59	82	92	42	11	0	0	1	0	0	0	2	352	26-35
08:00	15	24	49	71	102	44	7	0	0	0	0	0	1	3	316	26-35
09:00	27	15	45	72	84	37	6	0	0	0	0	0	1	0	287	26-35
10:00	9	11	40	80	80	35	9	0	0	0	0	0	0	0	264	26-35
11:00	7	21	34	94	110	50	5	0	0	0	0	0	0	2	323	26-35
12 PM	15	16	46	91	125	47	5	1	0	0	0	0	0	2	348	26-35
13:00	18	33	74	114	87	25	0	1	0	0	0	0	0	0	352	26-35
14:00	26	32	61	113	84	37	5	1	0	0	1	1	0	1	362	26-35
15:00	35	38	68	143	145	56	5	0	0	0	0	0	0	1	491	26-35
16:00	22	40	87	163	122	37	1	0	2	0	1	1	0	0	476	26-35
17:00	37	27	55	149	153	35	1	3	0	1	0	0	0	3	464	26-35
18:00	21	31	76	98	106	30	5	1	1	0	0	0	0	0	369	26-35
19:00	4	17	49	80	99	35	3	0	0	0	0	0	1	0	288	26-35
20:00	9	9	32	76	83	23	9	0	0	0	0	0	0	0	241	26-35
21:00	0	3	11	40	64	30	5	1	0	0	0	0	0	0	154	26-35
22:00	1	2	3	29	52	11	1	0	0	0	0	0	0	0	99	26-35
23:00	0	1	5	16	25	11	0	0	0	0	0	0	0	0	58	26-35
Total	294	357	821	1581	1721	644	89	11	3	2	2	2	3	15	5545	
Percent	5.3%	6.4%	14.8%	28.5%	31.0%	11.6%	1.6%	0.2%	0.1%	0.0%	0.0%	0.0%	0.1%	0.3%		
AM Peak	07:00	07:00	07:00	11:00	11:00	11:00	07:00	00:00		07:00			08:00	08:00	07:00	
Vol.	36	27	59	94	110	50	11	2		1			1	3	352	
PM Peak	17:00	16:00	16:00	16:00	17:00	15:00	20:00	17:00	16:00	17:00	14:00	14:00	19:00	17:00	15:00	
Vol.	37	40	87	163	153	56	9	3	2	1	1	1	1	3	491	

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 8281693

Rubber Ave East of Andrew Ave
Naugatuck, Connecticut

Site Code:
Station ID: 4968

Latitude: 0° 0.0000 Undefined

Westbound																
Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Pace Speed
12/14/18	0	0	1	8	11	8	3	0	0	0	0	0	0	0	31	26-35
01:00	0	0	3	4	11	4	1	0	0	0	0	0	0	0	23	31-40
02:00	0	0	0	3	5	3	0	0	0	0	0	0	0	0	11	26-35
03:00	0	0	0	0	3	3	2	0	0	0	0	0	0	0	8	31-40
04:00	0	0	1	6	7	5	0	0	0	0	0	0	0	0	19	26-35
05:00	0	0	3	8	9	8	4	2	0	0	0	0	0	0	34	26-35
06:00	2	2	10	42	61	23	8	1	0	0	0	0	0	0	149	26-35
07:00	27	23	48	103	103	59	7	0	0	0	0	1	0	3	374	26-35
08:00	22	24	55	86	87	46	6	1	0	0	0	1	0	1	329	26-35
09:00	24	16	36	79	109	47	10	0	0	0	0	1	0	0	322	26-35
10:00	17	15	35	74	127	53	11	2	0	0	1	0	0	0	335	26-35
11:00	12	24	55	90	144	63	5	0	0	0	1	0	0	2	396	26-35
12 PM	22	24	34	90	139	65	13	1	0	0	0	0	0	1	389	26-35
13:00	45	42	79	98	120	55	4	1	1	0	0	0	0	1	446	26-35
14:00	48	35	74	123	110	46	2	1	0	1	0	0	0	1	441	26-35
15:00	40	37	53	101	173	59	4	0	0	0	0	0	0	0	467	26-35
16:00	58	55	76	99	142	25	0	0	0	1	0	0	0	3	459	26-35
17:00	34	51	118	215	105	14	4	1	0	0	1	0	0	3	546	21-30
18:00	21	39	88	165	86	15	3	0	0	0	0	0	0	1	418	21-30
19:00	10	15	43	102	119	19	2	0	0	1	0	0	0	0	311	26-35
20:00	5	6	21	63	94	36	3	0	0	0	0	0	0	1	229	26-35
21:00	0	4	13	45	73	46	1	0	0	0	0	0	0	0	182	29-38
22:00	0	2	7	40	65	34	5	0	0	0	0	0	0	0	153	26-35
23:00	0	0	5	35	36	14	0	0	0	0	0	0	0	0	90	26-35
Total	387	414	858	1679	1939	750	98	10	1	3	3	3	0	17	6162	
Percent	6.3%	6.7%	13.9%	27.2%	31.5%	12.2%	1.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%		
AM Peak	07:00	08:00	08:00	07:00	11:00	11:00	10:00	05:00			10:00	07:00		07:00	11:00	
Vol.	27	24	55	103	144	63	11	2			1	1		3	396	
PM Peak	16:00	16:00	17:00	17:00	15:00	12:00	12:00	12:00	13:00	14:00	17:00			16:00	17:00	
Vol.	58	55	118	215	173	65	13	1	1	1	1			3	546	

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 8281693

Rubber Ave East of Andrew Ave
Naugatuck, Connecticut

Site Code:
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Latitude: 0° 0.0000 Undefined

Westbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total	Pace Speed	Number in Pace
12/15/18	0	1	2	18	29	13	3	0	0	0	0	0	0	0	66	26-35	47
01:00	0	1	0	9	25	6	3	0	0	0	0	0	0	0	44	26-35	34
02:00	0	0	4	4	11	4	0	0	0	0	0	0	0	0	23	31-40	15
03:00	0	0	1	2	5	3	1	0	0	0	0	0	0	0	12	29-38	8
04:00	0	0	1	2	6	3	0	1	0	0	0	0	0	0	13	29-38	9
05:00	0	1	3	5	9	2	0	0	1	0	0	0	0	0	21	26-35	14
06:00	0	1	1	8	22	13	0	0	0	0	0	0	0	0	45	31-40	35
07:00	3	5	10	30	55	21	4	1	0	0	0	0	0	1	130	26-35	85
08:00	11	20	26	56	90	44	6	0	0	0	0	0	0	0	253	26-35	146
09:00	19	18	49	88	104	34	3	1	0	0	0	0	0	0	316	26-35	192
10:00	21	35	56	118	135	37	8	1	0	0	0	0	0	2	413	26-35	253
11:00	46	30	71	127	129	30	1	0	1	0	0	0	0	0	435	26-35	256
12 PM	43	48	77	125	128	36	6	0	1	0	0	0	1	2	467	26-35	253
13:00	24	33	53	119	147	55	10	1	0	0	0	0	0	3	445	26-35	266
14:00	25	22	46	88	115	53	4	1	0	0	0	0	0	4	358	26-35	203
15:00	14	19	31	77	127	79	5	0	0	0	2	0	0	2	356	31-40	206
16:00	8	18	50	83	138	81	11	4	0	0	0	0	0	0	393	26-35	221
17:00	12	13	72	138	101	21	0	2	0	0	0	0	0	0	359	26-35	239
18:00	21	37	80	117	66	7	0	0	0	0	0	1	0	1	330	21-30	197
19:00	11	10	34	76	79	22	1	0	0	0	0	0	0	1	234	26-35	155
20:00	2	5	15	56	70	32	4	1	0	0	1	0	0	0	186	26-35	126
21:00	4	4	20	35	68	33	7	0	0	0	0	0	0	1	172	26-35	103
22:00	0	1	8	32	59	19	2	2	1	0	0	0	0	0	124	26-35	91
23:00	1	0	6	28	40	25	4	0	0	0	0	0	0	0	104	26-35	68
Total	265	322	716	1441	1758	673	83	15	4	0	3	1	1	17	5299		
Percent	5.0%	6.1%	13.5%	27.2%	33.2%	12.7%	1.6%	0.3%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%			
AM Peak	11:00	10:00	11:00	11:00	10:00	08:00	10:00	04:00	05:00					10:00	11:00		
Vol.	46	35	71	127	135	44	8	1	1					2	435		
PM Peak	12:00	12:00	18:00	17:00	13:00	16:00	16:00	16:00	12:00		15:00	18:00	12:00	14:00	12:00		
Vol.	43	48	80	138	147	81	11	4	1		2	1	1	4	467		

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 8281693

Rubber Ave East of Andrew Ave
Naugatuck, Connecticut

Site Code:
Station ID: 4968

Latitude: 0' 0.0000 Undefined

Westbound																
Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Pace Speed
12/16/18	0	2	5	14	25	17	2	0	0	0	0	0	0	0	65	31-40
01:00	0	1	2	5	15	7	1	1	0	0	0	0	0	0	32	30-39
02:00	0	0	0	6	6	8	0	0	0	0	0	0	0	0	20	31-40
03:00	0	0	0	5	8	5	0	0	1	0	0	0	0	0	19	26-35
04:00	0	0	2	6	2	4	2	0	0	0	0	0	0	0	16	26-35
05:00	0	1	0	3	3	3	1	0	0	0	0	0	0	0	11	26-35
06:00	4	1	3	6	25	12	0	0	0	0	0	0	0	0	51	31-40
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	4	5	12	45	84	56	6	1	1	0	0	0	0	0	214	
Percent	1.9%	2.3%	5.6%	21.0%	39.3%	26.2%	2.8%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%		
AM Peak	06:00	00:00	00:00	00:00	00:00	00:00	00:00	01:00	03:00						00:00	
Vol.	4	2	5	14	25	17	2	1	1						65	
PM Peak																
Vol.																
Total	1081	1251	2750	5668	6675	2537	329	45	13	9	9	6	4	56	20433	
Percent	5.3%	6.1%	13.5%	27.7%	32.7%	12.4%	1.6%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%		

15th Percentile : 21 MPH
50th Percentile : 29 MPH
85th Percentile : 34 MPH
95th Percentile : 38 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 12343
Percent in Pace : 60.4%
Number of Vehicles > 35 MPH : 3008
Percent of Vehicles > 35 MPH : 14.7%
Mean Speed(Average) : 29 MPH

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Rubber Ave East of Andrew Ave
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Site Code:
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Latitude: 0' 0.0000 Undefined

Eastbound																	
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
12/12/18	*	*	*	*	*	*	*	*	*	*	*	*	*	*	999	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	2	7	69	138	85	31	2	0	0	0	0	0	0	0	334	26-35	223
14:00	0	4	67	241	126	25	2	0	0	0	0	0	0	0	465	26-35	367
15:00	13	24	109	178	102	27	2	0	0	0	0	0	0	0	455	21-30	287
16:00	0	5	61	260	133	24	4	0	0	1	0	0	0	0	488	26-35	393
17:00	1	6	79	205	127	19	2	0	0	0	0	0	0	0	439	26-35	332
18:00	1	1	56	139	119	32	1	1	0	0	0	0	0	0	350	26-35	258
19:00	1	1	21	102	102	24	5	1	0	0	0	0	0	0	257	26-35	204
20:00	1	1	19	74	103	16	6	0	0	0	0	0	0	0	220	26-35	177
21:00	2	1	7	41	45	18	3	1	0	0	0	0	0	0	118	26-35	86
22:00	0	1	4	19	29	11	2	0	0	0	0	0	0	0	66	26-35	48
23:00	0	2	1	12	13	6	1	0	0	0	0	0	0	0	35	26-35	25
Total	21	53	493	1409	984	233	30	3	0	1	0	0	0	0	3227		
Percent	0.7%	1.6%	15.3%	43.7%	30.5%	7.2%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	15:00 13	15:00 24	15:00 109	16:00 260	16:00 133	18:00 32	20:00 6	18:00 1		16:00 1					16:00 488		

Site Code:
Station ID: 4968

[illegible]

Connecticut Counts LLC
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Site Code:
Station ID: 4968

Latitude: 0' 0.0000 Undefined

Eastbound																		
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	76	999	Total	Pace Speed	Number in Pace
12/14/18	0	0	0	7	18	5	0	0	0	0	0	0	0	0	0	30	26-35	25
01:00	0	0	1	3	7	5	0	0	0	0	0	0	0	0	0	16	31-40	12
02:00	0	0	1	2	5	4	0	0	0	0	0	0	0	0	0	12	30-39	9
03:00	0	1	4	9	5	4	1	0	0	0	0	0	0	0	0	24	24-33	14
04:00	0	0	3	9	18	17	4	0	0	0	0	0	0	0	0	51	31-40	35
05:00	0	0	13	61	76	31	7	0	0	0	0	0	0	0	0	188	26-35	137
06:00	3	7	39	119	90	35	8	2	0	0	0	0	0	0	0	303	26-35	209
07:00	0	15	121	269	131	26	3	1	0	0	0	0	0	0	0	566	26-35	400
08:00	1	5	87	208	133	38	4	0	0	0	0	0	0	0	0	476	26-35	341
09:00	0	4	69	173	115	22	2	0	0	0	0	0	0	0	0	385	26-35	288
10:00	0	8	40	134	151	39	3	0	1	0	0	0	0	0	0	376	26-35	285
11:00	0	9	93	143	138	30	3	0	0	0	0	0	0	0	0	416	26-35	281
12 PM	3	11	78	210	150	27	4	0	0	0	0	0	0	0	0	483	26-35	360
13:00	2	11	88	196	102	18	4	1	0	0	0	1	0	0	0	423	26-35	298
14:00	0	11	121	265	153	21	1	0	0	1	0	0	0	0	0	573	26-35	418
15:00	1	21	82	239	130	18	3	0	0	0	0	0	0	0	0	494	26-35	369
16:00	2	18	147	236	96	13	1	0	0	0	0	0	0	0	0	513	21-30	383
17:00	3	6	104	295	86	12	0	0	0	0	0	0	0	0	0	506	21-30	399
18:00	0	2	106	242	72	12	1	0	0	0	0	0	0	0	0	435	21-30	348
19:00	0	2	35	156	90	18	4	0	0	0	0	0	0	0	0	305	26-35	246
20:00	0	0	38	142	90	22	3	1	0	0	0	0	0	0	0	296	26-35	232
21:00	0	0	15	57	78	18	1	0	0	0	0	0	0	0	0	169	26-35	135
22:00	0	0	18	65	57	27	3	0	0	0	0	0	0	0	0	170	26-35	122
23:00	0	1	14	23	40	18	8	1	0	0	0	0	0	0	0	105	26-35	63
Total	15	132	1317	3263	2031	480	68	6	1	1	0	1	0	0	0	7315		
Percent	0.2%	1.8%	18.0%	44.6%	27.8%	6.6%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
AM Peak	06:00	07:00	07:00	07:00	10:00	10:00	06:00	06:00	10:00							07:00		
Vol.	3	15	121	269	151	39	8	2	1							566		
PM Peak	12:00	15:00	16:00	17:00	14:00	12:00	23:00	13:00		14:00		13:00				14:00		
Vol.	3	21	147	295	153	27	8	1		1		1				573		

Connecticut Counts LLC
Kensington, Connecticut 06037
(860) 8281693

Rubber Ave East of Andrew Ave
Naugatuck, Connecticut

Site Code:
Station ID: 4968

Latitude: 0' 0.0000 Undefined

Eastbound																	
Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76		Pace	Number
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total	Speed	in Pace
12/15/18	0	0	4	13	16	14	0	0	0	0	0	0	0	0	47	29-38	30
01:00	0	2	1	5	16	4	0	1	0	0	0	0	0	0	29	26-35	21
02:00	0	1	3	6	8	3	2	0	0	0	0	0	0	0	23	26-35	14
03:00	0	0	1	9	7	3	0	0	0	0	0	0	0	0	20	26-35	16
04:00	0	0	0	6	12	7	1	0	0	0	0	0	0	0	26	29-38	19
05:00	0	0	4	17	31	14	3	2	0	0	0	0	0	0	71	26-35	48
06:00	0	0	7	46	35	19	6	1	0	0	0	0	0	0	114	26-35	81
07:00	2	2	26	78	63	28	1	0	0	0	0	0	0	0	200	26-35	141
08:00	1	6	55	100	107	32	4	0	0	0	0	0	0	0	305	26-35	207
09:00	1	9	84	143	123	20	6	0	0	0	0	0	0	0	386	26-35	266
10:00	1	16	100	179	132	33	3	0	0	0	0	0	0	0	464	26-35	311
11:00	1	20	94	198	119	25	1	0	0	0	0	0	0	0	458	26-35	317
12 PM	3	17	110	242	115	25	2	0	0	0	0	0	0	0	514	26-35	357
13:00	1	7	68	213	149	22	1	0	0	0	0	0	0	0	461	26-35	362
14:00	0	2	99	210	123	28	9	0	0	0	0	0	0	0	471	26-35	333
15:00	3	12	64	197	138	33	10	0	0	0	0	0	0	1	458	26-35	335
16:00	0	4	66	204	140	27	5	0	0	0	0	0	0	0	446	26-35	344
17:00	0	4	61	178	91	11	0	1	0	0	0	0	0	0	346	26-35	269
18:00	0	3	106	169	52	8	0	0	0	0	0	0	0	0	338	21-30	275
19:00	0	1	67	88	82	17	1	0	0	0	0	0	0	0	256	26-35	170
20:00	0	1	21	42	80	27	8	0	0	0	0	0	0	0	179	26-35	122
21:00	1	1	17	66	88	16	5	0	0	0	0	0	0	0	194	26-35	154
22:00	0	3	13	51	72	20	6	0	0	0	0	0	0	0	165	26-35	123
23:00	0	2	2	30	42	14	2	0	0	0	0	0	0	0	92	26-35	72
Total	14	113	1073	2490	1841	450	76	5	0	0	0	0	0	1	6063		
Percent	0.2%	1.9%	17.7%	41.1%	30.4%	7.4%	1.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	11:00	10:00	11:00	10:00	10:00	06:00	05:00							10:00		
Vol.	2	20	100	198	132	33	6	2							464		
PM Peak	12:00	12:00	12:00	12:00	13:00	15:00	15:00	17:00						15:00	12:00		
Vol.	3	17	110	242	149	33	10	1						1	514		

Connecticut Counts LLC
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Rubber Ave East of Andrew Ave
Naugatuck, Connecticut

Site Code:
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Latitude: 0' 0.0000 Undefined

Eastbound																	
Start Time	15	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace Speed	Number in Pace
12/16/18	0	0	4	17	30	6	0	0	0	0	0	0	0	0	57	26-35	47
01:00	0	1	3	7	15	5	2	1	0	0	0	0	0	0	34	26-35	22
02:00	0	0	1	8	7	6	1	0	0	0	0	0	0	0	23	26-35	15
03:00	0	0	1	5	3	4	0	0	0	0	0	0	0	0	13	25-34	8
04:00	0	0	1	4	10	3	0	0	0	0	0	0	0	0	18	26-35	14
05:00	0	0	2	7	21	6	0	0	0	0	0	0	0	0	36	26-35	28
06:00	0	0	12	13	29	12	8	0	0	0	0	0	0	0	74	26-35	42
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	0	1	24	61	115	42	11	1	0	0	0	0	0	0	255		
Percent	0.0%	0.4%	9.4%	23.9%	45.1%	16.5%	4.3%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak		01:00	06:00	00:00	00:00	06:00	06:00	01:00							06:00		
Vol.		1	12	17	30	12	8	1							74		
PM Peak																	
Vol.																	
Total	59	454	4189	9975	6738	1606	246	17	1	3	1	1	0	1	23291		
Percent	0.3%	1.9%	18.0%	42.8%	28.9%	6.9%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 23 MPH
50th Percentile : 28 MPH
85th Percentile : 33 MPH
95th Percentile : 37 MPH

Stats
10 MPH Pace Speed : 26-35 MPH
Number in Pace : 16713
Percent in Pace : 71.8%
Number of Vehicles > 35 MPH : 1876
Percent of Vehicles > 35 MPH : 8.1%
Mean Speed(Average) : 29 MPH

TRAFFIC VOLUME FIGURES

CRASH DATA

	CrashId	Date Of Crash	Day of the Week Text Format	Time of Crash	Manner of Crash / Collision Impact Text Format	Crash Severity Text Format	Number Of Motor Vehicles	Number Of Non-Motorist	Milemarker	Roadway Name	Intersecting Roadway Name	Landmark Description	Distance From Nearest Landmark	Unit Of Measure From Nearest Landmark	Direction From Nearest Landmark	Weather Condition Text Format	Light Condition Text Format	Road Surface Condition Text Format
	AT CHURCH ST																	
1	277933	3/14/2016	Monday	15:17:00	Front to rear	Property Damage Only	2	0	0.09	Rubber Avenue	unknown	CHURCH ST	305	Feet	W	Rain	Daylight	Wet
2	180841	3/27/2016	Sunday	6:43:00	Not Applicable	Property Damage Only	1	0	0	Rubber Avenue	OLD FIREHOUSE RD					Clear	Daylight	Dry
3	193396	4/3/2016	Sunday	1:45:00	Not Applicable	Property Damage Only	1	0	0.03	Rubber Avenue		CHURCH ST	25	Feet	E	Rain	Dark-Lighted	Wet
4	234172	6/16/2016	Thursday	22:11:00	Front to rear	Property Damage Only	2	0	0.1	Rubber Avenue	unknown	RT 63-MEADOW ST	100	Feet	E	Clear	Unknown	Dry
5	372600	1/6/2017	Friday	13:53:00	Not Applicable	Injury of any type (Serious, Minor, Possible)	1	1	0.03	Rubber Avenue	CHURCH ST					Clear	Daylight	Dry
6	372844	2/25/2017	Saturday	12:38:00	Sideswipe, same direction	Property Damage Only	2	0	0.56	Church St	RUBBER AV					Clear	Daylight	Dry
7	479884	1/1/2018	Monday	9:37:00	Not Applicable	Property Damage Only	2	0	0.01	RUBBER AV	unknown	Church St	72	Feet	E	Clear	Daylight	Dry
8	506903	4/13/2018	Friday	14:54:00	Angle	Property Damage Only	2	0	0.08	RUBBER AV	unknown	Meadow Street	125	Feet	E	Clear	Daylight	Dry
9	571774	7/26/2018	Thursday	14:34:00	Front to rear	Property Damage Only	2	0	0.56	Church St	RUBBER AV					Clear	Daylight	Dry
10	577963	11/14/2018	Wednesday	20:54:00	Angle	Property Damage Only	2	0	0.56	Church St	RUBBER AV					Clear	Dark-Lighted	Dry
	AT ROUTE 63																	
1	305227	1/14/2016	Thursday	16:24:00	Angle	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Dark-Lighted	Dry
2	282961	5/5/2016	Thursday	23:01:00	Sideswipe, same direction	Property Damage Only	2	0	0.12	Meadow Street	RT 63-MEADOW ST					Clear	Dark-Lighted	Dry
3	234176	6/20/2016	Monday	17:56:00	Front to rear	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Daylight	Dry
4	372348	9/7/2016	Wednesday	6:58:00	Angle	Injury of any type (Serious, Minor, Possible)	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Daylight	Wet
5	372354	9/10/2016	Saturday	15:28:00	Front to rear	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Daylight	Dry
6	372389	10/3/2016	Monday	17:29:00	Angle	Injury of any type (Serious, Minor, Possible)	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Daylight	Dry
7	372535	12/13/2016	Tuesday	14:36:00	Front to rear	Injury of any type (Serious, Minor, Possible)	4	0	0.13	Rubber Avenue	unknown	RT 63-MEADOW ST	50	Feet	W	Clear	Daylight	Dry
8	372572	1/12/2017	Thursday	15:42:00	Front to rear	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Daylight	Dry
9	378933	4/15/2017	Saturday	19:41:00	Front to rear	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Dark-Lighted	Dry
10	377796	4/15/2017	Saturday	17:17:00	Front to rear	Property Damage Only	2	0	0.13	Rubber Avenue	unknown	RT 63-CHERRY ST	50	Feet	W	Clear	Daylight	Dry
11	385847	5/6/2017	Saturday	14:53:00	Front to rear	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-CHERRY ST					Clear	Daylight	Dry
12	386180	5/8/2017	Monday	20:51:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	0.12	Rubber Avenue	RT 63-CHERRY ST					Clear	Dark-Lighted	Dry
13	396227	6/2/2017	Friday	12:10:00	Front to rear	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-CHERRY ST					Clear	Daylight	Dry
14	400873	6/20/2017	Tuesday	17:04:00	Angle	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Daylight	Dry
15	409380	7/14/2017	Friday	17:17:00	Sideswipe, same direction	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Daylight	Dry
16	420296	7/22/2017	Saturday	7:44:00	Angle	Property Damage Only	2	0	0.12	Rubber Avenue	RT 63-MEADOW ST					Clear	Daylight	Dry
17	481003	1/3/2018	Wednesday	7:29:00	Angle	Property Damage Only	2	0	0.15	RUBBER AV	unknown	Cherry Street	112	Feet	W	Clear	Daylight	Dry
18	492975	2/16/2018	Friday	18:16:00	Front to rear	Property Damage Only	2	0	0.12	RUBBER AV	63-N					Clear	Dark-Lighted	Dry
19	572323	5/5/2018	Saturday	13:42:00	Sideswipe, opposite direction	Property Damage Only	2	0	0.12	RUBBER AV	63-N					Clear	Daylight	Dry
20	571717	6/20/2018	Wednesday	15:55:00	Angle	Property Damage Only	2	0	0.16	RUBBER AV	unknown	Cherry Street	150	Feet	W	Clear	Daylight	Dry
21	571751	7/12/2018	Thursday	8:49:00	Sideswipe, same direction	Property Damage Only	2	0	0.14	RUBBER AV	unknown	Cherry Street	10	Feet	W	Clear	Daylight	Dry
22	571912	8/31/2018	Friday	11:51:00	Rear to rear	Property Damage Only	2	0	0.15	RUBBER AV	unknown	Rubber Avenue	100	Feet	S	Clear	Daylight	Dry
23	572420	9/28/2018	Friday	9:10:00	Other	Property Damage Only	2	0	0.12	RUBBER AV	unknown	Meadow Street	100	Feet	W	Clear	Daylight	Dry
	ON ROUTE 63 AT/ NEAR RUBBER AVE																	
24	157082	1/19/2016	Tuesday	18:21:00	Front to rear	Property Damage Only	2	0	14.91	Meadow Street		RUBBER AVE	50	Feet	N	Clear	Dark-Lighted	Dry
25	164438	1/25/2016	Monday	18:03:00	Front to rear	Property Damage Only	2	0	14.9	Cherry Street	RUBBER AVE					Clear	Dark-Lighted	Dry
26	170226	1/28/2016	Thursday	11:09:00	Front to rear	Property Damage Only	2	0	14.9	Meadow Street	RUBBER AVE					Clear	Daylight	Dry
27	196395	4/29/2016	Friday	14:34:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	14.9	Meadow Street	RUBBER AVE					Clear	Daylight	Dry
28	201515	5/6/2016	Friday	16:44:00	Angle	Property Damage Only	2	0	14.9	Meadow Street	RUBBER AVE					Rain	Daylight	Wet
29	234208	7/16/2016	Saturday	12:16:00	Angle	Property Damage Only	2	0	14.94	Meadow Street	unknown	RUBBER AVE	200	Feet	N	Clear	Daylight	Dry
30	234245	8/7/2016	Sunday	17:28:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	14.91	Meadow Street	unknown	RUBBER AVE	50	Feet	N	Clear	Daylight	Dry
31	234867	8/15/2016	Monday	16:12:00	Not Applicable	Property Damage Only	1	0	14.93	Meadow Street	unknown	RUBBER AVE	150	Feet	N	Clear	Daylight	Dry
32	238067	8/22/2016	Monday	20:22:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	14.94	Meadow Street	unknown	RUBBER AVE	200	Feet	N	Clear	Dusk	Dry
33	273218	1/14/2016	Thursday	16:06:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	14.9	Meadow Street	RUBBER AVE					Clear	Dark-Lighted	Dry
34	372343	8/29/2016	Monday	14:23:00	Front to rear	Property Damage Only	2	0	14.87	Cherry Street	unknown	RUBBER AVE	150	Feet	S	Clear	Daylight	Dry
35	372377	9/26/2016	Monday	11:17:00	Front to rear	Property Damage Only	2	0	14.91	Meadow Street	unknown	RUBBER AVE	30	Feet	N	Clear	Daylight	Dry
36	372378	9/27/2016	Tuesday	17:04:00	Other	Property Damage Only	2	0	14.9	Cherry Street	RUBBER AVE					Clear	Daylight	Dry
37	372445	11/4/2016	Friday	16:06:00	Angle	Property Damage Only	2	0	14.91	Meadow Street	unknown	RUBBER AVE	50	Feet	N	Clear	Daylight	Dry
38	372469	11/16/2016	Wednesday	16:44:00	Sideswipe, same direction	Property Damage Only	2	0	14.9	Cherry Street	RUBBER AVE					Clear	Dark-Lighted	Dry
39	372481	11/18/2016	Friday	15:21:00	Front to rear	Injury of any type (Serious, Minor, Possible)	3	0	14.92	Meadow Street	unknown	RUBBER AVE	100	Feet	N	Clear	Daylight	Dry
40	372817	2/3/2017	Friday	18:16:00	Front to rear	Property Damage Only	3	0	14.85	Cherry Street	unknown	RUBBER AVE	250	Feet	S	Clear	Dark-Not Lighted	Dry
41	372893	3/24/2017	Friday	17:21:00	Front to rear	Property Damage Only	2	0	14.88	Cherry Street	unknown	RUBBER AVE	100	Feet	S	Clear	Daylight	Dry
42	375852	3/31/2017	Friday	16:04:00	Front to rear	Injury of any type (Serious, Minor, Possible)	3	0	14.9	Meadow Street	RUBBER AVE		400	Feet		Rain	Daylight	Wet
43	375854	4/6/2017	Thursday	13:30:00	Angle	Property Damage Only	2	0	14.85	Cherry Street	unknown	RUBBER AVE	250	Feet	S	Rain	Daylight	Wet
44	383043	4/29/2017	Saturday	11:27:00	Sideswipe, same direction	Property Damage Only	2	0	14.92	Meadow Street	unknown	RUBBER AVE	100	Feet	N	Clear	Daylight	Dry
45	385846	5/6/2017	Saturday	13:37:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	14.89	Cherry Street	unknown	RUBBER AVE	50	Feet	S	Clear	Daylight	Dry
46	412198	7/5/2017	Wednesday	15:49:00	Sideswipe, opposite direction	Property Damage Only	2	0	14.91	Meadow Street	unknown	RUBBER AVE	50	Feet	N	Clear	Daylight	Dry
47	419939	7/21/2017	Friday	18:53:00	Front to rear	Property Damage Only	2	0	14.9	Cherry Street	RUBBER AVE					Clear	Daylight	Dry
48	420989	7/24/2017	Monday	15:06:00	Sideswipe, same direction	Property Damage Only	2	0	14.9	Cherry Street	RUBBER AVE					Clear	Daylight	Dry
49	433231	9/3/2017	Sunday	13:17:00	Front to rear	Property Damage Only	3	0	14.88	Cherry Street	unknown	RUBBER AVE	92	Feet	S	Cloudy	Daylight	Dry
50	441639	10/4/2017	Wednesday	17:07:00	Not Applicable	Injury of any type (Serious, Minor, Possible)	1	1	14.89	Cherry Street	unknown	RUBBER AVE	60	Feet	S	Clear	Daylight	Dry
51	447013	10/24/2017	Tuesday	6:31:00	Front to rear	Property Damage Only	2	0	14.9	Meadow Street	RUBBER AVE					Rain	Dawn	Wet
52	461141	12/2/2017	Saturday	16:16:00	Sideswipe, same direction	Property Damage Only	2	0	14.9	Meadow Street	RUBBER AVE					Clear	Daylight	Dry
53	461859	12/5/2017	Tuesday	18:51:00	Angle	Property Damage Only	2	0	14.9	Meadown St	RUBBER AVE					Clear	Unknown	Dry
54	478538	12/28/2017	Thursday	13:18:00	Sideswipe, opposite direction	Property Damage Only	2	0	14.8	Cherry Street	unknown	RUBBER AVE	1	Tenths of Mile	S	Clear	Daylight	Dry

			Day of the Week Text Format	Time of Crash	Manner of Crash / Collision Impact Text Format	Crash Severity Text Format	Number Of Motor Vehicles	Number Of Non-Motorist	Milemarker	Roadway Name	Intersecting Roadway Name	Landmark Description	Distance From Nearest Landmark	Unit Of Measure From Nearest Landmark	Direction From Nearest Landmark	Weather Condition Text Format	Light Condition Text Format	Road Surface Condition Text Format
	CrashId	Date Of Crash																
55	481008	1/4/2018	Thursday	19:49:00	Not Applicable	Injury of any type (Serious, Minor, Possible)	1	1	14.9	63-N	Rubber Avenue					Clear	Dark-Not Lighted	Snow
56	485687	1/18/2018	Thursday	14:53:00	Sideswipe, same direction	Property Damage Only	2	0	14.8	63-N	unknown	RUBBER AV	500	Feet	S	Clear	Daylight	Dry
57	496696	3/4/2018	Sunday	17:46:00	Not Applicable	Property Damage Only	1	0	14.91	63-N	Rubber Av					Cloudy	Daylight	Dry
58	571831	1/8/2018	Monday	8:55:00	Not Applicable	Property Damage Only	1	0	14.9	63-N	RUBBER AV					Clear	Daylight	Dry
59	572427	10/2/2018	Tuesday	21:19:00	Angle	Property Damage Only	2	0	14.9	63-N	unknown					Rain	Dark-Lighted	Wet
60	573512	10/18/2018	Thursday	14:17:00	Front to rear	Property Damage Only	3	0	14.88	63-N	unknown	RUBBER AVENUE	50	Feet	S	Clear	Daylight	Dry
61	601891	1/27/2019	Sunday	12:39:00	Sideswipe, same direction	Property Damage Only	2	0	14.8	63-N	unknown	Rubber Avenue	1	Tenths of Mile	S	Unknown	Unknown	Unknown
62	606794	2/10/2019	Sunday	10:42:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	14.92	63-N	unknown	Rubber Avenue	80	Feet	N	Clear	Daylight	Dry
63	622897	3/30/2019	Saturday	13:53:00	Sideswipe, opposite direction	Property Damage Only	2	0	14.93	63-N	unknown	Rubber Avenue	30	Feet	N	Clear	Daylight	Dry
64	622899	3/31/2019	Sunday	18:12:00	Angle	Injury of any type (Serious, Minor, Possible)	2	0	14.9	63-N	RUBBER AV					Clear	Daylight	Dry
65	662001	10/28/2016	Friday	16:47:00	Angle	Property Damage Only	2	0	14.91	Meadow Street	unknown	RUBBER AVE	164	Feet	S	Clear	Daylight	Dry
AT ARCH ST																		
1	177403	2/17/2016	Wednesday	9:06:00	Front to rear	Property Damage Only	2	0	0.22	Rubber Avenue		POND ST	40	Feet	W	Clear	Daylight	Dry
2	398096	6/10/2017	Saturday	12:45:00	Sideswipe, same direction	Property Damage Only	2	0	0.19	Rubber Avenue	unknown	ARCH ST	115	Feet	E	Clear	Daylight	Dry
3	234204	7/13/2016	Wednesday	19:47:00	Sideswipe, same direction	Property Damage Only	2	0	0.21	Rubber Avenue	POND ST					Clear	Daylight	Dry
4	234226	7/27/2016	Wednesday	19:04:00	Angle	Property Damage Only	2	0	0.21	Rubber Avenue	POND ST					Clear	Daylight	Dry
5	431715	8/30/2017	Wednesday	12:48:00	Front to rear	Property Damage Only	2	0	0.2	Rubber Avenue	unknown	POND ST	88	Feet	E	Clear	Daylight	Dry
6	457793	9/22/2017	Friday	15:06:00	Angle	Property Damage Only	2	0	0.21	Rubber Avenue	ARCH ST					Clear	Daylight	Dry
7	457794	11/6/2017	Monday	16:26:00	Other	Property Damage Only	2	0	0.19	Rubber Avenue	unknown	POND ST	100	Feet	E	Clear	Daylight	Dry
8	461136	12/1/2017	Friday	7:30:00	Front to rear	Property Damage Only	2	0	0.21	Rubber Avenue	ARCH ST					Clear	Daylight	Wet
9	481007	1/4/2018	Thursday	14:41:00	Angle	Property Damage Only	2	0	0.21	RUBBER AV	ARCH ST					Snow	Daylight	Snow
10	489355	2/1/2018	Thursday	16:37:00	Angle	Property Damage Only	2	0	0.21	RUBBER AV	ARCH ST					Clear	Daylight	Dry
AT AETNA ST																		
1	372527	12/10/2016	Saturday	15:38:00	Front to rear	Property Damage Only	2	0	0	AETNA ST	Rubber Avenue					Clear	Daylight	Dry
2	372819	2/4/2017	Saturday	12:07:00	Front to rear	Property Damage Only	2	0	0.29	Rubber Avenue	AETNA ST					Clear	Daylight	Dry
3	438820	9/23/2017	Saturday	20:10:00	Other	Property Damage Only	2	0	0.29	Rubber Avenue	AETNA ST					Clear	Dark-Lighted	Dry
4	442266	10/7/2017	Saturday	11:05:00	Front to rear	Property Damage Only	2	0	0.3	Rubber Avenue	unknown	AETNA ST	64	Feet	W	Clear	Daylight	Dry
5	456377	11/22/2017	Wednesday	18:13:00	Front to rear	Property Damage Only	2	0	0.32	Rubber Avenue	unknown	HOADLEY ST	2000	Feet	E	Clear	Dark-Lighted	Dry
6	571681	5/31/2018	Thursday	0:37:00	Not Applicable	Injury of any type (Serious, Minor, Possible)	1	0	0.29	RUBBER AV	AETNA ST					Clear	Dark-Lighted	Dry
7	571807	8/17/2018	Friday	12:14:00	Not Applicable	Property Damage Only	2	0	0.29	RUBBER AV	AETNA ST					Clear	Daylight	Dry
8	571923	9/13/2018	Thursday	16:30:00	Angle	Injury of any type (Serious, Minor, Possible)	2	0	0.33	RUBBER AV	unknown	Aetna Street	200	Feet	W	Clear	Daylight	Dry
9	573506	10/16/2018	Tuesday	20:17:00	Sideswipe, same direction	Property Damage Only	2	0	0.28	RUBBER AV	unknown	Andrew Avenue	500	Feet	E	Clear	Dark-Lighted	Dry
AT ANDREW AVE																		
1	273229	1/7/2016	Thursday	14:34:00	Front to rear	Property Damage Only	2	0	0.37	Rubber Avenue	ANDREW AV					Clear	Daylight	Dry
2	277915	1/23/2016	Saturday	17:49:00	Front to rear	Property Damage Only	2	0	0	ANDREW AV	RUBBER AV					Blowing Sn	Dark-Lighted	Snow
3	170237	2/5/2016	Friday	18:33:00	Sideswipe, same direction	Property Damage Only	2	0	0.37	Rubber Avenue	ANDREW AV					Snow	Dark-Lighted	Snow
4	234240	8/4/2016	Thursday	16:57:00	Front to rear	Property Damage Only	2	0	0	ANDREW AV	RUBBER AV					Clear	Daylight	Dry
5	238727	8/24/2016	Wednesday	18:32:00	Angle	Injury of any type (Serious, Minor, Possible)	2	0	0.37	Rubber Avenue	ANDREW AV					Clear	Daylight	Dry
6	443897	9/24/2016	Saturday	2:06:00	Not Applicable	Property Damage Only	1	0	0.37	RUBBER AV	ANDREW AV					Clear	Dark-Lighted	Dry
7	372456	11/9/2016	Wednesday	8:27:00	Front to rear	Property Damage Only	2	0	0.38	Rubber Avenue	unknown	ANDREW AV	50	Feet	W	Clear	Daylight	Dry
8	372580	1/18/2017	Wednesday	8:19:00	Front to rear	Property Damage Only	2	0	0.37	Rubber Avenue	ANDREW AV					Rain	Daylight	Wet
9	394575	5/28/2017	Sunday	12:58:00	Front to rear	Property Damage Only	2	0	0.37	Rubber Avenue	ANDREW AV					Clear	Daylight	Dry
10	410290	6/27/2017	Tuesday	16:33:00	Front to rear	Property Damage Only	2	0	0.36	Rubber Avenue	unknown	ANDREW AV	75	Feet	E	Clear	Daylight	Dry
11	429509	8/20/2017	Sunday	14:57:00	Angle	Property Damage Only	2	0	0.36	Rubber Avenue	unknown	ANDREW AV	65	Feet	E	Clear	Daylight	Dry
12	435310	9/12/2017	Tuesday	7:13:00	Angle	Property Damage Only	2	0	0.39	Rubber Avenue	unknown	ANDREW AV	113	Feet	W	Clear	Daylight	Dry
13	461139	12/1/2017	Friday	19:27:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	0.39	Rubber Avenue	unknown	ANDREW AV	100	Feet	W	Clear	Dark-Lighted	Dry
14	571682	5/31/2018	Thursday	10:51:00	Front to rear	Property Damage Only	2	0	0.38	RUBBER AV	unknown	ANDREW AV	40	Feet	W	Clear	Daylight	Dry
15	575672	11/6/2018	Tuesday	16:55:00	Front to rear	Injury of any type (Serious, Minor, Possible)	3	0	0.37	RUBBER AV	ANDREW AV					Rain	Dark-Lighted	Moving Water
AT EDWARD ST																		
1	190926	3/16/2016	Wednesday	7:34:00	Front to rear	Injury of any type (Serious, Minor, Possible)	2	0	0.09	EDWARD ST	Rubber Avenue					Clear	Daylight	Dry
2	208048	5/21/2016	Saturday	9:38:00	Angle	Injury of any type (Serious, Minor, Possible)	2	0	0.46	Rubber Avenue	EDWARD ST					Cloudy	Daylight	Dry
3	372571	1/11/2017	Wednesday	19:06:00	Angle	Property Damage Only	2	0	0.09	EDWARD ST	Rubber Avenue					Clear	Dark-Lighted	Dry
4	421641	7/26/2017	Wednesday	12:07:00	Sideswipe, same direction	Property Damage Only	2	0	0.46	Rubber Avenue	EDWARD ST					Clear	Daylight	Dry
5	452288	10/30/2017	Monday	22:21:00	Not Applicable	Property Damage Only	1	0	0.46	Rubber Avenue	EDWARD ST					Rain	Dark-Lighted	Wet
6	448496	10/29/2017	Sunday	23:43:00	Not Applicable	Injury of any type (Serious, Minor, Possible)	1	0	0.5	Rubber Avenue	unknown	ANDREW AV	662	Feet	W	Rain	Dark-Not Lighted	Wet

APPENDIX D

Operational Analysis

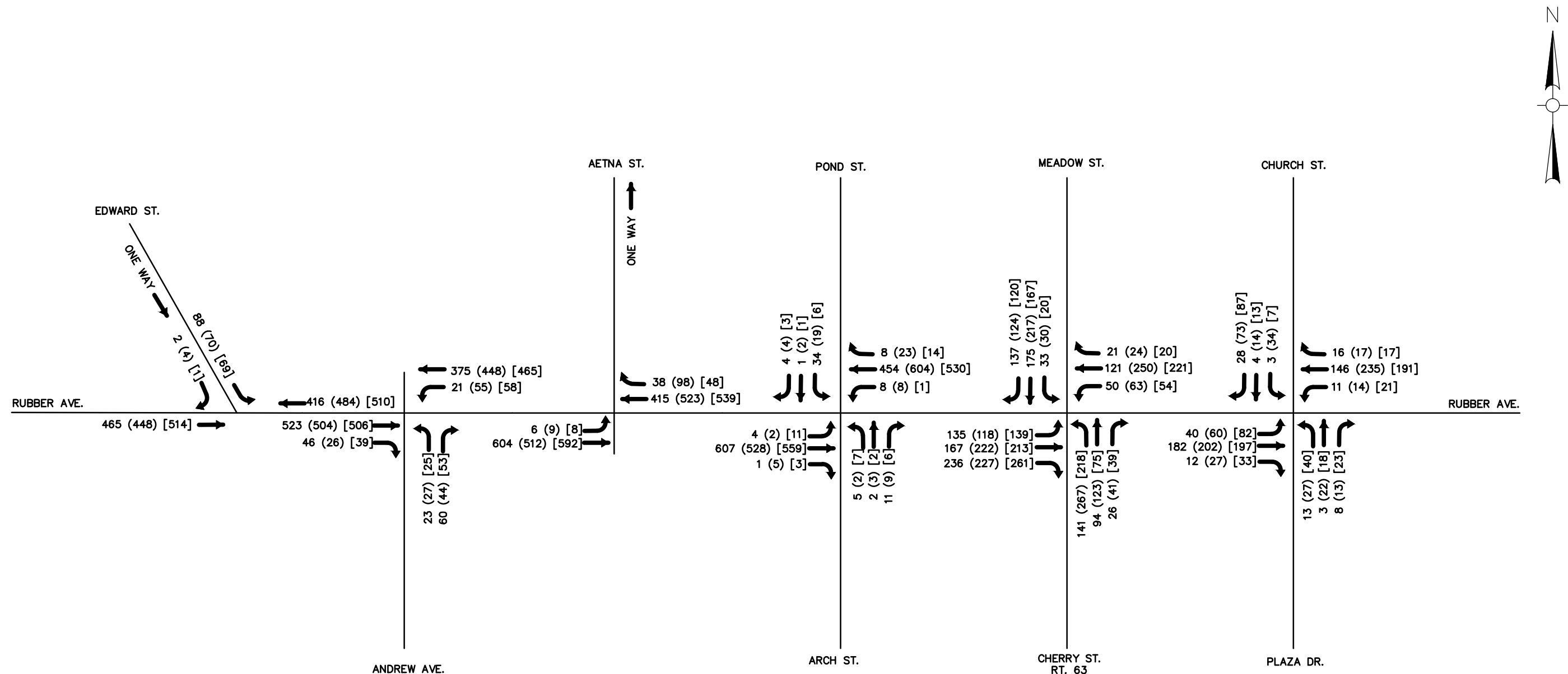
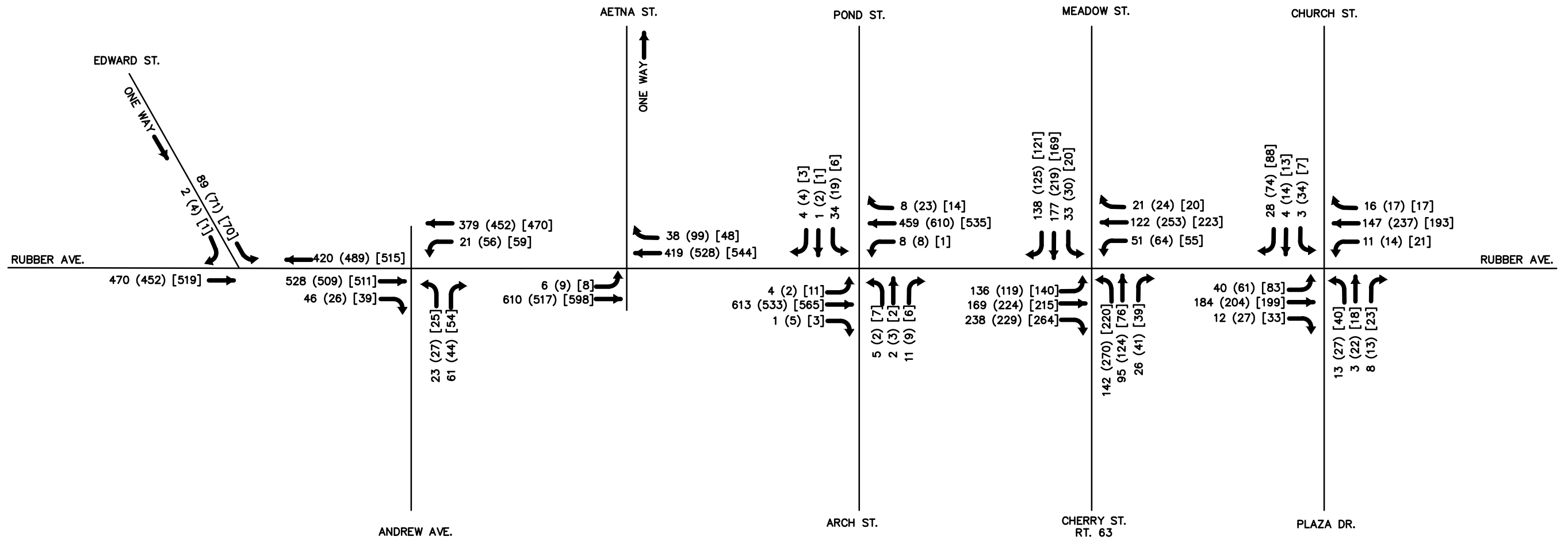
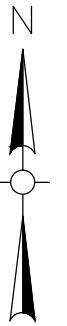


FIGURE 1
 EXISTING
 PEAK HOUR TRAFFIC VOLUMES

RUBBER AVENUE
 NAUGATUCK, CT

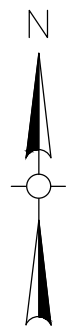
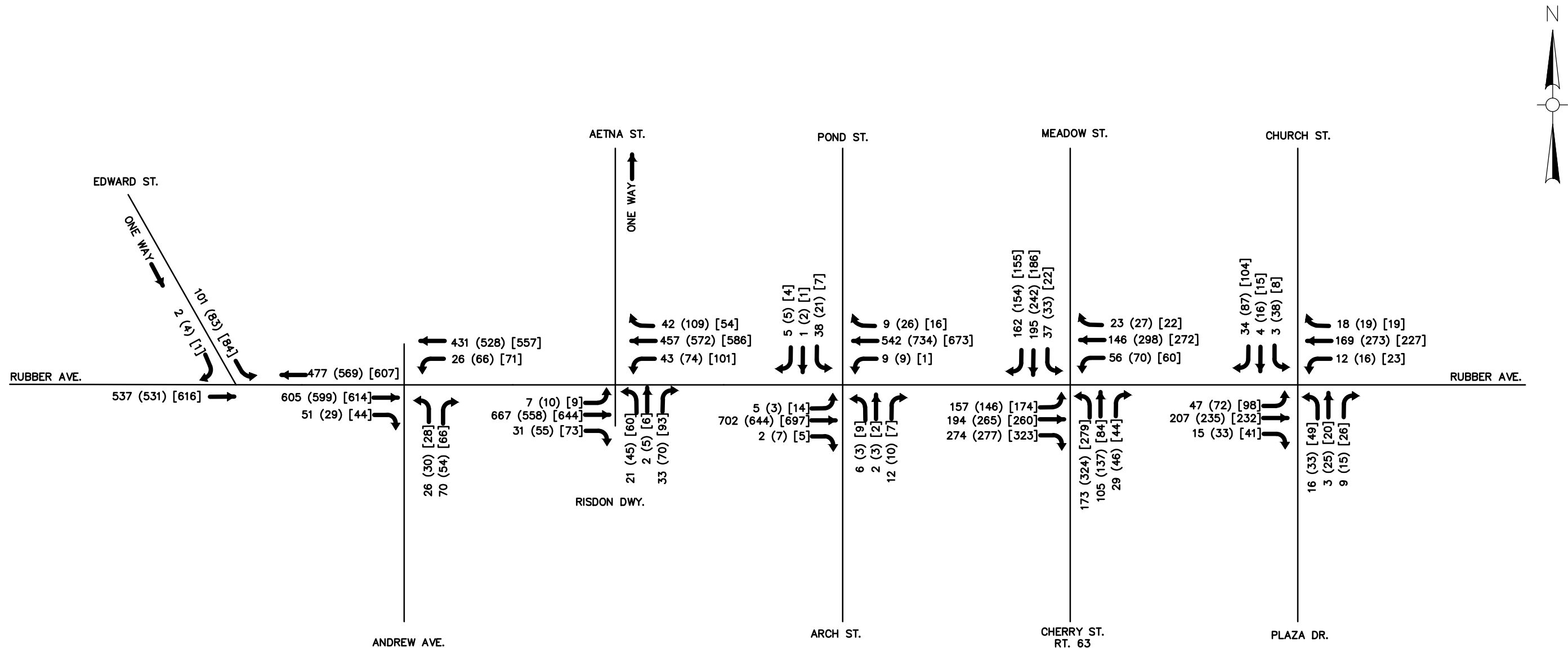


LEGEND:
XXX – WEEKDAY AM PEAK HOUR
(XXX) – WEEKDAY PM PEAK HOUR
[XXX] – SATURDAY MIDDAY PEAK HOUR

SCALE: N.T.S.

FIGURE 2
2020 OPENING YEAR
PEAK HOUR TRAFFIC VOLUMES

RUBBER AVENUE
NAUGATUCK, CT



LEGEND:
 XXX – WEEKDAY AM PEAK HOUR
 (XXX) – WEEKDAY PM PEAK HOUR
 [XXX] – SATURDAY MIDDAY PEAK HOUR

SCALE: N.T.S.

FIGURE 3
 2040 BASE YEAR
 PEAK HOUR TRAFFIC VOLUMES
 RUBBER AVENUE
 NAUGATUCK, CT

Existing Conditions
Weekday AM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2018 Existing AM
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	465	416	0	88	2
Future Vol, veh/h	0	465	416	0	88	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	655	586	0	124	3
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1241	586
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	655	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	193	510
Stage 1	0	-	-	0	556	-
Stage 2	0	-	-	0	517	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	193	510
Mov Cap-2 Maneuver	-	-	-	-	193	-
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	517	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		51.9		
HCM LOS				F		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	196			
HCM Lane V/C Ratio	-	-	0.647			
HCM Control Delay (s)	-	-	51.9			
HCM Lane LOS	-	-	F			
HCM 95th %tile Q(veh)	-	-	3.8			

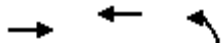
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2018 Existing AM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	523	46	21	375	23	60
Future Volume (vph)	523	46	21	375	23	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.90	
Flt Protected	1.00			1.00	0.99	
Satd. Flow (prot)	2088			2105	1658	
Flt Permitted	1.00			0.95	0.99	
Satd. Flow (perm)	2088			2007	1658	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	688	61	28	493	30	79
RTOR Reduction (vph)	4	0	0	0	72	0
Lane Group Flow (vph)	745	0	0	521	37	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	28.2			28.2	3.7	
Effective Green, g (s)	28.2			28.2	3.7	
Actuated g/C Ratio	0.67			0.67	0.09	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1405			1350	146	
v/s Ratio Prot	c0.36				c0.02	
v/s Ratio Perm				0.26		
v/c Ratio	0.53			0.39	0.25	
Uniform Delay, d1	3.5			3.0	17.8	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.4			0.2	0.9	
Delay (s)	3.9			3.2	18.7	
Level of Service	A			A	B	
Approach Delay (s)	3.9			3.2	18.7	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			41.9		Sum of lost time (s)	15.0
Intersection Capacity Utilization			50.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2018 Existing AM
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	749	521	109
v/c Ratio	0.47	0.34	0.34
Control Delay	5.1	4.2	10.7
Queue Delay	0.0	0.0	0.0
Total Delay	5.1	4.2	10.7
Queue Length 50th (ft)	80	49	6
Queue Length 95th (ft)	113	74	29
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1601	1593	360
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.47	0.33	0.30
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2018 Existing AM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	607	1	8	454	8	5	2	11	34	1	4
Future Vol, veh/h	4	607	1	8	454	8	5	2	11	34	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	855	1	11	639	11	7	3	15	48	1	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	650	0	0	856	0	0	1538	1540	856	1544	1535	645
Stage 1	-	-	-	-	-	-	868	868	-	667	667	-
Stage 2	-	-	-	-	-	-	670	672	-	877	868	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	936	-	-	784	-	-	94	115	357	94	116	472
Stage 1	-	-	-	-	-	-	347	370	-	448	457	-
Stage 2	-	-	-	-	-	-	446	454	-	343	370	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	936	-	-	784	-	-	90	111	357	86	112	472
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	111	-	86	112	-
Stage 1	-	-	-	-	-	-	343	366	-	443	447	-
Stage 2	-	-	-	-	-	-	430	444	-	322	366	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			29.5			87		
HCM LOS							D			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	172	936	-	-	784	-	-	94				
HCM Lane V/C Ratio	0.147	0.006	-	-	0.014	-	-	0.584				
HCM Control Delay (s)	29.5	8.9	0	-	9.7	0	-	87				
HCM Lane LOS	D	A	A	-	A	A	-	F				
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	2.7				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2018 Existing AM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	167	236	50	121	21	141	94	26	33	175	137
Future Volume (vph)	135	167	236	50	121	21	141	94	26	33	175	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.91		1.00	0.98			0.99			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1699		1770	1822			2028			1754	
Flt Permitted	0.49	1.00		0.50	1.00			0.41			0.94	
Satd. Flow (perm)	915	1699		938	1822			859			1661	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	150	186	262	56	134	23	157	104	29	37	194	152
RTOR Reduction (vph)	0	64	0	0	8	0	0	4	0	0	28	0
Lane Group Flow (vph)	150	384	0	56	149	0	0	286	0	0	355	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	23.6	23.6		11.8	11.8			31.3			21.2	
Effective Green, g (s)	23.6	23.6		11.8	11.8			31.3			21.2	
Actuated g/C Ratio	0.36	0.36		0.18	0.18			0.47			0.32	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	426	605		167	324			406			531	
v/s Ratio Prot	0.04	c0.23			0.08							
v/s Ratio Perm	0.08			0.06				c0.33			0.21	
v/c Ratio	0.35	0.64		0.34	0.46			0.70			0.67	
Uniform Delay, d1	15.1	17.7		23.8	24.3			13.8			19.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.5	2.2		1.2	1.0			5.5			3.2	
Delay (s)	15.6	19.9		25.0	25.4			19.3			22.7	
Level of Service	B	B		C	C			B			C	
Approach Delay (s)		18.8			25.3			19.3			22.7	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.8			HCM 2000 Level of Service					C	
HCM 2000 Volume to Capacity ratio			0.79									
Actuated Cycle Length (s)			66.2			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			81.7%			ICU Level of Service					D	
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2018 Existing AM
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	150	448	56	157	290	383
v/c Ratio	0.33	0.67	0.34	0.48	0.71	0.69
Control Delay	16.6	19.9	30.7	28.5	26.3	25.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	19.9	30.7	28.5	26.3	25.6
Queue Length 50th (ft)	36	104	19	50	82	115
Queue Length 95th (ft)	90	243	56	117	#242	240
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	454	1007	360	705	530	786
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.44	0.16	0.22	0.55	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2018 Existing AM
HCM 2010 AWSC

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	182	12	11	146	16	13	3	8	3	4	28
Future Vol, veh/h	40	182	12	11	146	16	13	3	8	3	4	28
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	217	14	13	174	19	15	4	10	4	5	33
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	9.6	10	8.7	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	6%	9%
Vol Thru, %	0%	27%	0%	94%	84%	11%
Vol Right, %	0%	73%	0%	6%	9%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	11	40	194	173	35
LT Vol	13	0	40	0	11	3
Through Vol	0	3	0	182	146	4
RT Vol	0	8	0	12	16	28
Lane Flow Rate	15	13	48	231	206	42
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.027	0.019	0.071	0.311	0.286	0.061
Departure Headway (Hd)	6.267	5.249	5.398	4.852	4.991	5.283
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	571	681	665	741	721	677
Service Time	4.004	2.985	3.119	2.573	3.013	3.318
HCM Lane V/C Ratio	0.026	0.019	0.072	0.312	0.286	0.062
HCM Control Delay	9.2	8.1	8.5	9.8	10	8.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	1.3	1.2	0.2

Existing Conditions
Weekday PM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2018 Existing PM
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	448	484	0	70	4
Future Vol, veh/h	0	448	484	0	70	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	472	509	0	74	4
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	981	509
Stage 1	-	-	-	-	509	-
Stage 2	-	-	-	-	472	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	277	564
Stage 1	0	-	-	0	604	-
Stage 2	0	-	-	0	628	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	277	564
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	628	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		22.3		
HCM LOS				C		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	285			
HCM Lane V/C Ratio	-	-	0.273			
HCM Control Delay (s)	-	-	22.3			
HCM Lane LOS	-	-	C			
HCM 95th %tile Q(veh)	-	-	1.1			

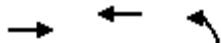
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2018 Existing PM
HCM Signalized Intersection Capacity Analysis

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	504	26	55	448	27	44
Future Volume (vph)	504	26	55	448	27	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.92	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2097			2100	1675	
Flt Permitted	1.00			0.91	0.98	
Satd. Flow (perm)	2097			1917	1675	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	542	28	59	482	29	47
RTOR Reduction (vph)	2	0	0	0	43	0
Lane Group Flow (vph)	568	0	0	541	33	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	29.7			29.7	3.7	
Effective Green, g (s)	29.7			29.7	3.7	
Actuated g/C Ratio	0.68			0.68	0.09	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1435			1311	142	
v/s Ratio Prot	0.27				c0.02	
v/s Ratio Perm				c0.28		
v/c Ratio	0.40			0.41	0.23	
Uniform Delay, d1	3.0			3.0	18.5	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.2	0.8	
Delay (s)	3.1			3.2	19.4	
Level of Service	A			A	B	
Approach Delay (s)	3.1			3.2	19.4	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.2		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			43.4		Sum of lost time (s)	15.0
Intersection Capacity Utilization			71.4%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2018 Existing PM
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	570	541	76
v/c Ratio	0.35	0.36	0.26
Control Delay	4.1	4.4	11.8
Queue Delay	0.0	0.0	0.0
Total Delay	4.1	4.4	11.8
Queue Length 50th (ft)	55	54	7
Queue Length 95th (ft)	104	104	33
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1631	1504	328
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.35	0.36	0.23
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2018 Existing PM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	528	5	8	604	23	2	3	9	19	2	4
Future Vol, veh/h	2	528	5	8	604	23	2	3	9	19	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	556	5	8	636	24	2	3	9	20	2	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	660	0	0	561	0	0	1230	1239	559	1233	1229	648
Stage 1	-	-	-	-	-	-	563	563	-	664	664	-
Stage 2	-	-	-	-	-	-	667	676	-	569	565	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	928	-	-	1010	-	-	154	175	529	154	178	470
Stage 1	-	-	-	-	-	-	511	509	-	450	458	-
Stage 2	-	-	-	-	-	-	448	453	-	507	508	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	928	-	-	1010	-	-	149	172	529	147	175	470
Mov Cap-2 Maneuver	-	-	-	-	-	-	149	172	-	147	175	-
Stage 1	-	-	-	-	-	-	509	507	-	449	452	-
Stage 2	-	-	-	-	-	-	436	447	-	493	506	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			18			30.4		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	292	928	-	-	1010	-	-	168				
HCM Lane V/C Ratio	0.05	0.002	-	-	0.008	-	-	0.157				
HCM Control Delay (s)	18	8.9	0	-	8.6	0	-	30.4				
HCM Lane LOS	C	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.5				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2018 Existing PM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	118	222	227	63	250	24	267	123	41	30	217	124
Future Volume (vph)	118	222	227	63	250	24	267	123	41	30	217	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.92		1.00	0.99			0.99			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1721		1770	1838			2021			1772	
Flt Permitted	0.28	1.00		0.41	1.00			0.39			0.93	
Satd. Flow (perm)	524	1721		763	1838			808			1662	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	133	249	255	71	281	27	300	138	46	34	244	139
RTOR Reduction (vph)	0	45	0	0	4	0	0	4	0	0	20	0
Lane Group Flow (vph)	133	459	0	71	304	0	0	480	0	0	397	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	30.0	30.0		18.3	18.3			40.2			30.2	
Effective Green, g (s)	30.0	30.0		18.3	18.3			40.2			30.2	
Actuated g/C Ratio	0.37	0.37		0.22	0.22			0.49			0.37	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	310	633		171	412			398			615	
v/s Ratio Prot	0.04	c0.27			0.17							
v/s Ratio Perm	0.12			0.09				c0.59			0.24	
v/c Ratio	0.43	0.72		0.42	0.74			1.21			0.65	
Uniform Delay, d1	18.5	22.2		27.0	29.4			20.6			21.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.0	4.1		1.6	6.8			114.2			2.3	
Delay (s)	19.5	26.3		28.7	36.2			134.8			23.6	
Level of Service	B	C		C	D			F			C	
Approach Delay (s)		24.9			34.7			134.8			23.6	
Approach LOS		C			C			F			C	
Intersection Summary												
HCM 2000 Control Delay			54.3			HCM 2000 Level of Service					D	
HCM 2000 Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			81.5			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			94.6%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2018 Existing PM
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	133	504	71	308	484	417
v/c Ratio	0.41	0.74	0.42	0.74	1.20	0.66
Control Delay	20.1	26.3	34.7	40.4	137.5	26.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	26.3	34.7	40.4	137.5	26.8
Queue Length 50th (ft)	44	188	31	145	~308	162
Queue Length 95th (ft)	78	295	70	226	#533	290
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	326	823	235	569	402	633
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.61	0.30	0.54	1.20	0.66

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2018 Existing PM
HCM 2010 AWSC

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	202	27	14	235	17	27	22	13	34	14	73
Future Vol, veh/h	60	202	27	14	235	17	27	22	13	34	14	73
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	224	30	16	261	19	30	24	14	38	16	81
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	11.2	13.3	9.7	10.8
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	5%	28%
Vol Thru, %	0%	63%	0%	88%	88%	12%
Vol Right, %	0%	37%	0%	12%	6%	60%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	35	60	229	266	121
LT Vol	27	0	60	0	14	34
Through Vol	0	22	0	202	235	14
RT Vol	0	13	0	27	17	73
Lane Flow Rate	30	39	67	254	296	134
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.058	0.067	0.112	0.385	0.46	0.225
Departure Headway (Hd)	6.951	6.179	6.043	5.454	5.601	6.019
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	580	595	662	644	597
Service Time	4.687	3.914	3.767	3.178	3.625	4.05
HCM Lane V/C Ratio	0.058	0.067	0.113	0.384	0.46	0.224
HCM Control Delay	10.1	9.4	9.5	11.6	13.3	10.8
HCM Lane LOS	B	A	A	B	B	B
HCM 95th-tile Q	0.2	0.2	0.4	1.8	2.4	0.9

Existing Conditions
Saturday Midday Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2018 Existing Saturday
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	514	510	0	69	1
Future Vol, veh/h	0	514	510	0	69	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	535	531	0	72	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1066	531
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	535	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	246	548
Stage 1	0	-	-	0	590	-
Stage 2	0	-	-	0	587	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	246	548
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	590	-
Stage 2	-	-	-	-	587	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		25.5		
HCM LOS	D					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	248			
HCM Lane V/C Ratio	-	-	0.294			
HCM Control Delay (s)	-	-	25.5			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	1.2			

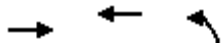
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2018 Existing Saturday
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	506	39	58	465	25	53
Future Volume (vph)	506	39	58	465	25	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.91	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2091			2099	1666	
Flt Permitted	1.00			0.90	0.98	
Satd. Flow (perm)	2091			1908	1666	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	538	41	62	495	27	56
RTOR Reduction (vph)	3	0	0	0	51	0
Lane Group Flow (vph)	576	0	0	557	32	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	29.8			29.8	3.7	
Effective Green, g (s)	29.8			29.8	3.7	
Actuated g/C Ratio	0.69			0.69	0.09	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1432			1307	141	
v/s Ratio Prot	0.28				c0.02	
v/s Ratio Perm				c0.29		
v/c Ratio	0.40			0.43	0.23	
Uniform Delay, d1	3.0			3.0	18.6	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.2	0.8	
Delay (s)	3.2			3.3	19.4	
Level of Service	A			A	B	
Approach Delay (s)	3.2			3.3	19.4	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.47			
Actuated Cycle Length (s)			43.5		Sum of lost time (s)	15.0
Intersection Capacity Utilization			73.8%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2018 Existing Saturday
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	579	557	83
v/c Ratio	0.36	0.37	0.28
Control Delay	4.1	4.4	11.3
Queue Delay	0.0	0.0	0.0
Total Delay	4.1	4.4	11.3
Queue Length 50th (ft)	56	56	7
Queue Length 95th (ft)	105	109	34
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1630	1486	333
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.36	0.37	0.25
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2018 Existing Saturday
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	559	3	1	530	14	7	2	6	6	1	3
Future Vol, veh/h	11	559	3	1	530	14	7	2	6	6	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	658	4	1	624	16	8	2	7	7	1	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	640	0	0	662	0	0	1323	1328	660	1325	1322	632
Stage 1	-	-	-	-	-	-	686	686	-	634	634	-
Stage 2	-	-	-	-	-	-	637	642	-	691	688	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	944	-	-	927	-	-	133	155	463	133	156	480
Stage 1	-	-	-	-	-	-	438	448	-	467	473	-
Stage 2	-	-	-	-	-	-	465	469	-	435	447	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	944	-	-	927	-	-	129	151	463	127	152	480
Mov Cap-2 Maneuver	-	-	-	-	-	-	129	151	-	127	152	-
Stage 1	-	-	-	-	-	-	428	438	-	457	472	-
Stage 2	-	-	-	-	-	-	460	468	-	417	437	-
Approach	EB		WB				NB			SB		
HCM Control Delay, s	0.2		0				26.4			28.3		
HCM LOS							D			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	186	944	-	-	927	-	-	166				
HCM Lane V/C Ratio	0.095	0.014	-	-	0.001	-	-	0.071				
HCM Control Delay (s)	26.4	8.9	0	-	8.9	0	-	28.3				
HCM Lane LOS	D	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2018 Existing Saturday
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	213	261	54	221	20	218	75	39	20	167	120
Future Volume (vph)	139	213	261	54	221	20	218	75	39	20	167	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.92		1.00	0.99			0.98			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1709		1770	1839			2011			1759	
Flt Permitted	0.38	1.00		0.42	1.00			0.42			0.96	
Satd. Flow (perm)	710	1709		781	1839			867			1700	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	145	222	272	56	230	21	227	78	41	21	174	125
RTOR Reduction (vph)	0	55	0	0	4	0	0	5	0	0	26	0
Lane Group Flow (vph)	145	439	0	56	247	0	0	341	0	0	294	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	26.6	26.6		16.6	16.6			36.0			25.8	
Effective Green, g (s)	26.6	26.6		16.6	16.6			36.0			25.8	
Actuated g/C Ratio	0.36	0.36		0.22	0.22			0.49			0.35	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	341	615		175	413			422			593	
v/s Ratio Prot	0.03	c0.26			0.13							
v/s Ratio Perm	0.12			0.07				c0.39			0.17	
v/c Ratio	0.43	0.71		0.32	0.60			0.81			0.50	
Uniform Delay, d1	16.9	20.4		23.9	25.7			16.0			18.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.9	3.9		1.1	2.3			10.8			0.7	
Delay (s)	17.8	24.3		25.0	28.0			26.9			19.6	
Level of Service	B	C		C	C			C			B	
Approach Delay (s)		22.8			27.4			26.9			19.6	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			23.9			HCM 2000 Level of Service					C	
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			73.9			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			87.5%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2018 Existing Saturday
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	145	494	56	251	346	320
v/c Ratio	0.38	0.76	0.32	0.60	0.81	0.52
Control Delay	18.9	25.5	31.3	33.0	34.8	21.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	25.5	31.3	33.0	34.8	21.2
Queue Length 50th (ft)	48	175	24	113	127	101
Queue Length 95th (ft)	86	284	58	185	#337	205
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	385	934	275	653	494	743
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.53	0.20	0.38	0.70	0.43

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2018 Existing Saturday
HCM 2010 AWSC

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	197	33	21	191	17	40	18	23	7	13	87
Future Vol, veh/h	82	197	33	21	191	17	40	18	23	7	13	87
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	94	226	38	24	220	20	46	21	26	8	15	100
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	11.2	12.7	9.8	10.4
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	9%	7%
Vol Thru, %	0%	44%	0%	86%	83%	12%
Vol Right, %	0%	56%	0%	14%	7%	81%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	41	82	230	229	107
LT Vol	40	0	82	0	21	7
Through Vol	0	18	0	197	191	13
RT Vol	0	23	0	33	17	87
Lane Flow Rate	46	47	94	264	263	123
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.088	0.079	0.158	0.399	0.415	0.201
Departure Headway (Hd)	6.924	6.017	6.041	5.435	5.676	5.894
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	518	596	595	664	634	609
Service Time	4.659	3.752	3.763	3.156	3.699	3.926
HCM Lane V/C Ratio	0.089	0.079	0.158	0.398	0.415	0.202
HCM Control Delay	10.3	9.3	9.9	11.7	12.7	10.4
HCM Lane LOS	B	A	A	B	B	B
HCM 95th-tile Q	0.3	0.3	0.6	1.9	2	0.7

Year 2020 No Build
Weekday AM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

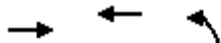
2020 No Build AM
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	470	420	0	89	2
Future Vol, veh/h	0	470	420	0	89	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	662	592	0	125	3
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1254	592
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	662	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	190	506
Stage 1	0	-	-	0	553	-
Stage 2	0	-	-	0	513	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	190	506
Mov Cap-2 Maneuver	-	-	-	-	190	-
Stage 1	-	-	-	-	553	-
Stage 2	-	-	-	-	513	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		54.3		
HCM LOS	F					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	193			
HCM Lane V/C Ratio	-	-	0.664			
HCM Control Delay (s)	-	-	54.3			
HCM Lane LOS	-	-	F			
HCM 95th %tile Q(veh)	-	-	4			

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 No Build AM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	528	46	21	379	23	61
Future Volume (vph)	528	46	21	379	23	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.90	
Flt Protected	1.00			1.00	0.99	
Satd. Flow (prot)	2088			2106	1657	
Flt Permitted	1.00			0.95	0.99	
Satd. Flow (perm)	2088			2007	1657	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	695	61	28	499	30	80
RTOR Reduction (vph)	4	0	0	0	73	0
Lane Group Flow (vph)	752	0	0	527	37	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	28.3			28.3	3.7	
Effective Green, g (s)	28.3			28.3	3.7	
Actuated g/C Ratio	0.67			0.67	0.09	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1406			1352	145	
v/s Ratio Prot	c0.36				c0.02	
v/s Ratio Perm				0.26		
v/c Ratio	0.53			0.39	0.26	
Uniform Delay, d1	3.5			3.0	17.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.4			0.2	0.9	
Delay (s)	3.9			3.2	18.8	
Level of Service	A			A	B	
Approach Delay (s)	3.9			3.2	18.8	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			42.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			50.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	756	527	110
v/c Ratio	0.47	0.34	0.34
Control Delay	5.2	4.2	10.7
Queue Delay	0.0	0.0	0.0
Total Delay	5.2	4.2	10.7
Queue Length 50th (ft)	82	51	6
Queue Length 95th (ft)	115	75	29
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1604	1587	360
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.47	0.33	0.31
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2020 No Build AM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	613	1	8	459	8	5	2	11	34	1	4
Future Vol, veh/h	4	613	1	8	459	8	5	2	11	34	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	863	1	11	646	11	7	3	15	48	1	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	657	0	0	864	0	0	1553	1555	864	1559	1550	652
Stage 1	-	-	-	-	-	-	876	876	-	674	674	-
Stage 2	-	-	-	-	-	-	677	679	-	885	876	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	931	-	-	779	-	-	92	113	354	91	114	468
Stage 1	-	-	-	-	-	-	344	367	-	444	454	-
Stage 2	-	-	-	-	-	-	443	451	-	340	367	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	931	-	-	779	-	-	88	109	354	83	110	468
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	109	-	83	110	-
Stage 1	-	-	-	-	-	-	340	363	-	439	444	-
Stage 2	-	-	-	-	-	-	427	441	-	319	363	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			30			92.1		
HCM LOS							D			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	169	931	-	-	779	-	-	91				
HCM Lane V/C Ratio	0.15	0.006	-	-	0.014	-	-	0.604				
HCM Control Delay (s)	30	8.9	0	-	9.7	0	-	92.1				
HCM Lane LOS	D	A	A	-	A	A	-	F				
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	2.8				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2020 No Build AM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	169	238	51	122	21	142	95	26	33	177	138
Future Volume (vph)	136	169	238	51	122	21	142	95	26	33	177	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.91		1.00	0.98			0.99			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1700		1770	1822			2028			1755	
Flt Permitted	0.49	1.00		0.50	1.00			0.41			0.94	
Satd. Flow (perm)	913	1700		935	1822			855			1661	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	151	188	264	57	136	23	158	106	29	37	197	153
RTOR Reduction (vph)	0	64	0	0	8	0	0	4	0	0	27	0
Lane Group Flow (vph)	151	388	0	57	151	0	0	289	0	0	360	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	23.7	23.7		11.8	11.8			31.5			21.4	
Effective Green, g (s)	23.7	23.7		11.8	11.8			31.5			21.4	
Actuated g/C Ratio	0.36	0.36		0.18	0.18			0.47			0.32	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	427	605		165	323			405			534	
v/s Ratio Prot	0.04	c0.23			0.08							
v/s Ratio Perm	0.08			0.06				c0.34			0.22	
v/c Ratio	0.35	0.64		0.35	0.47			0.71			0.67	
Uniform Delay, d1	15.2	17.9		24.0	24.5			13.9			19.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.5	2.3		1.3	1.1			5.9			3.4	
Delay (s)	15.7	20.2		25.2	25.6			19.8			22.9	
Level of Service	B	C		C	C			B			C	
Approach Delay (s)		19.1			25.5			19.8			22.9	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			66.5			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			82.2%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2020 No Build AM
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	151	452	57	159	293	387
v/c Ratio	0.34	0.68	0.35	0.48	0.72	0.69
Control Delay	16.7	20.2	30.9	28.7	27.1	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	20.2	30.9	28.7	27.1	25.8
Queue Length 50th (ft)	37	107	19	51	84	117
Queue Length 95th (ft)	90	247	57	119	#248	245
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	452	1003	356	701	524	783
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.45	0.16	0.23	0.56	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2020 No Build AM
HCM 2010 AWSC

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	184	12	11	147	16	13	3	8	3	4	28
Future Vol, veh/h	40	184	12	11	147	16	13	3	8	3	4	28
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	219	14	13	175	19	15	4	10	4	5	33
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	9.6	10	8.7	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	6%	9%
Vol Thru, %	0%	27%	0%	94%	84%	11%
Vol Right, %	0%	73%	0%	6%	9%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	11	40	196	174	35
LT Vol	13	0	40	0	11	3
Through Vol	0	3	0	184	147	4
RT Vol	0	8	0	12	16	28
Lane Flow Rate	15	13	48	233	207	42
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.027	0.019	0.071	0.315	0.287	0.061
Departure Headway (Hd)	6.274	5.256	5.398	4.853	4.994	5.289
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	570	680	665	742	721	676
Service Time	4.013	2.994	3.119	2.574	3.016	3.327
HCM Lane V/C Ratio	0.026	0.019	0.072	0.314	0.287	0.062
HCM Control Delay	9.2	8.1	8.5	9.8	10	8.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	1.4	1.2	0.2

Year 2020 No Build
Weekday PM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2020 No Build PM
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	452	489	0	71	4
Future Vol, veh/h	0	452	489	0	71	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	476	515	0	75	4
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	991	515
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	476	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	273	560
Stage 1	0	-	-	0	600	-
Stage 2	0	-	-	0	625	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	273	560
Mov Cap-2 Maneuver	-	-	-	-	273	-
Stage 1	-	-	-	-	600	-
Stage 2	-	-	-	-	625	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		22.7		
HCM LOS	C					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	281			
HCM Lane V/C Ratio	-	-	0.281			
HCM Control Delay (s)	-	-	22.7			
HCM Lane LOS	-	-	C			
HCM 95th %tile Q(veh)	-	-	1.1			

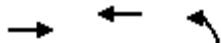
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 No Build PM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	
Traffic Volume (vph)	509	26	56	452	27	44
Future Volume (vph)	509	26	56	452	27	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.92	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2097			2100	1675	
Flt Permitted	1.00			0.91	0.98	
Satd. Flow (perm)	2097			1913	1675	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	547	28	60	486	29	47
RTOR Reduction (vph)	2	0	0	0	43	0
Lane Group Flow (vph)	573	0	0	546	33	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	30.0			30.0	3.7	
Effective Green, g (s)	30.0			30.0	3.7	
Actuated g/C Ratio	0.69			0.69	0.08	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1439			1313	141	
v/s Ratio Prot	0.27				c0.02	
v/s Ratio Perm				c0.29		
v/c Ratio	0.40			0.42	0.23	
Uniform Delay, d1	3.0			3.0	18.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.2	0.9	
Delay (s)	3.1			3.2	19.5	
Level of Service	A			A	B	
Approach Delay (s)	3.1			3.2	19.5	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.2		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			43.7		Sum of lost time (s)	15.0
Intersection Capacity Utilization			71.9%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 No Build PM
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	575	546	76
v/c Ratio	0.35	0.37	0.26
Control Delay	4.1	4.4	11.9
Queue Delay	0.0	0.0	0.0
Total Delay	4.1	4.4	11.9
Queue Length 50th (ft)	56	55	7
Queue Length 95th (ft)	105	105	33
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1636	1498	326
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.35	0.36	0.23
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2020 No Build PM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	533	5	8	610	23	2	3	9	19	2	4
Future Vol, veh/h	2	533	5	8	610	23	2	3	9	19	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	561	5	8	642	24	2	3	9	20	2	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	666	0	0	566	0	0	1241	1250	564	1244	1240	654
Stage 1	-	-	-	-	-	-	568	568	-	670	670	-
Stage 2	-	-	-	-	-	-	673	682	-	574	570	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	923	-	-	1006	-	-	152	173	525	151	175	467
Stage 1	-	-	-	-	-	-	508	506	-	446	455	-
Stage 2	-	-	-	-	-	-	445	450	-	504	505	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	923	-	-	1006	-	-	147	170	525	144	172	467
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	170	-	144	172	-
Stage 1	-	-	-	-	-	-	506	504	-	445	449	-
Stage 2	-	-	-	-	-	-	433	444	-	490	503	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			18.1			31.1		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	289	923	-	-	1006	-	-	164				
HCM Lane V/C Ratio	0.051	0.002	-	-	0.008	-	-	0.16				
HCM Control Delay (s)	18.1	8.9	0	-	8.6	0	-	31.1				
HCM Lane LOS	C	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2020 No Build PM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	224	229	64	253	24	270	124	41	30	219	125
Future Volume (vph)	119	224	229	64	253	24	270	124	41	30	219	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.92		1.00	0.99			0.99			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1722		1770	1838			2021			1772	
Flt Permitted	0.28	1.00		0.40	1.00			0.39			0.93	
Satd. Flow (perm)	518	1722		747	1838			803			1662	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	134	252	257	72	284	27	303	139	46	34	246	140
RTOR Reduction (vph)	0	45	0	0	4	0	0	4	0	0	20	0
Lane Group Flow (vph)	134	464	0	72	307	0	0	484	0	0	400	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	30.1	30.1		18.4	18.4			40.2			30.2	
Effective Green, g (s)	30.1	30.1		18.4	18.4			40.2			30.2	
Actuated g/C Ratio	0.37	0.37		0.23	0.23			0.49			0.37	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	309	635		168	414			395			615	
v/s Ratio Prot	0.04	c0.27			0.17							
v/s Ratio Perm	0.12			0.10				c0.60			0.24	
v/c Ratio	0.43	0.73		0.43	0.74			1.23			0.65	
Uniform Delay, d1	18.5	22.2		27.1	29.4			20.7			21.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.0	4.3		1.8	7.0			121.9			2.5	
Delay (s)	19.5	26.5		28.8	36.4			142.6			23.8	
Level of Service	B	C		C	D			F			C	
Approach Delay (s)		25.1			35.0			142.6			23.8	
Approach LOS		C			C			F			C	
Intersection Summary												
HCM 2000 Control Delay			56.4			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			81.6			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			95.2%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2020 No Build PM
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	134	509	72	311	488	420
v/c Ratio	0.42	0.75	0.43	0.75	1.23	0.66
Control Delay	20.1	26.6	35.3	40.5	145.9	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.1	26.6	35.3	40.5	145.9	27.1
Queue Length 50th (ft)	44	191	32	146	~314	164
Queue Length 95th (ft)	79	299	70	228	#540	292
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	325	822	229	569	398	632
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.62	0.31	0.55	1.23	0.66

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2020 No Build PM
HCM 2010 AWSC

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	204	27	14	237	17	27	22	13	34	14	74
Future Vol, veh/h	61	204	27	14	237	17	27	22	13	34	14	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	227	30	16	263	19	30	24	14	38	16	82
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	11.2	13.4	9.7	10.8
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	5%	28%
Vol Thru, %	0%	63%	0%	88%	88%	11%
Vol Right, %	0%	37%	0%	12%	6%	61%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	35	61	231	268	122
LT Vol	27	0	61	0	14	34
Through Vol	0	22	0	204	237	14
RT Vol	0	13	0	27	17	74
Lane Flow Rate	30	39	68	257	298	136
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.058	0.067	0.114	0.389	0.464	0.227
Departure Headway (Hd)	6.971	6.198	6.05	5.463	5.61	6.032
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	578	594	660	643	596
Service Time	4.706	3.933	3.774	3.186	3.634	4.063
HCM Lane V/C Ratio	0.058	0.067	0.114	0.389	0.463	0.228
HCM Control Delay	10.1	9.4	9.6	11.6	13.4	10.8
HCM Lane LOS	B	A	A	B	B	B
HCM 95th-tile Q	0.2	0.2	0.4	1.8	2.5	0.9

Year 2020 No Build
Saturday Midday Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2020 No Build Saturday
HCM 6th TWSC

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	519	515	0	70	1
Future Vol, veh/h	0	519	515	0	70	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	541	536	0	73	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1077	536
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	541	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	242	545
Stage 1	0	-	-	0	587	-
Stage 2	0	-	-	0	583	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	242	545
Mov Cap-2 Maneuver	-	-	-	-	242	-
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	583	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		26		
HCM LOS				D		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	244			
HCM Lane V/C Ratio	-	-	0.303			
HCM Control Delay (s)	-	-	26			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	1.2			

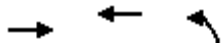
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 No Build Saturday
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	511	39	59	470	25	54
Future Volume (vph)	511	39	59	470	25	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.91	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2091			2099	1665	
Flt Permitted	1.00			0.90	0.98	
Satd. Flow (perm)	2091			1904	1665	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	544	41	63	500	27	57
RTOR Reduction (vph)	3	0	0	0	52	0
Lane Group Flow (vph)	582	0	0	563	32	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	29.9			29.9	3.7	
Effective Green, g (s)	29.9			29.9	3.7	
Actuated g/C Ratio	0.69			0.69	0.08	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1433			1305	141	
v/s Ratio Prot	0.28				c0.02	
v/s Ratio Perm				c0.30		
v/c Ratio	0.41			0.43	0.23	
Uniform Delay, d1	3.0			3.1	18.6	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.2	0.8	
Delay (s)	3.2			3.3	19.4	
Level of Service	A			A	B	
Approach Delay (s)	3.2			3.3	19.4	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.48			
Actuated Cycle Length (s)			43.6		Sum of lost time (s)	15.0
Intersection Capacity Utilization			74.5%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 No Build Saturday
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	585	563	84
v/c Ratio	0.36	0.38	0.28
Control Delay	4.1	4.4	11.4
Queue Delay	0.0	0.0	0.0
Total Delay	4.1	4.4	11.4
Queue Length 50th (ft)	56	57	7
Queue Length 95th (ft)	107	111	34
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1634	1485	333
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.36	0.38	0.25
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2020 No Build Saturday
HCM 6th TWSC

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	565	3	1	535	14	7	2	6	6	1	3
Future Vol, veh/h	11	565	3	1	535	14	7	2	6	6	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	665	4	1	629	16	8	2	7	7	1	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	645	0	0	669	0	0	1335	1340	667	1337	1334	637
Stage 1	-	-	-	-	-	-	693	693	-	639	639	-
Stage 2	-	-	-	-	-	-	642	647	-	698	695	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	940	-	-	921	-	-	131	153	459	130	154	477
Stage 1	-	-	-	-	-	-	434	445	-	464	470	-
Stage 2	-	-	-	-	-	-	463	467	-	431	444	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	940	-	-	921	-	-	127	149	459	124	150	477
Mov Cap-2 Maneuver	-	-	-	-	-	-	127	149	-	124	150	-
Stage 1	-	-	-	-	-	-	424	435	-	454	469	-
Stage 2	-	-	-	-	-	-	458	466	-	413	434	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			26.6			28.8		
HCM LOS							D			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	184	940	-	-	921	-	-	163				
HCM Lane V/C Ratio	0.096	0.014	-	-	0.001	-	-	0.072				
HCM Control Delay (s)	26.6	8.9	0	-	8.9	0	-	28.8				
HCM Lane LOS	D	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2020 No Build Saturday
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	215	264	55	223	20	220	76	39	20	169	121
Future Volume (vph)	140	215	264	55	223	20	220	76	39	20	169	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.92		1.00	0.99			0.98			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1709		1770	1840			2012			1759	
Flt Permitted	0.36	1.00		0.46	1.00			0.41			0.96	
Satd. Flow (perm)	673	1709		859	1840			858			1700	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	146	224	275	57	232	21	229	79	41	21	176	126
RTOR Reduction (vph)	0	54	0	0	4	0	0	5	0	0	26	0
Lane Group Flow (vph)	146	445	0	57	249	0	0	344	0	0	297	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	27.7	27.7		15.9	15.9			36.0			25.9	
Effective Green, g (s)	27.7	27.7		15.9	15.9			36.0			25.9	
Actuated g/C Ratio	0.37	0.37		0.21	0.21			0.48			0.35	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	362	631		182	390			411			587	
v/s Ratio Prot	0.04	c0.26			0.14							
v/s Ratio Perm	0.11			0.07				c0.40			0.18	
v/c Ratio	0.40	0.70		0.31	0.64			0.84			0.51	
Uniform Delay, d1	16.7	20.2		24.9	26.9			16.9			19.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.7	3.6		1.0	3.4			13.7			0.7	
Delay (s)	17.5	23.7		25.9	30.4			30.7			20.2	
Level of Service	B	C		C	C			C			C	
Approach Delay (s)		22.3			29.5			30.7			20.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			88.1%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2020 No Build Saturday
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	146	499	57	253	349	323
v/c Ratio	0.39	0.73	0.32	0.65	0.84	0.53
Control Delay	19.0	24.4	31.0	35.5	38.5	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	24.4	31.0	35.5	38.5	21.7
Queue Length 50th (ft)	48	179	24	114	130	103
Queue Length 95th (ft)	87	290	57	187	#344	208
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	382	899	290	626	469	714
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.56	0.20	0.40	0.74	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2020 No Build Saturday
HCM 6th AWSC

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	199	33	21	193	17	40	18	23	7	13	88
Future Vol, veh/h	83	199	33	21	193	17	40	18	23	7	13	88
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	95	229	38	24	222	20	46	21	26	8	15	101
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	11.3	12.8	9.8	10.5
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	9%	6%
Vol Thru, %	0%	44%	0%	86%	84%	12%
Vol Right, %	0%	56%	0%	14%	7%	81%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	41	83	232	231	108
LT Vol	40	0	83	0	21	7
Through Vol	0	18	0	199	193	13
RT Vol	0	23	0	33	17	88
Lane Flow Rate	46	47	95	267	266	124
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.089	0.079	0.16	0.403	0.419	0.204
Departure Headway (Hd)	6.944	6.037	6.049	5.443	5.686	5.91
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	594	594	661	635	608
Service Time	4.679	3.771	3.774	3.169	3.712	3.942
HCM Lane V/C Ratio	0.089	0.079	0.16	0.404	0.419	0.204
HCM Control Delay	10.4	9.3	9.9	11.8	12.8	10.5
HCM Lane LOS	B	A	A	B	B	B
HCM 95th-tile Q	0.3	0.3	0.6	1.9	2.1	0.8

Year 2020 Build
Weekday AM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2020 Build AM
HCM 2010 TWSC

Intersection

Int Delay, s/veh 5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	470	420	0	89	2
Future Vol, veh/h	0	470	420	0	89	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	662	592	0	125	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0 1254 592
Stage 1	-	-	- 592 -
Stage 2	-	-	- 662 -
Critical Hdwy	-	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	-	-	- 3.518 3.318
Pot Cap-1 Maneuver	0	-	0 190 506
Stage 1	0	-	0 553 -
Stage 2	0	-	0 513 -
Platoon blocked, %	-	-	
Mov Cap-1 Maneuver	-	-	- 190 506
Mov Cap-2 Maneuver	-	-	- 190 -
Stage 1	-	-	- 553 -
Stage 2	-	-	- 513 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	54.3
HCM LOS			F

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	193
HCM Lane V/C Ratio	-	-	0.664
HCM Control Delay (s)	-	-	54.3
HCM Lane LOS	-	-	F
HCM 95th %tile Q(veh)	-	-	4

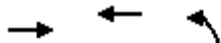
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 Build AM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	528	46	21	379	23	61
Future Volume (vph)	528	46	21	379	23	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.90	
Flt Protected	1.00			1.00	0.99	
Satd. Flow (prot)	2088			2106	1657	
Flt Permitted	1.00			0.95	0.99	
Satd. Flow (perm)	2088			2007	1657	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	695	61	28	499	30	80
RTOR Reduction (vph)	4	0	0	0	73	0
Lane Group Flow (vph)	752	0	0	527	37	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	28.3			28.3	3.7	
Effective Green, g (s)	28.3			28.3	3.7	
Actuated g/C Ratio	0.67			0.67	0.09	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1406			1352	145	
v/s Ratio Prot	c0.36				c0.02	
v/s Ratio Perm				0.26		
v/c Ratio	0.53			0.39	0.26	
Uniform Delay, d1	3.5			3.0	17.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.4			0.2	0.9	
Delay (s)	3.9			3.2	18.8	
Level of Service	A			A	B	
Approach Delay (s)	3.9			3.2	18.8	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			42.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			50.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 Build AM
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	756	527	110
v/c Ratio	0.47	0.34	0.34
Control Delay	5.2	4.2	10.7
Queue Delay	0.0	0.0	0.0
Total Delay	5.2	4.2	10.7
Queue Length 50th (ft)	82	51	6
Queue Length 95th (ft)	115	75	29
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1604	1587	360
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.47	0.33	0.31
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2020 Build AM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	613	1	8	459	8	5	2	11	34	1	4
Future Vol, veh/h	4	613	1	8	459	8	5	2	11	34	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	863	1	11	646	11	7	3	15	48	1	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	657	0	0	864	0	0	1553	1555	864	1559	1550	652
Stage 1	-	-	-	-	-	-	876	876	-	674	674	-
Stage 2	-	-	-	-	-	-	677	679	-	885	876	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	931	-	-	779	-	-	92	113	354	91	114	468
Stage 1	-	-	-	-	-	-	344	367	-	444	454	-
Stage 2	-	-	-	-	-	-	443	451	-	340	367	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	931	-	-	779	-	-	88	109	354	83	110	468
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	109	-	83	110	-
Stage 1	-	-	-	-	-	-	340	363	-	439	444	-
Stage 2	-	-	-	-	-	-	427	441	-	319	363	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			30			92.1		
HCM LOS							D			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	169	931	-	-	779	-	-	91				
HCM Lane V/C Ratio	0.15	0.006	-	-	0.014	-	-	0.604				
HCM Control Delay (s)	30	8.9	0	-	9.7	0	-	92.1				
HCM Lane LOS	D	A	A	-	A	A	-	F				
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	2.8				

Intersection				
Intersection Delay, s/veh	13.8			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	603	216	293	387
Demand Flow Rate, veh/h	615	220	299	395
Vehicles Circulating, veh/h	297	423	384	358
Vehicles Exiting, veh/h	456	260	528	285
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	19.0	8.5	9.7	11.7
Approach LOS	C	A	A	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	615	220	299	395
Cap Entry Lane, veh/h	840	740	770	790
Entry HV Adj Factor	0.981	0.983	0.980	0.980
Flow Entry, veh/h	603	216	293	387
Cap Entry, veh/h	824	728	754	774
V/C Ratio	0.732	0.297	0.388	0.500
Control Delay, s/veh	19.0	8.5	9.7	11.7
LOS	C	A	A	B
95th %tile Queue, veh	7	1	2	3

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2020 Build AM
HCM 2010 AWSC

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	184	12	11	147	16	13	3	8	3	4	28
Future Vol, veh/h	40	184	12	11	147	16	13	3	8	3	4	28
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	219	14	13	175	19	15	4	10	4	5	33
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	9.6	10	8.7	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	6%	9%
Vol Thru, %	0%	27%	0%	94%	84%	11%
Vol Right, %	0%	73%	0%	6%	9%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	11	40	196	174	35
LT Vol	13	0	40	0	11	3
Through Vol	0	3	0	184	147	4
RT Vol	0	8	0	12	16	28
Lane Flow Rate	15	13	48	233	207	42
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.027	0.019	0.071	0.315	0.287	0.061
Departure Headway (Hd)	6.274	5.256	5.398	4.853	4.994	5.289
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	570	680	665	742	721	676
Service Time	4.013	2.994	3.119	2.574	3.016	3.327
HCM Lane V/C Ratio	0.026	0.019	0.072	0.314	0.287	0.062
HCM Control Delay	9.2	8.1	8.5	9.8	10	8.7
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.2	1.4	1.2	0.2

Year 2020 Build
Weekday PM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2020 Build PM
HCM 2010 TWSC

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	452	489	0	71	4
Future Vol, veh/h	0	452	489	0	71	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	476	515	0	75	4

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0 991 515
Stage 1	-	-	- 515 -
Stage 2	-	-	- 476 -
Critical Hdwy	-	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	-	-	- 3.518 3.318
Pot Cap-1 Maneuver	0	-	0 273 560
Stage 1	0	-	0 600 -
Stage 2	0	-	0 625 -
Platoon blocked, %	-	-	
Mov Cap-1 Maneuver	-	-	- 273 560
Mov Cap-2 Maneuver	-	-	- 273 -
Stage 1	-	-	- 600 -
Stage 2	-	-	- 625 -

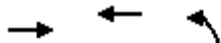
Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.7
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	281
HCM Lane V/C Ratio	-	-	0.281
HCM Control Delay (s)	-	-	22.7
HCM Lane LOS	-	-	C
HCM 95th %tile Q(veh)	-	-	1.1

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 Build PM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	👉			👈	👈	
Traffic Volume (vph)	509	26	56	452	27	44
Future Volume (vph)	509	26	56	452	27	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.92	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2097			2100	1675	
Flt Permitted	1.00			0.91	0.98	
Satd. Flow (perm)	2097			1913	1675	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	547	28	60	486	29	47
RTOR Reduction (vph)	2	0	0	0	43	0
Lane Group Flow (vph)	573	0	0	546	33	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	30.0			30.0	3.7	
Effective Green, g (s)	30.0			30.0	3.7	
Actuated g/C Ratio	0.69			0.69	0.08	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1439			1313	141	
v/s Ratio Prot	0.27				c0.02	
v/s Ratio Perm				c0.29		
v/c Ratio	0.40			0.42	0.23	
Uniform Delay, d1	3.0			3.0	18.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.2	0.9	
Delay (s)	3.1			3.2	19.5	
Level of Service	A			A	B	
Approach Delay (s)	3.1			3.2	19.5	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.2		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			43.7		Sum of lost time (s)	15.0
Intersection Capacity Utilization			71.9%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	575	546	76
v/c Ratio	0.35	0.37	0.26
Control Delay	4.1	4.4	11.9
Queue Delay	0.0	0.0	0.0
Total Delay	4.1	4.4	11.9
Queue Length 50th (ft)	56	55	7
Queue Length 95th (ft)	105	105	33
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1636	1498	326
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.35	0.36	0.23
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2020 Build PM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	533	5	8	610	23	2	3	9	19	2	4
Future Vol, veh/h	2	533	5	8	610	23	2	3	9	19	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	561	5	8	642	24	2	3	9	20	2	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	666	0	0	566	0	0	1241	1250	564	1244	1240	654
Stage 1	-	-	-	-	-	-	568	568	-	670	670	-
Stage 2	-	-	-	-	-	-	673	682	-	574	570	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	923	-	-	1006	-	-	152	173	525	151	175	467
Stage 1	-	-	-	-	-	-	508	506	-	446	455	-
Stage 2	-	-	-	-	-	-	445	450	-	504	505	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	923	-	-	1006	-	-	147	170	525	144	172	467
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	170	-	144	172	-
Stage 1	-	-	-	-	-	-	506	504	-	445	449	-
Stage 2	-	-	-	-	-	-	433	444	-	490	503	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			18.1			31.1		
HCM LOS							C			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	289	923	-	-	1006	-	-	164				
HCM Lane V/C Ratio	0.051	0.002	-	-	0.008	-	-	0.16				
HCM Control Delay (s)	18.1	8.9	0	-	8.6	0	-	31.1				
HCM Lane LOS	C	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6				

Intersection				
Intersection Delay, s/veh	22.9			
Intersection LOS	C			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	643	383	488	420
Demand Flow Rate, veh/h	656	391	498	429
Vehicles Circulating, veh/h	359	588	429	672
Vehicles Exiting, veh/h	742	339	586	307
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	27.3	18.1	18.2	26.3
Approach LOS	D	C	C	D
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	656	391	498	429
Cap Entry Lane, veh/h	789	628	736	577
Entry HV Adj Factor	0.980	0.980	0.980	0.979
Flow Entry, veh/h	643	383	488	420
Cap Entry, veh/h	773	615	721	565
V/C Ratio	0.831	0.623	0.677	0.743
Control Delay, s/veh	27.3	18.1	18.2	26.3
LOS	D	C	C	D
95th %tile Queue, veh	9	4	5	6

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2020 Build PM
HCM 2010 AWSC

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	204	27	14	237	17	27	22	13	34	14	74
Future Vol, veh/h	61	204	27	14	237	17	27	22	13	34	14	74
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	68	227	30	16	263	19	30	24	14	38	16	82
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	11.2	13.4	9.7	10.8
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	5%	28%
Vol Thru, %	0%	63%	0%	88%	88%	11%
Vol Right, %	0%	37%	0%	12%	6%	61%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	35	61	231	268	122
LT Vol	27	0	61	0	14	34
Through Vol	0	22	0	204	237	14
RT Vol	0	13	0	27	17	74
Lane Flow Rate	30	39	68	257	298	136
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.058	0.067	0.114	0.389	0.464	0.227
Departure Headway (Hd)	6.971	6.198	6.05	5.463	5.61	6.032
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	514	578	594	660	643	596
Service Time	4.706	3.933	3.774	3.186	3.634	4.063
HCM Lane V/C Ratio	0.058	0.067	0.114	0.389	0.463	0.228
HCM Control Delay	10.1	9.4	9.6	11.6	13.4	10.8
HCM Lane LOS	B	A	A	B	B	B
HCM 95th-tile Q	0.2	0.2	0.4	1.8	2.5	0.9

Year 2020 Build
Saturday Midday Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

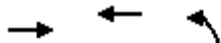
2020 Build Saturday
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	519	515	0	70	1
Future Vol, veh/h	0	519	515	0	70	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	541	536	0	73	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1077	536
Stage 1	-	-	-	-	536	-
Stage 2	-	-	-	-	541	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	242	545
Stage 1	0	-	-	0	587	-
Stage 2	0	-	-	0	583	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	242	545
Mov Cap-2 Maneuver	-	-	-	-	242	-
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	583	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		26		
HCM LOS				D		
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	244			
HCM Lane V/C Ratio	-	-	0.303			
HCM Control Delay (s)	-	-	26			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	1.2			

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2020 Build Saturday
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	511	39	59	470	25	54
Future Volume (vph)	511	39	59	470	25	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.91	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2091			2099	1665	
Flt Permitted	1.00			0.90	0.98	
Satd. Flow (perm)	2091			1904	1665	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	544	41	63	500	27	57
RTOR Reduction (vph)	3	0	0	0	52	0
Lane Group Flow (vph)	582	0	0	563	32	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	29.9			29.9	3.7	
Effective Green, g (s)	29.9			29.9	3.7	
Actuated g/C Ratio	0.69			0.69	0.08	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1433			1305	141	
v/s Ratio Prot	0.28				c0.02	
v/s Ratio Perm				c0.30		
v/c Ratio	0.41			0.43	0.23	
Uniform Delay, d1	3.0			3.1	18.6	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.2	0.8	
Delay (s)	3.2			3.3	19.4	
Level of Service	A			A	B	
Approach Delay (s)	3.2			3.3	19.4	
Approach LOS	A			A	B	
Intersection Summary						
HCM 2000 Control Delay			4.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.48			
Actuated Cycle Length (s)			43.6		Sum of lost time (s)	15.0
Intersection Capacity Utilization			74.5%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	585	563	84
v/c Ratio	0.36	0.38	0.28
Control Delay	4.1	4.4	11.4
Queue Delay	0.0	0.0	0.0
Total Delay	4.1	4.4	11.4
Queue Length 50th (ft)	56	57	7
Queue Length 95th (ft)	107	111	34
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1634	1485	333
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.36	0.38	0.25
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2020 Build Saturday
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	565	3	1	535	14	7	2	6	6	1	3
Future Vol, veh/h	11	565	3	1	535	14	7	2	6	6	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	665	4	1	629	16	8	2	7	7	1	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	645	0	0	669	0	0	1335	1340	667	1337	1334	637
Stage 1	-	-	-	-	-	-	693	693	-	639	639	-
Stage 2	-	-	-	-	-	-	642	647	-	698	695	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	940	-	-	921	-	-	131	153	459	130	154	477
Stage 1	-	-	-	-	-	-	434	445	-	464	470	-
Stage 2	-	-	-	-	-	-	463	467	-	431	444	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	940	-	-	921	-	-	127	149	459	124	150	477
Mov Cap-2 Maneuver	-	-	-	-	-	-	127	149	-	124	150	-
Stage 1	-	-	-	-	-	-	424	435	-	454	469	-
Stage 2	-	-	-	-	-	-	458	466	-	413	434	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			26.6			28.8		
HCM LOS							D			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	184	940	-	-	921	-	-	163				
HCM Lane V/C Ratio	0.096	0.014	-	-	0.001	-	-	0.072				
HCM Control Delay (s)	26.6	8.9	0	-	8.9	0	-	28.8				
HCM Lane LOS	D	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.2				

Intersection				
Intersection Delay, s/veh	15.0			
Intersection LOS	C			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	645	310	349	323
Demand Flow Rate, veh/h	657	316	357	330
Vehicles Circulating, veh/h	259	464	398	529
Vehicles Exiting, veh/h	600	291	518	251
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	19.6	11.4	11.4	13.3
Approach LOS	C	B	B	B
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	657	316	357	330
Cap Entry Lane, veh/h	872	710	759	666
Entry HV Adj Factor	0.981	0.982	0.979	0.980
Flow Entry, veh/h	645	310	349	323
Cap Entry, veh/h	856	698	743	653
V/C Ratio	0.753	0.445	0.470	0.496
Control Delay, s/veh	19.6	11.4	11.4	13.3
LOS	C	B	B	B
95th %tile Queue, veh	7	2	3	3

Intersection

Intersection Delay, s/veh 11.5

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	199	33	21	193	17	40	18	23	7	13	88
Future Vol, veh/h	83	199	33	21	193	17	40	18	23	7	13	88
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	95	229	38	24	222	20	46	21	26	8	15	101
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	11.3	12.8	9.8	10.5
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	9%	6%
Vol Thru, %	0%	44%	0%	86%	84%	12%
Vol Right, %	0%	56%	0%	14%	7%	81%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	41	83	232	231	108
LT Vol	40	0	83	0	21	7
Through Vol	0	18	0	199	193	13
RT Vol	0	23	0	33	17	88
Lane Flow Rate	46	47	95	267	266	124
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.089	0.079	0.16	0.403	0.419	0.204
Departure Headway (Hd)	6.944	6.037	6.049	5.443	5.686	5.91
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	516	594	594	661	635	608
Service Time	4.679	3.771	3.774	3.169	3.712	3.942
HCM Lane V/C Ratio	0.089	0.079	0.16	0.404	0.419	0.204
HCM Control Delay	10.4	9.3	9.9	11.8	12.8	10.5
HCM Lane LOS	B	A	A	B	B	B
HCM 95th-tile Q	0.3	0.3	0.6	1.9	2.1	0.8

Year 2040 No Build
Weekday AM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

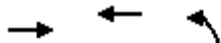
2040 No Build AM
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	9.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	519	464	0	98	2
Future Vol, veh/h	0	519	464	0	98	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	731	654	0	138	3
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1385	654
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	731	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	158	467
Stage 1	0	-	-	0	517	-
Stage 2	0	-	-	0	476	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	158	467
Mov Cap-2 Maneuver	-	-	-	-	158	-
Stage 1	-	-	-	-	517	-
Stage 2	-	-	-	-	476	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		98.7		
HCM LOS	F					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	160			
HCM Lane V/C Ratio	-	-	0.88			
HCM Control Delay (s)	-	-	98.7			
HCM Lane LOS	-	-	F			
HCM 95th %tile Q(veh)	-	-	6.2			

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 No Build AM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	584	51	23	418	26	67
Future Volume (vph)	584	51	23	418	26	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.90	
Flt Protected	1.00			1.00	0.99	
Satd. Flow (prot)	2088			2106	1658	
Flt Permitted	1.00			0.95	0.99	
Satd. Flow (perm)	2088			1996	1658	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	768	67	30	550	34	88
RTOR Reduction (vph)	4	0	0	0	79	0
Lane Group Flow (vph)	831	0	0	580	43	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	33.4			33.4	5.2	
Effective Green, g (s)	33.4			33.4	5.2	
Actuated g/C Ratio	0.69			0.69	0.11	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1434			1371	177	
v/s Ratio Prot	c0.40				c0.03	
v/s Ratio Perm				0.29		
v/c Ratio	0.58			0.42	0.25	
Uniform Delay, d1	4.0			3.4	19.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.6			0.2	0.7	
Delay (s)	4.5			3.6	20.6	
Level of Service	A			A	C	
Approach Delay (s)	4.5			3.6	20.6	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			5.4		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.61			
Actuated Cycle Length (s)			48.6		Sum of lost time (s)	15.0
Intersection Capacity Utilization			54.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	835	580	122
v/c Ratio	0.55	0.40	0.41
Control Delay	6.3	4.9	12.0
Queue Delay	0.0	0.0	0.0
Total Delay	6.3	4.9	12.0
Queue Length 50th (ft)	98	59	8
Queue Length 95th (ft)	133	85	31
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1511	1442	321
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.55	0.40	0.38
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2040 No Build AM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	6.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	4	677	1	9	507	9	6	2	12	38	1	4
Future Vol, veh/h	4	677	1	9	507	9	6	2	12	38	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	954	1	13	714	13	8	3	17	54	1	6
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	727	0	0	955	0	0	1717	1720	955	1724	1714	721
Stage 1	-	-	-	-	-	-	967	967	-	747	747	-
Stage 2	-	-	-	-	-	-	750	753	-	977	967	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	876	-	-	720	-	-	71	89	313	70	90	427
Stage 1	-	-	-	-	-	-	306	333	-	405	420	-
Stage 2	-	-	-	-	-	-	403	417	-	302	333	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	876	-	-	720	-	-	67	85	313	62	86	427
Mov Cap-2 Maneuver	-	-	-	-	-	-	67	85	-	62	86	-
Stage 1	-	-	-	-	-	-	301	328	-	399	407	-
Stage 2	-	-	-	-	-	-	384	404	-	279	328	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			39.5			181.1		
HCM LOS							E			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	132	876	-	-	720	-	-	68				
HCM Lane V/C Ratio	0.213	0.006	-	-	0.018	-	-	0.891				
HCM Control Delay (s)	39.5	9.1	0	-	10.1	0	-	181.1				
HCM Lane LOS	E	A	A	-	B	A	-	F				
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	4.3				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 No Build AM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	186	263	56	135	23	157	105	29	37	195	153
Future Volume (vph)	151	186	263	56	135	23	157	105	29	37	195	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.91		1.00	0.98			0.99			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1699		1770	1821			2028			1754	
Flt Permitted	0.48	1.00		0.48	1.00			0.39			0.94	
Satd. Flow (perm)	893	1699		895	1821			816			1654	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	168	207	292	62	150	26	174	117	32	41	217	170
RTOR Reduction (vph)	0	63	0	0	8	0	0	4	0	0	27	0
Lane Group Flow (vph)	168	436	0	62	168	0	0	319	0	0	401	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	25.7	25.7		13.7	13.7			34.5			24.3	
Effective Green, g (s)	25.7	25.7		13.7	13.7			34.5			24.3	
Actuated g/C Ratio	0.36	0.36		0.19	0.19			0.48			0.34	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	419	610		171	348			393			562	
v/s Ratio Prot	0.04	c0.26			0.09							
v/s Ratio Perm	0.10			0.07				c0.39			0.24	
v/c Ratio	0.40	0.71		0.36	0.48			0.81			0.71	
Uniform Delay, d1	16.4	19.7		25.1	25.7			15.7			20.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	4.0		1.3	1.1			12.0			4.3	
Delay (s)	17.0	23.7		26.4	26.8			27.7			24.8	
Level of Service	B	C		C	C			C			C	
Approach Delay (s)		22.0			26.7			27.7			24.8	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.5			HCM 2000 Level of Service					C	
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			71.5			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			88.2%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 No Build AM
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	168	499	62	176	323	428
v/c Ratio	0.38	0.74	0.36	0.50	0.82	0.73
Control Delay	18.5	24.0	32.4	29.9	36.2	28.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.5	24.0	32.4	29.9	36.2	28.2
Queue Length 50th (ft)	52	158	25	68	106	141
Queue Length 95th (ft)	98	283	61	129	#320	300
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	442	944	319	657	470	731
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.53	0.19	0.27	0.69	0.59

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2040 No Build AM
HCM 2010 AWSC

Intersection

Intersection Delay, s/veh 10

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	203	13	12	163	18	15	3	9	3	4	31
Future Vol, veh/h	45	203	13	12	163	18	15	3	9	3	4	31
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	242	15	14	194	21	18	4	11	4	5	37
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	10	10.5	8.9	8.9
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	6%	8%
Vol Thru, %	0%	25%	0%	94%	84%	11%
Vol Right, %	0%	75%	0%	6%	9%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	12	45	216	193	38
LT Vol	15	0	45	0	12	3
Through Vol	0	3	0	203	163	4
RT Vol	0	9	0	13	18	31
Lane Flow Rate	18	14	54	257	230	45
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.032	0.021	0.081	0.35	0.322	0.068
Departure Headway (Hd)	6.407	5.371	5.444	4.9	5.05	5.41
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	558	665	659	735	712	660
Service Time	4.156	3.119	3.171	2.627	3.079	3.455
HCM Lane V/C Ratio	0.032	0.021	0.082	0.35	0.323	0.068
HCM Control Delay	9.4	8.2	8.7	10.3	10.5	8.9
HCM Lane LOS	A	A	A	B	B	A
HCM 95th-tile Q	0.1	0.1	0.3	1.6	1.4	0.2

Year 2040 No Build
Weekday PM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

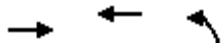
2040 No Build PM
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	500	540	0	78	4
Future Vol, veh/h	0	500	540	0	78	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	526	568	0	82	4
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1094	568
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	237	522
Stage 1	0	-	-	0	567	-
Stage 2	0	-	-	0	593	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	237	522
Mov Cap-2 Maneuver	-	-	-	-	237	-
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	593	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		27.8		
HCM LOS	D					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	243			
HCM Lane V/C Ratio	-	-	0.355			
HCM Control Delay (s)	-	-	27.8			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	1.5			

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 No Build PM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	562	29	61	500	30	49
Future Volume (vph)	562	29	61	500	30	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.92	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2097			2100	1674	
Flt Permitted	1.00			0.90	0.98	
Satd. Flow (perm)	2097			1890	1674	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	604	31	66	538	32	53
RTOR Reduction (vph)	2	0	0	0	49	0
Lane Group Flow (vph)	633	0	0	604	36	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	31.5			31.5	3.7	
Effective Green, g (s)	31.5			31.5	3.7	
Actuated g/C Ratio	0.70			0.70	0.08	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1461			1317	137	
v/s Ratio Prot	0.30				c0.02	
v/s Ratio Perm				c0.32		
v/c Ratio	0.43			0.46	0.27	
Uniform Delay, d1	3.0			3.1	19.5	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.3	1.0	
Delay (s)	3.2			3.3	20.5	
Level of Service	A			A	C	
Approach Delay (s)	3.2			3.3	20.5	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			4.4		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			45.2		Sum of lost time (s)	15.0
Intersection Capacity Utilization			78.2%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	635	604	85
v/c Ratio	0.38	0.41	0.29
Control Delay	4.2	4.6	12.3
Queue Delay	0.0	0.0	0.0
Total Delay	4.2	4.6	12.3
Queue Length 50th (ft)	65	64	9
Queue Length 95th (ft)	121	123	36
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1651	1487	322
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.38	0.41	0.26
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2040 No Build PM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	589	6	9	674	26	2	3	10	21	2	4
Future Vol, veh/h	2	589	6	9	674	26	2	3	10	21	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	620	6	9	709	27	2	3	11	22	2	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	736	0	0	626	0	0	1371	1381	623	1375	1371	723
Stage 1	-	-	-	-	-	-	627	627	-	741	741	-
Stage 2	-	-	-	-	-	-	744	754	-	634	630	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	870	-	-	956	-	-	123	144	486	123	146	426
Stage 1	-	-	-	-	-	-	471	476	-	408	423	-
Stage 2	-	-	-	-	-	-	407	417	-	467	475	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	870	-	-	956	-	-	119	141	486	116	143	426
Mov Cap-2 Maneuver	-	-	-	-	-	-	119	141	-	116	143	-
Stage 1	-	-	-	-	-	-	469	474	-	406	416	-
Stage 2	-	-	-	-	-	-	395	410	-	452	473	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			20			39.6		
HCM LOS							C			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	256	870	-	-	956	-	-	132				
HCM Lane V/C Ratio	0.062	0.002	-	-	0.01	-	-	0.215				
HCM Control Delay (s)	20	9.1	0	-	8.8	0	-	39.6				
HCM Lane LOS	C	A	A	-	A	A	-	E				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.8				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 No Build PM
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	248	253	70	279	27	298	137	46	33	242	138
Future Volume (vph)	132	248	253	70	279	27	298	137	46	33	242	138
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.92		1.00	0.99			0.99			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1722		1770	1838			2021			1772	
Flt Permitted	0.25	1.00		0.32	1.00			0.35			0.93	
Satd. Flow (perm)	461	1722		593	1838			737			1649	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	148	279	284	79	313	30	335	154	52	37	272	155
RTOR Reduction (vph)	0	44	0	0	4	0	0	4	0	0	20	0
Lane Group Flow (vph)	148	519	0	79	339	0	0	537	0	0	444	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	31.6	31.6		19.8	19.8			40.1			30.1	
Effective Green, g (s)	31.6	31.6		19.8	19.8			40.1			30.1	
Actuated g/C Ratio	0.38	0.38		0.24	0.24			0.48			0.36	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	298	655		141	438			356			598	
v/s Ratio Prot	0.05	c0.30			0.18							
v/s Ratio Perm	0.14			0.13				c0.73			0.27	
v/c Ratio	0.50	0.79		0.56	0.77			1.51			0.74	
Uniform Delay, d1	18.6	22.8		27.8	29.5			21.4			23.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.3	6.5		5.0	8.3			242.8			5.0	
Delay (s)	19.9	29.3		32.8	37.8			264.2			28.0	
Level of Service	B	C		C	D			F			C	
Approach Delay (s)		27.4			36.9			264.2			28.0	
Approach LOS		C			D			F			C	
Intersection Summary												
HCM 2000 Control Delay			89.3			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.34									
Actuated Cycle Length (s)			83.0			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			102.7%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 No Build PM
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	148	563	79	343	541	464
v/c Ratio	0.48	0.81	0.56	0.78	1.50	0.75
Control Delay	21.4	29.9	44.1	41.9	262.5	32.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.4	29.9	44.1	41.9	262.5	32.1
Queue Length 50th (ft)	49	226	36	165	~404	197
Queue Length 95th (ft)	87	349	82	255	#628	#368
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	311	808	178	559	360	617
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.70	0.44	0.61	1.50	0.75

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2040 No Build PM
HCM 2010 AWSC

Intersection

Intersection Delay, s/veh 13

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	225	30	16	262	19	30	25	15	38	16	81
Future Vol, veh/h	67	225	30	16	262	19	30	25	15	38	16	81
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	250	33	18	291	21	33	28	17	42	18	90
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	12.2	15.1	10.1	11.5
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	5%	28%
Vol Thru, %	0%	62%	0%	88%	88%	12%
Vol Right, %	0%	38%	0%	12%	6%	60%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	40	67	255	297	135
LT Vol	30	0	67	0	16	38
Through Vol	0	25	0	225	262	16
RT Vol	0	15	0	30	19	81
Lane Flow Rate	33	44	74	283	330	150
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.067	0.08	0.128	0.443	0.529	0.261
Departure Headway (Hd)	7.224	6.447	6.214	5.625	5.773	6.263
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	555	577	640	624	573
Service Time	4.976	4.198	3.951	3.361	3.809	4.31
HCM Lane V/C Ratio	0.067	0.079	0.128	0.442	0.529	0.262
HCM Control Delay	10.5	9.8	9.9	12.8	15.1	11.5
HCM Lane LOS	B	A	A	B	C	B
HCM 95th-tile Q	0.2	0.3	0.4	2.3	3.1	1

Year 2040 No Build
Saturday Midday Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2040 No Build Saturday
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	574	569	0	77	1
Future Vol, veh/h	0	574	569	0	77	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	598	593	0	80	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1191	593
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	598	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	207	506
Stage 1	0	-	-	0	552	-
Stage 2	0	-	-	0	549	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	207	506
Mov Cap-2 Maneuver	-	-	-	-	207	-
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	549	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		32.8		
HCM LOS	D					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	209			
HCM Lane V/C Ratio	-	-	0.389			
HCM Control Delay (s)	-	-	32.8			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	1.7			

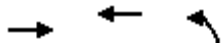
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 No Build Saturday
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	565	44	65	519	28	59
Future Volume (vph)	565	44	65	519	28	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.91	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2090			2099	1666	
Flt Permitted	1.00			0.89	0.98	
Satd. Flow (perm)	2090			1880	1666	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	601	47	69	552	30	63
RTOR Reduction (vph)	3	0	0	0	58	0
Lane Group Flow (vph)	645	0	0	621	35	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	32.3			32.3	3.8	
Effective Green, g (s)	32.3			32.3	3.8	
Actuated g/C Ratio	0.70			0.70	0.08	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1464			1317	137	
v/s Ratio Prot	0.31				c0.02	
v/s Ratio Perm				c0.33		
v/c Ratio	0.44			0.47	0.26	
Uniform Delay, d1	3.0			3.1	19.8	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.3	1.0	
Delay (s)	3.2			3.4	20.8	
Level of Service	A			A	C	
Approach Delay (s)	3.2			3.4	20.8	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			4.5		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			46.1		Sum of lost time (s)	15.0
Intersection Capacity Utilization			81.0%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 No Build Saturday
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	648	621	93
v/c Ratio	0.39	0.42	0.32
Control Delay	4.3	4.8	11.9
Queue Delay	0.0	0.0	0.0
Total Delay	4.3	4.8	11.9
Queue Length 50th (ft)	66	67	8
Queue Length 95th (ft)	124	129	36
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1641	1475	320
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.39	0.42	0.29
Intersection Summary			

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2040 No Build Saturday
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	624	3	1	591	16	8	2	7	7	1	3
Future Vol, veh/h	12	624	3	1	591	16	8	2	7	7	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	734	4	1	695	19	9	2	8	8	1	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	714	0	0	738	0	0	1473	1480	736	1476	1473	705
Stage 1	-	-	-	-	-	-	764	764	-	707	707	-
Stage 2	-	-	-	-	-	-	709	716	-	769	766	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	886	-	-	868	-	-	105	125	419	104	127	436
Stage 1	-	-	-	-	-	-	396	413	-	426	438	-
Stage 2	-	-	-	-	-	-	425	434	-	394	412	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	886	-	-	868	-	-	101	121	419	98	123	436
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	121	-	98	123	-
Stage 1	-	-	-	-	-	-	385	402	-	414	437	-
Stage 2	-	-	-	-	-	-	420	433	-	374	401	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			32.4			36.5		
HCM LOS							D			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	151	886	-	-	868	-	-	127				
HCM Lane V/C Ratio	0.132	0.016	-	-	0.001	-	-	0.102				
HCM Control Delay (s)	32.4	9.1	0	-	9.2	0	-	36.5				
HCM Lane LOS	D	A	A	-	A	A	-	E				
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.3				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 No Build Saturday
HCM Signalized Intersection Capacity Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	238	291	60	247	22	243	84	44	22	186	134
Future Volume (vph)	155	238	291	60	247	22	243	84	44	22	186	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.92		1.00	0.99			0.98			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97			1.00	
Satd. Flow (prot)	1770	1709		1770	1840			2011			1758	
Flt Permitted	0.31	1.00		0.32	1.00			0.41			0.96	
Satd. Flow (perm)	587	1709		604	1840			853			1695	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	248	303	62	257	23	253	88	46	23	194	140
RTOR Reduction (vph)	0	55	0	0	4	0	0	5	0	0	25	0
Lane Group Flow (vph)	161	496	0	63	276	0	0	382	0	0	332	0
Turn Type	pm+pt	NA		Perm	NA		custom	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			5			6		
Actuated Green, G (s)	29.4	29.4		17.5	17.5			40.2			30.2	
Effective Green, g (s)	29.4	29.4		17.5	17.5			40.2			30.2	
Actuated g/C Ratio	0.36	0.36		0.22	0.22			0.50			0.37	
Clearance Time (s)	4.0	5.7		5.7	5.7			5.6			5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	328	621		130	398			423			632	
v/s Ratio Prot	0.05	c0.29			0.15							
v/s Ratio Perm	0.13			0.10				c0.45			0.20	
v/c Ratio	0.49	0.80		0.48	0.69			0.90			0.53	
Uniform Delay, d1	18.8	23.1		27.8	29.2			18.6			19.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.2	7.1		2.8	5.2			22.1			0.8	
Delay (s)	19.9	30.2		30.6	34.4			40.7			20.6	
Level of Service	B	C		C	C			D			C	
Approach Delay (s)		27.9			33.7			40.7			20.6	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			30.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			80.9			Sum of lost time (s)			19.3			
Intersection Capacity Utilization			94.8%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 No Build Saturday
Queues



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	161	551	63	280	387	357
v/c Ratio	0.47	0.82	0.48	0.70	0.90	0.54
Control Delay	21.3	30.2	40.5	38.3	47.5	22.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	30.2	40.5	38.3	47.5	22.5
Queue Length 50th (ft)	54	211	28	129	164	122
Queue Length 95th (ft)	95	337	67	207	#398	235
Internal Link Dist (ft)		373		344	218	224
Turn Bay Length (ft)						
Base Capacity (vph)	343	832	187	574	429	656
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.66	0.34	0.49	0.90	0.54

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2040 No Build Saturday
HCM 2010 AWSC

Intersection

Intersection Delay, s/veh 12.5

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	92	220	37	23	213	19	45	20	26	8	15	97
Future Vol, veh/h	92	220	37	23	213	19	45	20	26	8	15	97
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	106	253	43	26	245	22	52	23	30	9	17	111
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	12.4	14.2	10.2	11.1
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	9%	7%
Vol Thru, %	0%	43%	0%	86%	84%	12%
Vol Right, %	0%	57%	0%	14%	7%	81%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	46	92	257	255	120
LT Vol	45	0	92	0	23	8
Through Vol	0	20	0	220	213	15
RT Vol	0	26	0	37	19	97
Lane Flow Rate	52	53	106	295	293	138
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.103	0.092	0.183	0.46	0.477	0.236
Departure Headway (Hd)	7.191	6.279	6.215	5.607	5.862	6.149
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	498	569	577	644	616	583
Service Time	4.942	4.029	3.948	3.34	3.898	4.195
HCM Lane V/C Ratio	0.104	0.093	0.184	0.458	0.476	0.237
HCM Control Delay	10.8	9.7	10.3	13.1	14.2	11.1
HCM Lane LOS	B	A	B	B	B	B
HCM 95th-tile Q	0.3	0.3	0.7	2.4	2.6	0.9

Year 2040 Build
Weekday AM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2040 Build AM
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	11.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	537	477	0	101	2
Future Vol, veh/h	0	537	477	0	101	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	756	672	0	142	3
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1428	672
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	756	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	149	456
Stage 1	0	-	-	0	508	-
Stage 2	0	-	-	0	464	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	149	456
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	508	-
Stage 2	-	-	-	-	464	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		121.9		
HCM LOS	F					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	151			
HCM Lane V/C Ratio	-	-	0.961			
HCM Control Delay (s)	-	-	121.9			
HCM Lane LOS	-	-	F			
HCM 95th %tile Q(veh)	-	-	7			

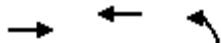
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 Build AM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↱	
Traffic Volume (vph)	605	51	26	431	26	70
Future Volume (vph)	605	51	26	431	26	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.90	
Flt Protected	1.00			1.00	0.99	
Satd. Flow (prot)	2089			2105	1657	
Flt Permitted	1.00			0.94	0.99	
Satd. Flow (perm)	2089			1976	1657	
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	796	67	34	567	34	92
RTOR Reduction (vph)	3	0	0	0	82	0
Lane Group Flow (vph)	860	0	0	601	44	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	33.5			33.5	5.3	
Effective Green, g (s)	33.5			33.5	5.3	
Actuated g/C Ratio	0.69			0.69	0.11	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1434			1356	179	
v/s Ratio Prot	c0.41				c0.03	
v/s Ratio Perm				0.30		
v/c Ratio	0.60			0.44	0.25	
Uniform Delay, d1	4.1			3.4	19.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.7			0.2	0.7	
Delay (s)	4.8			3.7	20.6	
Level of Service	A			A	C	
Approach Delay (s)	4.8			3.7	20.6	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			5.6		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.63			
Actuated Cycle Length (s)			48.8		Sum of lost time (s)	15.0
Intersection Capacity Utilization			58.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 Build AM
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	863	601	126
v/c Ratio	0.57	0.42	0.42
Control Delay	6.6	5.1	12.0
Queue Delay	0.0	0.0	0.0
Total Delay	6.6	5.1	12.0
Queue Length 50th (ft)	103	62	8
Queue Length 95th (ft)	140	89	31
Internal Link Dist (ft)	394	369	147
Turn Bay Length (ft)			
Base Capacity (vph)	1509	1424	323
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.57	0.42	0.39
Intersection Summary			

Rubber Avenue Reconstruction
4: Site Drive/Aetna St & Rubber Ave /Rubber Ave

2040 Build AM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	667	31	43	457	42	21	2	33	0	0	0
Future Vol, veh/h	7	667	31	43	457	42	21	2	33	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	749	35	48	513	47	24	2	37	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	560	0	0	784	0	0	1416	1439	767
Stage 1	-	-	-	-	-	-	783	783	-
Stage 2	-	-	-	-	-	-	633	656	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1011	-	-	834	-	-	151	133	402
Stage 1	-	-	-	-	-	-	450	404	-
Stage 2	-	-	-	-	-	-	529	462	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1011	-	-	834	-	-	136	0	402
Mov Cap-2 Maneuver	-	-	-	-	-	-	136	0	-
Stage 1	-	-	-	-	-	-	406	0	-
Stage 2	-	-	-	-	-	-	529	0	-

Approach	EB			WB			NB		
HCM Control Delay, s	0.1			0.8			24.2		
HCM LOS							C		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	136	402	1011	-	-	834	-	-
HCM Lane V/C Ratio	0.19	0.092	0.008	-	-	0.058	-	-
HCM Control Delay (s)	37.6	14.9	8.6	0	-	9.6	0	-
HCM Lane LOS	E	B	A	A	-	A	A	-
HCM 95th %tile Q(veh)	0.7	0.3	0	-	-	0.2	-	-

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2040 Build AM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	8.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	702	2	9	542	9	6	2	12	38	1	5
Future Vol, veh/h	5	702	2	9	542	9	6	2	12	38	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	71	71	71	71	71	71	71	71	71	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	989	3	13	763	13	8	3	17	54	1	7
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	776	0	0	992	0	0	1805	1807	991	1811	1802	770
Stage 1	-	-	-	-	-	-	1005	1005	-	796	796	-
Stage 2	-	-	-	-	-	-	800	802	-	1015	1006	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	840	-	-	697	-	-	61	79	299	61	80	401
Stage 1	-	-	-	-	-	-	291	319	-	380	399	-
Stage 2	-	-	-	-	-	-	379	396	-	287	319	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	840	-	-	697	-	-	57	75	299	54	76	401
Mov Cap-2 Maneuver	-	-	-	-	-	-	57	75	-	54	76	-
Stage 1	-	-	-	-	-	-	285	313	-	373	386	-
Stage 2	-	-	-	-	-	-	359	383	-	263	313	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.1			0.2			45.7			239.6		
HCM LOS							E			F		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	116	840	-	-	697	-	-	60				
HCM Lane V/C Ratio	0.243	0.008	-	-	0.018	-	-	1.033				
HCM Control Delay (s)	45.7	9.3	0	-	10.3	0	-	239.6				
HCM Lane LOS	E	A	A	-	B	A	-	F				
HCM 95th %tile Q(veh)	0.9	0	-	-	0.1	-	-	4.9				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 Build AM
HCM 2010 Roundabout

Intersection				
Intersection Delay, s/veh	20.0			
Intersection LOS	C			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	694	250	341	438
Demand Flow Rate, veh/h	707	255	348	447
Vehicles Circulating, veh/h	326	492	439	424
Vehicles Exiting, veh/h	545	295	594	323
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	30.4	10.2	12.0	15.3
Approach LOS	D	B	B	C
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	707	255	348	447
Cap Entry Lane, veh/h	816	691	728	739
Entry HV Adj Factor	0.981	0.979	0.979	0.979
Flow Entry, veh/h	694	250	341	438
Cap Entry, veh/h	800	677	713	724
V/C Ratio	0.867	0.369	0.478	0.604
Control Delay, s/veh	30.4	10.2	12.0	15.3
LOS	D	B	B	C
95th %tile Queue, veh	11	2	3	4

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2040 Build AM
HCM 2010 AWSC

Intersection

Intersection Delay, s/veh 10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	207	15	12	169	18	16	3	9	3	4	34
Future Vol, veh/h	47	207	15	12	169	18	16	3	9	3	4	34
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	56	246	18	14	201	21	19	4	11	4	5	40
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	10.1	10.6	8.9	8.9
HCM LOS	B	B	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	6%	7%
Vol Thru, %	0%	25%	0%	93%	85%	10%
Vol Right, %	0%	75%	0%	7%	9%	83%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	12	47	222	199	41
LT Vol	16	0	47	0	12	3
Through Vol	0	3	0	207	169	4
RT Vol	0	9	0	15	18	34
Lane Flow Rate	19	14	56	264	237	49
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.034	0.021	0.085	0.361	0.334	0.074
Departure Headway (Hd)	6.452	5.415	5.468	4.918	5.078	5.44
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	554	658	656	732	708	656
Service Time	4.207	3.17	3.196	2.646	3.108	3.491
HCM Lane V/C Ratio	0.034	0.021	0.085	0.361	0.335	0.075
HCM Control Delay	9.4	8.3	8.7	10.4	10.6	8.9
HCM Lane LOS	A	A	A	B	B	A
HCM 95th-tile Q	0.1	0.1	0.3	1.6	1.5	0.2

Year 2040 Build
Weekday PM Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

2040 Build PM
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	500	540	0	78	4
Future Vol, veh/h	0	500	540	0	78	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	526	568	0	82	4
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1094	568
Stage 1	-	-	-	-	568	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	237	522
Stage 1	0	-	-	0	567	-
Stage 2	0	-	-	0	593	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	237	522
Mov Cap-2 Maneuver	-	-	-	-	237	-
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	593	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		27.8		
HCM LOS	D					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	243			
HCM Lane V/C Ratio	-	-	0.355			
HCM Control Delay (s)	-	-	27.8			
HCM Lane LOS	-	-	D			
HCM 95th %tile Q(veh)	-	-	1.5			

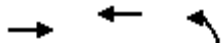
Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 Build PM
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	562	29	61	500	30	49
Future Volume (vph)	562	29	61	500	30	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.92	
Flt Protected	1.00			0.99	0.98	
Satd. Flow (prot)	2097			2100	1674	
Flt Permitted	1.00			0.90	0.98	
Satd. Flow (perm)	2097			1890	1674	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	604	31	66	538	32	53
RTOR Reduction (vph)	2	0	0	0	49	0
Lane Group Flow (vph)	633	0	0	604	36	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	31.5			31.5	3.7	
Effective Green, g (s)	31.5			31.5	3.7	
Actuated g/C Ratio	0.70			0.70	0.08	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1461			1317	137	
v/s Ratio Prot	0.30				c0.02	
v/s Ratio Perm				c0.32		
v/c Ratio	0.43			0.46	0.27	
Uniform Delay, d1	3.0			3.1	19.5	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.3	1.0	
Delay (s)	3.2			3.3	20.5	
Level of Service	A			A	C	
Approach Delay (s)	3.2			3.3	20.5	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			4.4		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			45.2		Sum of lost time (s)	15.0
Intersection Capacity Utilization			78.2%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 Build PM
Queues



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	635	604	85
v/c Ratio	0.38	0.41	0.29
Control Delay	4.2	4.6	12.3
Queue Delay	0.0	0.0	0.0
Total Delay	4.2	4.6	12.3
Queue Length 50th (ft)	65	64	9
Queue Length 95th (ft)	121	123	36
Internal Link Dist (ft)	394	375	147
Turn Bay Length (ft)			
Base Capacity (vph)	1651	1487	322
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.38	0.41	0.26
Intersection Summary			

Rubber Avenue Reconstruction
4: Site Drive/Aetna St & Rubber Ave /Rubber Ave

2040 Build PM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	558	55	74	572	109	45	5	70	0	0	0
Future Vol, veh/h	10	558	55	74	572	109	45	5	70	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	587	58	78	602	115	47	5	74	0	0	0
Major/Minor	Major1			Major2			Minor1					
Conflicting Flow All	717	0	0	645	0	0	1454	1511	616			
Stage 1	-	-	-	-	-	-	638	638	-			
Stage 2	-	-	-	-	-	-	816	873	-			
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22			
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-			
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-			
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318			
Pot Cap-1 Maneuver	884	-	-	940	-	-	143	120	491			
Stage 1	-	-	-	-	-	-	526	471	-			
Stage 2	-	-	-	-	-	-	435	368	-			
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	884	-	-	940	-	-	120	0	491			
Mov Cap-2 Maneuver	-	-	-	-	-	-	120	0	-			
Stage 1	-	-	-	-	-	-	443	0	-			
Stage 2	-	-	-	-	-	-	435	0	-			
Approach	EB			WB			NB					
HCM Control Delay, s	0.1			0.9			28.6					
HCM LOS							D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR				
Capacity (veh/h)	120	491	884	-	-	940	-	-				
HCM Lane V/C Ratio	0.395	0.161	0.012	-	-	0.083	-	-				
HCM Control Delay (s)	53.3	13.7	9.1	0	-	9.2	0	-				
HCM Lane LOS	F	B	A	A	-	A	A	-				
HCM 95th %tile Q(veh)	1.7	0.6	0	-	-	0.3	-	-				

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2040 Build PM
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	589	6	9	674	26	2	3	10	21	2	4
Future Vol, veh/h	2	589	6	9	674	26	2	3	10	21	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	620	6	9	709	27	2	3	11	22	2	4
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	736	0	0	626	0	0	1371	1381	623	1375	1371	723
Stage 1	-	-	-	-	-	-	627	627	-	741	741	-
Stage 2	-	-	-	-	-	-	744	754	-	634	630	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	870	-	-	956	-	-	123	144	486	123	146	426
Stage 1	-	-	-	-	-	-	471	476	-	408	423	-
Stage 2	-	-	-	-	-	-	407	417	-	467	475	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	870	-	-	956	-	-	119	141	486	116	143	426
Mov Cap-2 Maneuver	-	-	-	-	-	-	119	141	-	116	143	-
Stage 1	-	-	-	-	-	-	469	474	-	406	416	-
Stage 2	-	-	-	-	-	-	395	410	-	452	473	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			20			39.6		
HCM LOS							C			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	256	870	-	-	956	-	-	132				
HCM Lane V/C Ratio	0.062	0.002	-	-	0.01	-	-	0.215				
HCM Control Delay (s)	20	9.1	0	-	8.8	0	-	39.6				
HCM Lane LOS	C	A	A	-	A	A	-	E				
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.8				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 Build PM
HCM 2010 Roundabout

Intersection				
Intersection Delay, s/veh	36.0			
Intersection LOS	E			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	711	422	541	464
Demand Flow Rate, veh/h	726	431	552	473
Vehicles Circulating, veh/h	396	650	474	742
Vehicles Exiting, veh/h	819	376	648	339
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	46.1	24.9	25.4	42.7
Approach LOS	E	C	D	E
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	726	431	552	473
Cap Entry Lane, veh/h	760	590	703	538
Entry HV Adj Factor	0.980	0.979	0.980	0.980
Flow Entry, veh/h	711	422	541	464
Cap Entry, veh/h	745	577	689	527
V/C Ratio	0.955	0.731	0.785	0.879
Control Delay, s/veh	46.1	24.9	25.4	42.7
LOS	E	C	D	E
95th %tile Queue, veh	14	6	8	10

Rubber Avenue Reconstruction
10: Commercial/Church St & Rubber Ave

2040 Build PM
HCM 2010 AWSC

Intersection

Intersection Delay, s/veh 13

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	225	30	16	262	19	30	25	15	38	16	81
Future Vol, veh/h	67	225	30	16	262	19	30	25	15	38	16	81
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	250	33	18	291	21	33	28	17	42	18	90
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	12.2	15.1	10.1	11.5
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	5%	28%
Vol Thru, %	0%	62%	0%	88%	88%	12%
Vol Right, %	0%	38%	0%	12%	6%	60%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	30	40	67	255	297	135
LT Vol	30	0	67	0	16	38
Through Vol	0	25	0	225	262	16
RT Vol	0	15	0	30	19	81
Lane Flow Rate	33	44	74	283	330	150
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.067	0.08	0.128	0.443	0.529	0.261
Departure Headway (Hd)	7.224	6.447	6.214	5.625	5.773	6.263
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	555	577	640	624	573
Service Time	4.976	4.198	3.951	3.361	3.809	4.31
HCM Lane V/C Ratio	0.067	0.079	0.128	0.442	0.529	0.262
HCM Control Delay	10.5	9.8	9.9	12.8	15.1	11.5
HCM Lane LOS	B	A	A	B	C	B
HCM 95th-tile Q	0.2	0.3	0.4	2.3	3.1	1

Year 2040 Build
Saturday Midday Peak Hour

Rubber Avenue Reconstruction
2: Rubber Ave/Rubber Ave & Edward St

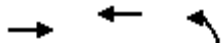
2040 Build Saturday
HCM 2010 TWSC

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	↓
Traffic Vol, veh/h	0	616	607	0	84	1
Future Vol, veh/h	0	616	607	0	84	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	642	632	0	88	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	1274	632
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	642	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	0	-	-	0	184	480
Stage 1	0	-	-	0	530	-
Stage 2	0	-	-	0	524	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	184	480
Mov Cap-2 Maneuver	-	-	-	-	184	-
Stage 1	-	-	-	-	530	-
Stage 2	-	-	-	-	524	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		41.1		
HCM LOS	E					
Minor Lane/Major Mvmt	EBT	WBT	SBLn1			
Capacity (veh/h)	-	-	185			
HCM Lane V/C Ratio	-	-	0.479			
HCM Control Delay (s)	-	-	41.1			
HCM Lane LOS	-	-	E			
HCM 95th %tile Q(veh)	-	-	2.3			

Rubber Avenue Reconstruction
5: Andrew Ave & Rubber Ave

2040 Build Saturday
HCM Signalized Intersection Capacity Analysis

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↰	↱
Traffic Volume (vph)	614	44	71	557	28	66
Future Volume (vph)	614	44	71	557	28	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	16	8	8	16	12	12
Total Lost time (s)	5.0			5.0	5.0	
Lane Util. Factor	1.00			1.00	1.00	
Frt	0.99			1.00	0.91	
Flt Protected	1.00			0.99	0.99	
Satd. Flow (prot)	2092			2099	1662	
Flt Permitted	1.00			0.88	0.99	
Satd. Flow (perm)	2092			1851	1662	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	653	47	76	593	30	70
RTOR Reduction (vph)	3	0	0	0	64	0
Lane Group Flow (vph)	697	0	0	669	36	0
Turn Type	NA		custom	NA	Prot	
Protected Phases	2			6	8	
Permitted Phases			1			
Actuated Green, G (s)	34.7			34.7	4.1	
Effective Green, g (s)	34.7			34.7	4.1	
Actuated g/C Ratio	0.71			0.71	0.08	
Clearance Time (s)	5.0			5.0	5.0	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	1487			1316	139	
v/s Ratio Prot	0.33				c0.02	
v/s Ratio Perm				c0.36		
v/c Ratio	0.47			0.51	0.26	
Uniform Delay, d1	3.1			3.2	20.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	0.2			0.3	1.0	
Delay (s)	3.3			3.5	21.9	
Level of Service	A			A	C	
Approach Delay (s)	3.3			3.5	21.9	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			4.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			48.8		Sum of lost time (s)	15.0
Intersection Capacity Utilization			86.3%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL
Lane Group Flow (vph)	700	669	100
v/c Ratio	0.43	0.46	0.35
Control Delay	4.6	5.2	12.0
Queue Delay	0.0	0.0	0.0
Total Delay	4.6	5.2	12.0
Queue Length 50th (ft)	74	76	8
Queue Length 95th (ft)	139	148	37
Internal Link Dist (ft)	394	379	147
Turn Bay Length (ft)			
Base Capacity (vph)	1637	1447	307
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.43	0.46	0.33
Intersection Summary			

Rubber Avenue Reconstruction
4: Rubber Ave /Rubber Ave & Aetna St

2040 Build Saturday
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	11.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕				
Traffic Vol, veh/h	9	644	73	101	586	54	60	6	93	0	0	0
Future Vol, veh/h	9	644	73	101	586	54	60	6	93	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	0	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	767	87	120	698	64	71	7	111	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	762	0	0	854	0	0	1803	1835	811
Stage 1	-	-	-	-	-	-	833	833	-
Stage 2	-	-	-	-	-	-	970	1002	-
Critical Hdwy	4.12	-	-	4.12	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	850	-	-	785	-	-	87	76	379
Stage 1	-	-	-	-	-	-	427	384	-
Stage 2	-	-	-	-	-	-	368	320	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	850	-	-	785	-	-	~ 62	0	379
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 62	0	-
Stage 1	-	-	-	-	-	-	305	0	-
Stage 2	-	-	-	-	-	-	368	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.1	1.4	115.1
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	62	379	850	-	-	785	-	-
HCM Lane V/C Ratio	1.152	0.311	0.013	-	-	0.153	-	-
HCM Control Delay (s)	274.1	18.7	9.3	0	-	10.4	0	-
HCM Lane LOS	F	C	A	A	-	B	A	-
HCM 95th %tile Q(veh)	5.8	1.3	0	-	-	0.5	-	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Rubber Avenue Reconstruction
7: Arch St & Rubber Ave

2040 Build Saturday
HCM 2010 TWSC

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	697	5	1	673	16	9	2	7	7	1	4
Future Vol, veh/h	14	697	5	1	673	16	9	2	7	7	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	820	6	1	792	19	11	2	8	8	1	5
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	811	0	0	826	0	0	1662	1668	823	1664	1662	802
Stage 1	-	-	-	-	-	-	855	855	-	804	804	-
Stage 2	-	-	-	-	-	-	807	813	-	860	858	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	815	-	-	805	-	-	77	96	373	77	97	384
Stage 1	-	-	-	-	-	-	353	375	-	377	396	-
Stage 2	-	-	-	-	-	-	375	392	-	351	374	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	815	-	-	805	-	-	73	92	373	72	93	384
Mov Cap-2 Maneuver	-	-	-	-	-	-	73	92	-	72	93	-
Stage 1	-	-	-	-	-	-	340	362	-	363	395	-
Stage 2	-	-	-	-	-	-	369	391	-	329	361	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			45.4			46.4		
HCM LOS							E			E		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	110	815	-	-	805	-	-	101				
HCM Lane V/C Ratio	0.193	0.02	-	-	0.001	-	-	0.14				
HCM Control Delay (s)	45.4	9.5	0	-	9.5	0	-	46.4				
HCM Lane LOS	E	A	A	-	A	A	-	E				
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	0.5				

Rubber Avenue Reconstruction
9: Cherry St/Meadow St & Rubber Ave

2040 Build Saturday
HCM 2010 Roundabout

Intersection				
Intersection Delay, s/veh	27.4			
Intersection LOS	D			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	788	369	425	378
Demand Flow Rate, veh/h	804	376	434	385
Vehicles Circulating, veh/h	285	572	484	650
Vehicles Exiting, veh/h	750	346	605	298
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	41.5	16.6	16.7	20.4
Approach LOS	E	C	C	C
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Critical Headway, s	5.193	5.193	5.193	5.193
Entry Flow, veh/h	804	376	434	385
Cap Entry Lane, veh/h	850	638	696	590
Entry HV Adj Factor	0.980	0.982	0.980	0.982
Flow Entry, veh/h	788	369	425	378
Cap Entry, veh/h	832	626	682	579
V/C Ratio	0.946	0.590	0.623	0.653
Control Delay, s/veh	41.5	16.6	16.7	20.4
LOS	E	C	C	C
95th %tile Queue, veh	15	4	4	5

Intersection

Intersection Delay, s/veh 13.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	98	232	41	23	227	19	49	20	26	8	15	104
Future Vol, veh/h	98	232	41	23	227	19	49	20	26	8	15	104
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	267	47	26	261	22	56	23	30	9	17	120
Number of Lanes	1	1	0	0	1	0	1	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	2
HCM Control Delay	13	15.1	10.5	11.5
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	100%	0%	100%	0%	9%	6%
Vol Thru, %	0%	43%	0%	85%	84%	12%
Vol Right, %	0%	57%	0%	15%	7%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	46	98	273	269	127
LT Vol	49	0	98	0	23	8
Through Vol	0	20	0	232	227	15
RT Vol	0	26	0	41	19	104
Lane Flow Rate	56	53	113	314	309	146
Geometry Grp	7	7	7	7	6	6
Degree of Util (X)	0.115	0.094	0.197	0.496	0.512	0.255
Departure Headway (Hd)	7.34	6.427	6.307	5.694	5.964	6.278
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	487	556	569	634	603	571
Service Time	5.101	4.187	4.049	3.436	4.008	4.335
HCM Lane V/C Ratio	0.115	0.095	0.199	0.495	0.512	0.256
HCM Control Delay	11.1	9.9	10.6	13.9	15.1	11.5
HCM Lane LOS	B	A	B	B	C	B
HCM 95th-tile Q	0.4	0.3	0.7	2.8	2.9	1

APPENDIX F

Conceptual Design Cost Estimate

Construction Cost Estimate | LOTCIP Application
Rubber Avenue Reconstruction, Naugatuck, CT

Major and Minor Contract Items

Item No.	Item	Unit	Quantity	Unit \$	Total Cost Participating	Total Cost Non-Participating
0202000	EARTH EXCAVATION	C.Y.	2250	\$ 20.50	\$ 46,125.00	\$ -
0202502	REMOVAL OF CONCRETE PAVEMENT	S.Y.	5000	\$ 15.00	\$ 75,000.00	\$ -
0202529	CUT BITUMINOUS PAVEMENT	L.F.	440	\$ 4.00	\$ 1,760.00	\$ -
0209001	FORMATION OF SUBGRADE	S.Y.	16000	\$ 3.00	\$ 48,000.00	\$ -
0212000	SUBBASE	C.Y.	4500	\$ 40.00	\$ 180,000.00	\$ -
0406170	HMA S1.0	TON	2330	\$ 127.50	\$ 297,075.00	\$ -
0406171	HMA S0.5	TON	2580	\$ 120.00	\$ 282,000.00	\$ 27,600.00
0406236	MATERIAL FOR TACK COAT	GAL.	233	\$ 4.60	\$ 1,071.80	\$ -
0406267	MILLING OF HMA (0 TO 4")	S.Y.	1600	\$ 10.00	\$ -	\$ 16,000.00
0406999	ASPHALT ADJUSTMENT COST	EST	1	\$ 10,000.00	\$ 10,000.00	\$ -
0506026	RETAINING WALL	S.F.	1800	\$ 100.00	\$ 180,000.00	\$ -
0586001.1	TYPE 'C' CATCH BASIN - 0' - 10' DEEP	EA.	30	\$ 4,000.00	\$ 112,000.00	\$ 8,000.00
0586005.1	TYPE 'C' CATCH BASIN DOUBLE GRATE TYPE 2'-0" - 10' DEEP	EA.	4	\$ 5,000.00	\$ -	\$ 20,000.00
0586500.1	MANHOLE - 0' - 10' DEEP	EA.	4	\$ 3,000.00	\$ -	\$ 12,000.00
0586850.1	HYDRODYNAMIC SEPARATOR	EA.	1	\$ 50,000.00	\$ 50,000.00	\$ -
0601020	STAMPED CONCRETE	SF	4350	\$ 30.00	\$ 130,500.00	\$ -
0686000.12	12" R.C. PIPE - 0' - 10' DEEP	L.F.	490	\$ 80.00	\$ 39,200.00	\$ -
0686000.15	15" R.C. PIPE - 0' - 10' DEEP	L.F.	1250	\$ 100.00	\$ 114,500.00	\$ 10,500.00
0686000.18	18" R.C. PIPE - 0' - 10' DEEP	L.F.	170	\$ 100.00	\$ 17,000.00	\$ -
0686000.24	24" R.C. PIPE - 0' - 10' DEEP	L.F.	12	\$ 200.00	\$ 2,400.00	\$ -
0686000.36	36" R.C. PIPE - 0' - 10' DEEP	L.F.	4	\$ 200.00	\$ 800.00	\$ -
0686000.54	54" R.C. PIPE - 0' - 10' DEEP	L.F.	488	\$ 220.00	\$ -	\$ 107,360.00
0686001.60	60" R.C. PIPE - 0' - 10' DEEP	L.F.	155	\$ 250.00	\$ 38,750.00	\$ -
0811001	CONC. CURB	L.F.	600	\$ 11.00	\$ 6,600.00	\$ -
0813041	6" X 8" GRANITE STONE CURBING	L.F.	3450	\$ 50.00	\$ 172,500.00	\$ -
0921001	CONCRETE SIDEWALK	S.F.	19060	\$ 15.00	\$ 285,900.00	\$ -
0921009A	CONC. MONOLITHIC CURB AND SIDEWALK	S.F.	22590	\$ 18.00	\$ 312,480.00	\$ 94,140.00
0921024	CONCRETE PAVERS	S.F.	2350	\$ 22.00	\$ 51,700.00	\$ -
0922050	DECORATIVE CROSSWALK	S.F.	4000	\$ 16.00	\$ 64,000.00	\$ -
0922500	BITUMINOUS CONCRETE DRIVEWAY (COMMERCIAL)	S.Y.	500	\$ 54.40	\$ 27,200.00	\$ -
0922501	BITUMINOUS CONCRETE DRIVEWAY	S.Y.	500	\$ 34.20	\$ 8,550.00	\$ 8,550.00
0939001	SWEEPING FOR DUST CONTROL	HR.	300	\$ 50.60	\$ 15,180.00	\$ -
0942001	CALCIUM CHLORIDE FOR DUST CONTROL	TON	5	\$ 545.00	\$ 2,725.00	\$ -
0979003	CONSTRUCTION FIELD OFFICE, SMALL	MO.	10	\$ 2,600.00	\$ 26,000.00	
0970006	TRAFFICPERSON (MUNICIPAL POLICE OFFICER)	H.R.	800	\$ 80.00	\$ 64,000.00	\$ -
0970007	TRAFFICPERSON (UNIFORMED FLAGGER)	H.R.	800	\$ 35.00	\$ 28,000.00	\$ -
0977001	TRAFFIC CONE	EA.	40	\$ 20.00	\$ 800.00	\$ -
0978002	TRAFFIC DRUM	EA.	80	\$ 60.00	\$ 4,800.00	\$ -
1003380	DECORATIVE LIGHTPOLE AND FIXTURE	EA.	28	\$ 3,000.00	\$ 84,000.00	\$ -
1002103	LIGHT STANDARD FOUNDATION	EA.	28	\$ 1,000.00	\$ 28,000.00	\$ -
1208931	SIGN FACE - SHEET ALUMINUM (TYPE IX RETROREFLECTIVE SHEETING)	S.F.	125	\$ 33.20	\$ 4,150.00	\$ -
1210101	4" WHITE EPOXY RESIN PAVEMENT MARKINGS	L.F.	6000	\$ 0.40	\$ 2,400.00	\$ -
1210102	4" YELLOW EPOXY RESIN PAVEMENT MARKINGS	L.F.	12000	\$ 0.40	\$ 4,800.00	\$ -
1210105	EPOXY RESIN PAVEMENT MARKINGS SYMBOLS AND LEGENDS	S.F.	150	\$ 3.40	\$ 510.00	\$ -
	MODIFY TRAFFIC SIGNAL	L.S.	1	\$ 10,000.00	\$ 10,000.00	\$ -
	REMOVE TRAFFIC SIGNAL	L.S.	1	\$ 50,000.00	\$ 50,000.00	\$ -

A	Major Items Subtotal				\$ 2,880,477	\$ 304,150
B	Minor Items Subtotal	20	% of Line "A"		\$ 576,095	n/a

C	Major and Minor Contract Items Subtotal (A + B)				\$ 3,456,572	n/a
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Other Item Allowances

Clearing and Grubbing	2	% of Line "C"	\$ 69,131	n/a
M & P of Traffic	3	% of Line "C"	\$ 103,697	n/a
Mobilization	6.5	% of Line "C"	\$ 224,677	n/a
Construction Staking	1	% of Line "C"	\$ 34,566	n/a

D	Other Items Subtotal				\$ 432,071	n/a
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E	CONTRACT SUBTOTAL (C + D)				\$ 3,888,643	\$ -
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Inflation Costs (Simple Method)

Date of Estimate	Apr-20
Anticipated Bid Date	Feb-21
Annual Inflation	4%

F	Inflation Subtotal	3.2%	of Line "E"		\$ 124,437	\$ -
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G	TOTAL CONTRACT COST ESTIMATE (E + F) (Rounded to nearest \$1000)				\$ 4,013,000	\$ -
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LOTCIP Project Costs Summary					
Contract Cost Estimate (Line "G")				\$ 4,013,000	\$ -
Contingencies	10%			\$ 401,300	\$ -
Incidentals	10%			\$ 401,300	\$ -
ROW	LS			N/A	N/A
Utilities	LS			N/A	N/A
TOTAL PROJECT COST				\$ 4,815,600	\$ 304,150

APPENDIX G

Boring Logs

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:

BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
11/27/2018	7 ft. +/-	Based on wet samples.

DEPTH (ft.) Elevation	SAMPLE INFORMATION							GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)				
0										Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
										Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
	S-1	1.0	11/24	9 6 7 6	13		7			6" Asphalt Concrete (AC) 1" GRAVEL BASE Top 5" - Medium dense, light brown, gravelly fine to coarse SAND, trace silt, trace debris (asphalt); moist. [FILL] Bottom 6" - Stiff, dark brown to black, gravelly SILT, some fine to coarse sand; moist. [FILL]	Gravel = 42% Sand = 51% Fines = 7%
	S-2	3.0	4/24	8 7 3 2	10				FILL	Medium dense, brown, fine to coarse SAND, little gravel, trace silt, trace organics (roots); moist. [FILL]	
5	S-3	5.0	3/24	3 2 5 2	7					Loose, brown, gravelly fine to coarse SAND, trace silt; moist. [FILL]	
	S-4	7.0	18/18	8 7 30	37				SAND	Top 14" - Dense, dark brown to black, fine to medium SAND, little gravel, little silt, trace organics; wet. - organic odor Bottom 4" - Dark brown to black, fine to coarse SAND, some gravel, little silt, trace organics; wet. - organic odor End of boring at 8.5 ft.	
				50/0"							

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION							GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)				
0										Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
										Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
										7" Asphalt Concrete (AC) 3" GRAVEL BASE Medium dense, dark brown, fine to coarse SAND, some gravel, little silt; moist. [FILL]	Gravel = 32% Sand = 57% Fines = 11%
	S-1	1.0	5/24	14	11		11		FILL	Top 4" - Medium dense, dark brown, sandy GRAVEL, trace silt, trace debris (brick); moist. [FILL] Bottom 4" - Medium dense, light brown, GRAVEL, some fine to coarse sand, little silt; moist. [FILL]	
	S-2	3.0	8/24	8	11					Top 4" - Medium dense, dark brown, sandy GRAVEL, trace silt, trace debris (brick); moist. [FILL] Bottom 4" - Medium dense, light brown, GRAVEL, some fine to coarse sand, little silt; moist. [FILL]	
5										Top 4" - Very dense, dark brown, GRAVEL, some fine to coarse sand, little silt, trace debris (slag, brick), trace organics; moist. [FILL] Bottom 4" - Very dense, light brown, sandy GRAVEL, trace silt; moist.	
	S-3	5.0	8/24	11	77				GRAVEL		
				27							
				50							
				12							

End of boring at 7.0 ft.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS		
DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION							GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)				
0										Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
										Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
										5" Asphalt Concrete (AC)	
	S-1	1.0	16/24	15 12 6 4	18				FILL	Top 3" - Brown, fine to coarse SAND, some gravel, trace silt; moist. [FILL] Bottom 13" - Medium dense, dark brown, fine to coarse SAND, little gravel, little silt, trace debris (brick); moist. [FILL]	
	S-2	3.0	12/24	11 5 4 3	9					Loose, light brown, fine to medium SAND, some gravel, little silt; moist.	
5											
	S-3	5.0	8/24	12 23 27 18	50				SAND	Very dense, light brown, fine to medium SAND, some gravel, little silt; moist.	

End of boring at 7.0 ft.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:

BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS		
DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION							GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)				
0										Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
										Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
										7" Asphalt Concrete (AC) 3" GRAVEL BASE	
	S-1	1.0	11/24	6 5 3 6	8		10		FILL	Top 7" - Loose, dark brown, fine to coarse SAND, little gravel, little silt, trace debris (asphalt); moist. [FILL] Bottom 4" - Brown, sandy GRAVEL, trace silt; moist. [FILL]	Gravel = 34% Sand = 56% Fines = 10%
	S-2	3.0	11/24	3 53 18 13	71					Top 3" - Dark brown, gravelly fine to medium SAND, trace silt; moist. [FILL] Bottom 7" - Very dense, white, sandy GRAVEL, little silt; moist. [FILL] - broken rock fragments and rock flour (possible cobble or boulder)	
5	S-3	5.0	4/12	5 7					SAND	Light brown, gravelly fine to coarse SAND, some gravel, little silt, trace organics (roots); moist.	
				50/0"						End of boring at 6.0 ft.	

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10% Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
									7" Asphalt Concrete (AC)	

Portland Cement Concrete (PCC) slab encountered beneath AC. Unable to penetrate the slab. End of boring at 0.6 ft. Boring offset and reattempted at B-5B with drive and wash methods.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Mike St. John - New England Boring Contractors
LOGGED / CHECKED BY: A. Barrett / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / cased rotary (drive-and-wash)
CASING DIAMETER: 4" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 12/19/2018 **END DATE:** 12/19/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
									Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
									6" Asphalt Concrete (AC)	
									10" Portland Cement Concrete (PCC) Slab	
	S-1	1.5	11/18	13 11 12	23				Medium dense, gray-brown, fine to medium SAND, some gravel, trace silt; moist. [FILL]	
	S-2	3.0	20/24	16 21 15 12	36				Dense, gray-brown, medium to coarse SAND, trace silt, trace gravel; moist. [FILL]	
5	S-3	5.0	17/24	9 6 20 32	26				Top 7" - Gray-brown, fine to coarse SAND, little gravel, trace silt; moist. [FILL]	
									Bottom 10" - Medium dense, fine to medium SAND, little silt, trace gravel; moist.	

End of boring at 7.0 ft.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10% Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	

4" Asphalt Concrete (AC)

Portland Cement Concrete (PCC) slab encountered beneath AC. Unable to penetrate slab. End of boring at 0.3 ft. Boring offset and reattempted at B-6B with drive and wash methods.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Mike St. John - New England Boring Contractors
LOGGED / CHECKED BY: A. Barrett / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / cased rotary (drive-and-wash)
CASING DIAMETER: 4" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:

BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 12/19/2018 **END DATE:** 12/19/2018

GROUNDWATER OBSERVATIONS		
DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION							GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)				
0										Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
										Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
										6" Asphalt Concrete (AC)	
										6" Portland Cement Concrete (PCC) Slab	
	S-1	1.0	8/24	8 4 5 3	9					Loose, gray-brown, fine to medium SAND, little gravel, little silt; moist. [FILL]	
	S-2	3.0	10/24	5 7 7 8	14					Medium dense, gray-brown, fine to coarse SAND, little gravel, trace silt; moist. [FILL]	
5	S-3	5.0	22/24	7 8 22 31	30					Top 8" - Gray-brown, fine to medium SAND, trace silt, some gravel; moist. [FILL]	
										Bottom 14" - Dense, brown, fine to medium SAND, some gravel, little silt; moist.	

End of boring at 7.0 ft.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:

BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
11/27/2018	9 ft. +/-	Based on wet samples.

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
									Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
									8" Asphalt Concrete (AC) 3" GRAVEL BASE	
	S-1	1.0	6/24	14 14 13 8	27				Medium dense, brown, fine to coarse SAND, some gravel, trace silt; moist. [FILL]	Gravel = 25% Sand = 66% Fines = 9%
	S-2	3.0	8/24	7 5 4 3	9				Loose, brown, fine SAND, some gravel, trace silt; moist. [FILL]	
5	S-3	5.0	10/24	3 4 4 4	8				Loose, brown, fine to coarse SAND, some gravel, trace silt; moist. [FILL]	
	S-4	7.0	8/24	6 6 5 3	11				Medium dense, brown, fine to coarse SAND, some gravel, trace silt; moist. [FILL]	
	S-5	9.0	4/24	1/12" 1 1					Very loose, light brown, fine to coarse SAND, little gravel, trace silt; wet.	
10										
	S-6	11.0	2/2	50/2"					Gray, fine to coarse SAND, little gravel, trace silt; moist. SPT refusal at 11.2 ft. End of boring.	

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
11/27/2018	5 ft. +/-	Based on wet samples.

DEPTH (ft.) Elevation	SAMPLE INFORMATION							GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)				
0										Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
										Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
	S-1	1.0	12/24	33 28 20 15	48		12		FILL	6" Asphalt Concrete (AC) 3" GRAVEL BASE Top 7" - Dense, gray, fine to coarse sandy GRAVEL, little silt; moist. [FILL] Bottom 5" - Dense, light brown, fine to coarse SAND, little gravel, trace silt, trace debris (asphalt); moist. [FILL]	Gravel = 49% Sand = 39% Fines = 12%
	S-2	3.0	15/24	13 4 3 3	7				ORG SILT	Top 9" - Loose, gray to light brown, little fine to medium SAND, some gravel, trace silt; moist. [FILL] Bottom 6" - Black, ORGANIC SILT, little fine to medium sand; moist. - Iron staining present.	▼
5	S-3	5.0	12/24	3 6 15 26	21				SAND	Medium dense, brown, fine to medium SAND, little gravel, little silt; wet.	

End of boring at 7.0 ft.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10% Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	

4" Asphalt Concrete (AC)

4" Portland Cement Concrete (PCC) Slab

Portland Cement Concrete (PCC) slab encountered beneath AC. Drill approximately 4" into slab. Unable to fully penetrate slab. End of boring at 0.7 ft. Boring offset and reattempted at B-9B with drive and wash methods.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Mike St. John - New England Boring Contractors
LOGGED / CHECKED BY: A. Barrett / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / cased rotary (drive-and-wash)
CASING DIAMETER: 4" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:

BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 12/19/2018 **END DATE:** 12/19/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
									Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	
									5" Asphalt Concrete (AC)	
	S-1	1.0	6/24	5 7 10 8	17			FILL	5" Portland Cement Concrete (PCC) Slab	
									Medium dense, brown, fine to coarse SAND, some gravel, trace silt; moist.	
	S-2	3.0	14/24	8 7 3 4	10				Top 10" - Medium dense, brown, fine to coarse SAND, some gravel, trace silt; moist. [FILL]	
									Bottom 4" - Brown, fine to coarse SAND, trace gravel, trace silt; moist.	
5	S-3	5.0	5/24	6 3 4 4	7			SAND	Loose, brown, fine to coarse SAND, little gravel, trace silt; moist.	
	S-4	7.0	5/24	8 14 3 8	17				Medium dense, brown, fine to coarse SAND, some gravel, little silt; moist.	
	S-5	9.0	12/12	12 40					Brown, fine to coarse SAND, trace gravel, trace silt; moist.	
10				50/0"					End of boring at 10.0 ft.	

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual. 2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	

CLIENT: Borough of Naugatuck, CT
PROJECT NUMBER: 2180733

PROJECT NAME: Rubber Avenue Reconstruction
PROJECT LOCATION: Naugatuck, Connecticut

DRILLER: Dave Robeau - Seaboard Drilling
LOGGED / CHECKED BY: G. Pagliuca / M. Zanchi
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:
BORING LOCATION: See Site Plan
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 11/27/2018 **END DATE:** 11/27/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) Elevation	SAMPLE INFORMATION						GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
	TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE				
0									Mineral Soil GRAVEL, SAND, SILT, CLAY: >50% gravelly, sandy, silty, clayey: 35-50% some: 20-35% little: 10-20% trace: 0-10%	
									Organic Soil PEAT: 50-100% organic (soil): 15-50% with some organics: 5-15%	

6" Asphalt Concrete (AC)

Portland Cement Concrete (PCC) slab encountered beneath AC. Unable to penetrate slab. End of boring at 0.5 ft.

SAMPLE		GRANULAR SOILS		COHESIVE SOILS		GENERAL NOTES:
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY	
S	Split spoon	0-4	Very Loose	< 2	Very Soft	1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.
ST	Shelby tube	4-10	Loose	2-4	Soft	
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff	2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.
NX	Rock core	30-50	Dense	8-15	Stiff	
GP	Direct push	> 50	Very Dense	15-30	Very Stiff	
				> 30	Hard	