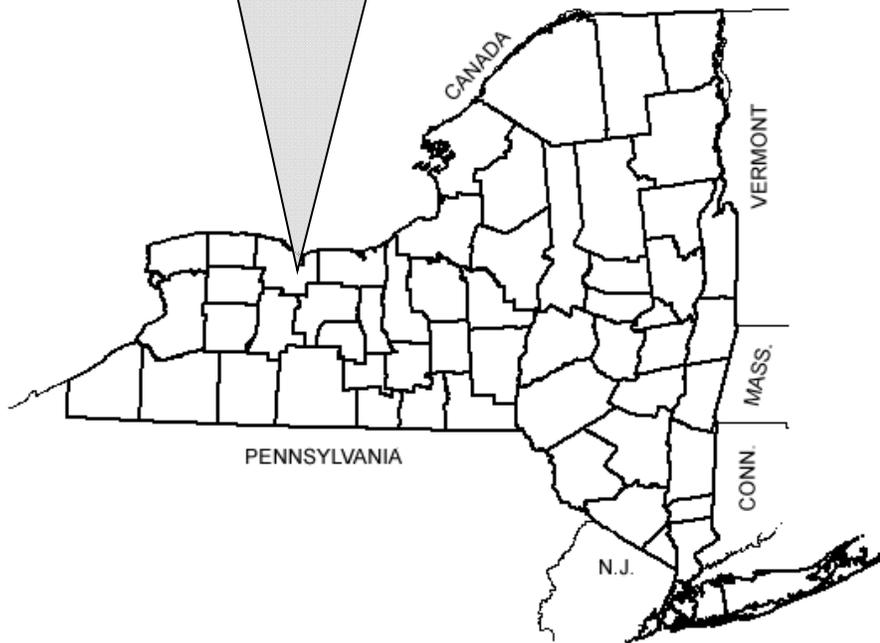


TRANSPORTATION

INITIAL PROJECT PROPOSAL/ DRAFT DESIGN REPORT

July 2015

2017 Preventive Maintenance Contract 5
Arnett Boulevard, Genesee Park Boulevard,
Webster Avenue
P.I.N. 4760.44
City of Rochester, Monroe County



U.S. Department of Transportation Federal Highway Administration

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
ANDREW M. CUOMO, Governor MATT DRISCOLL, Commissioner

City of Rochester Department of Environmental Services
LOVELY A. WARREN, Mayor NORMAN H. JONES, Commissioner

PROPOSED PROJECT



ATTACHMENTS

- A. Project Location Maps
- B. Plans and Typical Sections
 - Typical Sections (Dwg. TYP-1 thru TYP-2)
 - Miscellaneous Details (Dwg. MSD-1)
 - Pavement Plans:
 - Arnett Boulevard (Dwg. PLN-A1 thru PLN-A4)
 - Genesee Park Boulevard (Dwg. PLN-GP1 thru PLN-GP4)
 - Webster Avenue (Dwg. PLN-W1 thru PLN-W4)
- C. Environmental Information
 - Federal Environmental Approval Worksheet
 - Social, Economic and Environmental Resources Checklist
 - Consistency Determination for Threatened and Endangered Species
 - FHWA No Effect Concurrence Letter (included in Final Report)
 - Region 4 Cultural Resource Coordinator Letter confirming project is exempt from further Section 106 review
 - Smart Growth Screening Tool
- D. Pavement Evaluation & Treatment Selection Reports (PETSRS)
- E. Safe-Tap Checklist
- F. Pedestrian Generator Checklist
- G. Accident Analysis
- H. Traffic and Intersection Capacity Analysis
- I. Cost Estimates
- J. Initial Project Proposal (IPP)

PROJECT APPROVAL SHEET

(Pursuant to SAFETEA-LU Matrix)

<u>Milestones</u>	<u>Signatures</u>	<u>Dates</u>
A. IPP Approval:	The project cost and schedule are consistent with the Regional Capital Program. The IPP was signed by: See Attachment J for IPP signature _____ Regional Director, NYSDOT Region 4	_____
B. Recommendation for Scoping & Design Approval:	The project cost and schedule are consistent with the Regional Capital Program.	
Environmental Determination & Federal Aid Process Concurrence:	The NYSDOT on behalf of FHWA (based on the NEPA checklist) concurs with the classification of this project as a NEPA Class II, Automatic Categorical Exclusion as described in this document. _____ Craig Ekstrom NYSDOT R4, Regional Planning & Program Manager	_____
C. Recommendation for Scope, Design & Nonstandard Feature Approval:	Procedurally, this project was progressed using the NYSDOT Locally Administered Federal Aid Procedures Manual. All requirements requisite to these actions and approvals have been met, the required independent quality control reviews separate from the functional group reviews have been accomplished, and the work is consistent with established standards, policies, regulations and procedures, except as otherwise noted and explained. _____ Seth D. Kaeuper, P.E. Regional Transportation Manager, C&S Engineers, Inc.	_____
D. Public Hearing Certification (23 USC 128):	A public hearing was not required. A public information meeting was not conducted.	
Nonstandard Feature Approval:	No nonstandard features have been identified, created, or retained.	
E. Scoping & Design Approval:	The required environmental determinations have been made and the preferred alternative for this project is ready for final design. _____ James R. McIntosh, P.E. City Engineer, Department of Environmental Services	_____

LIST OF PREPARERS

Group Director Responsible for Production of the Design Approval Document:

Seth D. Kaeuper., P.E., Regional Transportation Manager, C&S Engineers, Inc

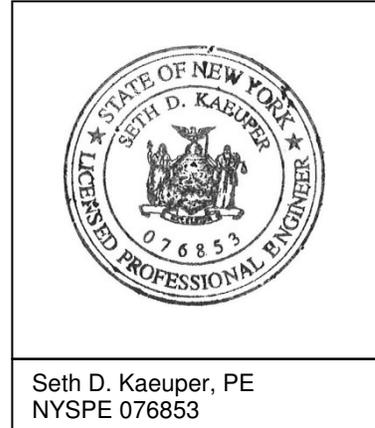
Description of Work Performed by Firm:

Directed the preparation of the Design Approval Document in accordance with established standards, policies, regulations and procedures, except as otherwise explained in this document.



C&S Engineers, Inc.

150 State Street, Suite 120.
Rochester, NY 14614
Phone: 585-325-9040
Fax: 585-697-7588
www.cscos.com



Seth D. Kaeuper, PE
NYSPE 076853

Note: *It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.*

PIN: 4760.44

PROJECT NAME: City of Rochester 2017 Preventive Maintenance Contract 5

MUNICIPALITY: City of Rochester

COUNTY: Monroe

ROUTE/SH #: Arnett Boulevard, Genesee Park Boulevard, Webster Avenue

BIN: There are no bridges included in this project.

LIMITS:

Arnett Boulevard:	Thurston Road to Genesee Street.
Genesee Park Boulevard:	Brooks Avenue to Arnett Boulevard.
Webster Avenue:	Garson Avenue to Bay Street. (Project will stop short of the Garson Avenue intersection.)

PROJECT LENGTH:	<u>2.50 CENTERLINE MILES</u>	<u>5.00 LANE MILES</u>
Arnett Boulevard:	0.80 CENTERLINE MILES	1.60 LANE MILES
Genesee Park Boulevard:	0.80 CENTERLINE MILES	1.60 LANE MILES
Webster Avenue:	0.90 CENTERLINE MILES	1.80 LANE MILES

FEDERAL AID SYSTEM: Non-NHS **FUNCTIONAL CLASS:** Urban Major Collector – Other (17)

EXISTING AADT: Arnett Boulevard (Thurston Road to Genesee Street):	5823 vpd (2013)
Genesee Park Boulevard (Brooks Ave to Arnett Boulevard):	5002 vpd (2013)
Webster Avenue (Garson Avenue to Bay Street):	4463 vpd (2013)

TRUCKS (%): Arnett Boulevard (Thurston Road to Genesee Street):	4.2%
Genesee Park Boulevard (Brooks Avenue to Arnett Boulevard):	4.3%**
Webster Avenue (Garson Avenue to Bay Street):	4.7%

** Estimated based on NYSDOT Heavy Vehicle Percentages 2012

EXISTING CHARACTERISTICS OF CONCERN

ELEMENT

MEASURE/INDICATOR

Pavement Condition Refer to Attachment D for rating definitions & descriptions and the Pavement Evaluation & Treatment Selection Report (PETSr) for each highway segment. Pavement cores will be taken and information provided in the final design report.

Arnett Boulevard (Thurston Road to Genesee Street):
Surface Condition Rating = 6
Overall good condition with minor transverse and longitudinal cracking between pavement seams and several utility patches. Recent crack sealing has been completed over the entire length. The top course has delaminated at several locations along the curblines. Between Wellington Avenue and Kenwood Avenue the pavement is in fair condition with several utility cuts, some of which have begun to delaminate.

Genesee Park Boulevard (Brooks Avenue to Arnett Boulevard):

Surface Condition Rating = 6
Overall fair condition with minor transverse & longitudinal cracking and several utility patches. Some crack sealing has been completed over the entire length. There is some delamination of the top course within the project limits. The pavement joint within the NB & SB travel lanes from Raeburn Avenue to the northern project limits has failed.

Webster Avenue (Garson Avenue to Bay Street):

Surface Condition Rating = 6
Overall fair condition with minor transverse & longitudinal cracking. Some crack sealing has been completed over the entire length. There are several utility patches that are failing.

Accidents

An accident analysis was performed for the 3 year period from November 1, 2011 to October 31, 2014 based on information recorded in the NYSDOT Accident Location Information System (ALIS). Our accident rate calculations and accident diagrams were broken up into 12 month periods as follows:

Period 1: November 2011 – October 2012

Period 2: November 2012 – October 2013

Period 3: November 2013 – October 2014

Multiple accident prone locations were identified.

Arnett Boulevard (Thurston Road to Genesee Street):

A total of 88 accidents were recorded over the 3 year period. The breakdown is as follows:

- Period 1: 21 accidents
- Period 2: 32 accidents
- Period 3: 35 accidents

17% of these accidents resulted in injuries, 20% were property damage only, and 63% were non-reportable resulting in less than \$1,000 worth of damage. Not all locations along the Arnett Boulevard segment had accident rates above the countywide average. Below is a list showing the high accident rate locations and their percentage of the countywide average per period.

Period 1

Thurston Road Intersection: 42%

Thurston Road to Genesee Street Segment: 350%

Period 2

Thurston Road Intersection: 185%

Thurston Road to Genesee Street Segment: 548%

Period 3

Genesee Street Intersection: 38%

Thurston Road to Genesee Street Segment: 716%

Genesee Park Boulevard (Brooks Avenue to Arnett Boulevard):

A total of 28 accidents were recorded over the same 3 year period. 21% of these accidents resulted in injuries, 29% were property damage only, and 50% were non-reportable resulting in less than \$1,000 worth of damage. Not all locations along the Webster Avenue segment had accident rates above the countywide average. Below is a list showing the high accident rate locations and their percentage of the countywide average per period.

Period 1

Bay Street to Garson Avenue Segment: 32%



Period 2

Bay Street to Garson Avenue Segment: 595%

Period 3

Bay Street to Garson Avenue Segment: 495%

Webster Avenue (Garson Avenue to Bay Street):

A total of 51 accidents were recorded over the same 3 year period. 22% of these accidents resulted in injuries, 33% were property damage only, and 45% were non-reportable resulting in less than \$1,000 worth of damage. Not all locations along the Webster Avenue segment had accident rates above the countywide average. Below is a list showing the high accident rate locations and their percentage of the countywide average per period.

Period 1

Bay Street to Garson Avenue Segment: 32%

Period 2

Bay Street to Garson Avenue Segment: 595%

Period 3

Bay Street to Garson Avenue Segment: 495%

Accident Summary

The most common types of accidents throughout all streets in the project are Rear Ends, Right Angles, and Side Swipes at intersections. This is typical for signalized, urban collector streets.

Along Arnett Boulevard the majority of the accidents were right angle accidents at intersections. In previous studies completed by Monroe County DOT, it was concluded that the following intersections would benefit from the addition of bumpouts and reduce right angle accidents:

- Arnett Blvd/Post Avenue
- Arnett Blvd/Woodbine Avenue
- Arnett Blvd/Wellington Avenue

The bumpouts would restrict parking up to the intersections and narrow effective pavement width, helping with corner clearance and visibility of oncoming crossing traffic. Diagonal parking on the north side of the road between Rugby Avenue and Warwick Avenue will be replaced with 'back-in' diagonal parking, which provides a safety improvement.

An analysis was also completed by Monroe County DOT at the Rugby

Avenue signalized intersection to determine whether removing the signal and replacing with a four-way stop with bumpouts would be feasible. The analysis showed removal of the traffic signal is warranted. This work will be included in this project. Refer to Appendix H for a copy of the Monroe County study.

Safety measures will be added to all segments of the project. These will include updating the signage to ensure drivers have sufficient advance warning of changes, providing a new asphalt pavement surface with a higher coefficient of friction to reduce skidding, and placing new epoxy pavement markings which have an increased service life and higher visibility.

See accident summary and collision diagrams, and intersection operational analyses in Attachment G. Also see the SAFE-TAP assessment form in Attachment E.

Highway Deficiencies

On all project streets the existing drainage consists of a closed system. In some locations a combination of the flat grades and drainage structures that are set too high cause standing water after storm events. Isolated locations having flat grades will be improved using milling or T&L and drainage structures will be reset to provide positive drainage.

Curb ramps or curb cuts exist at most intersections. Generally the ramps do not meet current ADAAG/ PROWAG and NYSDOT standards and will be replaced.

All project streets have continuous sidewalks on both sides of the road. Overall the sidewalks are in good condition; Isolated locations with tripping hazards or in poor condition will be replaced in kind with concrete.

Driveway aprons are all paved with either asphalt or concrete and are in good condition. One brick driveway apron on Arnett Boulevard is in poor condition and will be replaced. Two old driveway curb cuts on Arnett Boulevard will also be removed.

Traffic Signal Deficiencies

All traffic signals within this project are mast arm designs. All traffic signals function and meet minimum MUTCD requirements.

Pedestrian signal upgrades are needed at all of the signalized intersections. Most of the pedestrian signals only have a bi-modal hand/man symbol that does not meet the current standard of bi-modal hand/man symbols and pedestrian count down timer. Push button and traffic signal pedestrian actuation sign upgrades are also needed at several signalized intersections in the project limits.

Travel Lane Dimensions

None of the street segments in this project are listed within MCDOT's 'City and County Multi-Lane Conversion List'. All three streets will be evaluated for compliance with the City of Rochester "Complete Streets Policy" to encourage and provide safe access for all transportation users (not just motor vehicles). This includes the installation of ADAAG/ PROWAG compliant curb ramps, marked crosswalks, bike lanes, and warning signs.

All three segments do intersect streets that are on the Bike Boulevard Priority

List, however there are no planned bike boulevards along the street segments themselves. Minimal provisions are required under this project to ensure future amenities can be conveniently added where needed. Locations will be identified where future construction of a bike boulevard will impact facilities being constructed under this project, and necessary provisions to plan for the future improvements will be included.

Arnett Boulevard (Thurston Road to Genesee Street): Consists of two 12 foot travel lanes and 8 foot parking lanes, for a total curb-to-curb width of 40 feet. As discussed above, bumpouts are being proposed at several locations along Arnett Boulevard, specifically at the following intersections:

- Arnett Blvd/Post Avenue
- Arnett Blvd/Woodbine Avenue
- Arnett Blvd/Wellington Avenue

The parking lanes will now end prior to intersections at the bumpouts, providing additional sight distance. There are currently bumpouts at the Arnett Blvd/Rugby Avenue intersection (northeast corner) and the Arnett Blvd/Warwick Avenue (north corners). This eliminates parking in these quadrants, but the area is supplemented by diagonal parking just to the east of Rugby Avenue. The existing diagonal parking is 19 feet wide, leading to a total curb-to-curb width of 51 feet in this section.

Genesee Park Boulevard (Brooks Avenue to Arnett Boulevard): For a majority of the project segment, the cross section consists of two 12 foot travel lanes and two 8 foot parking lanes for a total of 40 feet curb-to-curb. No parking exists between Brooks Avenue and Ernestine Street. The cross section in this area consists of a 10 foot wide through/left turn lane and a 10 foot right turn lane southbound and a 20 foot wide lane in the northbound direction. No modifications to the lane configuration are proposed.

Webster Avenue (Garson Avenue to Bay Street): Generally consists of two 10 foot travel lanes and two 8 foot parking lanes. The parking lanes are not striped. At multiple intersections, parking is restricted, allowing for makeshift right turn lanes and right turns on red.

There is a separate parking turn off lane in front of the Webster Recreation Center and Sully Library. In this section, the cross section consists of an 8 foot parking lane on the northwest side, 10 foot SW bound travel lane, 18 foot NE bound travel lane, and the 10 foot parking turn off.

No changes are proposed to the existing cross section.

Other

Arnett Boulevard and Webster Avenue have granite curb in fair to good condition with 6 inch +/- reveal. Genesee Park Boulevard has sandstone curb with 6 inch +/- reveal. No sandstone curbing will be impacted as part of this project. In all locations on Genesee Park Boulevard, existing curb will be left in place and reveal will be maintained. On the other two roadway segments, isolated locations of granite curbing will be reset where it has settled adjacent to utility patches and to achieve properly aligned curb ramps. Full height granite curb will be installed on Arnett Boulevard at several locations to remove old driveway curb cuts.

There are a number of side street intersections that have skews greater than 30 degrees, particularly along Webster Avenue. Without any specific accident problems related to the intersection geometries, correction to any of these skewed intersections is beyond the scope of this project.

Diagonal parking is currently accommodated on the north side of Arnett Boulevard, between Rugby Avenue and Warwick Avenue. As a safety measure, this diagonal parking will be replaced with 'back-in' diagonal parking. Back-in diagonal parking is preferable from a safety standpoint as it is safer to pull back into a parking spot than to pull back into live traffic.

PROJECT OBJECTIVE(S): Replace the oxidized, deteriorating pavement surface to protect the pavement's structure. Improve drainage, ride quality, and increase the pavement sufficiency rating above '6' (6 = fair) for a 10 year service life in a cost effective manner.

PROJECT ELEMENT(S) TO BE ADDRESSED:

- | | | | |
|-------------------------------------|--------------------------|--------------------------|-------------------------|
| <input checked="" type="checkbox"/> | Highway Element-Specific | <input type="checkbox"/> | Operational Maintenance |
| <input type="checkbox"/> | Bridge Element-Specific | <input type="checkbox"/> | Where & When |
| <input type="checkbox"/> | Other: | | |

DESCRIPTION OF PROPOSED WORK: The recommended alternative for this project is to resurface and restore the pavement with a single course mill and overlay. The existing pavement structure is adequate and in overall good condition. The mill and overlay treatment will remove surface distress and provide a new wearing surface devoid of cracks and utility patches. Isolated areas of pavement repair will be required prior to the mill and overlay treatment to improve the existing pavement structure. Pavement Evaluation & Treatment Selection Reports (PETSRs) are included for each street in Attachment D.

The proposed alternative will include:

- Milling the existing asphalt pavement overlay and resurfacing the pavement with a 1.5" single course HMA overlay (2" single course HMA overlay on Genesee Park Boulevard).
- Improving drainage at isolated locations with flat grades by increasing milling depth or adding T&L to establish positive drainage to nearby drainage inlets
- Isolated locations of pavement repair to provide a good pavement structure and improve ride quality. As depicted on the plans, pavement repair options include:
 - Two course milling and overlay (1.5" HMA Top, 2" HMA Binder)
 - Deep repair (1.5" HMA Top, 2" HMA Binder, 4" HMA Base)
 - Full depth repair (1.5" HMA Top, 2" HMA Binder, 8" HMA Base, 12" Subbase)
- Replacing cracked, damaged or missing curbing with new granite curbing. Resetting existing granite curbing with poor reveal and/or profile.
- Reconstructing existing sidewalk curb ramps to meet current ADAAG/PROWAG and NYSDOT standards.
- Adjusting drainage inlet frames and grates, manholes, valves and other structures in the pavement to grade to improve runoff collection and ride quality.
- Replacing traffic signal detector loops damaged by the pavement milling operation.
- Replacing pavement markings
- Replacing or updating signage as needed

All construction will be performed within the Municipality Right Of Way. No easements or acquisitions will be required for this project.

Pedestrian signal installation or upgrades will not be included as part of this project. This work is outside the scope of this highway resurfacing preventative maintenance project.

PRIORITY RESULTS: Mobility & Reliability Safety Security
 Economic Competitiveness Environmental Stewardship

FUNDING SOURCE: 100% State Federal

SEQRA AND NEPA CLASSIFICATION [OR] SEQRA CLASSIFICATION:

SEQRA Type: Exempt Type II

NEPA Class: Class II-C List
 Class II - Programmatic CE
 N/A – Project is 100% State funded

The following Checklists are attached:

- Federal Environmental Approval Checklist
- Environmental Checklist
- SEQR Type II Criteria Documentation
- Smart Growth Screening Tool

ENVIRONMENTAL DOCUMENTATION:

Historic and Cultural Resources: This project is exempt from Section 106 review due to the nature of the project being a 1R Resurfacing project. Work will occur in previously disturbed areas where there will be no impact to cultural resources. See **Attachment C** for the NYSDOT Region 4 Cultural Resource Coordinator’s letter confirming that the project meets the requirements of projects accepted by FHWA as exempt from further Section 106 review.

Threatened and Endangered Species: See **Attachment C** for the June 9, 2015 Consistency Determination for Threatened and Endangered Species Letter. It has been determined that this project has “no effect” and is on the “NLEB Federal Aid Summary Table, No Trees Being Cut” spreadsheet and has been reviewed by FHWA and concurred with “no effect” on **August 1, 2015**. See Attachment C for the blanket letter from FHWA, dated **August 1, 2015**.

DESIGN STANDARDS:

The project will follow the design guidance for 1R projects given in Section 7.3 of the NYSDOT Highway Design Manual. Additional design guidance and project observations are given in the Safe-Tap Checklist in Attachment E.

PLANS: See Attachment B for plans and typical sections.

MPO INVOLVEMENT: No Yes (GTC) **TIP Name:** 2017 Preventive

TIP AMENDMENT REQUIRED: No Yes Needed by:

STIP STATUS: On STIP Not on STIP

NOTES ON SPECIAL CIRCUMSTANCES:

Design and construction will be administered by the City of Rochester Department of Environmental Services.

SPECIAL TECHNICAL ACTIVITIES REQUIRED:

None

PLANNED PUBLIC INVOLVEMENT:

No Public Involvement Plan has been prepared. Impacts from this project will be minimal, therefore no Public Informational Meeting will be held for this project.

UTILITIES:

Coordination with utility companies within the project area will be required in final design, so that valve boxes, manholes, and other elements can be adjusted as needed in conjunction with the paving work. Utility agreements will be executed with National Grid (gas valve and electric manhole adjustments) and Verizon (telephone manhole adjustments). Adjustments to city water valve boxes, sanitary and storm sewer manholes, and drainage structures will be performed as part of the project.

WORKZONE SAFETY & MOBILITY:

The sponsor has determined that the subject project is not significant per 23 CFR 630.1010. A Transportation Management Plan (TMP) will be prepared for the project consistent with 23 CFR 630.1012. The TMP will consist of a Temporary Traffic Control (TTC) plan. Transportation Operations (TO) and Public Information (PI) components of a TMP will be considered during final design.

An off-site detour is not proposed for this project. Due to the nature of the restoration work, traffic can be maintained on-site with daily lane closures by utilizing flag persons to control alternating one-way traffic, with minimal delays to motorists. At the end of each working day, the road will be reopened to two-way operation, with traffic driving on the milled or paved surface. All sections include two lane travel ways. All sections of the project with two lanes and a parking lane could support two-way traffic if parking is restricted during construction activities. Access to all driveways will be maintained during construction.

Advance notification to property owners, commuters, school districts, and emergency service providers will be made prior to conducting any road work requiring lane closures.

PROBABLE SCHEDULE AND COST:

Desired PS&E Date: 1/2017

Desired Letting: 2/2017

SCHEDULE ISSUES:

<input type="checkbox"/>	Public Meeting	<input type="checkbox"/>	4(f)/106 FHWA sign-off
<input type="checkbox"/>	Permits	<input type="checkbox"/>	Other - Identify
<input type="checkbox"/>	Consultant(s) for:	<input type="checkbox"/>	No Consultant Needed

Project Phase	Activity Duration	Estimated Cost	Fund Source	Obligation Date
Design V-VI	4 months	\$87,000	80% STP-FLEX, 20% local match	9/5/15
Construction	6 months	\$2,192,000	80% STP-FLEX, 20% local match	1/05/17
Construction Inspection	6 months	\$220,000	80% STP-FLEX, 20% local match	1/05/17
TOTAL		\$2,499,000		

BASIS OF ESTIMATE: Engineer’s Estimate (See Attachment I)

PROGRAM DISPOSITION: Scheduled for letting in SFY 2017

PROJECT CATEGORY: Maintenance

STATEWIDE SIGNIFICANCE: No
Remarks:

ASSET MANAGEMENT (OPTIONAL): Applies Not Applicable

ROW:

The existing ROW width varies but is generally the back edge of the sidewalk. No right of way takings will be necessary for this project.

All projects, including maintenance projects, require a Right of Way (ROW) Clearance Certificate at the time of PS&E submission. The ROW Clearance Certificate will be attached to the PS&E transmittal memo.

MISCELLANEOUS:

NYS Smart Growth Public Infrastructure Policy Act (SGPIPA)

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act (SGPIPA).

To the extent practicable this project has met the relevant criteria as described in ECL § 6-0107 The Smart Growth Screening Tool was used to assess the project’s consistency and alignment with relevant Smart Growth criteria; the tool was completed by the project sponsor on 7/18/15 and reflects the current project scope. The Smart Growth Screening Tool is included in **Attachment C**.

PUBLIC FRIENDLY DESCRIPTION OF PROJECT:

This project provides for the milling and resurfacing of nearly 3 miles of principal arterial streets in the City of Rochester, including portions of Arnett Boulevard, Webster Avenue, and Genesee Park Boulevard. The work will include repairs to curbing and drainage structures and replacement of sidewalk curb ramps not meeting current standards. Pavement markings will be restored and signs replaced as needed to meet current standards.

PROJECT MANAGER/JOB MANAGER:

Lisa Reyes
Project Manager
City of Rochester Department of Environmental Services
City Hall Room 300B
30 Church Street
Rochester, NY 14614-1290
585-428-6354

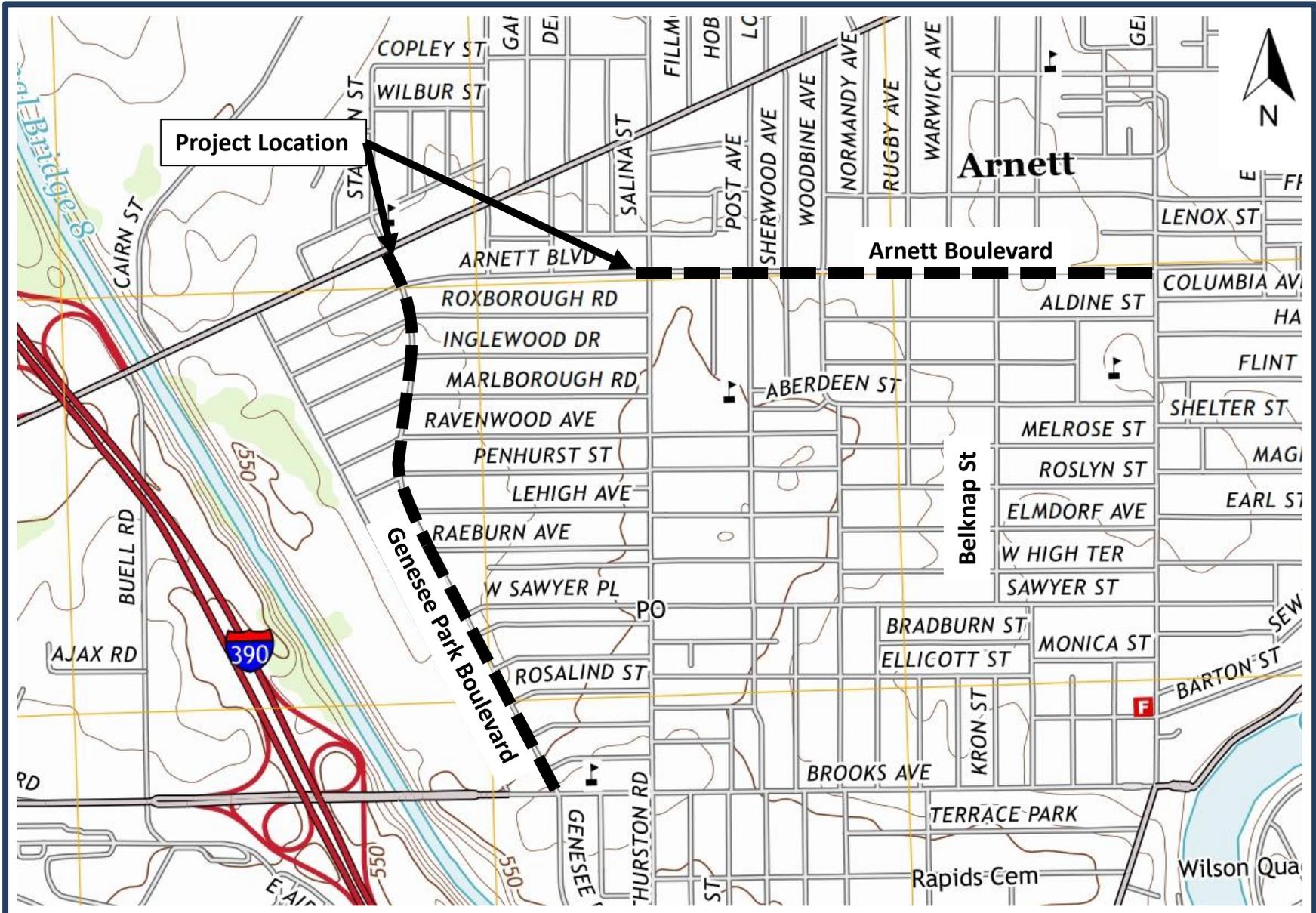
Seth Kaeuper P.E.
C&S Engineers, Inc.
150 State Street, Suite 120
Rochester, NY 14614
585-325-9040

IPP/FDR PREPARED BY: C&S Engineers, Inc.

DATE: July 2015

ATTACHMENT A

PROJECT LOCATION MAPS



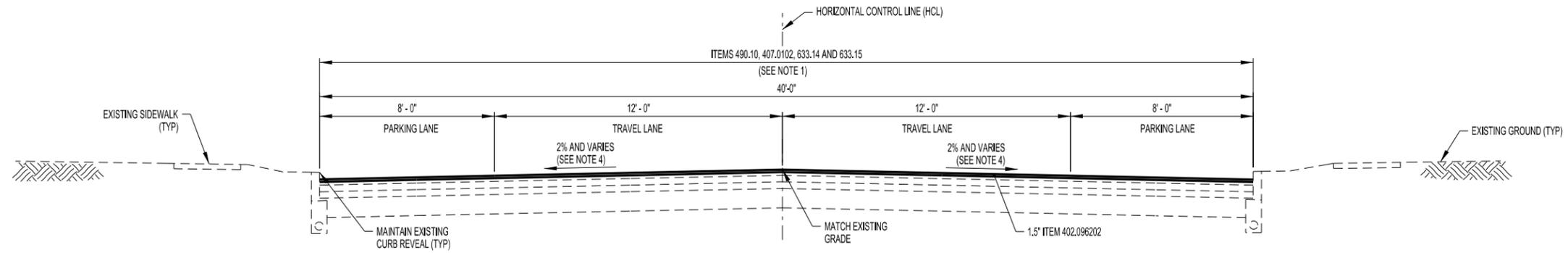

 Source:
 USGS Topographic Map
 Rochester West Quadrangle
 Not to Scale

2017 Preventive Maintenance Contract 5: Various Streets
 City of Rochester, Monroe County, New York
 PIN 4760.44

Figure 1
Location Map
 1 of 2

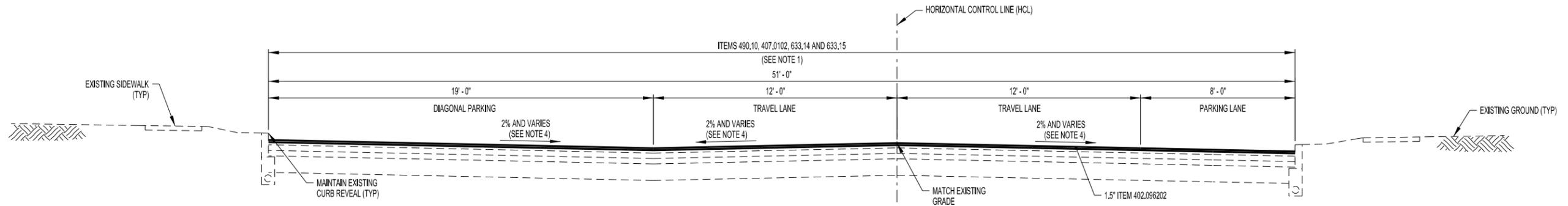
ATTACHMENT B

PLANS AND TYPICAL SECTIONS



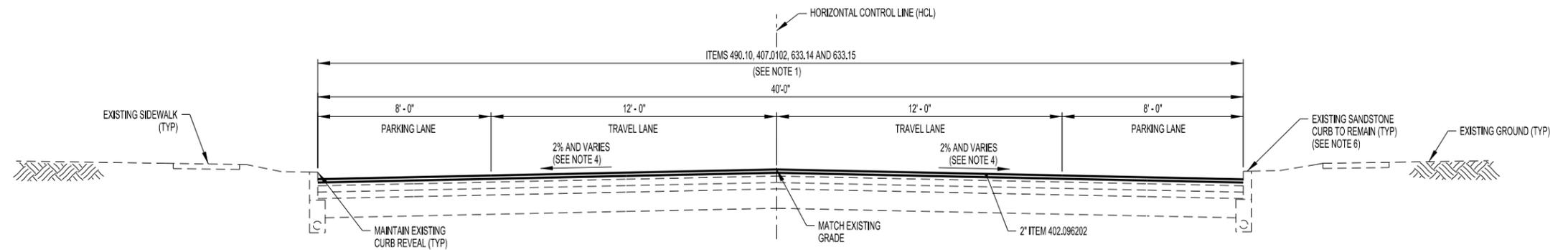
**ARNETT BOULEVARD
SINGLE COURSE MILL AND OVERLAY**

NOT TO SCALE
A 11+95 TO A 30+92
A 33+12 TO A 49+00



**ARNETT BOULEVARD
SINGLE COURSE MILL AND OVERLAY**

NOT TO SCALE
A 30+92 TO A 33+12



**GENESEE PARK BOULEVARD
SINGLE COURSE MILL AND OVERLAY**

NOT TO SCALE
GP 11+00 TO GP 54+16

ITEM NO.	DESCRIPTIONS	UNIT	NOTES
402.096202	9.5 F2 TOP COURSE HMA, 60 SERIES COMPACTION	TON	1. TACK COAT (ITEM 407.0102) SHALL BE USED ON MILLED SURFACES, EXISTING HMA PAVEMENT, VERTICAL SURFACES (CURBS, DRAINAGE STRUCTURES, ETC.) AND BETWEEN ALL LIFTS OF NEW HMA PAVEMENT. 2. SEE PLN DRAWINGS FOR LOCATIONS OF ISOLATED PAVEMENT AND SIDEWALK REPAIRS. 3. PROFILE AND CROSS SLOPE SHALL BE CONTROLLED BY A TAUT REFERENCE STRING LINE ABOVE. 4. MATCH EXISTING CROSS SLOPE. 5. EXISTING CURBS TO REMAIN UNLESS OTHERWISE SHOWN ON PLN DRAWINGS. 6. EXISTING SANDSTONE CURBING SHALL REMAIN. 7. PAVEMENT REPAIR DETAILS ARE SHOWN ON DWG NO. MSD-01. 8. EXISTING PAVEMENT SECTION IS HMA OVER CONCRETE BASE. IF CONCRETE BASE IS EXPOSED AFTER MILLING AND REPAIR IS NEEDED, USE ITEM 633.15 AS DIRECTED BY THE RESIDENT ENGINEER. 9. ITEM 402.096202 SHALL BE 2" ON GENESEE PARK BOULEVARD.
407.0102	DILUTED TACK COAT	GAL	
490.10	PRODUCTION COLD MILLING OF BITUMINOUS CONCRETE	SY	
633.14	REMOVAL AND REPAIR OF DETERIORATED HMA PAVEMENT	SY	
633.15	REMOVAL AND REPAIR OF LOOSE, BROKEN, OR SPALLED PCC PAVEMENT	SY	

Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER
LISA REYES, P.E.

CITY ENGINEER
JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

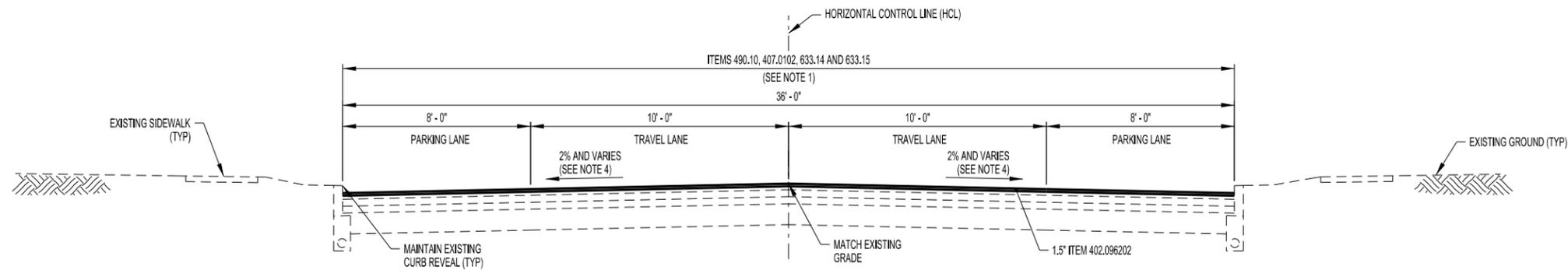
PIN 4760.44

DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	MAR	DTB	NONE	893.007.001				

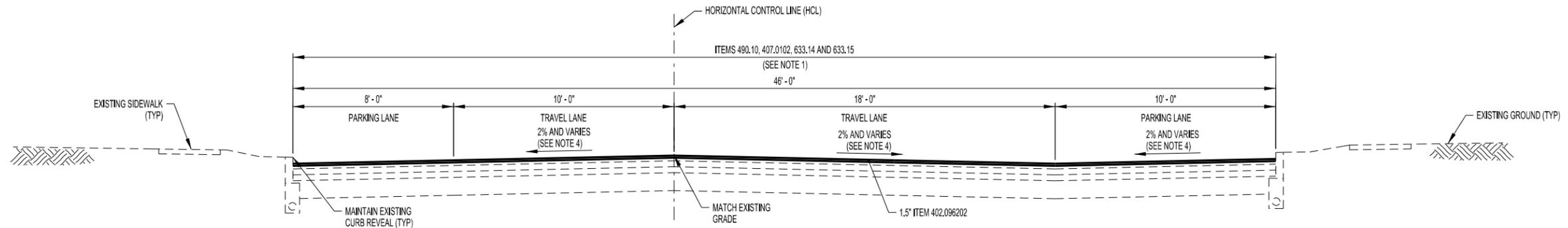
ARNETT BLVD
GENESEE PARK BLVD
TYPICAL SECTIONS
TYP-01

DRAWING NO.
X
OF
XX



**WEBSTER AVENUE
SINGLE COURSE MILL AND OVERLAY**

NOT TO SCALE
W XX+XX TO W 45+82
W 48+85 TO W 53+69



**WEBSTER AVENUE
SINGLE COURSE MILL AND OVERLAY**

NOT TO SCALE
W 45+82 TO W 48+85

ITEM NO.	DESCRIPTIONS	UNIT	NOTES
402.096202	9.5 F2 TOP COURSE HMA, 60 SERIES COMPACTION	TON	1. TACK COAT (ITEM 407.0102) SHALL BE USED ON MILLED SURFACES, EXISTING HMA PAVEMENT, VERTICAL SURFACES (CURBS, DRAINAGE STRUCTURES, ETC.) AND BETWEEN ALL LIFTS OF NEW HMA PAVEMENT. 2. SEE PLN DRAWINGS FOR LOCATIONS OF ISOLATED PAVEMENT AND SIDEWALK REPAIRS. 3. PROFILE AND CROSS SLOPE SHALL BE CONTROLLED BY A TAUT REFERENCE STRING LINE ABOVE. 4. MATCH EXISTING CROSS SLOPE. 5. EXISTING CURBS TO REMAIN UNLESS OTHERWISE SHOWN ON PLN DRAWINGS. 6. PAVEMENT REPAIR DETAILS ARE SHOWN ON DWG NO. MSD-01. 7. EXISTING PAVEMENT SECTION IS HMA OVER CONCRETE BASE. IF CONCRETE BASE IS EXPOSED AFTER MILLING AND REPAIR IS NEEDED, USE ITEM 633.15 AS DIRECTED BY THE RESIDENT ENGINEER.
407.0102	DILUTED TACK COAT	GAL	
490.10	PRODUCTION COLD MILLING OF BITUMINOUS CONCRETE	SY	
633.14	REMOVAL AND REPAIR OF DETERIORATED HMA PAVEMENT	SY	
633.15	REMOVAL AND REPAIR OF LOOSE, BROKEN, OR SPALLED PCC PAVEMENT	SY	

Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER
LISA REYES, P.E.

CITY ENGINEER
JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

PIN 4760.44

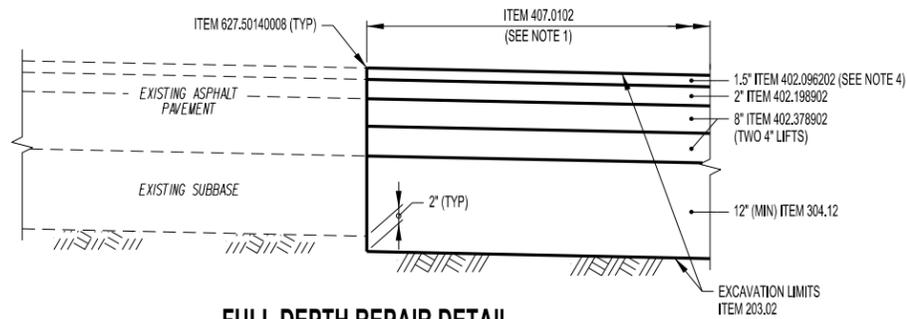
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ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	MAR	DTB	NONE	893.007.001				

DRAWING TITLE
**WEBSTER AVENUE
TYPICAL SECTIONS
TYP-02**

DRAWING NO.
X

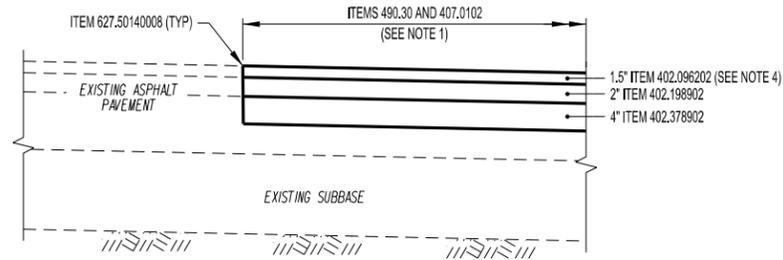
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FULL DEPTH REPAIR DETAIL

NOT TO SCALE

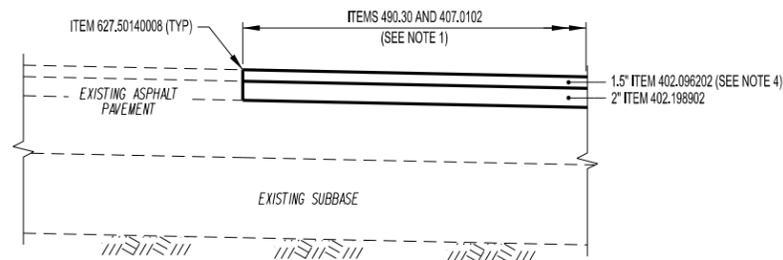
FULL DEPTH REPAIR SHALL BE USED A.O.B.E. FOR REPAIRS THAT ARE NECESSARY AFTER MILLING.



DEEP REPAIR DETAIL

NOT TO SCALE

SEE PLN DRAWINGS FOR LOCATIONS.



TWO COURSE MILL AND OVERLAY DETAIL

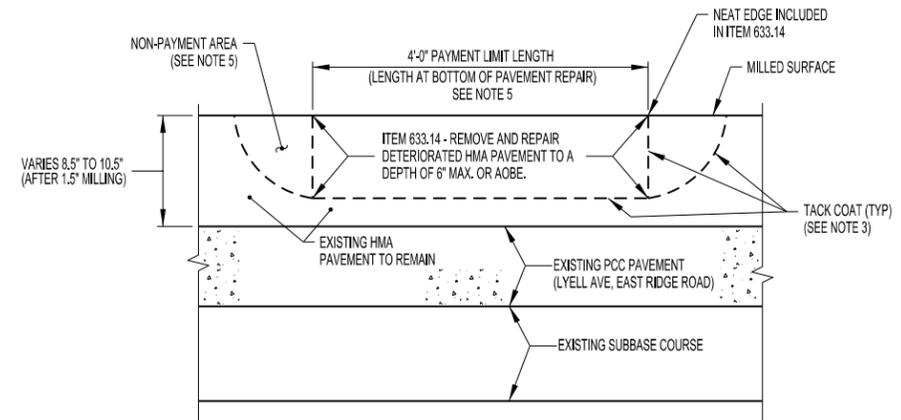
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SEE PLN DRAWINGS FOR LOCATIONS.

NOTES:

1. DILUTED TACK COAT (ITEM 407.0102) SHALL BE USED ON MILLED SURFACES, EXISTING HMA PAVEMENT, VERTICAL SURFACES (CURBS, DRAINAGE STRUCTURES, ETC.) AND BETWEEN ALL LIFTS OF NEW HMA PAVEMENT.
2. IF THE CONTRACTOR ELECTS TO "DROP THE MILL HEAD" TO BEGIN PAVEMENT REPAIR, NO PAYMENT WILL BE MADE FOR ITEM 627.50140008 (CUTTING PAVEMENT).
3. THE EIC SHALL VERIFY ALL PAVEMENT REPAIR AREAS, TYPE OF REPAIR AND DEPTH OF REPAIR.
4. ITEM 402.096202 SHALL BE 2" ON GENESEE PARK BOULEVARD.

ITEM NO.	DESCRIPTIONS	UNIT
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY
304.12	SUBBASE COURSE, TYPE 2	CY
402.096202	9.5 F2 TOP COURSE HMA, 80 SERIES COMPACTION	TON
402.198902	19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION	TON
402.378902	37.5 F9 BASE COURSE HMA, 80 SERIES COMPACTION	TON
407.0102	DILUTED TACK COAT	GAL
490.30	MISCELLANEOUS COLD MILLING OF BITUMINOUS CONCRETE	SY
633.14	REMOVAL AND REPAIR OF DETERIORATED HMA PAVEMENT	SY
633.15	REMOVAL AND REPAIR OF LOOSE, BROKEN, OR SPALLED PCC PAVEMENT	SY
627.50140008	CUTTING PAVEMENT	LF



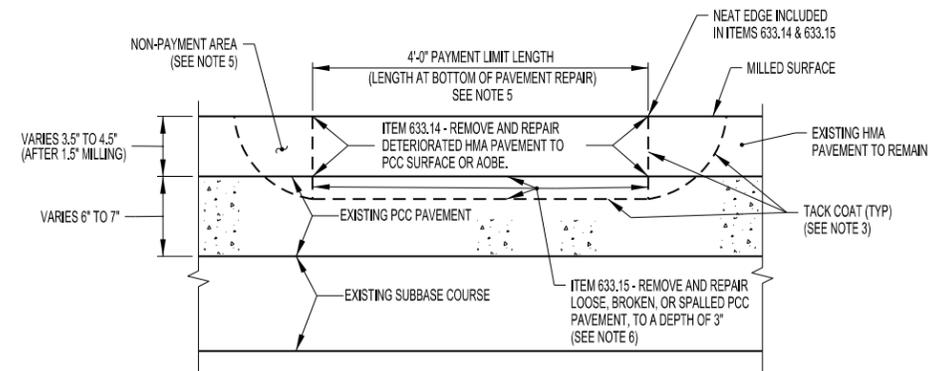
NOTES:

1. EXACT LOCATION OF HMA/PCC PAVEMENT REPAIRS TO BE DETERMINED BY THE EIC.
2. REPAIRS ARE TO BE COMPLETED AFTER MILLING.
3. DILUTED TACK COAT SHALL BE PLACED ON ALL HORIZONTAL AND VERTICAL SURFACES. COST OF TACK COAT TO BE INCLUDED IN BID PRICE FOR ITEM 633.14.
4. USE 19 F9 BINDER COURSE HMA 80 SERIES COMPACTION AS REPAIR MATERIAL FOR ITEM 633.14. COST TO BE INCLUDED IN THE BID PRICE FOR ITEM 633.14.
5. IF MILLING MACHINE IS USED FOR PAVEMENT REPAIR, PAYMENT LENGTH SHALL BE MEASURED AT THE BOTTOM OF REPAIR (4').

HMA PAVEMENT REPAIR

ITEM 633.14

NOT TO SCALE



NOTES:

1. EXACT LOCATION OF HMA/PCC PAVEMENT REPAIRS TO BE DETERMINED BY THE EIC.
2. REPAIRS ARE TO BE COMPLETED AFTER MILLING.
3. DILUTED TACK COAT SHALL BE PLACED ON ALL HORIZONTAL AND VERTICAL SURFACES. COST OF TACK COAT TO BE INCLUDED IN BID PRICE FOR ITEMS 633.14 & 633.15.
4. USE 19 F9 BINDER COURSE HMA 80 SERIES COMPACTION AS REPAIR MATERIAL FOR ITEMS 633.14 & 633.15. COST TO BE INCLUDED IN THE BID PRICE FOR ITEMS 633.14 & 633.15.
5. IF MILLING MACHINE IS USED FOR PAVEMENT REPAIR, PAYMENT LENGTH SHALL BE MEASURED AT THE BOTTOM OF REPAIR (4').
6. IF STEEL MESH OR REINFORCEMENT IS ENCOUNTERED, COST TO REMOVE SHALL BE INCLUDED IN THE BID PRICE FOR ITEMS 633.14 & 633.15.

HMA/PCC PAVEMENT REPAIR

ITEMS 633.14 AND 633.15

NOT TO SCALE

ITEMS 633.14 AND 633.15 SHALL BE USED AOB E FOR ANY ADDITIONAL REPAIRS THAT ARE NECESSARY AFTER MILLING.

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Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

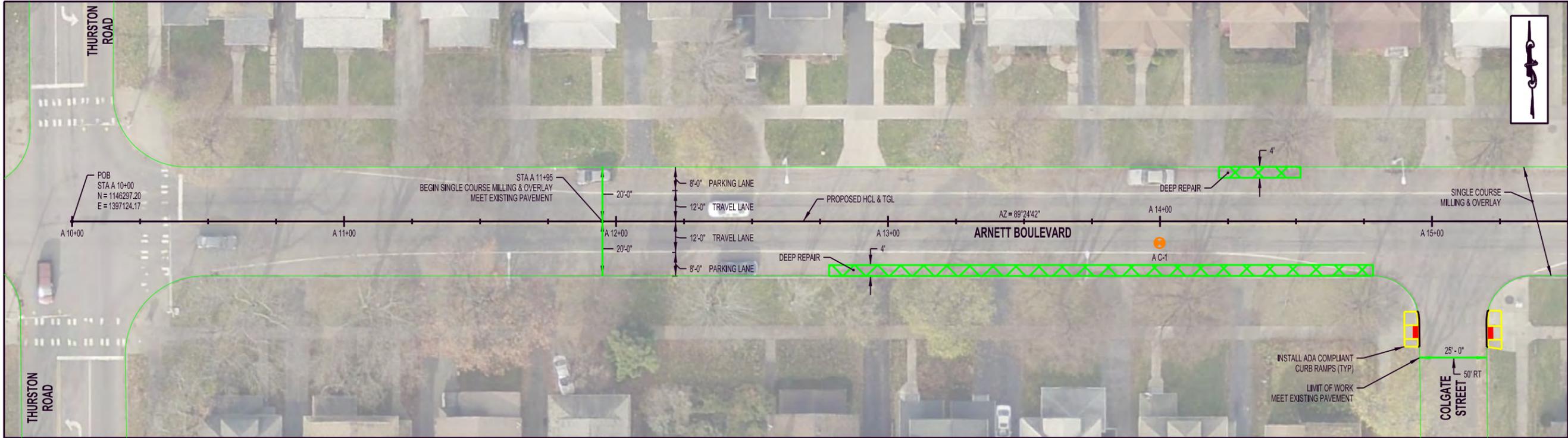
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2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

PIN 4760.44
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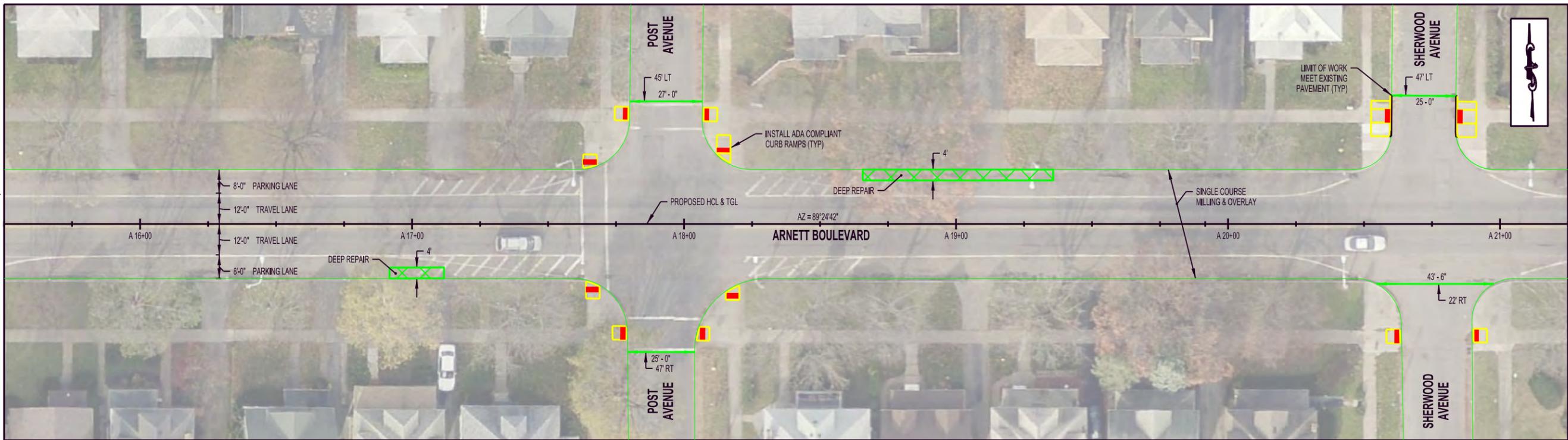
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DRAWING TITLE
MISCELLANEOUS
DETAILS
MSD-01

DRAWING NO.
18
OF XX



MATCHLINE STA A 15+50, SEE BELOW



MATCHLINE STA A 15+50, SEE ABOVE

MATCHLINE STA A 21+25, SEE DWG PLN-A2

ROADWAY PLAN



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

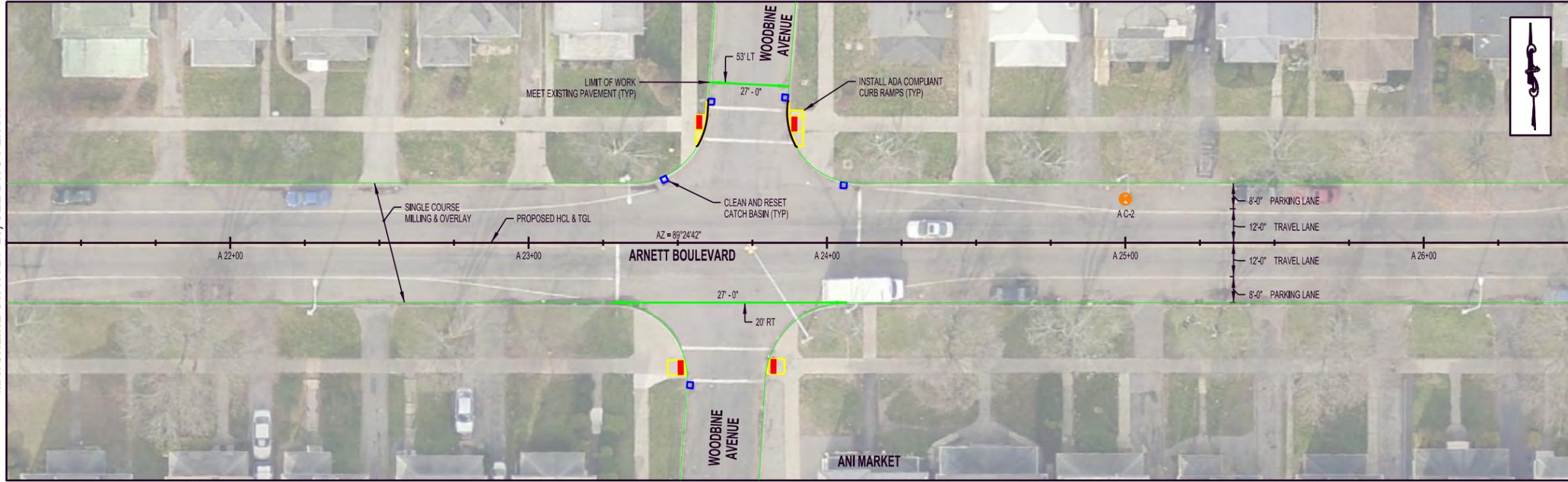
PROJECT TITLE: 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5
PIN 4760.44
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DRAWING TITLE: ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET
PLN-A1

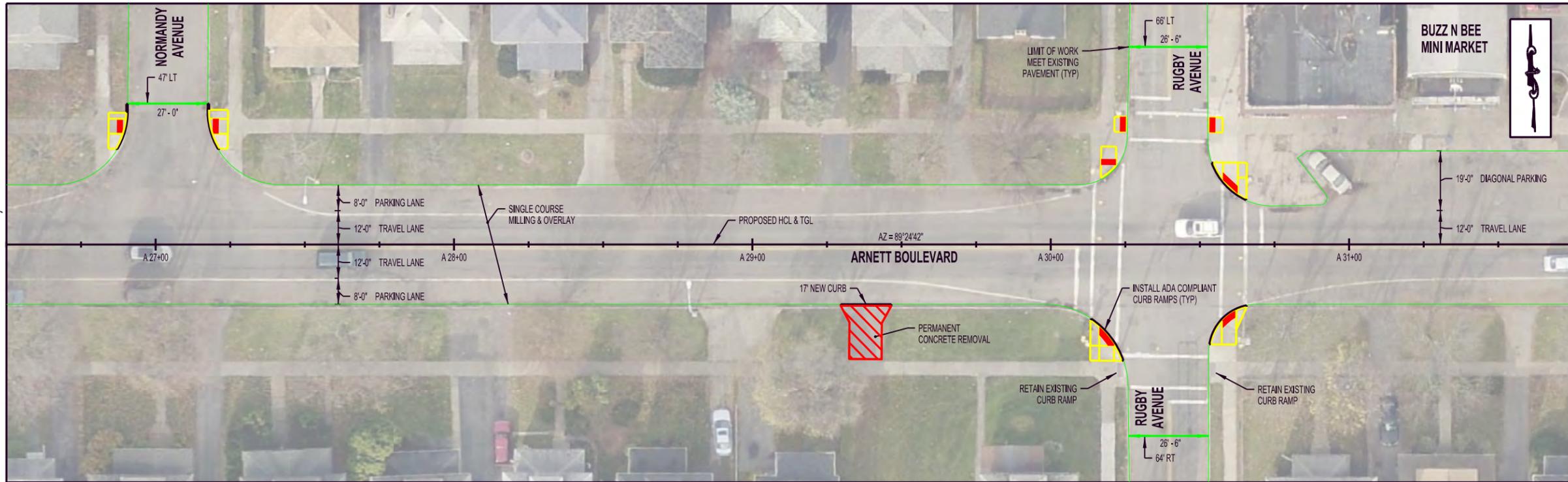
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OF XX

MATCHLINE STA A 21+25, SEE DWG PLN-A1



MATCHLINE STA A 26+50, SEE BELOW

MATCHLINE STA A 26+50, SEE ABOVE



MATCHLINE STA A 31+75, SEE DWG PLN-A3

ROADWAY PLAN



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	LISA REYES, P.E. MANAGING ENGINEER	JAMES R. MCINTOSH, P.E. CITY ENGINEER
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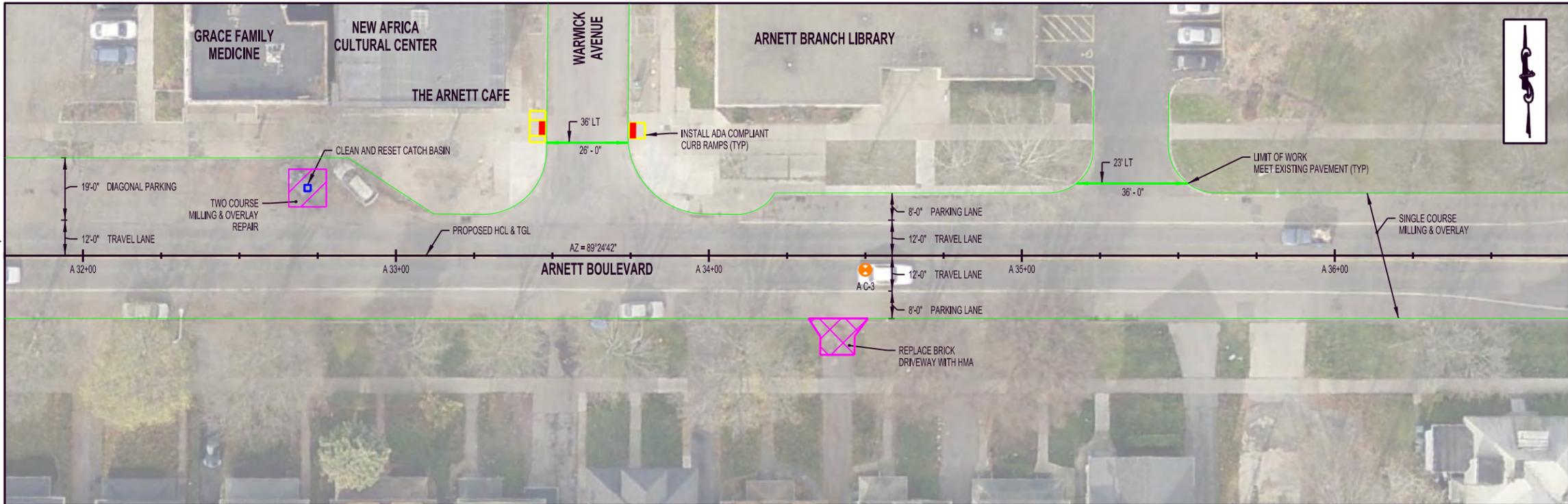
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PIN	4760.44	

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04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE	ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A2
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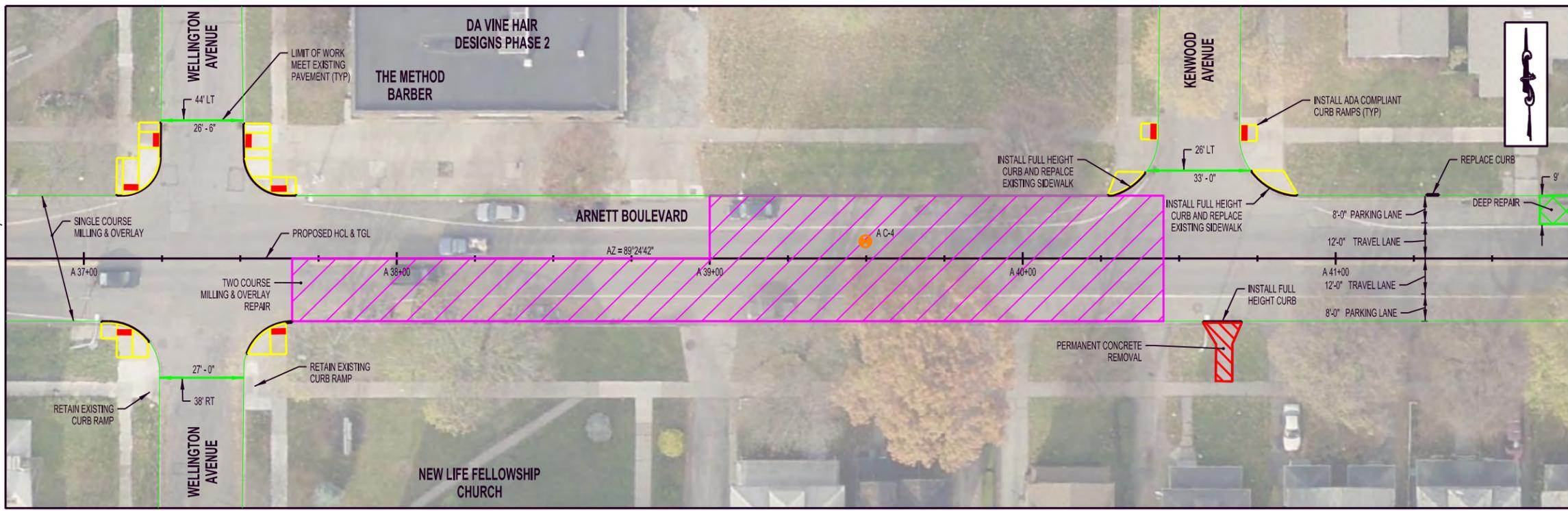
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OF	XX

MATCHLINE STA A 31+75, SEE DWG PLN-A2



MATCHLINE STA A 36+75, SEE BELOW

MATCHLINE STA A 36+75, SEE ABOVE



MATCHLINE STA A 41+75, SEE DWG PLN-A4

ROADWAY PLAN



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

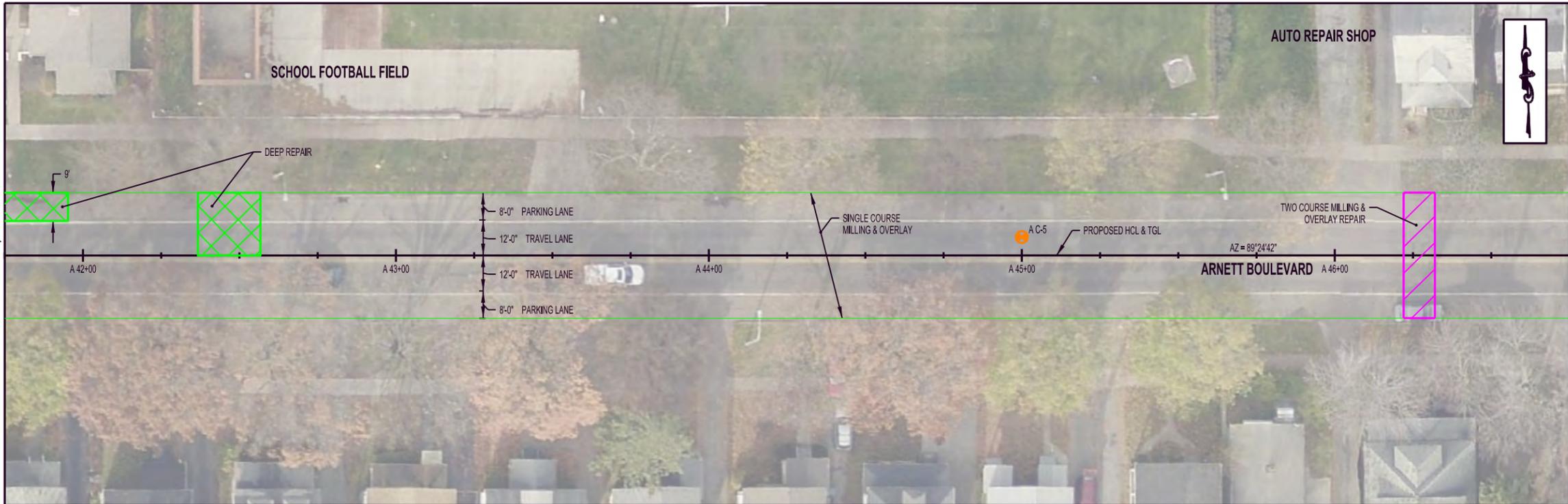
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2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44
DXXXXXX

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DRAWING TITLE
ARNETT BOULEVARD
THURSTON ROAD TO
GENESEE STREET
PLN-A3

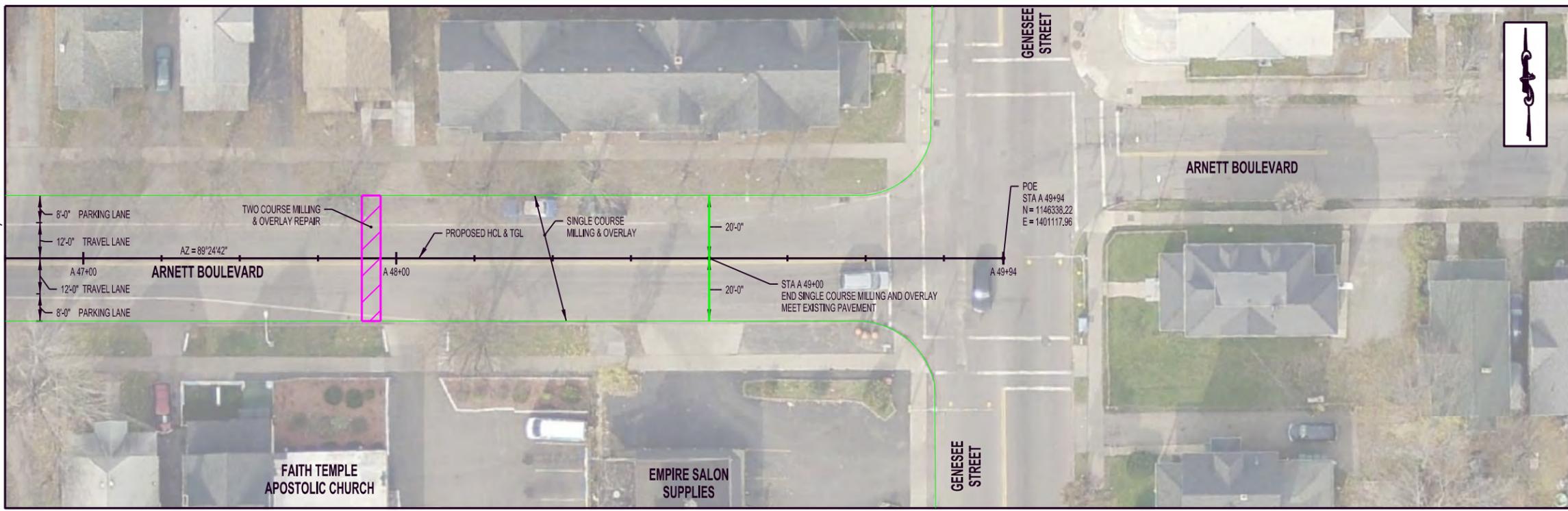
DRAWING NO.
XX
OF XX

MATCHLINE STA A 41+75, SEE DWG PLN-A3



MATCHLINE STA A 46+75, SEE BELOW

MATCHLINE STA A 46+75, SEE ABOVE



ROADWAY PLAN



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

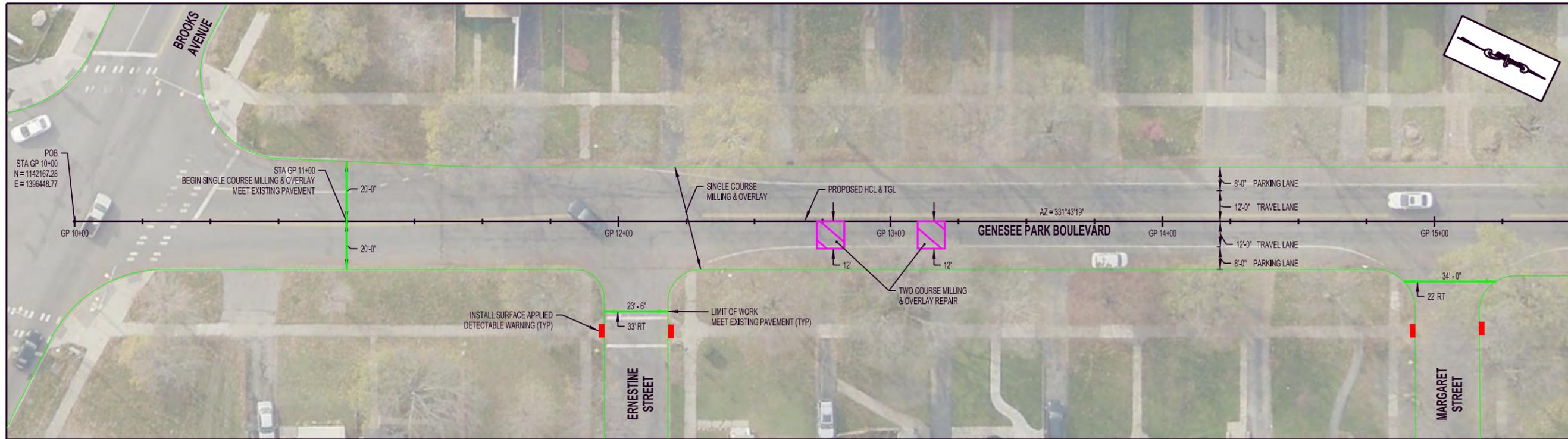
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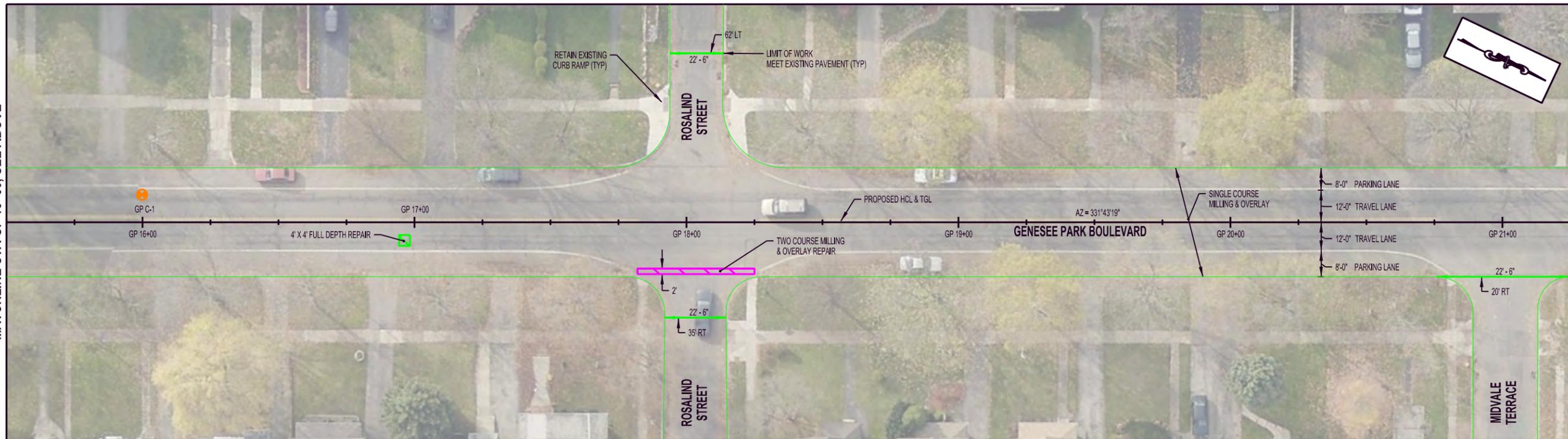
DRAWING TITLE
ARNETT BOULEVARD
THURSTON ROAD TO
GENESEE STREET
PLN-A4

DRAWING NO.
XX

OF XX



MATCHLINE STA GP 15+50, SEE BELOW



MATCHLINE STA GP 15+50, SEE ABOVE

MATCHLINE STA GP 21+25, SEE DWG PLN-GP2

ROADWAY PLAN



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

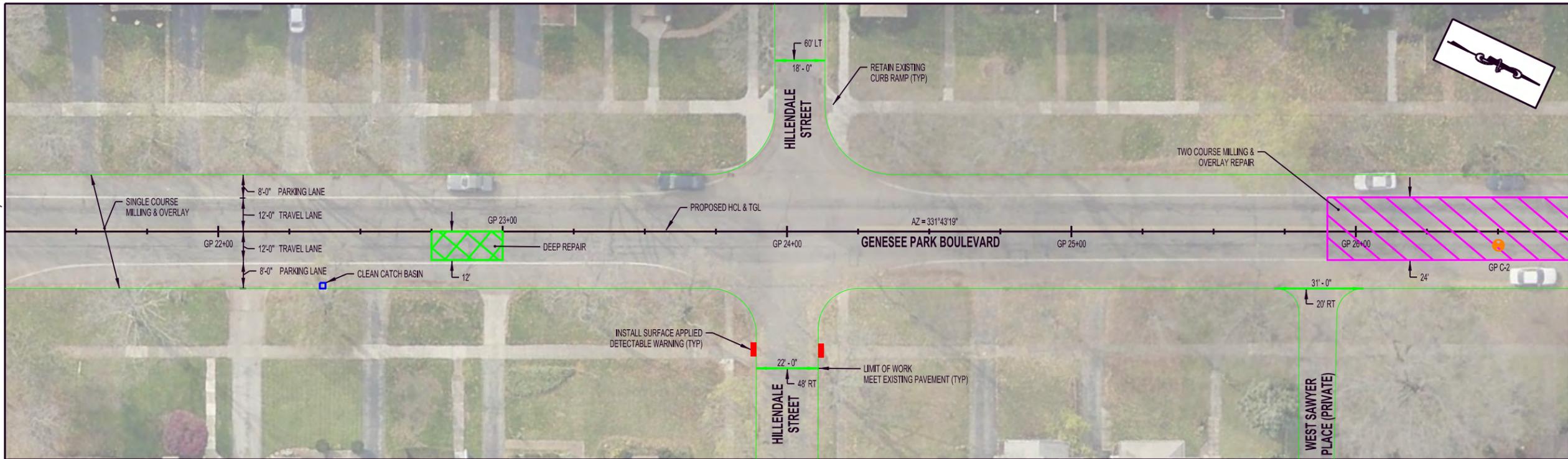
PROJECT TITLE: 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5
PIN 4760.44
DXXXXXX

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04/17/2015	SDK	DTB	DTB	1" = 20'	193.007.001				

DRAWING TITLE: GENESEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD
PLN-GP1

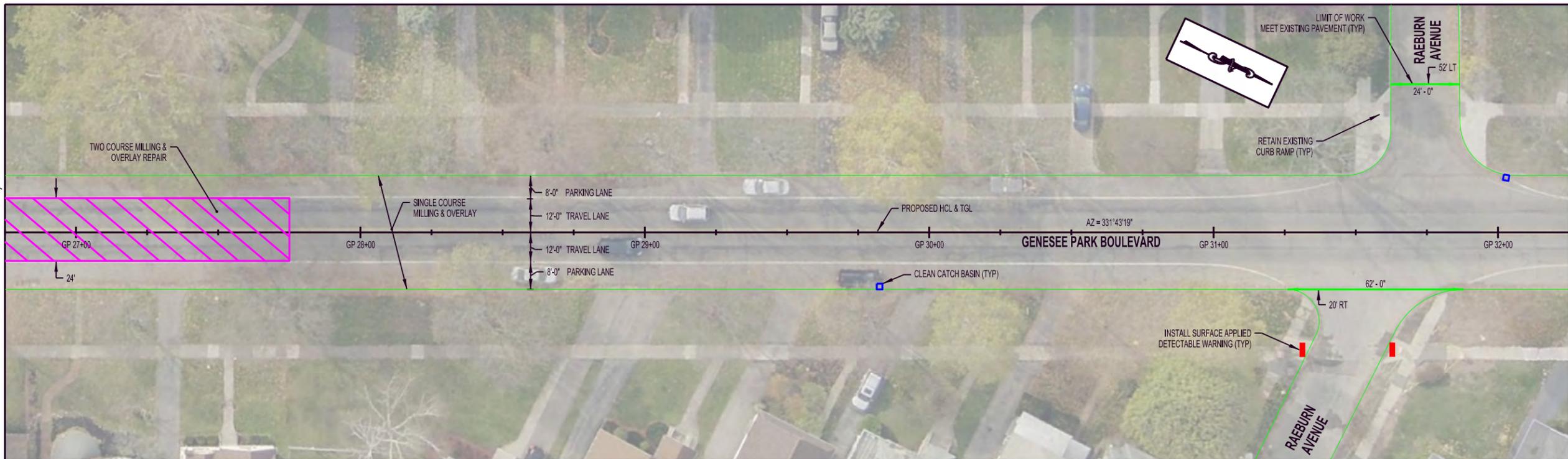
DRAWING NO. XX
OF XX

MATCHLINE STA GP 21+25, SEE DWG PLN-GP1



MATCHLINE STA GP 26+75, SEE BELOW

MATCHLINE STA GP 26+75, SEE ABOVE



MATCHLINE STA GP 32+25, SEE DWG PLN-GP3

ROADWAY PLAN



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	MANAGING ENGINEER LISA REYES, P.E.	CITY ENGINEER JAMES R. MCINTOSH, P.E.
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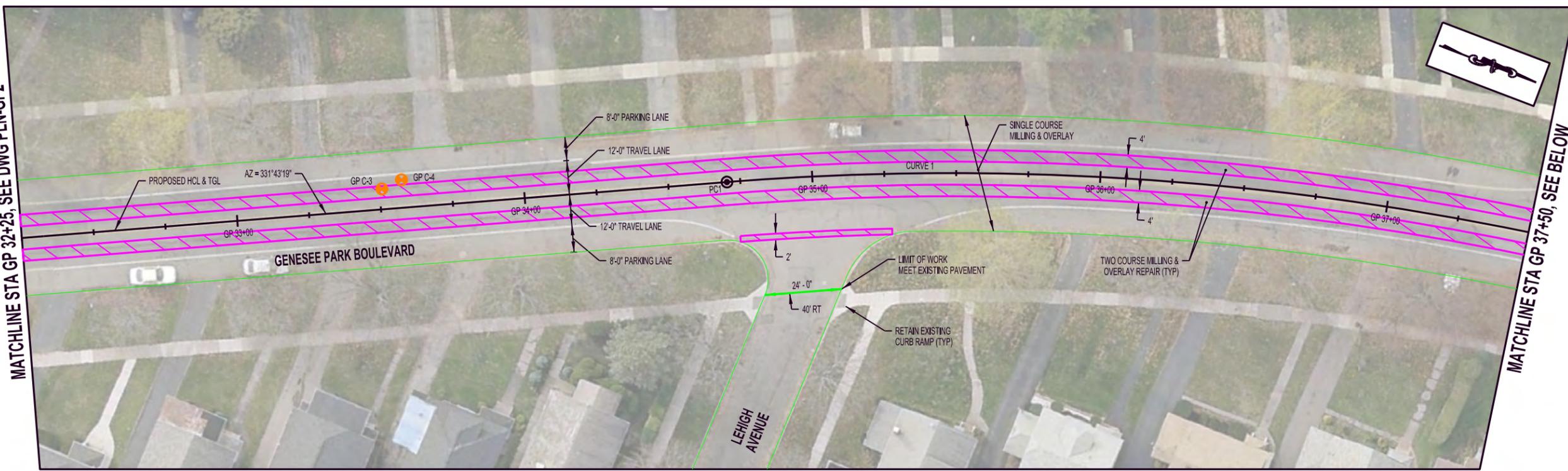
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DRAWING TITLE	GENESEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD PLN-GP2
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DRAWING NO.	XX
OF	XX

MATCHLINE STA GP 32+25, SEE DWG PLN-GP2



HORIZONTAL CURVE NO. 1

D = 5'47'15"
 I = 40°36'17" RT
 R = 990'
 L = 701.60'
 T = 366.26'
 E = 65.58'

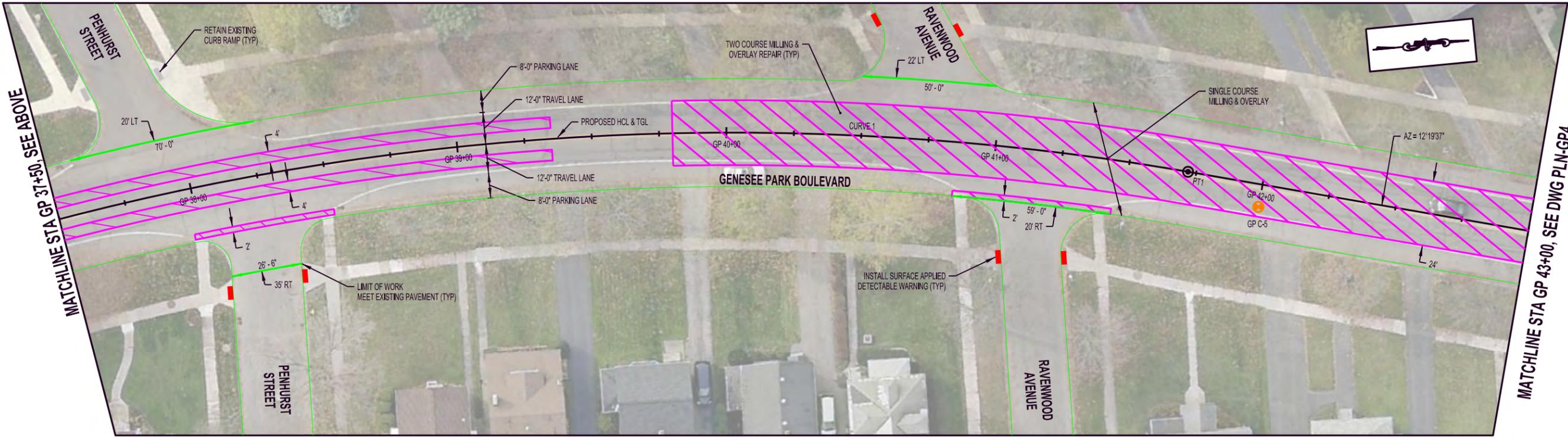
PC STA GP 34+70.37
 N 1144342.83
 E 1395278.44

PI STA GP 38+36.63
 N 1144665.38
 E 1395104.92

PT STA GP 41+71.97
 N 1145023.20
 E 1395183.11

MATCHLINE STA GP 37+50, SEE BELOW

MATCHLINE STA GP 37+50, SEE ABOVE



MATCHLINE STA GP 43+00, SEE DWG PLN-GP4

ROADWAY PLAN



Department of Environmental Services
 Architecture and Engineering Services
 City of Rochester, New York

MANAGING ENGINEER: LISA REYES, P.E.
 CITY ENGINEER: JAMES R. MCINTOSH, P.E.

PROJECT TITLE: 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5

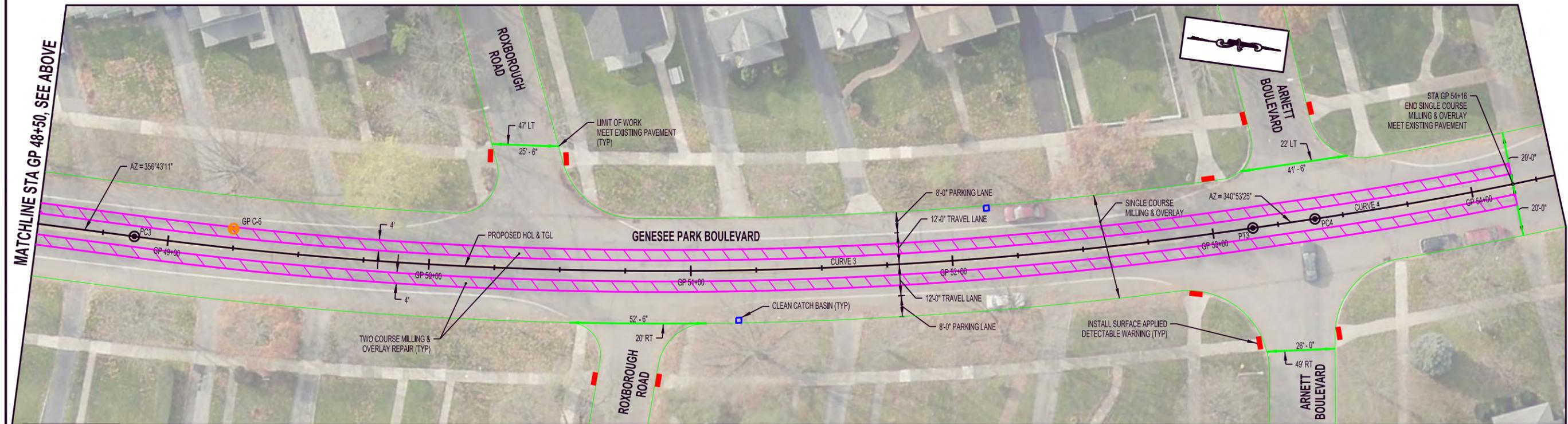
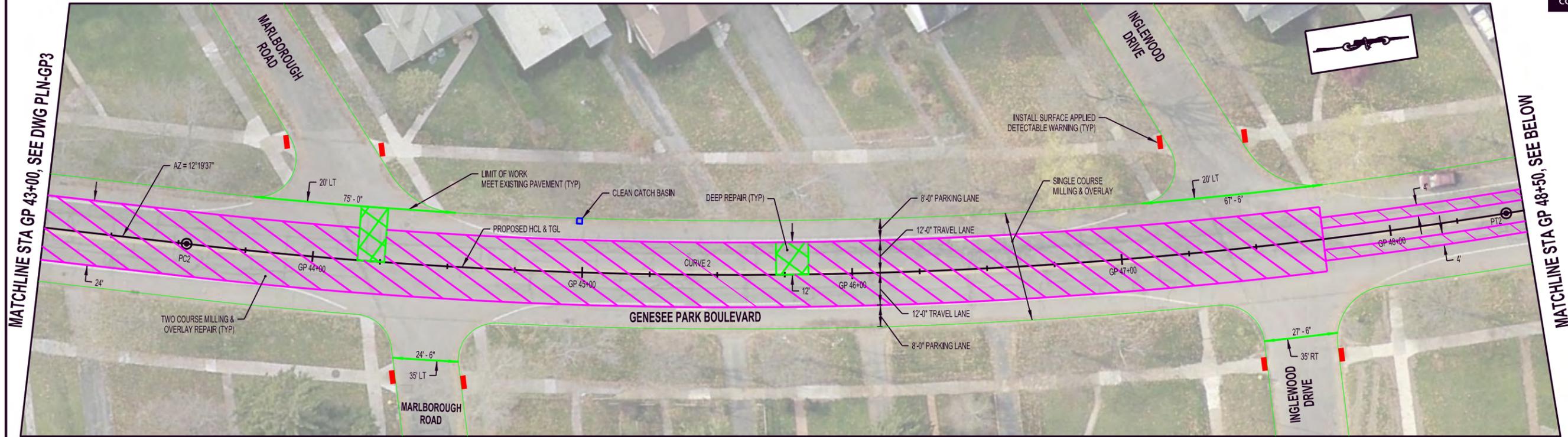
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ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE: GENESSEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD PLN-GP3

DRAWING NO. XX

OF XX



HORIZONTAL CURVE NO. 2	
D = 3°10'59"	PC STA GP 43+53.07 N 1145200.12 E 1395221.78
I = 15°36'26" LT	PI STA GP 45+99.75 N 1145441.12 E 1395274.44
R = 1800'	PT STA GP 48+43.38 N 1145687.40 E 1395260.32
L = 490.31'	
T = 246.68'	
E = 16.82'	

HORIZONTAL CURVE NO. 3	
D = 3°41'47"	PC STA GP 48+67.07 N 1145731.01 E 1395257.82
I = 15°49'46" LT	PI STA GP 51+02.56 N 1145946.14 E 1395245.49
R = 1550'	PT STA GP 53+15.30 N 1146149.75 E 1395174.95
L = 428.23'	
T = 215.49'	
E = 14.91'	

HORIZONTAL CURVE NO. 4	
D = 4°10'34"	PC STA GP 53+39.25 N 1146172.39 E 1395167.11
I = 7°06'22" LT	PI STA GP 54+24.44 N 1146252.88 E 1395139.22
R = 1372'	PT & POE STA GP 55+09.41 N 1146329.31 E 1395101.59
L = 170.16'	
T = 85.19'	
E = 2.64'	

ROADWAY PLAN



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

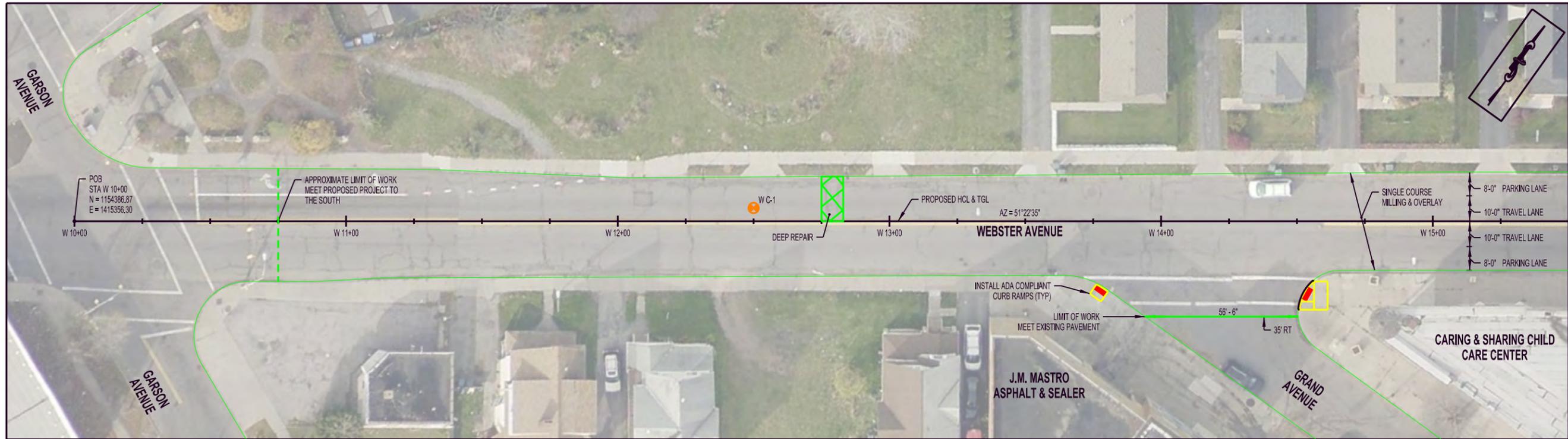
MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

PROJECT TITLE: 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5
PIN 4760.44
DXXXXXX

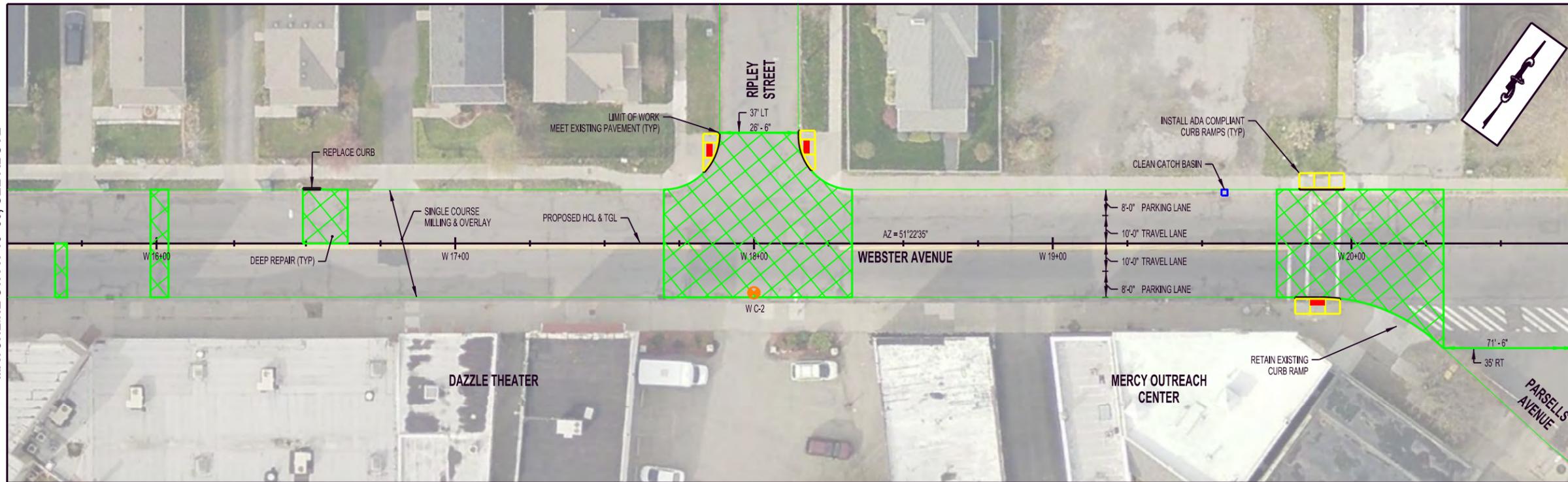
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04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE: GENESSEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD
PLN-GP4

DRAWING NO. XX
OF XX



MATCHLINE STA W 15+50, SEE BELOW



MATCHLINE STA W 15+50, SEE ABOVE

MATCHLINE STA W 20+75, SEE DWG PLN-W2

ROADWAY PLAN



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER	LISA REYES, P.E.
CITY ENGINEER	JAMES R. MCINTOSH, P.E.

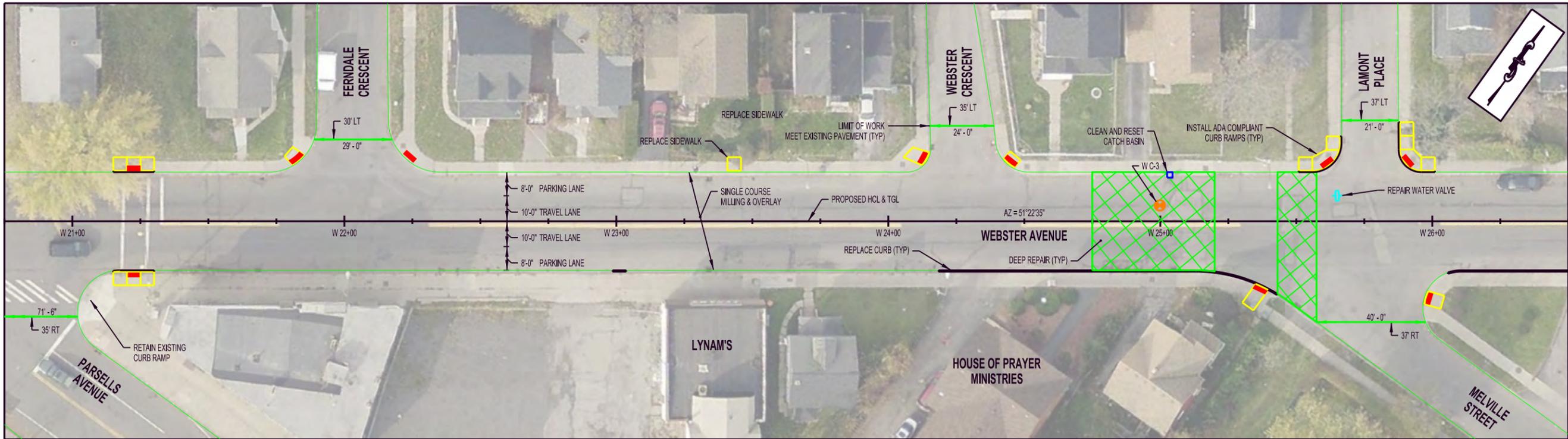
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PIN	4760.44
DXXXXXX	

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE	WEBSTER AVENUE GARSON AVENUE TO BAY STREET PLN-W1
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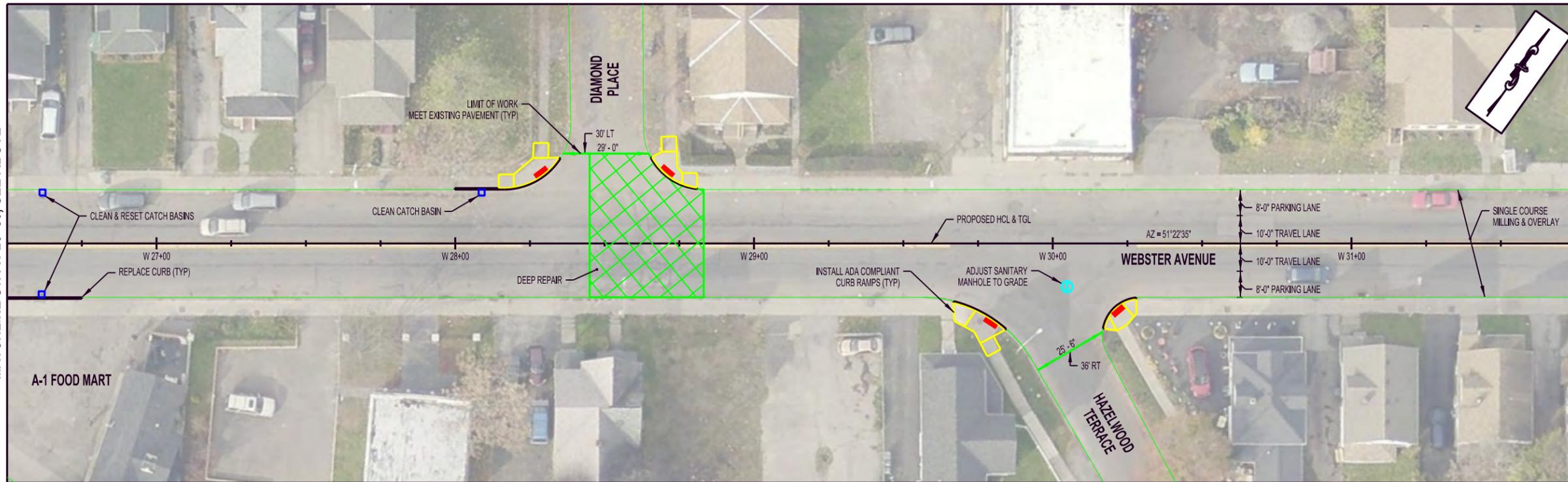
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OF	XX

MATCHLINE STA W 20+75, SEE DWG PLN-W1



MATCHLINE STA W 26+50, SEE BELOW

MATCHLINE STA W 26+50, SEE ABOVE



MATCHLINE STA W 31+75, SEE DWG PLN-W3

ROADWAY PLAN



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	MANAGING ENGINEER LISA REYES, P.E.	CITY ENGINEER JAMES R. MCINTOSH, P.E.
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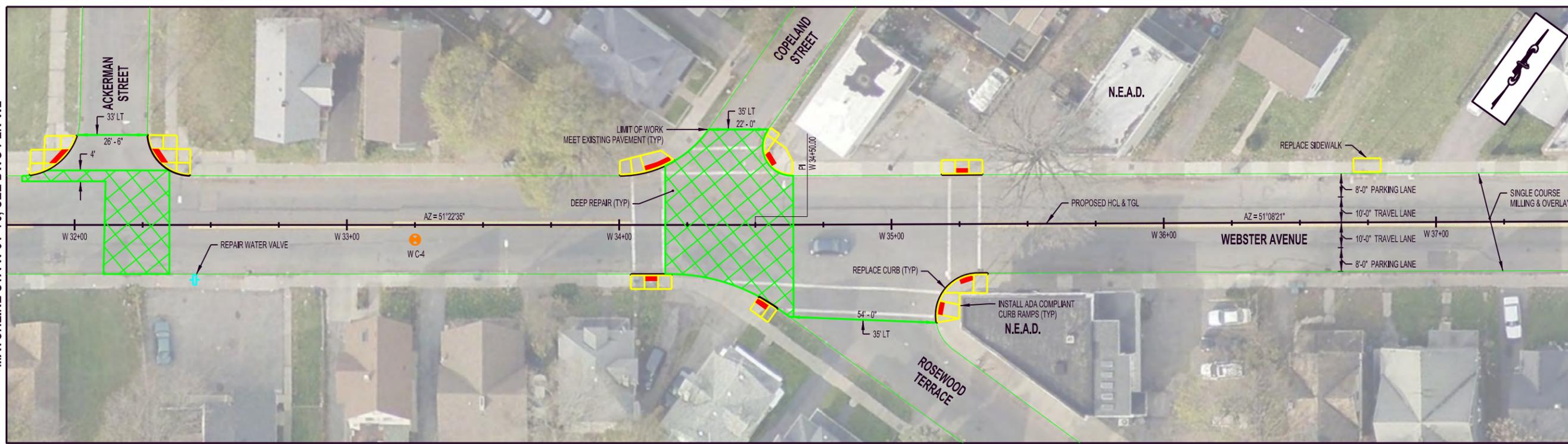
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ISSUED	04/17/2015	
CHECKED	SDK	
DRAWN	DTB	
DESIGN	DTB	
SCALE	1" = 20'	
PROJECT NUMBER	B93.007.001	
NO.	REVISION	DATE

DRAWING TITLE
**WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W2**

DRAWING NO.
XX

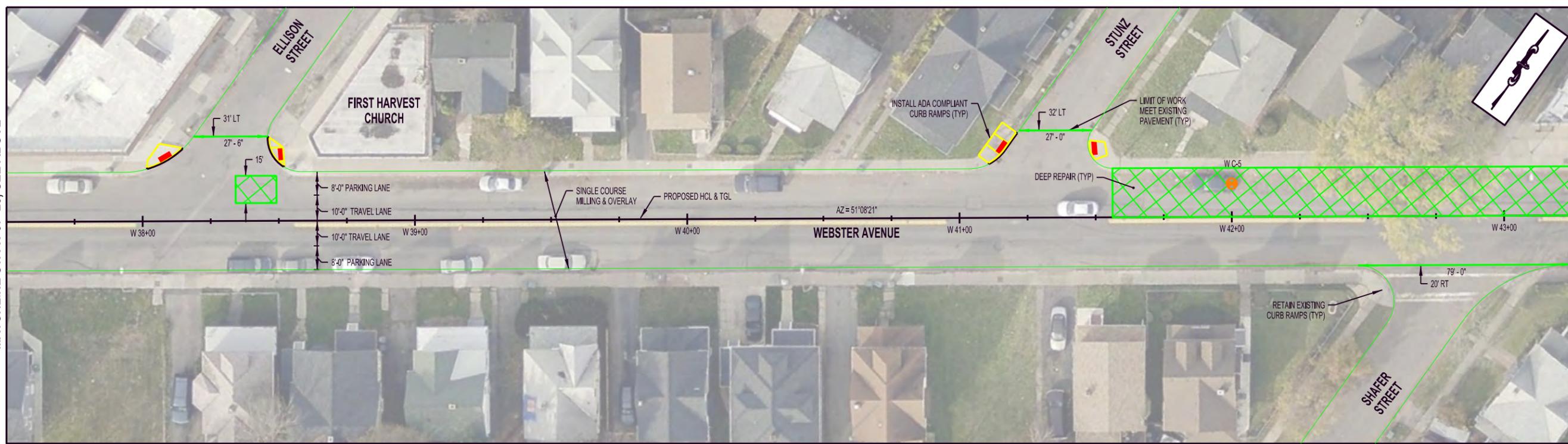
OF XX

MATCHLINE STA W 31+75, SEE DWG PLN-W2



MATCHLINE STA W 37+25, SEE BELOW

MATCHLINE STA W 37+25, SEE ABOVE



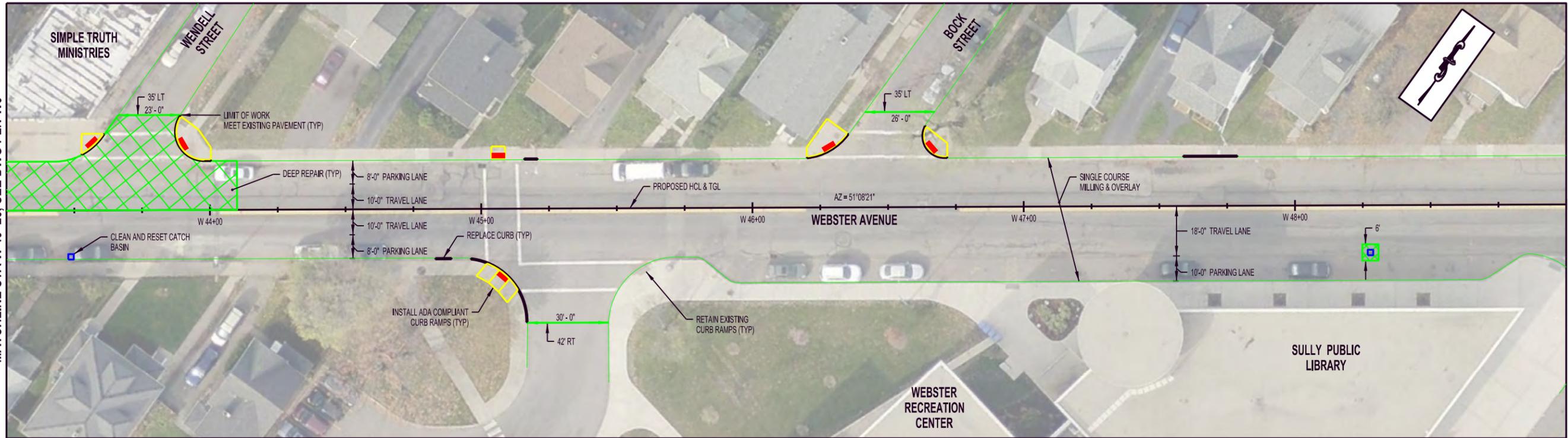
MATCHLINE STA W 43+25, SEE DWG PLN-W4

ROADWAY PLAN



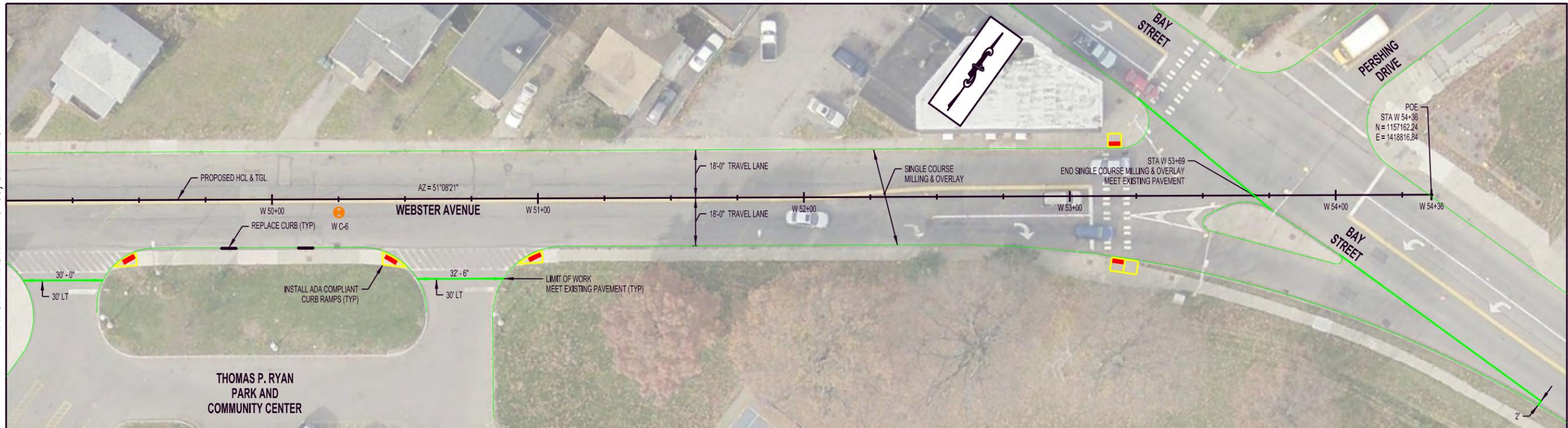
Department of Environmental Services Architecture and Engineering Services City of Rochester, New York		MANAGING ENGINEER LISA REYES, P.E. CITY ENGINEER JAMES R. MCINTOSH, P.E.
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5		PIN 4760.44 DXXXXXX
ISSUED 04/17/2015	CHECKED SDK	DATE
DRAWN DTB	DESIGN DTB	REVISION
SCALE 1" = 20'	PROJECT NUMBER B93.007.001	NO.
DRAWING TITLE WEBSTER AVENUE GARSON AVENUE TO BAY STREET PLN-W3		NO.
DRAWING NO. XX		OF XX

MATCHLINE STA W 43+25, SEE DWG PLN-W3



MATCHLINE STA W 49+00, SEE BELOW

MATCHLINE STA W 49+00, SEE ABOVE



ROADWAY PLAN



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

PIN 4760.44
DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W4

DRAWING NO.
XX

OF XX

ATTACHMENT C

ENVIRONMENTAL INFORMATION

Federal Environmental Approval Worksheet

PIN: 4760.44	Comp. by: C&S Engineers, Inc.	Date Comp. : 5/12/15	FUNDING TYPE: 80% Federal, 20% Local
DESCRIPTION: City of Rochester 2017 Preventive Maintenance Contract 5, Arnett Boulevard, Genesee Park Boulevard, Webster Avenue			NEPA CLASS: II SEQR TYPE: II
LOCALITY (Village, Town, City): City of Rochester			COUNTY: Monroe

Purpose of this Worksheet:

- Communicate project National Environmental Policy Act (NEPA) classification to Federal Highway Administration (FHWA).
- Identify additional required FHWA environmental determinations, approvals and/or concurrences required before the Categorical Exclusion (CE) determination can be made
- Reflect the documentation in the Design Approval Document (DAD) and enable the approving authority (per PDM [Exhibit 4-2](#)) to make the CE determination

Instructions: (also see “FEAW_Instructions.doc”)

Complete the worksheet prior to the end of Design Phase I. If project parameters or site condition changes result in potential resource impacts, re-do worksheet prior to Design Approval to confirm NEPA determination and recertify (on page 4)

Categorical Exclusion (CE)- a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency ([40 CFR 1508.4](#)). Actions that do not individually or cumulatively have a significant environmental effect are excluded from the requirement to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS) ([23 CFR 771.115\(b\)](#)).

Step 1: Unusual Circumstances Threshold Determination – [23 CFR 771.117\(b\)](#)

Any action which normally would be classified as a CE but could involve unusual circumstances (or even uncertainty) will require consultation with FHWA to determine if the CE classification is proper or whether an EA or EIS is required.

Do any, or the potential for any, unusual circumstances exist?

1. Significant environmental impacts; YES NO
 2. Substantial controversy on environmental grounds; YES NO
 3. Significant impact on properties protected by Section 4(f) of the DOT Act or Section 106 of the National Historic Preservation Act; or YES NO
 4. Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the action. YES NO
- If yes to any of the above, contact the Main Office Project Liaison (MOPL) (see PDM Exhibit 4-1). If after consultation with FHWA it is determined that the project cannot be progressed as a CE, skip to step 4 and see PDM Chapter 4 for NEPA Class I (EIS) or Class III (EA) processing.
 - or-
 - If no to all, then this project qualifies as a Categorical Exclusion (CE); proceed to step 2.

Step 2: Other FHWA environmental actions required prior to CE Determination

Classification as a CE does not exempt the project from further environmental review. Compliance with Federal Statutes, Regulations and Executive Orders (EO's) must be documented. Refer to the Department's Project Development Manual (PDM) and Environmental Manual (TEM) to determine the requirements.

Federal Environmental Approval Worksheet

Project ID Number: 4760.44				
2.1	Other required FHWA environmental independent determinations	FHWA Independent Determination and/or Concurrence Required & Received ¹	Date FHWA determination issued	FHWA Independent Determination and/or Concurrence not required or resource not present ¹
		A	B	C
	EO 11990 Protection of Wetlands Individual Finding	<input type="checkbox"/>	Date Received	<input checked="" type="checkbox"/>
	ESA Section 7 Threatened and Endangered Species	<input checked="" type="checkbox"/>	4/17/2014	<input type="checkbox"/>
	Section 106 (National Historic Preservation Act)	<input type="checkbox"/>	Date Received	<input checked="" type="checkbox"/>
	4(f) (Park, Wildlife Refuge Historic Sites and National Wild and Scenic Rivers)	<input type="checkbox"/>	Date Received	<input checked="" type="checkbox"/>
2.2	Other FHWA environmental compliance and/or approvals/concurrence required	Resource present and threshold¹ exceeded		Resource not present, or present but threshold¹ not exceeded
	EO 11988 Floodplains	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	EO 13112 Invasive Species	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	EO 12898 Environmental Justice	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	Safe Drinking Water Act Section 1424(e)	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	U.S. Army Corps of Engineers, Section 404/10 NW 23	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	Section 6(f) (Land and Water Conservation Funds)	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	Migratory Bird Treaty Act	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	23CFR772 Type I Noise abatement	<input type="checkbox"/>		<input checked="" type="checkbox"/>
2.3	Other Environmental Issues requiring FHWA notification	Resource present and threshold¹ exceeded		
	U.S. Army Corps of Engineers, Section 404/10 Individual Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	National Wild and Scenic Rivers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	U.S. Coast Guard Bridge Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Known hazardous waste site (only EPA National Priority list)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Project on or affecting Native American Lands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Proceed to step 3.

Step 3: Who makes the NEPA Categorical Exclusion Determination?

FHWA Regulations describe two types of CEs; CEs listed in 23 CFR 771.117(c) [aka the C list], and CEs such as those listed in 23 CFR 771.117 (d) [aka the D list]. NYSDOT can make the CE determination for C list projects once all required approvals and concurrences have been secured. NEPA determination for d list projects has been retained by FHWA. NYSDOT can also make the CE determination where a project meets the [July 15, 1996 FHWA NY Division NEPA Programmatic Categorical Exclusion memo criteria](#).

¹ See thresholds.doc
4/15/2014
1.docx

Federal Environmental Approval Worksheet

To determine by whom, FHWA or NYSDOT, and how the CE determination is made, follow the instructions beginning in section 3.1 of the table below:

Project ID Number: 4760.44

	Condition	Action
3	Determine whether FHWA or NYSDOT makes the CE determination.	
3.1	If the project is an action that would normally be a CE in 23 CFR 771.117 (c) (drop down list), check the "Yes" box. If not, check the "No" box.	<p>If yes, NYSDOT can make the CE determination once all the approvals and coordinations required are complete.</p> <p>Is the project an action that would normally be a CE in 23 CFR771.117(c)? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> "Projects that take place entirely within the existing operational right-of-way." If yes, choose an item and proceed to step 3.1.1. If no, proceed to step 3.2.</p>
3.1.1	Determine if any of the required environmental determinations, compliance and/or approvals/ concurrences are outstanding.	<p>If there are:</p> <ul style="list-style-type: none"> • outstanding environmental determinations (Table 2.1:checks in column A without dates in column B) • and/or circumstances requiring demonstration of applicable EO compliance or issues requiring FHWA environmental review (checks in column A in Table 2.2) <p>The project will use Memo Shell 2 (FHWA needs to review this project). Proceed to step 4. <i>If the project does not meet the conditions above proceed to step 3.1.2.</i></p>
3.1.2	Determine if any issues are present that require FHWA notification.	<p>If there are:</p> <ul style="list-style-type: none"> • any issues requiring FHWA environmental notification (checks in column A in Table 2.3); then <p>The project will use Memo Shell 3 (FHWA must be notified of this project). Proceed to step 4. <i>If the project does not meet the conditions above proceed to step 3.1.3.</i></p>
3.1.3	No Determinations, Approvals, Concurrences or Notifications required.	<p>The project will use Memo Shell 1 (memo to file). Proceed to step 4.</p>
3.2	The project is a D list CE as per 23 CFR 771.117(d). Choose appropriate entry from drop down list. If "other" provide an explanation.	<p>Certain actions eligible for categorical exclusion require NYSDOT to transmit documentation and a determination that a CE applies. Examples of activities that may proceed as a CE are listed in 23 CFR 771.117(d) (D list). Activities not directly listed on the D List also have the potential to proceed as a CE with submitted documentation (other).</p> <p>All other environmental, social and economic factors that affect the project's NEPA classification, as per 23 CFR 771.117 and the July 1996 FHWA NY Division NEPA Programmatic Categorical Exclusion memo must still be addressed, for example the project: does not change the functional class; does not add mainline capacity; is not on new location; will not change travel patterns; acquires only minor amounts of ROW (temporary or permanent); does not cause displacements; does not change access control; is air quality exempt; is consistent with NYS Coastal Zone Management Plan; and the analysis and requirements of the Farmland Protection Policy Act have been satisfied.</p> <p>The project is an action that would normally be a CE in 23 CFR 771.117(d). "Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (e.g., parking, weaving, turning, climbing)." Other: Proceed to step 3.2.1.</p>

Federal Environmental Approval Worksheet

Project ID Number: 4760.44

3.2.1	Determine if any of the required environmental determinations, compliance and/or approvals/ concurrences are outstanding and/or notification is required.	<p>If there are:</p> <ul style="list-style-type: none"> • any outstanding environmental determinations (any checks in column A without dates in column B in Table 2.1); • and/or any circumstances requiring demonstration of applicable EO compliance (any checks in column A in Table 2.2); • and/or issues requiring FHWA environmental notification (any checks in column A in Table 2.3); then <p>The project will use Memo Shell 4 (MOPL and FHWA need to review this project). Proceed to Step 4.</p>
3.2.2	Design Approval Document sent to FHWA	<p>If the project:</p> <ul style="list-style-type: none"> • does not meet the conditions above (3.2.1), then the project has met the criteria established as per the programmatic agreement dated July 15, 1996. <p>The project will use Memo Shell 5 (memo to file). Proceed to Step 4.</p>

Step 4: Summary and Recommendation

- This project does qualify to be progressed as a Categorical Exclusion.
- The NEPA Determination is being made by NYSDOT
- All outstanding FHWA environmental approvals will be obtained and are listed here.

I certify that the information provided above is true and accurate and recommend the project be processed as described above.

Project Manager/Designer Seth D. Kaeuper Date 7/1/2015
(or Responsible Local Official)

Print Name and Title: Seth D. Kaeuper, P.E., Project Manager

Regional Environmental Unit Supervisor _____ Date _____

Print Name and Title: _____

Regional Local Project Liaison _____ Date _____

Print Name and Title: _____
(Locally Administered Projects Only)

Changes that may have occurred since the preparation of the worksheet which would create the need to **go through the Worksheet again** include but are not limited to:

- A change in the scope of the proposed project.
- A change in the social, economic or environmental circumstances or the setting of the project study area (i.e. the affected environment).
- A change in the federal statutory environmental standards.
- Discovering new information not considered in the original process.
- A significant amount of time has passed (equal or greater than three years).

Social, Economic and Environmental Resources Checklist				
PIN: 4760.44		TYPE FUNDING: 80% Federal, 20% Local		
DESCRIPTION: City of Rochester 2017 Preventive Maintenance Contract 5		DATE: 7/16/15		
TOWN: City of Rochester		REVISION DATE:		
COUNTY: Monroe		NEPA CLASS: II		
		SEQRA TYPE: II		
SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS	PRESENCE OR ANALYSIS NEEDED?		IMPACT OR ISSUE?	
	YES	NO	YES	NO
Social				
Land Use			<input type="checkbox"/>	<input checked="" type="checkbox"/>
Neighborhoods and Community Cohesion	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
General Social Groups	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
School Districts, Recreation Areas and Places of Worship	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Economic				
Regional and Local Economies			<input type="checkbox"/>	<input checked="" type="checkbox"/>
Business Districts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Specific Business Impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental				
Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface Waterbodies and Watercourses	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wild, Scenic, and Recreational Rivers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Navigable Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Floodplains	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Coastal Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Aquifers, Wells, and Reservoirs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Stormwater Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
General Ecology and Wildlife Resources	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Critical Environmental Areas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Historic and Cultural Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks and Recreational Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Visual Resources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Farmlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air Quality Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Energy Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Noise Analysis	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Asbestos	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Contaminated and Hazardous Materials	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Construction Effects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Indirect (Secondary) Effects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cumulative Effects	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ANTICIPATED PERMITS
N/A



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www.cscos.com

June 9, 2015

Ms. Lisa Reyes
City of Rochester
Department of Environmental Services
City Hall Room 300B
30 Church Street
Rochester, NY 14614

Re: Consistency Determination for Threatened and Endangered Species
2017 Preventive Maintenance Contract 5: Various Streets
City of Rochester, New York
PIN 4760.44

File: 193.007.001

Dear Ms. Reyes:

The City of Rochester, in conjunction with the New York State Department of Transportation (NYSDOT) Region 4 is in the design approval phase for the above referenced project. As part of the environmental process for this federally funded project, the determination of impacts to rare threatened or endangered species and to critical habitat within the project action area is required. At this time, we are seeking concurrence with the following effect determination for a federally listed species, or their habitat in the project area.

The 2017 Preventive Maintenance Contract 5 will rehabilitate approximately 2.5 miles of City of Rochester streets. The following streets are included in the project:

- Arnett Boulevard: Thurston Road to Genesee Street
- Genesee Park Boulevard: Brooks Avenue to Arnett Boulevard
- Webster Avenue: Garson Avenue to Bay Street

This rehabilitation project involves milling and resurfacing the existing pavement, isolated areas of sidewalk replacement, single course mill and overlay placement and upgrading crosswalks to meet American Disabilities Act standards. Limited areas will require full depth pavement reconstruction. The curb location will remain as is and no trees will be removed for this project.

The U.S. Fish and Wildlife Service (USFWS) New York State Field Office website and the NYS Natural Heritage Database findings were reviewed for the potential impacts from our project to federally protected species within project area. The USFWS Information, Planning and Conservation (IPac) System lists the following species within the project area: Northern Long-eared Bat (*Myotis septentrionalis*) (threatened) and the Bald eagle (delisted). The NYS Natural Heritage Database has no records of rare or state-listed animals or plants, or significant natural communities, at or in the immediate vicinity of the project area.

- Northern Long-eared Bat: Based on USFWS website, the Northern Long-eared Bat hibernates in caves and mines during the winter. The roosts consisted of living, dying, and dead trees¹. After hibernation, Northern Long-eared bats migrate to their summer habitat in wooded areas where they

¹ USFWS. Northern Long-eared bat <http://www.fws.gov/midwest/endangered/mammals/nlba/nlbaFactSheet.html>

usually roost under loose tree bark on dead or dying trees. During summer, males roost alone or in small groups, while females roost in large groups of 30 to 60 bats or more. The project location was screened for the presence of potential habitat or trees suitable for roosting and there are potential trees within the project area. However, no trees are being removed during project construction and NYS Natural Heritage correspondence did not list the Northern long-eared bat within or near the project area. C&S made a determination of “No Effect” for this species.

- Bald Eagle: Though the bald eagle was delisted in 2007 from the Endangered Species Act (ESA), it is still afforded federal protection under the Bald and Golden Eagle Protection Act (BGEPA). The bald eagle is still listed as threatened in New York State. Bald eagles are typically found near large bodies of water, such as bays, rivers, and lakes, which support a healthy population of fish and waterfowl, their primary food source. Generally, Bald Eagles tend to avoid areas with human activities. They will perch in either deciduous or coniferous trees. Large, heavy nests are usually built near water in tall pine, spruce, fir, cottonwood, oak, poplar, or beech trees. Non-breeding adults and wintering birds are known to have communal roost sites. During the winter, the roost sites may be farther away from food sources. This may be due to the need for a more sheltered, warmer area. Feeding areas during the winter months usually have a high concentration of fish and waterfowl and open water². Based on the scope of the project all work will be done within previously disturbed areas and the project does not involve the cutting of any known bald eagle nesting trees or constructing any towers, wires and/or other obstructions known to potentially affect the bald eagle. Also, NYS Natural Heritage correspondence did not list the Bald Eagle within or near the project area. C&S made a determination of “No Effect” for this species.

At this time, we are seeking FHWA’s affirmation that the 2017 Preventive Maintenance Contract 5: Various Streets will have “No Effect” on Northern Long-eared Bat and Bald Eagle. If you have any questions or require additional information, please contact Justin Strong at (315) 455-2000.

Very truly yours,

C&S ENGINEERS, INC.



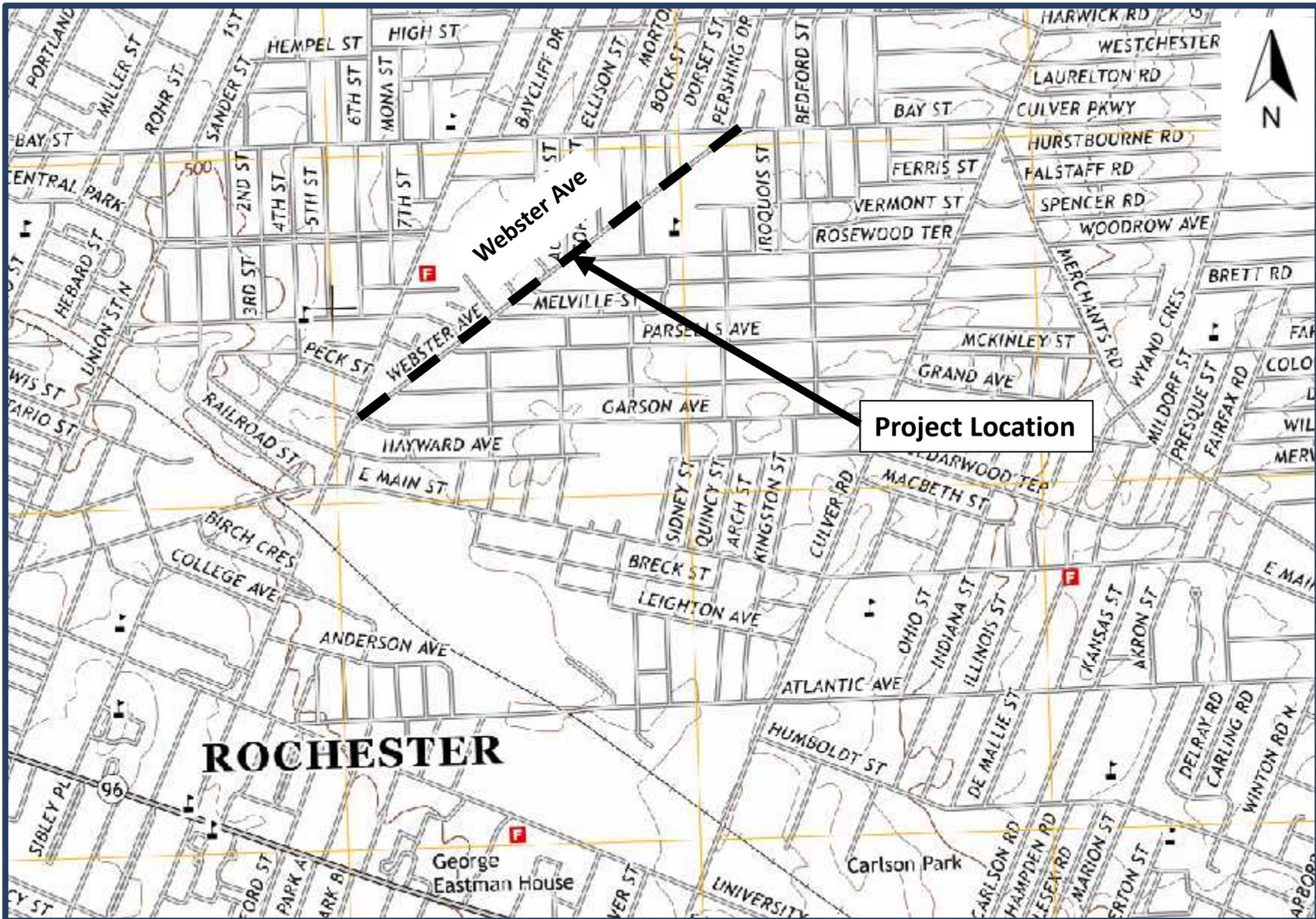
Justin Strong
Environmental Scientist

Enclosures

1. Project Location Map
2. USFWS IPaC Official Species List
3. Natural Heritage Data Response

cc: Ashely Freeman, C&S Engineers, Inc. (w/out attachments)

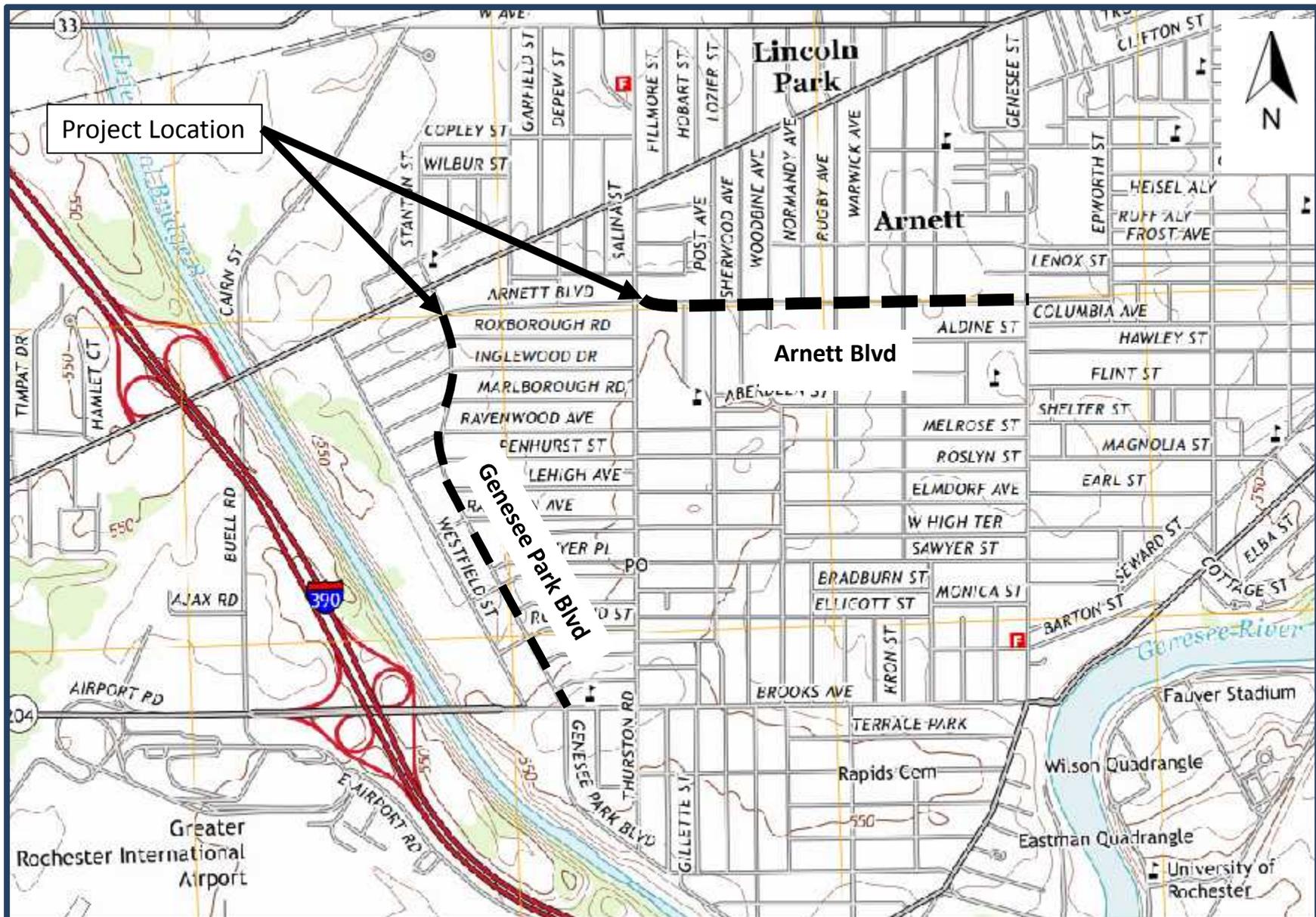
² NYNHAP: Bald Eagle: <http://www.acris.nynhp.org/guide.php?id=6811&part=2>



Source:
 USGS Topographic Map
 Rochester East Quadrangle
 Not to Scale

2016-2017 Preventive Maintenance Contract: Various Streets
 City of Rochester, Monroe County, New York
 PIN 4760.47

Figure 1
Location Map
 1 of 2



Source:
 USGS Topographic Map
 Rochester West Quadrangle
 Not to Scale

2016-2017 Preventive Maintenance Contract: Various Streets
 City of Rochester, Monroe County, New York
 PIN 4760.47

Figure 1
Location Map
 2 of 2



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 LUKER ROAD
CORTLAND, NY 13045
PHONE: (607)753-9334 FAX: (607)753-9699
URL: www.fws.gov/northeast/nyfo/es/section7.htm

Consultation Code: 05E1NY00-2015-SLI-0857

May 11, 2015

Event Code: 05E1NY00-2015-E-02360

Project Name: 2016-2017 Preventive Maintenance Contract: Various Streets

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

Official Species List

Provided by:

New York Ecological Services Field Office

3817 LUKER ROAD

CORTLAND, NY 13045

(607) 753-9334

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Consultation Code: 05E1NY00-2015-SLI-0857

Event Code: 05E1NY00-2015-E-02360

Project Type: TRANSPORTATION

Project Name: 2016-2017 Preventive Maintenance Contract: Various Streets

Project Description: The project consists of single course mill & overlay with isolated areas of two course or full depth pavement repair, sidewalk replacements, and upgrading crosswalks to meet ADA standards

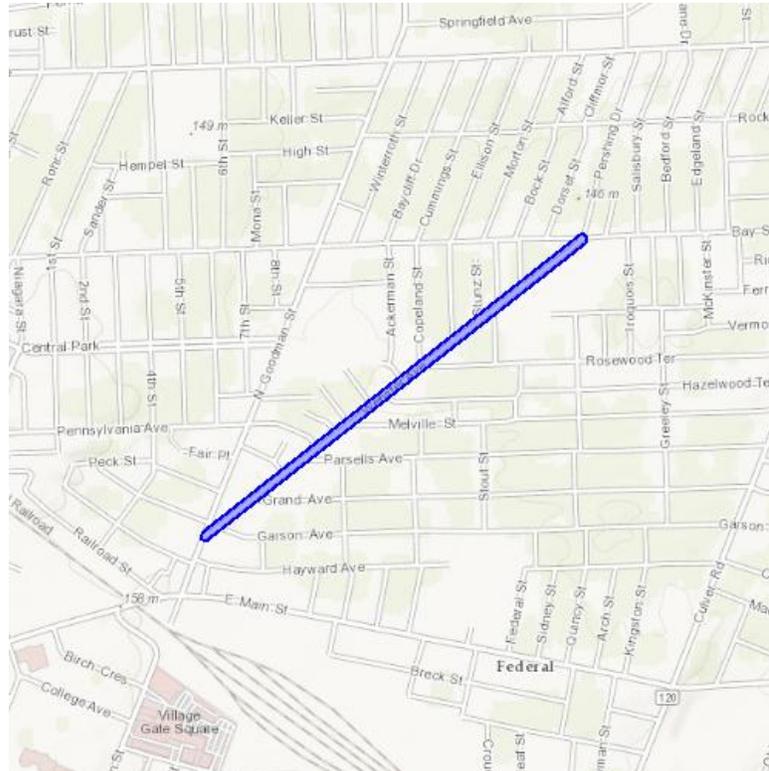
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-77.56948316755583 43.171329565264266, -77.56937902435328 43.17134292174263, -77.56929593953213 43.17127872583431, -77.56928258305378 43.171174582631764, -77.56934677896209 43.171091497810615, -77.58265053567597 43.16346978958535, -77.58275467887852 43.16345643310699, -77.58283776369967 43.1635206290153, -77.58285112017802 43.16362477221785, -77.58278692426971 43.163707857039, -77.56948316755583 43.171329565264266)))

Project Counties: Monroe, NY



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mammals	Status	Has Critical Habitat	Condition(s)
Northern long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

Critical habitats that lie within your project area

There are no critical habitats within your project area.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
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CORTLAND, NY 13045
PHONE: (607)753-9334 FAX: (607)753-9699
URL: www.fws.gov/northeast/nyfo/es/section7.htm

Consultation Code: 05E1NY00-2015-SLI-0858

May 11, 2015

Event Code: 05E1NY00-2015-E-02363

Project Name: 2016-2017 Preventive Maintenance Contract: Various Streets

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This list can also be used to determine whether listed species may be present for projects without federal agency involvement. New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list.

Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC site at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list. If listed, proposed, or candidate species were identified as potentially occurring in the project area, coordination with our office is encouraged. Information on the steps involved with assessing potential impacts from projects can be found at: <http://www.fws.gov/northeast/nyfo/es/section7.htm>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (

http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Services wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the ESA. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

Official Species List

Provided by:

New York Ecological Services Field Office

3817 LUKER ROAD

CORTLAND, NY 13045

(607) 753-9334

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Consultation Code: 05E1NY00-2015-SLI-0858

Event Code: 05E1NY00-2015-E-02363

Project Type: TRANSPORTATION

Project Name: 2016-2017 Preventive Maintenance Contract: Various Streets

Project Description: The project consists of single course mill & overlay with isolated areas of two course or full depth pavement repair, sidewalk replacements, and upgrading crosswalks to meet ADA standards.

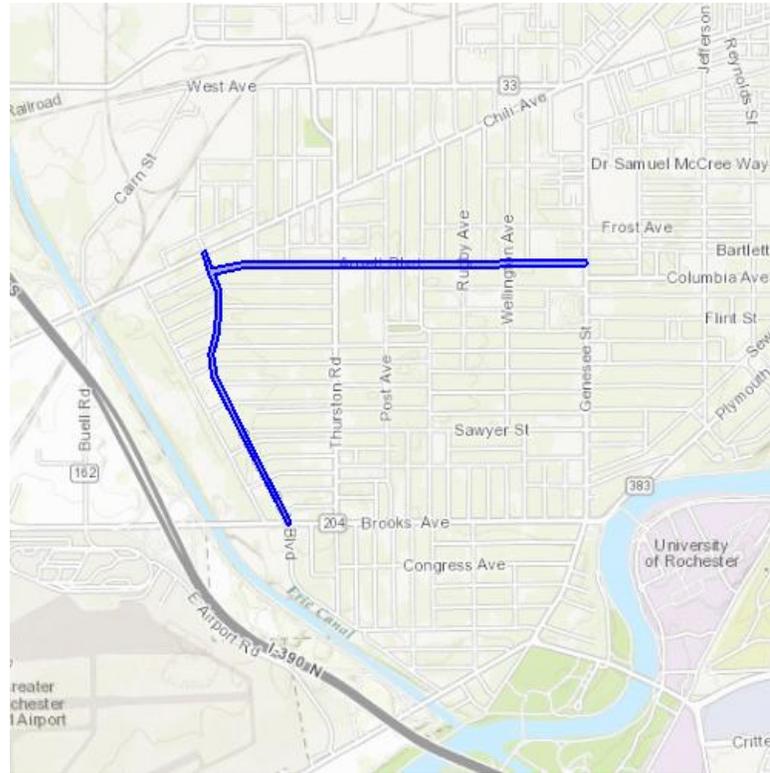
Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-77.6584820947975 43.14175600075048, -77.65891381806864 43.142641502774055, -77.6588988633425 43.14274498951636, -77.65881532760427 43.14280787775138, -77.65873608021559 43.14280479230362, -77.65867178305946 43.142758364463795, -77.65830369066153 43.14201508390342, -77.65650709438493 43.14231127307266, -77.63607916809622 43.14240521482736, -77.63598199756923 43.142365439321885, -77.63594141316032 43.14226860385367, -77.6359811886658 43.14217143332669, -77.63607802413401 43.14213084891777, -77.65649460793212 43.14203697248614, -77.65817734398514 43.14175792092241, -77.6578284139055 43.141008523845045, -77.65791424459398 43.13931753547273, -77.65821088917968 43.13828388712866, -77.65805016660043 43.13740427927256, -77.6562218190777 43.13467381165879, -77.65364812090853 43.13107390828982, -77.65362260241564 43.13099846216006, -77.65364330018814 43.13092155368075, -77.65375537940756 43.13085700810068, -77.65387131497404 43.13091433896284, -77.65644623562834 43.13451595225583, -77.65830712075204 43.13730004145158, -77.65848866494733 43.13829809007514, -77.65818744915634 43.139347421346635, -



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

77.65810423252674 43.14098690898844, -77.6584820947975 43.14175600075048)))

Project Counties: Monroe, NY



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mammals	Status	Has Critical Habitat	Condition(s)
Northern long-eared Bat (<i>Myotis septentrionalis</i>)	Threatened		



United States Department of Interior
Fish and Wildlife Service

Project name: 2016-2017 Preventive Maintenance Contract: Various Streets

Critical habitats that lie within your project area

There are no critical habitats within your project area.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov



Joe Martens
Commissioner

June 05, 2015

Justin Strong
C&S Companies
499 Col. Eileen Collins Blvd
Syracuse, NY 13212

Re: Preventive maintenance, including repaving, for various streets
Town/City: City Of Rochester. County: Monroe.

Dear Justin Strong :

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

We have no records of rare or state-listed animals or plants, or significant natural communities, at your sites or in their immediate vicinities.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed sites. Rather, our files currently do not contain information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. We cannot provide a definitive statement on the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other resources may be required to fully assess impacts on biological resources.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Nicholas Conrad
Information Resources Coordinator
New York Natural Heritage Program



ANDREW M. CUOMO
Governor

MATTHEW J. DRISCOLL
Commissioner

MEMORANDUM

TO: Craig Ekstrom, Regional Local Project Liaison
FROM: Chris Caraccilo, Regional Cultural Resource Coordinator
SUBJECT: PROJECT SUBMITTAL PACKAGE – SECTION 106 RECOMMENDATIONS
**PIN 4760.44, 2017 PREVENTATIVE MAINTENANCE-CONTRACT 5:
ARNETT BOULEVARD; WEBSTER AVENUE; GENESEE PARK BOULEVARD
CITY OF ROCHESTER, MONROE COUNTY**

July 9, 2015

As the Regional Cultural Resource Coordinator (RCRC) I have reviewed the Project Submittal Package (PSP) prepared for the above referenced Locally Administered Federal Aid project for assessment of obligations under Section 106 of the National Historic Preservation Act (36 CFR Part 800).

Based on review of this PSP, I conclude:

- The project activities have no potential to cause effects on historic properties in accordance with 36 CFR 800.3(a)(1) therefore, there are no further obligations for compliance with Section 106 of the National Historic Preservation Act. This determination should be recorded in the project environmental documentation.

The project activities may cause effects on historic properties:

- However, this is no potential for historic properties present. Therefore, there are no further obligations for compliance with Section 106 of the National Historic Preservation Act. This determination should be recorded in the project environmental documentation.
 - A Phase I Cultural Resource Survey is needed to identify historic and cultural resources. Based on project description and activities, the following preliminary Area of Potential Effect is recommended.
 - Based on project description and activities in the PSP a preliminary Area of Potential Effect is provided.
 - A bridge inventory and evaluation of National Register eligibility is needed for BIN _____, a pre-1961 bridge that has not been previously evaluated.
 - A Finding Documentation package is needed to assess the project effect on one or more previously identified National Register (NR) listed and/ or NR eligible historic buildings, structures, bridges, districts, objects, or sites.
- The following additional information is needed to complete our assessment:
- Detailed project description & activities
 - Project location map showing project limits (USGS Quad)
 - BIN and date of construction for pre-1961 bridge(s)
 - Approximate limits of ground disturbance associated with proposed project activities (vertical & horizontal)
 - Photos of buildingS
 - Other

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Smart Growth Screening Tool

PIN 4760.44

Prepared By: Seth D. Kaeuper, P.E., C&S Engineers

Smart Growth Screening Tool (STEP 1)

NYS DOT & Local Sponsors – Fill out the Smart Growth Screening Tool until the directions indicate to **STOP** for the project type under consideration. For all other projects, complete answering the questions. For any questions, refer to [Smart Growth Guidance](#) document.

Title of Proposed Project: City of Rochester 2017 Preventive Maintenance Contract Number 5 (Arnett Boulevard, Webster Avenue, Genesee Park Boulevard)

Location of Project: City of Rochester

Brief Description: The recommended alternative for this project is to resurface and restore the pavement which includes: 1) Milling the existing hot mix asphalt (HMA) pavement overlay and resurfacing the pavement with a single course HMA overlay. 2) Replacing cracked, damaged or missing curbing with new granite curbing. 3) Resetting existing granite curbing with poor reveal and/or profile. 4) Reconstructing existing sidewalk curb ramps to meet current ADAAG/PROWAG and NYS DOT standards. 5) Adjusting drainage inlet frames and grates, manholes, valves and other structures in the pavement to grade. 6) Replacing traffic signal detector loops removed by the pavement milling operation. 7) Replacing pavement markings. Replacing or updating signage as needed.

A. Infrastructure:

Addresses SG Law criterion a. –

(To advance projects for the use, maintenance or improvement of existing infrastructure)

1. Does this project use, maintain, or improve existing infrastructure?

Yes

No

N/A

Explain: (use this space to expand on your answers above – the form has no limitations on the length of your narrative)

This project will improve the existing infrastructure on three urban street segments in the City of Rochester. Due to age, heavy usage, multiple overlays over deteriorating roadway base, poor drainage, and lack of maintenance, the ride quality has deteriorated on these major commuter and intra-city connector routes. If not addressed, the pavement condition will continue to decline until a large percentage or all of it will require major full depth reconstruction. Damaged drainage structures and non-standard curb reveals will be repaired or replaced. The roadways are within a municipal center, are nearly completely developed with residential and commercial properties, and serve and connect Rochester's central business

Smart Growth Screening Tool

district to other business and residential centers. No new lanes or property takings are proposed for this project, instead, the goals are to improve the efficiency of vehicle movement and enhance motorist and pedestrian safety by providing a smoother driving surface, new striping and signage that meets current standards, and updating curb ramps and crosswalks to meet ADAAG/PROWAG and NYSDOT standards.

Maintenance Projects Only

a. Continue with screening tool for the four (4) types of maintenance projects listed below, as defined in **NYSDOT PDM Exhibit 7-1 and described in 7-4:**

<https://www.dot.ny.gov/divisions/engineering/design/dqab/pdm>

- ➔ Shoulder rehabilitation and/or repair;
- ➔ Upgrade sign(s) and/or traffic signals;
- ➔ Park & ride lot rehabilitation;
- ➔ 1R projects that include single course surfacing (inlay or overlay), per Chapter 7 of the NYSDOT Highway Design Manual.

b. For all other maintenance projects, **STOP here**. Attach this document to the programmatic [Smart Growth Impact Statement and signed Attestation](#) for Maintenance projects.

For all other projects (**other than maintenance**), continue with screening tool.

B. Sustainability:

NYSDOT defines Sustainability as follows: A sustainable society manages resources in a way that fulfills the community/social, economic and environmental needs of the present without compromising the needs and opportunities of future generations. A transportation system that supports a sustainable society is one that:

- ➔ Allows individual and societal transportation needs to be met in a manner consistent with human and ecosystem health and with equity within and between generations.
- ➔ Is safe, affordable, and accessible, operates efficiently, offers choice of transport mode, and supports a vibrant economy.
- ➔ Protects and preserves the environment by limiting transportation emissions and wastes, minimizes the consumption of resources and enhances the existing environment as practicable.

For more information on the Department's Sustainability strategy, refer to Appendix 1 of the Smart Growth Guidance and the NYSDOT web site, www.dot.ny.gov/programs/greenlites/sustainability

(Addresses SG Law criterion j : to promote sustainability by strengthening existing and creating new communities which reduce greenhouse gas emissions and do not compromise the needs of future

Smart Growth Screening Tool

generations, by among other means encouraging broad based public involvement in developing and implementing a community plan and ensuring the governance structure is adequate to sustain and implement.)

1. Will this project promote sustainability by strengthening existing communities?

Yes No N/A

2. Will the project reduce greenhouse gas emissions?

Yes No N/A

Explain: (use this space to expand on your answers above)

The roadway pavement conditions are deteriorating and improving these major corridors will enhance the livability for and attractiveness to new and existing residences and businesses. Pedestrian accommodation at street crossings will be improved. Greenhouse gasses could be reduced due to improved traffic flow and decreased vehicle delay.

C. Smart Growth Location:

Plans and investments should preserve our communities by promoting its distinct identity through a local vision created by its citizens.

(Addresses SG Law criteria b and c: to advance projects located in municipal centers; to advance projects in developed areas or areas designated for concentrated infill development in a municipally approved comprehensive land use plan, local waterfront revitalization plan and/or brownfield opportunity area plan.)

1. Is this project located in a developed area?

Yes No N/A

2. Is the project located in a municipal center?

Yes No N/A

3. Will this project foster downtown revitalization?

Yes No N/A

4. Is this project located in an area designated for concentrated infill development in a municipally approved comprehensive land use plan, waterfront revitalization plan, or Brownfield Opportunity Area plan?

Yes No N/A

Explain: (use this space to expand on your answers above)

Smart Growth Screening Tool

All three roadways on this project connect Rochester's city center to residential and commercial areas within the city limits. The streets are main thoroughfares used by residents, commuters, and commercial delivery services. Improvements to roadway drivability and the perception of the area by the traveling public and other users of these corridors will help to promote development and revitalization of this urban area.

D. Mixed Use Compact Development:

Future planning and development should assure the availability of a range of choices in housing and affordability, employment, education transportation and other essential services to encourage a jobs/housing balance and vibrant community-based workforce.

(Addresses SG Law criteria e and i: to foster mixed land uses and compact development, downtown revitalization, brownfield redevelopment, the enhancement of beauty in public spaces, the diversity and affordability of housing in proximity to places of employment, recreation and commercial development and the integration of all income groups; to ensure predictability in building and land use codes.)

1. Will this project foster mixed land uses?
Yes No N/A
2. Will the project foster brownfield redevelopment?
Yes No N/A
3. Will this project foster enhancement of beauty in public spaces?
Yes No N/A
4. Will the project foster a diversity of housing in proximity to places of employment and/or recreation?
Yes No N/A
5. Will the project foster a diversity of housing in proximity to places of commercial development and/or compact development?
Yes No N/A
6. Will this project foster integration of all income groups and/or age groups?
Yes No N/A
7. Will the project ensure predictability in land use codes?
Yes No N/A
8. Will the project ensure predictability in building codes?

Smart Growth Screening Tool

Yes No N/A

Explain: (use this space to expand on your answers above)

The goals of this project are not intended to affect local development directly, however, by restoring the roadway condition and enhancing the safety and mobility experience for all users, the adjoining areas may become more attractive to commercial and residential developers.

E. Transportation and Access:

NYS DOT recognizes that Smart Growth encourages communities to offer a wide range of transportation options, from walking and biking to transit and automobiles, which increase people's access to jobs, goods, services, and recreation.

(Addresses SG Law criterion f: to provide mobility through transportation choices including improved public transportation and reduced automobile dependency.)

1. Will this project provide public transit?

Yes No N/A

2. Will this project enable reduced automobile dependency?

Yes No N/A

3. Will this project improve bicycle and pedestrian facilities (such as shoulder widening to provide for on-road bike lanes, lane striping, crosswalks, new or expanded sidewalks or new/improved pedestrian signals)?

Yes No N/A

(Note: Question 3 is an expansion on question 2. The recently passed Complete Streets legislation requires that consideration be given to complete street design features in the planning, design, construction, reconstruction and rehabilitation, but not including resurfacing, maintenance, or pavement recycling of such projects.)

Explain: (use this space to expand on your answers above)

Existing crosswalks and curb ramps that do not meet current ADAAG/PROWAG and NYS DOT standards will be rebuilt. Signage will be evaluated, replaced, or added where necessary to make the corridor MUTCD-compliant. Uneven and rough pavement surfaces and damaged drainage structures will be repaired, making it easier and safer for pedestrians and pedalcyclists to transverse the area. Existing public transit stops will be striped and signed appropriately.

Smart Growth Screening Tool

F. Coordinated, Community-Based Planning:

Past experience has shown that early and continuing input in the transportation planning process leads to better decisions and more effective use of limited resources. For information on community based planning efforts, the MPO may be a good resource if the project is located within the MPO planning area.

(Addresses SG Law criteria g and h: to coordinate between state and local government and inter-municipal and regional planning; to participate in community based planning and collaboration.)

1. Has there been participation in community-based planning and collaboration on the project?

Yes No N/A

2. Is the project consistent with local plans?

Yes No N/A

3. Is the project consistent with county, regional, and state plans?

Yes No N/A

4. Has there been coordination between inter-municipal/regional planning and state planning on the project?

Yes No N/A

Explain: (use this space to expand on your answers above)

This project is categorized as a "1R" project, and as such does not require a public meeting in advance of construction unless there will be property takings or an offsite detour, neither of which will be needed to accomplish the goals of the project. During construction, notices of any temporary lane closures or relevant construction activities that would affect the traveling public will be made in the local media. The City of Rochester is the local sponsor of the project, and this project has been on the Transportation Improvement Plan (TIP) list.

G. Stewardship of Natural and Cultural Resources:

Clean water, clean air and natural open land are essential elements of public health and quality of life for New York State residents, visitors, and future generations. Restoring and protecting natural assets, and open space, promoting energy efficiency, and green building, should be incorporated into all land use and infrastructure planning decisions.

(Addresses SG Law criterion d :To protect, preserve and enhance the State's resources, including agricultural land, forests surface and ground water, air quality, recreation and open space, scenic areas and significant historic and archeological resources.)

Smart Growth Screening Tool

1. Will the project protect, preserve, and/or enhance agricultural land and/or forests?
Yes No N/A
2. Will the project protect, preserve, and/or enhance surface water and/or groundwater?
Yes No N/A
3. Will the project protect, preserve, and/or enhance air quality?
Yes No N/A
4. Will the project protect, preserve, and/or enhance recreation and/or open space?
Yes No N/A
5. Will the project protect, preserve, and/or enhance scenic areas?
Yes No N/A
6. Will the project protect, preserve, and/or enhance historic and/or archeological resources?
Yes No N/A

Explain: (use this space to expand on your answers above)

As a roadway resurfacing project in an urban area, there are limited opportunities for protecting, preserving, or enhancing historic or archeological resources. Similarly, the project limits will be from sidewalk to sidewalk or curb to curb, with no effect on public open spaces, recreational areas, or scenic areas. Groundwater recharging initiatives are not part of the scope of the project. A small percentage of the total number of drainage structures will be repaired as necessary, improving surface water flow and reducing ponding, but not necessarily enhancing surface water quality. It is possible that improved traffic flow and increased pedalcyclist use of the corridors could improve air quality.

Smart Growth Screening Tool

Smart Growth Impact Statement (STEP 2)

NYS DOT: Complete a Smart Growth Impact Statement (SGIS) below using the information from the Screening Tool.

Local Sponsors: The local sponsors are **not** responsible for completing a Smart Growth Impact Statement. Proceed to **Step 3**.

Smart Growth Impact Statement

PIN: 4760.44

Project Name: City of Rochester 2017 Preventive Maintenance Contract Number 5 (Arnett Boulevard, Webster Avenue, Genesee Park Boulevard)

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act. This project has been determined to meet the relevant criteria, to the extent practicable, described in ECL Sec. 6-0107. Specifically, the project:

- ⇒
- ⇒
- ⇒
- ⇒
- ⇒
- ⇒

This publically supported infrastructure project complies with the state policy of maximizing the social, economic and environmental benefits from public infrastructure development. The project will not contribute to the unnecessary costs of sprawl development, including environmental degradation, disinvestment in urban and suburban communities, or loss of open space induced by sprawl.

Smart Growth Screening Tool

B. ATTESTATION (NYSDOT)

1. I HEREBY:

Concur with the above certification, thereby attesting that this project is in compliance with the State Smart Growth Public Infrastructure Policy Act

Concur with the above certification, with the following conditions (information requests, confirming studies, project modifications, etc.):

(Attach additional sheets as needed)

do not concur with the above certification, thereby deeming this project ineligible to be a recipient of State funding or a subrecipient of Federal funding in accordance with the State Smart Growth Public Infrastructure Policy Act.

2. **NOW THEREFORE**, pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act, to the extent practicable, as described in the attached Smart Growth Impact Statement.

NYSDOT Commissioner, Regional Director, MO Program Director,
Regional Planning & Programming Manager (or official designee):

Signature

Date

Title

Printed Name

ATTACHMENT D

PAVEMENT EVALUATION & TREATMENT SELECTION REPORTS

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

11/15/2013

General

Region: 4 County: Monroe Route No.: Arnett Blvd (Thurston Rd to Genesee St)

PIN: 4760.44

Project Description: City of Rochester 2017 Preventive Maintenance Contract 5

Begin RM: N/A End RM: N/A Total Length: 0.80 miles

Latest Pavement Rehabilitation/Treatment Date(s): 1992

Original Contract Date(s): Unknown

Related Pavement Data:

Traffic AADT (Range): 5823vpd Date: 2013 % Trucks: 4.2

Sufficiency Rating Surface Score: 6 Date: 5/05/2015

Roadway Features

Roadway: Divided Non-Divided

Median: Flush Raised Concrete Median Barrier

Curbs: Mountable Non-Mountable HMA PCC Stone

Gutter: None Present Location:

MIARDS/CARDS: None Present Location:

Travel Lanes:

Number: 2 Width(s): 2-12 foot travel lanes, 2-8 foot parking lanes

Type: Reinforced PCC Non-Reinforced PCC HMA HMA over PCC

Thickness (normal): 11.5" Total: 11.5" (HMA: 3.5" PCC: 8")

Reinforced and Non-Reinforced PCC Pavements only:

Slab Length:

Load Transfer Type: Dowels 2 Component

Transverse Joints: Contraction Expansion

Subbase: Type: Gravel, Type 1 Thickness (nominal): 5"

Shoulders: None

Type: HMA PCC Gravel Thickness:

Surface Treatment/Stabilized Gravel Thickness:

Width: Left: Right:

Drainage Type: Open System Closed System

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

11/15/2013

PAVEMENT DISTRESS	SEVERITY – Typical for Length of Project				COMMENTS
Wheelpath Cracking	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Transverse Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Longitudinal Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Edge Cracking	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Raveling	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Rutting	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Corrugations	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Settlements/Heaves	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	Minor from utility patches
Other	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	

SHOULDER DISTRESS	SEVERITY – Typical for Length of Project				COMMENTS
Cracking	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Separation	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Drop Off	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Deformation	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	

EXISTING PAVEMENT CONDITION REMARKS:

Overall good condition with minor transverse and longitudinal cracking between pavement seams and several utility patches. Recent crack sealing has been completed over the entire length. The top course has delaminated at several locations along the curbline. Between Wellington Avenue and Kenwood Avenue the pavement is in fair condition with several utility cuts, some of which have begun to delaminate.

EXISTING SHOULDER REMARKS:

There are no shoulders. Travel lane / parking lane is directly adjacent to the curb.

REMARKS AND PAVEMENT RECOMMENDATIONS:

From record plans, the existing pavement section in the project limits is generally 1.5" HMA Top, 2" HMA Binder, 8" Concrete, 5" subbase.

Five pavement cores will be taken at various locations throughout the project limits to verify existing pavement thickness and confirm proposed treatments. Cores A C-1, A C-2, A C-3, and A C-5 will be taken in locations where the pavement is in good condition. Core A C-4 will be taken between Wellington Avenue and Kenwood Avenue where the pavement is in fair condition.

Core information will be provided in the final design report.

GEOTECHNICAL REMARKS AND RECOMMENDATIONS: N/A

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

11/15/2013

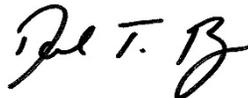
Treatment Options:

1. One Course Mill & Overlay with isolated areas of Two Course Mill & Overlay or Deep Repair.
- 2.
- 3.

Results of Life Cycle Cost Analysis: N/A

Recommendations:

If you have any questions regarding this report, please contact Seth D. Kaeuper, P.E. at C&S Engineers, Inc. (585-325-9040).



Prepared by: Daniel T. Borcz, P.E.
Date: July 2015

Approved by:
Date:

**Professional Engineering Seal for Recommendations to Use Beyond
Preservation Treatments:**

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PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

11/15/2013

General

Region: 4 County: Monroe Route No.: Genesee Park Blvd (Brooks Ave to Arnett Blvd)

PIN: 4760.44

Project Description: City of Rochester 2017 Preventive Maintenance Contract 5

Begin RM: N/A End RM: N/A Total Length: 0.80 miles

Latest Pavement Rehabilitation/Treatment Date(s): Unknown

Original Contract Date(s): 1939

Related Pavement Data:

Traffic AADT (Range): 5002vpd Date: 2013 % Trucks: 4.2

Sufficiency Rating Surface Score: 6 Date: 5/05/2015

Roadway Features

Roadway: Divided Non-Divided

Median: Flush Raised Concrete Median Barrier

Curbs: Mountable Non-Mountable HMA PCC Stone

Gutter: None Present Location:

MIARDS/CARDS: None Present Location:

Travel Lanes:

Number: 2 Width(s): 2-12 foot travel lanes, 2-8 foot parking lanes

Type: Reinforced PCC Non-Reinforced PCC HMA HMA over PCC

Thickness (normal): 9" Total: 9" (HMA: 3" PCC: 6")

Reinforced and Non-Reinforced PCC Pavements only:

Slab Length:

Load Transfer Type: Dowels 2 Component

Transverse Joints: Contraction Expansion

Subbase: Type: Unknown

Thickness (nominal): Unknown

Shoulders: None

Type: HMA PCC Gravel Thickness:

Surface Treatment/Stabilized Gravel Thickness:

Width: Left: Right:

Drainage Type: Open System Closed System

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

11/15/2013

PAVEMENT DISTRESS	SEVERITY – Typical for Length of Project				COMMENTS
Wheelpath Cracking	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Transverse Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Longitudinal Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Edge Cracking	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Raveling	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Rutting	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Corrugations	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Settlements/Heaves	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	Minor from utility patches
Other	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> High	Paving joint failure

SHOULDER DISTRESS SEVERITY – Typical for Length of Project COMMENTS

Cracking	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High
Separation	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High
Drop Off	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High
Deformation	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High

EXISTING PAVEMENT CONDITION REMARKS:

Overall fair condition with minor transverse & longitudinal cracking and several utility patches. Some crack sealing has been completed over the entire length. There is some delamination of the top course within the project limits. The pavement joint within the NB & SB travel lanes from Raeburn Avenue to the northern project limits has failed.

EXISTING SHOULDER REMARKS:

There are no shoulders. Travel lane / parking lane is directly adjacent to the curb.

REMARKS AND PAVEMENT RECOMMENDATIONS:

From record plans, the existing pavement section in the project limits is 2" HMA Top, 1" HMA Binder, 6" Concrete.

Six pavement cores will be taken at various locations throughout the project limits to verify existing pavement thickness and confirm proposed treatments. Cores GP C-1, GP C-4, and GP C-6 will be taken in locations where the pavement is in good condition. Cores GP C-2 and GP C-5 will be taken in areas of pavement delamination. Core GP C-3 will be taken at the paving joint failure.

Core information will be provided in the final design report.

GEOTECHNICAL REMARKS AND RECOMMENDATIONS: N/A

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSRS)

11/15/2013

Treatment Options:

1. One Course Mill & Overlay (2") with areas of Two Course Mill & Overlay or Deep Repair to correct the pavement joint failure.
- 2.
- 3.

Results of Life Cycle Cost Analysis: N/A

Recommendations:

If you have any questions regarding this report, please contact Seth D. Kaeuper, P.E. at C&S Engineers, Inc. (585-325-9040).



Prepared by: Daniel T. Borcz, P.E.
Date: July 2015

Approved by:
Date:

**Professional Engineering Seal for Recommendations to Use Beyond
Preservation Treatments:**

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PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

11/15/2013

General

Region: 4 County: Monroe Route No.: Webster Ave (Garson Ave to Bay St)

PIN: 4760.44

Project Description: City of Rochester 2017 Preventive Maintenance Contract 5

Begin RM: N/A End RM: N/A Total Length: 0.90 miles

Latest Pavement Rehabilitation/Treatment Date(s): 1985

Original Contract Date(s): Unknown

Related Pavement Data:

Traffic AADT (Range): 4463vpd Date: 2013 % Trucks: 4.7

Sufficiency Rating Surface Score: 6 Date: 5/05/2015

Roadway Features

Roadway: Divided Non-Divided

Median: Flush Raised Concrete Median Barrier

Curbs: Mountable Non-Mountable HMA PCC Stone

Gutter: None Present Location:

MIARDS/CARDS: None Present Location:

Travel Lanes:

Number: 2 Width(s): 2-10 foot travel lanes, 2-8 foot parking lanes

Type: Reinforced PCC Non-Reinforced PCC HMA HMA over PCC

Thickness (normal): 10" Total: 10" (HMA: 4" PCC: 6")

Reinforced and Non-Reinforced PCC Pavements only:

Slab Length:

Load Transfer Type: Dowels 2 Component

Transverse Joints: Contraction Expansion

Subbase: Type: Unknown

Thickness (nominal): Unknown

Shoulders: None

Type: HMA PCC Gravel Thickness:

Surface Treatment/Stabilized Gravel Thickness:

Width: Left: Right:

Drainage Type: Open System Closed System

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

11/15/2013

PAVEMENT DISTRESS	SEVERITY – Typical for Length of Project				COMMENTS
Wheelpath Cracking	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Transverse Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Longitudinal Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Edge Cracking	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Raveling	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Rutting	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Corrugations	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Settlements/Heaves	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> High	Utility patch distress
Other	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	

SHOULDER DISTRESS	SEVERITY – Typical for Length of Project				COMMENTS
Cracking	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Separation	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Drop Off	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Deformation	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	

EXISTING PAVEMENT CONDITION REMARKS:

Overall fair condition with minor transverse & longitudinal cracking. Some crack sealing has been completed over the entire length. There are several utility patches that are failing.

EXISTING SHOULDER REMARKS:

There are no shoulders. Travel lane / parking lane is directly adjacent to the curb.

REMARKS AND PAVEMENT RECOMMENDATIONS:

Record plans are available but are not legible to determine the existing pavement section.

Six pavement cores will be taken at various locations throughout the project limits to determine existing pavement thickness and confirm proposed treatments. Cores W C-1, W C-4, and W C-6 will be taken in locations where the pavement is in good condition. Cores W C-2, W C-3, and W C-5 will be taken in utility patch distress locations.

Core information will be provided in the final design report.

GEOTECHNICAL REMARKS AND RECOMMENDATIONS: N/A

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

11/15/2013

Treatment Options:

1. One Course Mill & Overlay with isolated areas of Deep Repair to correct utility patch distress.
- 2.
- 3.

Results of Life Cycle Cost Analysis: N/A

Recommendations:

If you have any questions regarding this report, please contact Seth D. Kaeuper, P.E. at C&S Engineers, Inc. (585-325-9040).



Prepared by: Daniel T. Borcz, P.E.
Date: July 2015

Approved by:
Date:

**Professional Engineering Seal for Recommendations to Use Beyond
Preservation Treatments:**

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ATTACHMENT E

SAFE-TAP CHECKLIST

Attachment E
SAFE-TAP CHECKLIST
REQUIREMENTS AND GUIDANCE FOR SAFETY WORK
Page 1 of 3

PIN =	4760.44	Date =	June 26, 2015
Safety Assessment Team		Design =	Seth D. Kaeuper, P.E., C&S Engineers, Inc.
		Traffic =	Ashley M. Freeman, EIT, C&S Engineers, Inc.
Y	Element	Guidance	Comments
The Following Elements Apply to Single and Multicourse Resurfacing Projects (1R, 2R, and 3R):			
<input checked="" type="checkbox"/>	Signing	<ul style="list-style-type: none"> • Signs should be installed as needed in accordance with the MUTCD. Review for condition (retroreflectivity), location, post type (breakaway or rigid), and appropriateness (need). • Immediately notify the Resident Engineer of any missing regulatory or warning signs. 	Existing signs have been reviewed for conformance with the National MUTCD and NYS Supplement as well as condition and post type. Recommendations for replacement or relocation as well as any new signs will be provided in the plans.
<input checked="" type="checkbox"/>	Pavement Markings	Pavement markings should be installed in accordance with the MUTCD. The adequacy of existing passing zones should be evaluated. Current EIs and specifications must be followed.	Pavement markings will be installed on the new pavement surface in accordance with the National MUTCD and NYS Supplement, as well as the NYSDOT 685 Series Standard Sheets. Passing zones are not present on any of the streets included in this project.
<input type="checkbox"/>	Delineation	Delineation should be installed per the National MUTCD and NYS Supplement.	
<input checked="" type="checkbox"/>	Sight Distance	Trim, remove, or replace vegetation to improve substandard intersection sight distance, and horizontal and vertical stopping sight distance. Guidance: <ul style="list-style-type: none"> • Intersection Sight Distance - HDM §5.9.5.1 • Passing Sight Distance - HDM §5.7.2.2 • Horizontal & Sag Vertical SSD - HDM Chapter 2 and HDM §5.7.2.1 and HDM §5.7.2.4 	The vegetation within the project right-of-way consists of young to mature street trees along the roadway. These trees do not impede intersection or stopping sight distance.
<input checked="" type="checkbox"/>	Fixed Objects	<p>For 1R projects: Address obvious objects that are within the prevailing clear area and within the ROW based on engineering judgment from a field visit (e.g., tree removal on the outside of a curve or installation of traversable driveway culvert end sections).</p> <p>For 2R/3R projects: Reestablish the clear zone and remove, relocate, modify to make crash worthy, shield by guide rail/crash cushion, or delineate any fixed objects.</p> <p>For guidance on identifying fixed objects, refer to HDM §10.3.1.2 B.</p>	The prevailing clear area behind the curb as defined by utility poles, lighting poles, and traffic signs is generally 1.5 to 3 feet and within design standards. New signs are to be replaced per standard sheets to ensure proper setback from the curb line.
<input type="checkbox"/>	Guide Rail	<p>The following should be used to evaluate the need for guide rail and other roadside work.</p> <ul style="list-style-type: none"> • HDM §10.2.2.1 - point of need • HDM Table 10-7 - acceptable guide rail height • HDM §10.3.1.2 B - guidance on determining severely deteriorated guide rail and non-functional guide rail • HDM §10.2.2.3 and Table 10-3 - barrier deflection distance • HDM §10.2.2 - design of new guide rail • Current EIs and EBs. 	

**Attachment E
SAFE-TAP CHECKLIST
REQUIREMENTS AND GUIDANCE FOR SAFETY WORK**

Page 2 of 3

Y	Element	Guidance	Comments
<input type="checkbox"/>	Bridge Rail Transitions	The Regional Structures Group, Regional Design Group, Main Office Structures, and Design Quality Assurance Bureau should be contacted, as needed, to help identify substandard connections to bridge rail and for the recommended treatment.	
<input type="checkbox"/>	Rail Road Crossing	Contact Regional Rail Coordinator. Contact Office of Design if replacing crossing surface as required per HDM Ch 23.	
<input type="checkbox"/>	Rumble Strips	On rural, high speed facilities (50 mph or greater) consider shoulder rumble strips in accordance with HDM §3.2.5.4. Centerline rumble strips should be considered for similar facilities and where head-on and sideswipe rates are above average.	
<input type="checkbox"/>	Shoulder Resurfacing	Unpaved, stabilized shoulders should be paved in order to reinforce the edge of the traveled way, accommodate bicyclists, and increase safety. A 1:10 pavement wedge may be used to transition between the travel way paving and a paved shoulder that will not be resurfaced on nonfreeways.	
<input type="checkbox"/>	Edge Drop-Offs	Edge drop-offs are not permitted between the traveled way and shoulder. Where edge drop-offs will remain at the outside edge of fully paved shoulders and vehicles could have a wheel leave and return to the roadway, the edge is to be sloped at 1:1 or flatter and have a maximum height of ≤ 2 " to help accommodate motorcycles and trucks.	
<input checked="" type="checkbox"/>	Superelevation	Consult HDM §5.7.3. Identify where the recommended speed is less than design speed (use Section 2.6.1.1 of this manual). Improve superelevation (up to the maximum rate as necessary using AASHTO Superelevation Distribution Method 2) to have the recommended speed equal to the design speed. Where the maximum rate is insufficient, install advisory speed signs and consider additional treatments (e.g., chevrons, roadside clearing), as needed.	The tangent alignments within the project streets have normal crown cross slope, with some curves having minor superelevation. All pavement will be resurfaced with 2% normal crown cross slope or banked to match the existing superelevation.
The Following Are Additional Elements Where Multicourse Resurfacing (2R and 3R) is Recommended:			
<input type="checkbox"/>	Superelevation	For Freeway projects, the superelevation is to be improved to meet the values in HDM Ch 2, Tables 2-13 or 2-14 (which utilizes AASHTO Superelevation Distribution Method 5).	
<input type="checkbox"/>	Speed Change Lanes	Speed change lanes should meet AASHTO "Green Book" Chapter 10 standards.	
<input type="checkbox"/>	Clear Zone(s)	Establish based on HDM §10.3.2.2 A for non-freeway and HDM §10.2.1 for freeways.	
<input type="checkbox"/>	Traffic Signals	Signal heads should be upgraded to meet current requirements. Detection systems should be evaluated for actuated signals and considered for fixed-time signals. New traffic signals that meet the signal warrants may be included.	

Attachment E
SAFE-TAP CHECKLIST
REQUIREMENTS AND GUIDANCE FOR SAFETY WORK
Page 3 of 3

<input type="checkbox"/>	Element	Guidance	Comments
<input type="checkbox"/>	Lane Widening	Non-freeway lanes may be widened per HDM §7.5.2. New through travel lanes are not permitted.	
<input type="checkbox"/>	Design Vehicle	Intersections should accommodate the design vehicle without encroachment into other travel lanes or turning lanes.	
<input type="checkbox"/>	Driveways	Driveways shall meet the spirit and intent of the most recent "Policy and Standards for the Design of Entrances to State Highways" in Chapter 5, Appendix 5A of this manual.	
<input type="checkbox"/>	Turn Lanes	Turn lanes should meet the requirements of HDM §5.9.8.2	
<input type="checkbox"/>	Curbing	Curbing must meet the requirements of HDM §10.2.2.4. For freeways, curbing that cannot be eliminated should be replaced with the 1:3 slope, 4 in. high traversable curb.	
<input type="checkbox"/>	Drainage	Closed drainage work may include new closed drainage structures, culverts, and the cleaning and repair of existing systems. Subsurface utility exploration should be considered for closed drainage system modifications.	
<input type="checkbox"/>	Pedestrian & Bicycle	Sidewalk curb ramps and existing sidewalks must meet HDM Chapter 18 requirements. Consider cross walks and pedestrian push buttons at signals. Minimum shoulder width of 4 ft. if no curbing.	
<input type="checkbox"/>	Other		

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ATTACHMENT F

PEDESTRIAN GENERATOR CHECKLIST

PEDESTRIAN FACILITY DESIGN

Exhibit 18-1 Pedestrian Generator Checklist

P.I.N.: 4760.44

Project Location: City of Rochester 2017 Preventive Maintenance Contract 5

PEDESTRIAN GENERATOR CHECKLIST

*Note: The term "generator" in this document refers to both pedestrian generators (where pedestrians originate) and destinations (where pedestrians travel to).
A check of "yes" indicates a potential need to accommodate pedestrians and coordination with the Regional Bicycle and Pedestrian Coordinator is necessary during project scoping. Answers to the following questions should be checked with the local municipality to ensure accuracy.*

1.	Is there an existing or planned sidewalk, trail, or pedestrian-crossing facility?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
2.	Are there bus stops, transit stations or depots/terminals located in or within 800 m of the project area?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
3.	Is there more than occasional pedestrian activity? Evidence of pedestrian activity may include a worn path.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
4.	Are there existing or approved plans for generators of pedestrian activity in or within 800 m of the project that promote or have the potential to promote pedestrian traffic in the project area, such as schools, parks, playgrounds, places of employment, places of worship, post offices, municipal buildings, restaurants, shopping centers, or other commercial areas, or shared-use paths?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
5.	Are there existing or approved plans for seasonal generators of pedestrian activity in or within 800 m of the project that promote or have the potential to promote pedestrian traffic in the project area, such as ski resorts, state parks, camps, amusement parks?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
6.	Is the project located in a residential area within 800 m of existing or planned pedestrian generators such as those listed in 4 above?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
7.	From record plans, were pedestrian facilities removed during a previous highway reconstruction project?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
8.	Did a study of secondary impacts indicate that the project promotes or is likely to promote commercial and/or residential development within the intended life cycle of the project?	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
9.	Does the community's comprehensive plan call for development of pedestrian facilities in the area?	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
10.	Based on the ability of students to walk and bicycle to school, would the project benefit from engineering measures under the Safe-Routes-To-School program? Eligible infrastructure-related improvements must be within a 3.2 km radius of the project.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Note: This checklist should be revisited due to a project delay or if site conditions or local planning changes during the project development process.

Comments: All existing streets have sidewalks and crosswalks which will be maintained and repaired where necessary.

Regional Bicycle and Pedestrian Coordinator:

Project Designer: Seth D. Kaeuper, P.E.

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ATTACHMENT G

ACCIDENT ANALYSIS



**Arnett Ave Accident Analysis
 November 2011 - October 2012**

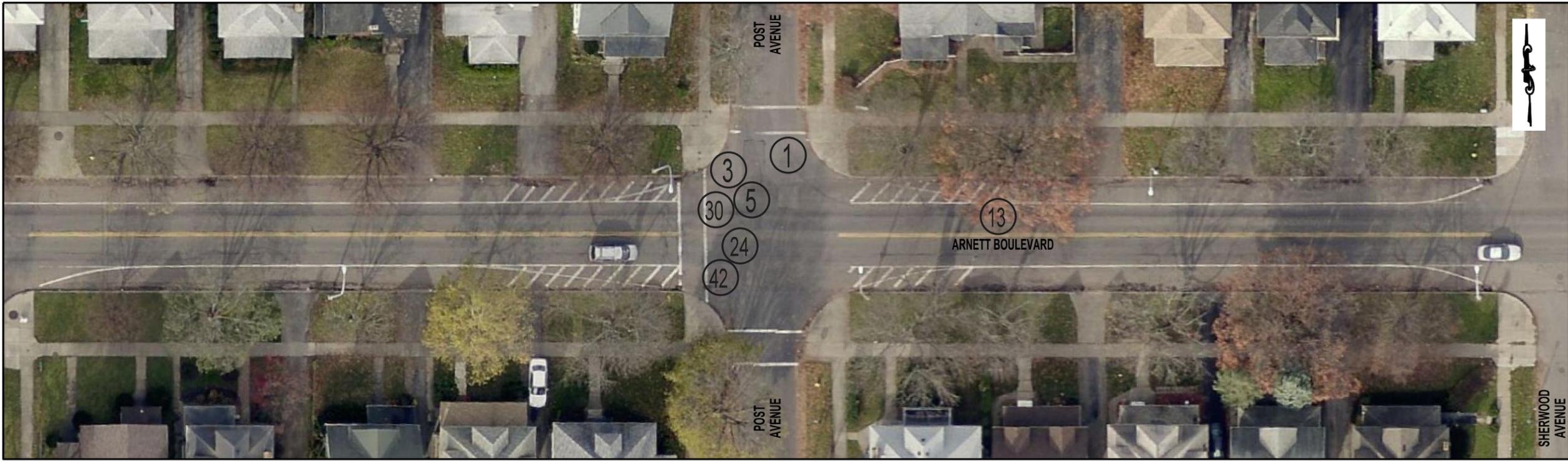
Accident Summary	November 2011 - October 2012				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Thurston Rd	3	1	0	0	2
Colgate St	0	0	0	0	0
Post Ave	6	0	4	0	2
Sherwood Ave	0	0	0	0	0
Woodbine Ave	1	1	0	0	0
Normandy Ave	0	0	0	0	0
Rugby Ave	0	0	0	0	0
Warwick Ave	2	0	1	0	1
Wellington Ave	3	2	0	0	1
Kennwood Ave	0	0	0	0	0
Genesee St	2	0	2	0	0
Totals	17	4	7	0	6
Segments					
Thurston Rd - Colgate St	0	0	0	0	0
Colgate St - Post Ave	0	0	0	0	0
Post Ave - Sherwood Ave	1	0	0	0	1
Sherwood Ave - Woodbine Ave	0	0	0	0	0
Woodbine Ave - Normandy Ave	0	0	0	0	0
Normandy Ave - Rugby Ave	0	0	0	0	0
Rugby Ave - Warwick Ave	0	0	0	0	0
Warwick Ave - Wellington Ave	0	0	0	0	0
Wellington Ave - Kennwood Ave	1	1	0	0	0
Kennwood Ave - Genesee St	2	0	0	0	2
Totals	4	1	0	0	3
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	CWA Rate ²	% > CWA
Intersections						
Thurston Rd	3	10488		0.78	0.55	42%
Genesee St	2	18005		0.3	0.55	-45%
Segments						
Thurston Rd - Genesee St	16	5823	0.756	9.95	2.21	350%

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MATCHLINE BELOW LEFT



MATCHLINE ABOVE RIGHT

MATCHLINE PLN-A2

NOVEMBER 2011 - OCTOBER 2012

LEGEND

XX ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
ARNETT BOULEVARD
THURSTON ROAD TO
GENESEE STREET
PLN-A1

DRAWING NO.
XX
OF **XX**

MATCHLINE PLN-A1



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-A3

NOVEMBER 2011 - OCTOBER 2012

LEGEND
 ACCIDENT LOCATION



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER LISA REYES, P.E.	CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5	
PIN 4760.44	DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A2	
DRAWING NO. XX	

OF	XX
----	----

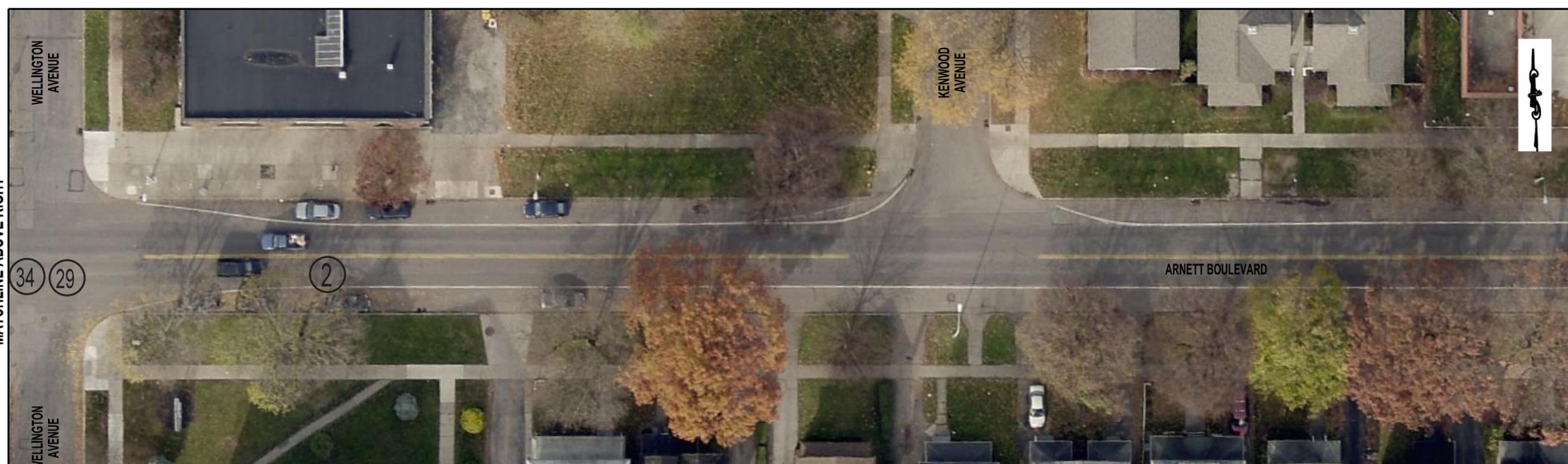
OF	XX
----	----

MATCHLINE PLN-A2



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-A4

NOVEMBER 2011 - OCTOBER 2012

LEGEND

(XX) ACCIDENT LOCATION



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER LISA REYES, P.E.	CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5	PIN 4760.44 DXXXXXX
---	------------------------

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A3	
DRAWING NO. XX	OF XX

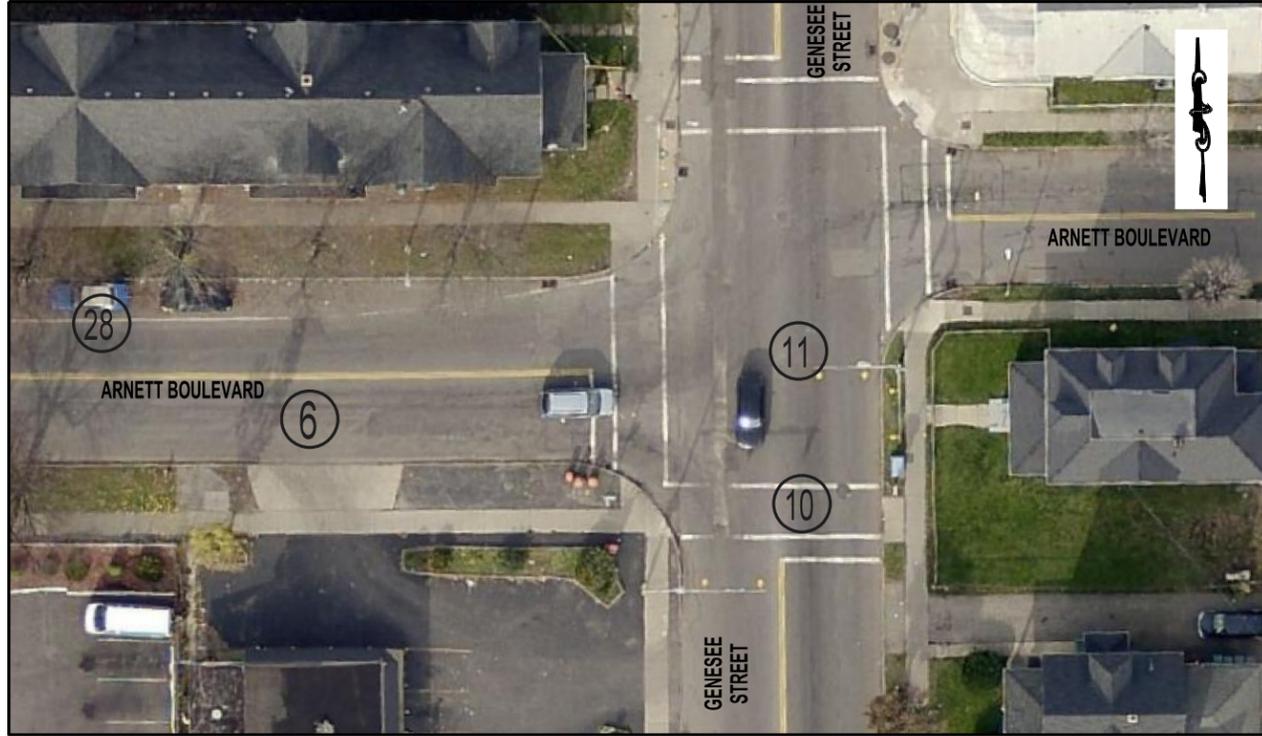
DRAWING NO. XX	OF XX
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MATCHLINE PLN-A3



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



NOVEMBER 2011 - OCTOBER 2012

LEGEND

 ACCIDENT LOCATION



<p>DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A4</p>		<p>ISSUED 04/17/2015</p>	
<p>DRAWING NO. XX</p>		<p>CHECKED SDK</p>	
<p>OF</p>		<p>DRAWN DTB</p>	
<p>XX</p>		<p>DESIGN DTB</p>	
<p>XX</p>		<p>SCALE 1" = 20'</p>	
<p>PROJECT NUMBER B93.007.001</p>		<p>PROJECT NUMBER B93.007.001</p>	
<p>NO.</p>		<p>REVISION</p>	
<p>BY</p>		<p>DATE</p>	
<p>PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5</p>		<p>MANAGING ENGINEER LISA REYES, P.E.</p>	
<p>PIN 4760.44</p>		<p>CITY ENGINEER JAMES R. MCINTOSH, P.E.</p>	
<p>DXXXXXX</p>		<p>Department of Environmental Services Architecture and Engineering Services City of Rochester, New York</p>	
<p>C&S COMPANIES</p>		<p>Logo</p>	



**Arnett Ave Accident Analysis
 November 2012 - October 2013**

Accident Summary	November 2012 - October 2013				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Thurston Rd	6	1	1	0	4
Colgate St	0	0	0	0	0
Post Ave	1	0	0	0	1
Sherwood Ave	2	0	1	0	1
Woodbine Ave	3	1	1	0	1
Normandy Ave	0	0	0	0	0
Rugby Ave	1	0	0	0	1
Warwick Ave	2	0	1	0	1
Wellington Ave	5	1	0	0	4
Kennwood Ave	1	0	0	0	1
Genesee St	3	1	0	0	2
Totals	24	4	4	0	16
Segments					
Thurston Rd - Colgate St	2	0	0	0	2
Colgate St - Post Ave	0	0	0	0	0
Post Ave - Sherwood Ave	0	0	0	0	0
Sherwood Ave - Woodbine Ave	0	0	0	0	0
Woodbine Ave - Normandy Ave	0	0	0	0	0
Normandy Ave - Rugby Ave	1	1	0	0	0
Rugby Ave - Warwick Ave	0	0	0	0	0
Warwick Ave - Wellington Ave	1	0	0	0	1
Wellington Ave - Kennwood Ave	2	0	0	0	2
Kennwood Ave - Genesee St	2	0	0	0	2
Totals	8	1	0	0	7
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	CWA Rate ²	% > CWA
Intersections						
Thurston Rd	6	10488		1.57	0.55	185%
Genesee St	3	18005		0.46	0.55	-16%
Segments						
Thurston Rd - Genesee St	23	5823	0.756	14.31	2.21	548%

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MATCHLINE BELOW LEFT



MATCHLINE PLN-A2

MATCHLINE ABOVE RIGHT

NOVEMBER 2012 - OCTOBER 2013

LEGEND

(XX) ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
ARNETT BOULEVARD
THURSTON ROAD TO
GENESEE STREET
PLN-A1

DRAWING NO.
XX
OF **XX**

MATCHLINE PLN-A1



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-A3

NOVEMBER 2012 - OCTOBER 2013

LEGEND
 ACCIDENT LOCATION



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER LISA REYES, P.E.	CITY ENGINEER JAMES R. MCINTOSH, P.E.

	
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5	
PIN 4760.44	DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A2	
DRAWING NO. XX	

OF XX	
----------	--

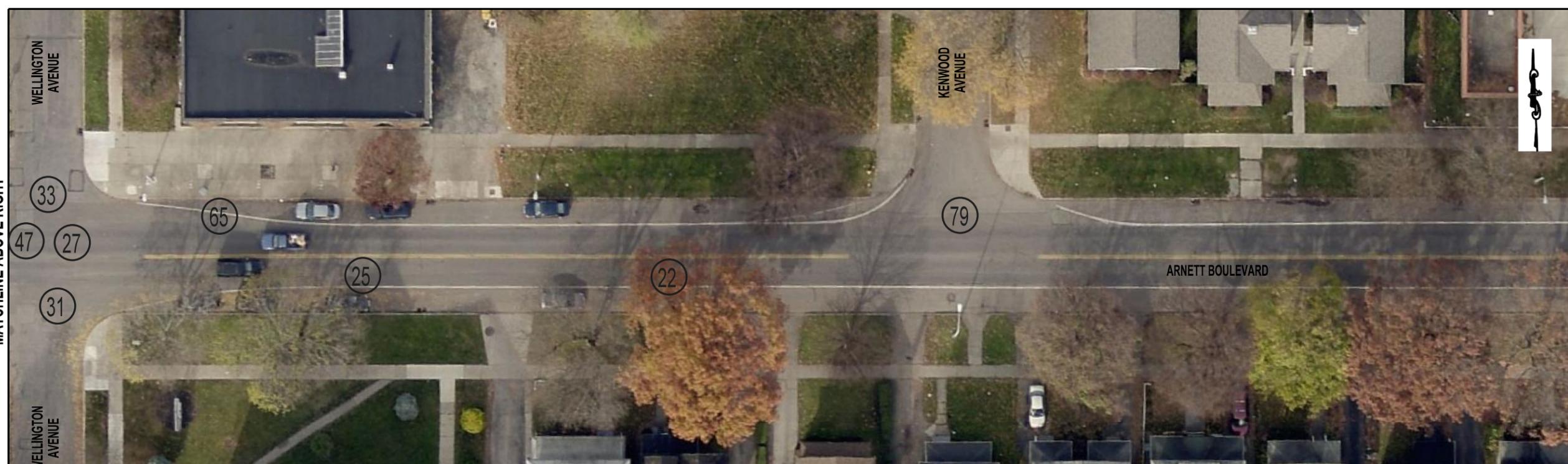
OF XX	
----------	--

MATCHLINE PLN-A2



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-A4

NOVEMBER 2012 - OCTOBER 2013

LEGEND

(XX) ACCIDENT LOCATION



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER LISA REYES, P.E.	CITY ENGINEER JAMES R. MCINTOSH, P.E.

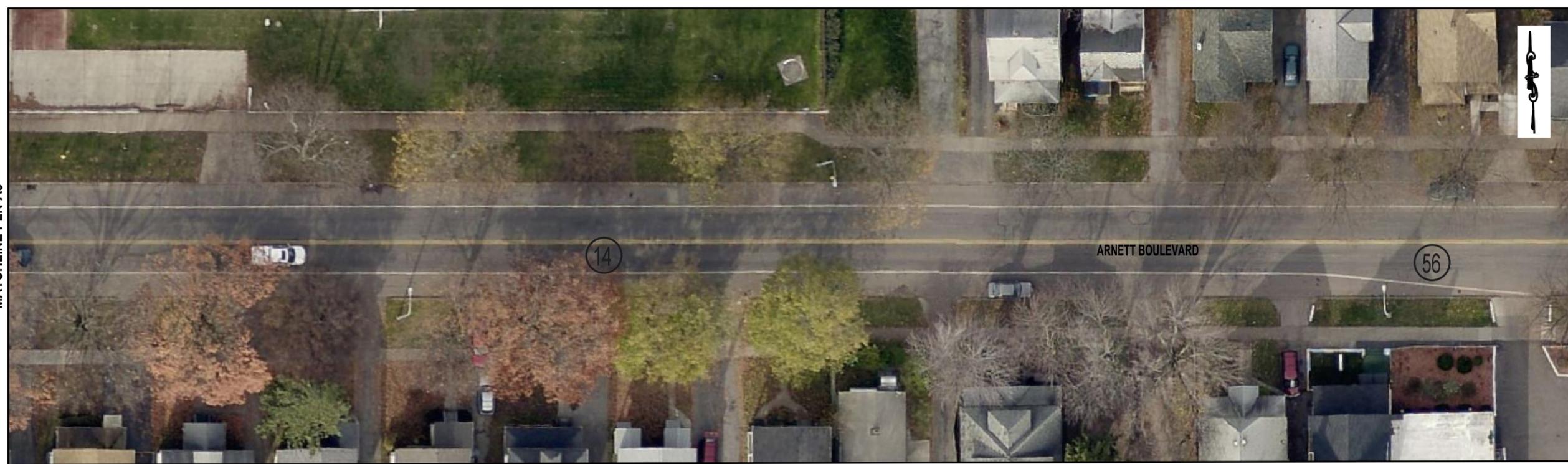
	PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5 PIN 4760.44 DXXXXXX
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ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A3	
---	--

DRAWING NO. XX	OF XX
--------------------------	-----------------

MATCHLINE PLN-A3



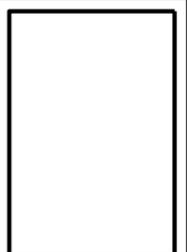
MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



NOVEMBER 2012 - OCTOBER 2013

LEGEND
 ACCIDENT LOCATION



Department of Environmental Services
 Architecture and Engineering Services
 City of Rochester, New York
 MANAGING ENGINEER LISA REYES, P.E.
 CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
 2017 PREVENTATIVE
 MAINTENANCE, CONTRACT 5
 PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
 ARNETT BOULEVARD
 THURSTON ROAD TO
 GENESEE STREET
 PLN-A4

DRAWING NO.
 XX
 OF XX



**Arnett Ave Accident Analysis
 November 2013 - October 2014**

Accident Summary	November 2013 - October 2014				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Thurston Rd	1	0	0	0	1
Colgate St	0	0	0	0	0
Post Ave	3	1	0	0	2
Sherwood Ave	2	1	0	0	1
Woodbine Ave	3	1	0	0	2
Normandy Ave	0	0	0	0	0
Rugby Ave	2	0	0	0	2
Warwick Ave	1	0	0	0	1
Wellington Ave	5	0	0	0	5
Kennwood Ave	1	1	0	0	0
Genesee St	5	2	0	0	3
Totals	23	6	0	0	17
Segments					
Thurston Rd - Colgate St	1	0	1	0	0
Colgate St - Post Ave	0	0	0	0	0
Post Ave - Sherwood Ave	0	0	0	0	0
Sherwood Ave - Woodbine Ave	1	0	1	0	0
Woodbine Ave - Normandy Ave	2	0	1	0	1
Normandy Ave - Rugby Ave	1	0	0	0	1
Rugby Ave - Warwick Ave	4	1	1	0	2
Warwick Ave - Wellington Ave	0	0	0	0	0
Wellington Ave - Kennwood Ave	0	0	0	0	0
Kennwood Ave - Genesee St	3	1	0	0	2
Totals	12	2	4	0	6
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	CWA Rate ²	% > CWA
Intersections						
Thurston Rd	1	10488		0.26	0.55	-53%
Genesee St	5	18005		0.76	0.55	38%
Segments						
Thurston Rd - Genesee St	29	5823	0.756	18.04	2.21	716%

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NOVEMBER 2013 - OCTOBER 2014

MATCHLINE STA A 15+25

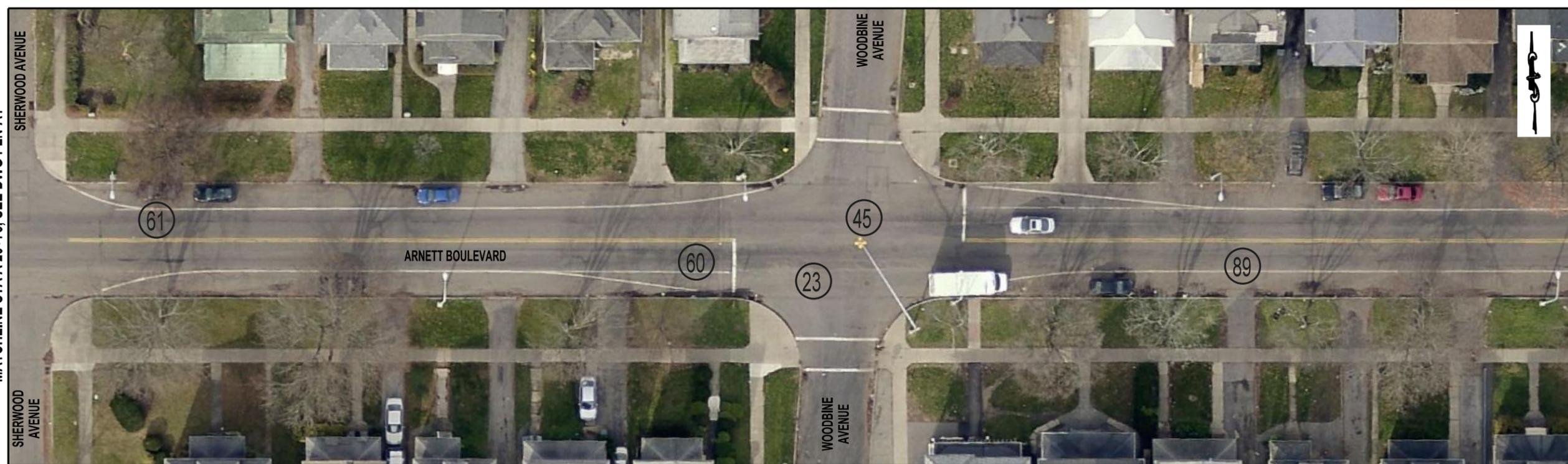
MATCHLINE STA A 20+75, SEE DWG PLN-A2

LEGEND
 ACCIDENT LOCATION



DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A1		ISSUED 04/17/2015 CHECKED SDK DRAWN DTB DESIGN DTB SCALE 1" = 20' PROJECT NUMBER B93.007.001		PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5 PIN 4760.44 DXXXXXX	
DRAWING NO. XX		REVISION NO. REVISION BY DATE		MANAGING ENGINEER LISA REYES, P.E. CITY ENGINEER JAMES R. MCINTOSH, P.E.	
OF		XX		Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	

MATCHLINE STA A 20+75, SEE DWG PLN-A1



MATCHLINE STA A 26+25

MATCHLINE STA A 26+25



MATCHLINE STA A 31+75, SEE DWG PLN-A3

NOVEMBER 2013 - OCTOBER 2014

LEGEND
 ACCIDENT LOCATION



	
Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER LISA REYES, P.E.	CITY ENGINEER JAMES R. MCINTOSH, P.E.
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5 PIN 4760.44 DXXXXXX	
ISSUED 04/17/2015	CHECKED SDK
DRAWN DTB	DESIGN DTB
SCALE 1" = 20'	PROJECT NUMBER B93.007.001
NO.	REVISION BY DATE
DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A2	
DRAWING NO. XX	OF XX

MATCHLINE STA A 31+75, SEE DWG PLN-A2



MATCHLINE STA A 37+25

MATCHLINE STA A 37+25



MATCHLINE STA A 42+75, SEE DWG PLN-A4

NOVEMBER 2013 - OCTOBER 2014

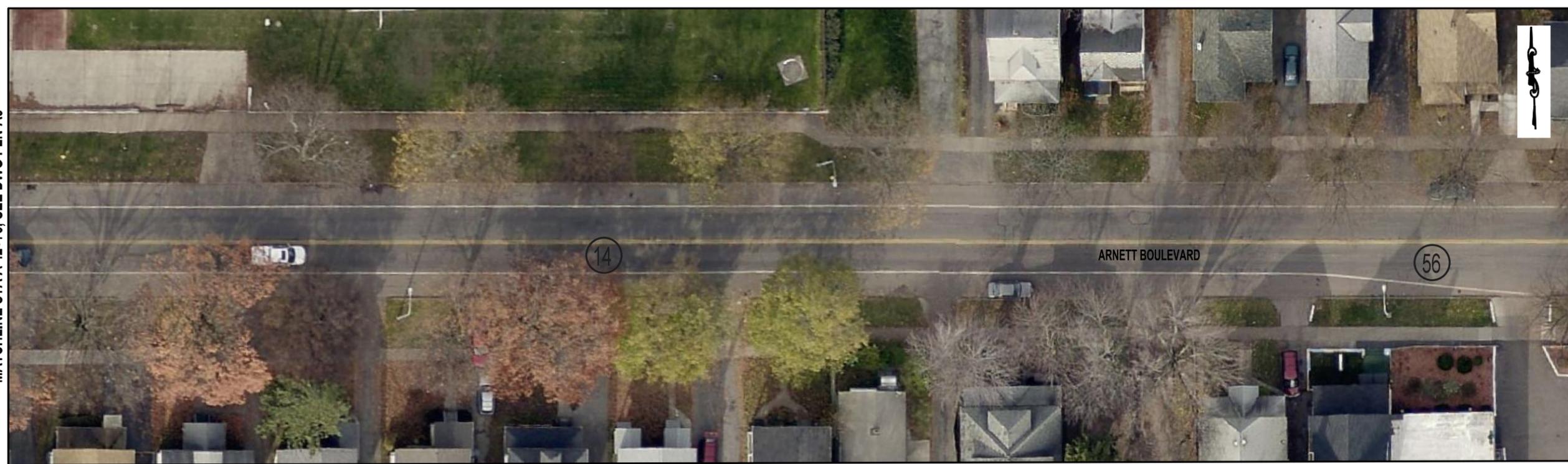
LEGEND

 ACCIDENT LOCATION



<p>DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A3</p>		<p>ISSUED 04/17/2015</p>		<p>PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5</p>	
<p>CHECKED SDK</p>	<p>DRAWN DTB</p>	<p>DESIGN DTB</p>	<p>SCALE 1" = 20'</p>	<p>MANAGING ENGINEER LISA REYES, P.E.</p>	<p>CITY ENGINEER JAMES R. MCINTOSH, P.E.</p>
<p>DRAWING NO. XX</p>	<p>NO.</p>	<p>REVISION</p>	<p>BY</p>	<p>DATE</p>	<p>PIN 4760.44</p>
<p>OF</p>	<p>XX</p>	<p>NO.</p>	<p>REVISION</p>	<p>BY</p>	<p>DATE</p>

MATCHLINE STA A 42+75, SEE DWG PLN-A3



MATCHLINE STA A 48+25

MATCHLINE STA A 48+25



NOVEMBER 2013 - OCTOBER 2014

LEGEND
 ACCIDENT LOCATION



		Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER LISA REYES, P.E.		CITY ENGINEER JAMES R. MCINTOSH, P.E.	
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5		PIN 4760.44 DXXXXXX	
ISSUED	04/17/2015	CHECKED	SDK
DRAWN	DTB	DESIGN	DTB
SCALE	1" = 20'	PROJECT NUMBER	B93.007.001
DRAWING TITLE ARNETT BOULEVARD THURSTON ROAD TO GENESEE STREET PLN-A4		DRAWING NO. XX OF XX	
NO.		REVISION BY DATE	



Arnett Ave Accident Analysis
 November 2011 - October 2014

Accident Summary	May 2011 - October 2014				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Thurston Rd	10	3	0	0	7
Colgate St	0	0	0	0	0
Post Ave	11	1	5	0	5
Sherwood Ave	4	1	1	0	2
Woodbine Ave	7	2	1	0	4
Normandy Ave	0	0	0	0	0
Rugby Ave	3	0	0	0	3
Warwick Ave	5	0	2	0	3
Wellington Ave	13	3	0	0	10
Kennwood Ave	2	1	0	0	1
Genesee St	12	2	2	0	8
Totals	67	13	11	0	43
Segments					
Thurston Rd - Colgate St	3	0	1	0	2
Colgate St - Post Ave	0	0	0	0	0
Post Ave - Sherwood Ave	1	0	0	0	1
Sherwood Ave - Woodbine Ave	1	0	1	0	0
Woodbine Ave - Normandy Ave	2	0	1	0	1
Normandy Ave - Rugby Ave	2	0	0	0	2
Rugby Ave - Warwick Ave	4	1	1	0	2
Warwick Ave - Wellington Ave	1	1	0	0	0
Wellington Ave - Kennwood Ave	3	1	0	0	2
Kennwood Ave - Genesee St	7	2	0	0	5
Totals	24	5	4	0	15
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	SWA Rate ²	% > SWA
Intersections						
Thurston Rd	10	10488		0.87	0.55	58%
Genesee St	12	18005		0.61	0.55	11%
Segments						
Thurston Rd - Genesee St	91	5823	0.756	18.87	2.21	754%

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**Genesee Park Blvd Accident Analysis
 November 2011 - October 2012**

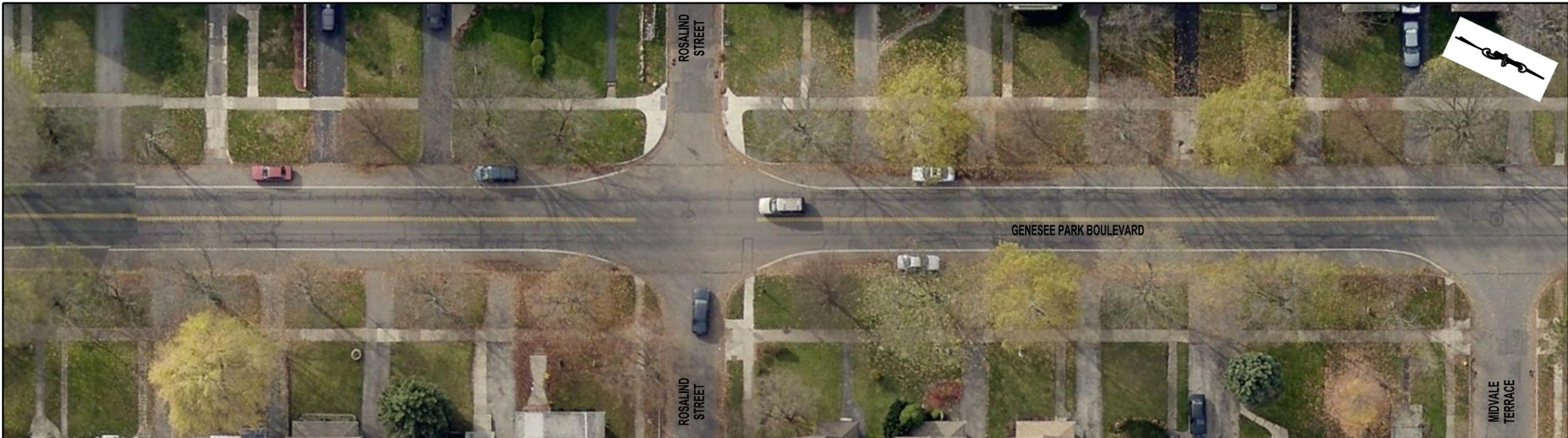
Accident Summary	November 2011 - October 2012				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Arnett Blvd	0	0	0	0	0
Roxborough Rd	0	0	0	0	0
Inglewood Dr	0	0	0	0	0
Marlborough Rd	0	0	0	0	0
Ravenwood Ave	0	0	0	0	0
Penhurst St	0	0	0	0	0
Lehigh Ave	0	0	0	0	0
Raeburn Ave	1	0	1	0	0
W Sawyer Pl	0	0	0	0	0
Hillendale St	0	0	0	0	0
Midvale Ter	0	0	0	0	0
Rosalind St	0	0	0	0	0
Margaret St	0	0	0	0	0
Ernestine St	0	0	0	0	0
Brooks Ave	1	0	0	0	1
Totals	2	0	1	0	1
Segments					
Arnett Blvd - Roxborough Rd	0	0	0	0	0
Roxborough Rd - Inglewood Dr	0	0	0	0	0
Inglewood Dr - Marlborough Rd	0	0	0	0	0
Marlborough Rd - Ravenwood Ave	0	0	0	0	0
Ravenwood Ave - Penhurst St	1	1	0	0	0
Penhurst St - Lehigh Ave	0	0	0	0	0
Lehigh Ave - Raeburn Ave	1	1	0	0	0
Raeburn Ave - W Sawyer Pl	0	0	0	0	0
W Sawyer Pl - Hillendale St	0	0	0	0	0
Hillendale St - Midvale Ter	0	0	0	0	0
Midvale Ter - Rosalind St	0	0	0	0	0
Rosalind St - Margaret St	0	0	0	0	0
Margaret St - Ernestine St	0	0	0	0	0
Ernestine St - Brooks Ave	0	0	0	0	0
Totals	2	2	0	0	0
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	CWA Rate ²	% > CWA
Intersections						
Arnett Blvd	0	10825		0	0.28	-100%
Brooks Ave	1	16647		0.16	0.55	-71%
Segments						
Arnett Blvd - Brooks Ave	3	5002	0.820	2	2.21	-10%

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MATCHLINE BELOW LEFT



MATCHLINE PLN-GP2

NOVEMBER 2011 - OCTOBER 2012

LEGEND

(XX) ACCIDENT LOCATION



 Department of Environmental Services Architecture and Engineering Services City of Rochester, New York		MANAGING ENGINEER LISA REYES, P.E. CITY ENGINEER JAMES R. McINTOSH, P.E.	
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5		PIN 4760.44 DXXXXXX	
ISSUED	04/17/2015	CHECKED	SDK
DRAWN	DTB	DESIGN	DTB
SCALE	1" = 20'	PROJECT NUMBER	B93.007.001
		NO.	NO.
		REVISION	BY DATE
DRAWING NO. XX		DRAWING TITLE GENESSEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD PLN-GP1	
OF		XX	

MATCHLINE PLN-GP1



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-GP3

NOVEMBER 2011 - OCTOBER 2012

LEGEND

ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York



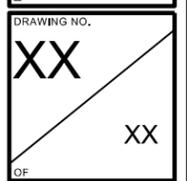
MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

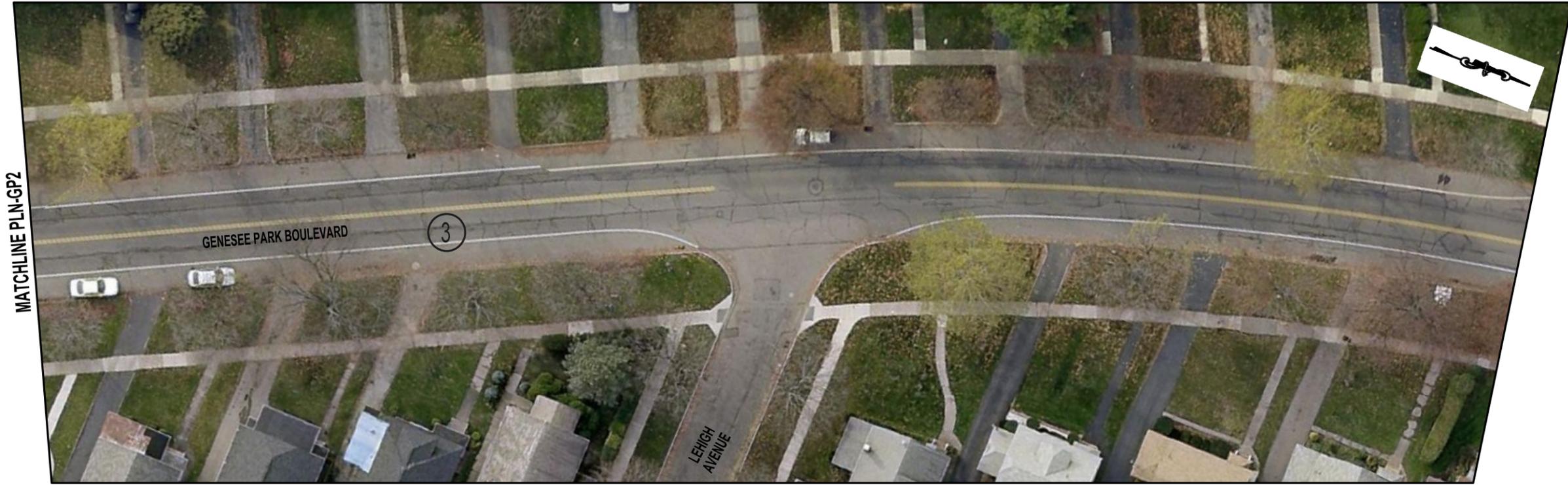
PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

PIN 4760.44
DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING NO.
GENESEE PARK BLVD
BROOKS AVENUE TO
ARNETT BOULEVARD
PLN-GP2

OF




MATCHLINE PLN-GP2



MATCHLINE ABOVE RIGHT

MATCHLINE PLN-GP4

NOVEMBER 2011 - OCTOBER 2012

LEGEND

 ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
GENESEE PARK BLVD
BROOKS AVENUE TO
ARNETT BOULEVARD
PLN-GP3

DRAWING NO.
XX
OF XX



NOVEMBER 2011 - OCTOBER 2012

LEGEND

 ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
GENESEE PARK BLVD
BROOKS AVENUE TO
ARNETT BOULEVARD
PLN-GP4

DRAWING NO.
XX
OF XX



**Genesee Park Blvd Accident Analysis
 November 2012 - October 2013**

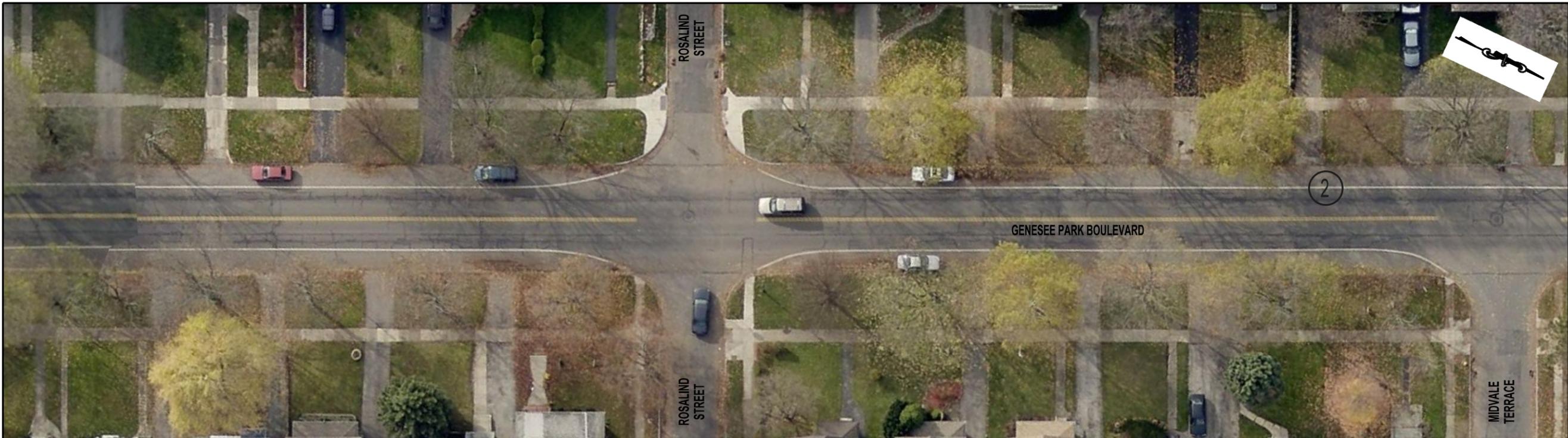
Accident Summary	November 2012 - October 2013				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Arnett Blvd	2	0	0	0	2
Roxborough Rd	0	0	0	0	0
Inglewood Dr	0	0	0	0	0
Marlborough Rd	0	0	0	0	0
Ravenwood Ave	2	0	1	0	1
Penhurst St	1	0	0	0	1
Lehigh Ave	0	0	0	0	0
Raeburn Ave	0	0	0	0	0
W Sawyer Pl	0	0	0	0	0
Hillendale St	1	0	0	0	1
Midvale Ter	1	0	1	0	0
Rosalind St	0	0	0	0	0
Margaret St	0	0	0	0	0
Ernestine St	0	0	0	0	0
Brooks Ave	5	1	0	0	4
Totals	12	1	2	0	9
Segments					
Arnett Blvd - Roxborough Rd	0	0	0	0	0
Roxborough Rd - Inglewood Dr	0	0	0	0	0
Inglewood Dr - Marlborough Rd	0	0	0	0	0
Marlborough Rd - Ravenwood Ave	0	0	0	0	0
Ravenwood Ave - Penhurst St	0	0	0	0	0
Penhurst St - Lehigh Ave	1	1	0	0	0
Lehigh Ave - Raeburn Ave	0	0	0	0	0
Raeburn Ave - W Sawyer Pl	2	1	0	0	1
W Sawyer Pl - Hillendale St	0	0	0	0	0
Hillendale St - Midvale Ter	0	0	0	0	0
Midvale Ter - Rosalind St	0	0	0	0	0
Rosalind St - Margaret St	0	0	0	0	0
Margaret St - Ernestine St	1	0	0	0	1
Ernestine St - Brooks Ave	0	0	0	0	0
Totals	4	2	0	0	2
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	CWA Rate ²	% > CWA
Intersections						
Arnett Blvd	2	10825		0.51	0.28	82%
Brooks Ave	5	16647		0.82	0.55	49%
Segments						
Arnett Blvd - Brooks Ave	9	5002	0.820	6.01	2.21	172%

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MATCHLINE BELOW LEFT



MATCHLINE PLN-GP2

NOVEMBER 2012 - OCTOBER 2013

LEGEND

(XX) ACCIDENT LOCATION



		Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5 PIN 4760.44 DXXXXXX		MANAGING ENGINEER LISA REYES, P.E. CITY ENGINEER JAMES R. MCINTOSH, P.E.	
ISSUED	04/17/2015	CHECKED	SDK
DRAWN	DTB	DESIGN	DTB
SCALE	1" = 20'	PROJECT NUMBER	B93.007.001
		NO.	
		REVISION	BY DATE
DRAWING NO. XX		DRAWING TITLE GENESEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD PLN-GP1	
OF		XX	

MATCHLINE PLN-GP1



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-GP3

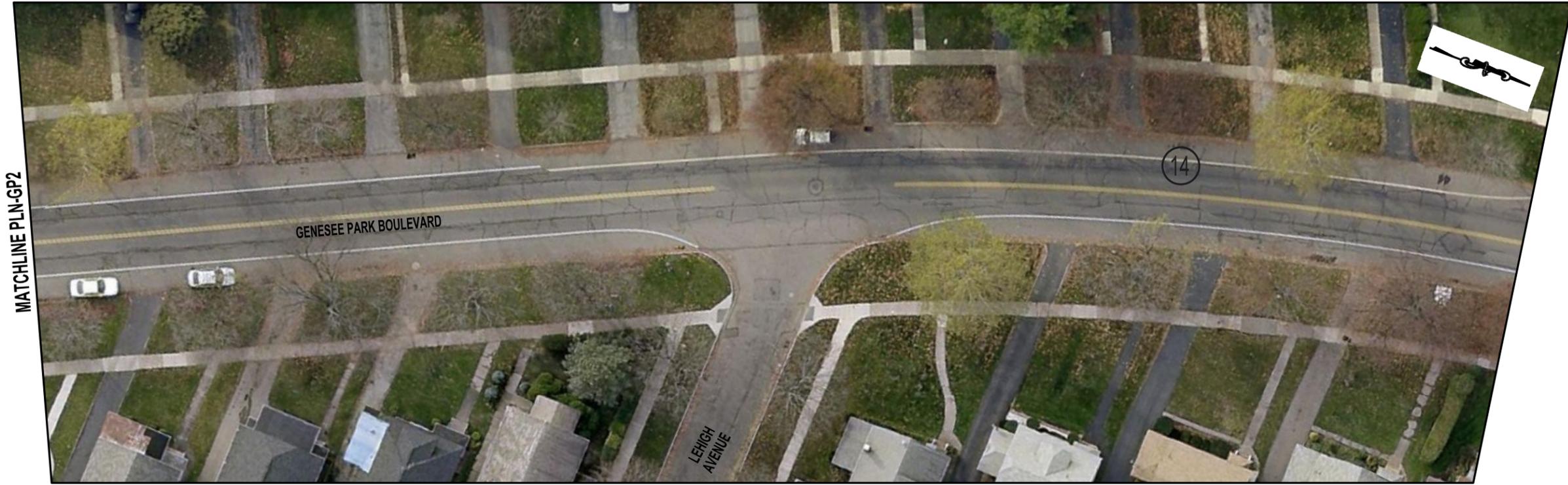
NOVEMBER 2012 - OCTOBER 2013

LEGEND

ACCIDENT LOCATION



		PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5 PIN 4760.44 DXXXXXX	
Department of Environmental Services Architecture and Engineering Services City of Rochester, New York		MANAGING ENGINEER LISA REYES, P.E. CITY ENGINEER JAMES R. MCINTOSH, P.E.	
ISSUED	04/17/2015	CHECKED	SDK
DRAWN	DTB	DESIGN	DTB
SCALE	1" = 20'	PROJECT NUMBER	B93.007.001
DRAWING NO. GENESEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD PLN-GP2		NO. REVISION BY DATE	
OF XX		NO. REVISION BY DATE	



MATCHLINE PLN-GP2



MATCHLINE ABOVE RIGHT

MATCHLINE PLN-GP4

NOVEMBER 2012 - OCTOBER 2013

LEGEND

ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING NO.
GENESSEE PARK BLVD
BROOKS AVENUE TO
ARNETT BOULEVARD
PLN-GP3

OF XX
XX



NOVEMBER 2012 - OCTOBER 2013

LEGEND

 ACCIDENT LOCATION



		Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER LISA REYES, P.E.		CITY ENGINEER JAMES R. MCINTOSH, P.E.	
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5		PIN 4760.44 DXXXXXX	
ISSUED	04/17/2015	CHECKED	SDK
DRAWN	DTB	DESIGN	DTB
SCALE	1" = 20'	PROJECT NUMBER	B93.007.001
NO. REVISION BY DATE			
DRAWING TITLE GENESEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD PLN-GP4		DRAWING NO. XX OF XX	



**Genesee Park Blvd Accident Analysis
 November 2013 - October 2014**

Accident Summary	November 2013 - October 2014				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Arnett Blvd	2	0	1	0	1
Roxborough Rd	0	0	0	0	0
Inglewood Dr	1	1	0	0	0
Marlborough Rd	0	0	0	0	0
Ravenwood Ave	0	0	0	0	0
Penhurst St	1	0	0	0	1
Lehigh Ave	0	0	0	0	0
Raeburn Ave	0	0	0	0	0
W Sawyer Pl	0	0	0	0	0
Hillendale St	1	1	0	0	0
Midvale Ter	0	0	0	0	0
Rosalind St	1	0	1	0	0
Margaret St	0	0	0	0	0
Ernestine St	1	1	0	0	0
Brooks Ave	0	0	0	0	0
Totals	7	3	2	0	2
Segments					
Arnett Blvd - Roxborough Rd	0	0	0	0	0
Roxborough Rd - Inglewood Dr	0	0	0	0	0
Inglewood Dr - Marlborough Rd	0	0	0	0	0
Marlborough Rd - Ravenwood Ave	0	0	0	0	0
Ravenwood Ave - Penhurst St	0	0	0	0	0
Penhurst St - Lehigh Ave	1	0	1	0	0
Lehigh Ave - Raeburn Ave	0	0	0	0	0
Raeburn Ave - W Sawyer Pl	0	0	0	0	0
W Sawyer Pl - Hillendale St	0	0	0	0	0
Hillendale St - Midvale Ter	0	0	0	0	0
Midvale Ter - Rosalind St	0	0	0	0	0
Rosalind St - Margaret St	0	0	0	0	0
Margaret St - Ernestine St	0	0	0	0	0
Ernestine St - Brooks Ave	0	0	0	0	0
Totals	1	0	1	0	0
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	CWA Rate ²	% > CWA
Intersections						
Arnett Blvd	2	10825		0.51	0.28	82%
Brooks Ave	0	16647		0	0.55	-100%
Segments						
Arnett Blvd - Brooks Ave	6	5002	0.820	4.01	2.21	81%

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MATCHLINE PLN-GP2

NOVEMBER 2013 - OCTOBER 2014

LEGEND

ACCIDENT LOCATION



		Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER LISA REYES, P.E.		CITY ENGINEER JAMES R. McINTOSH, P.E.	
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5		PIN 4760.44 DXXXXXX	
ISSUED	04/17/2015	CHECKED	SDK
DRAWN	DTB	DESIGN	DTB
SCALE	1" = 20'	PROJECT NUMBER	B93.007.001
		NO.	NO.
		REVISION	BY
			DATE
DRAWING NO. XX		DRAWING TITLE GENESEE PARK BLVD BROOKS AVENUE TO ARNETT BOULEVARD PLN-GP1	
OF		XX	

MATCHLINE ABOVE RIGHT

MATCHLINE PLN-GP1



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MATCHLINE ABOVE RIGHT



MATCHLINE PLN-GP3

NOVEMBER 2013 - OCTOBER 2014

LEGEND

 ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York



MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

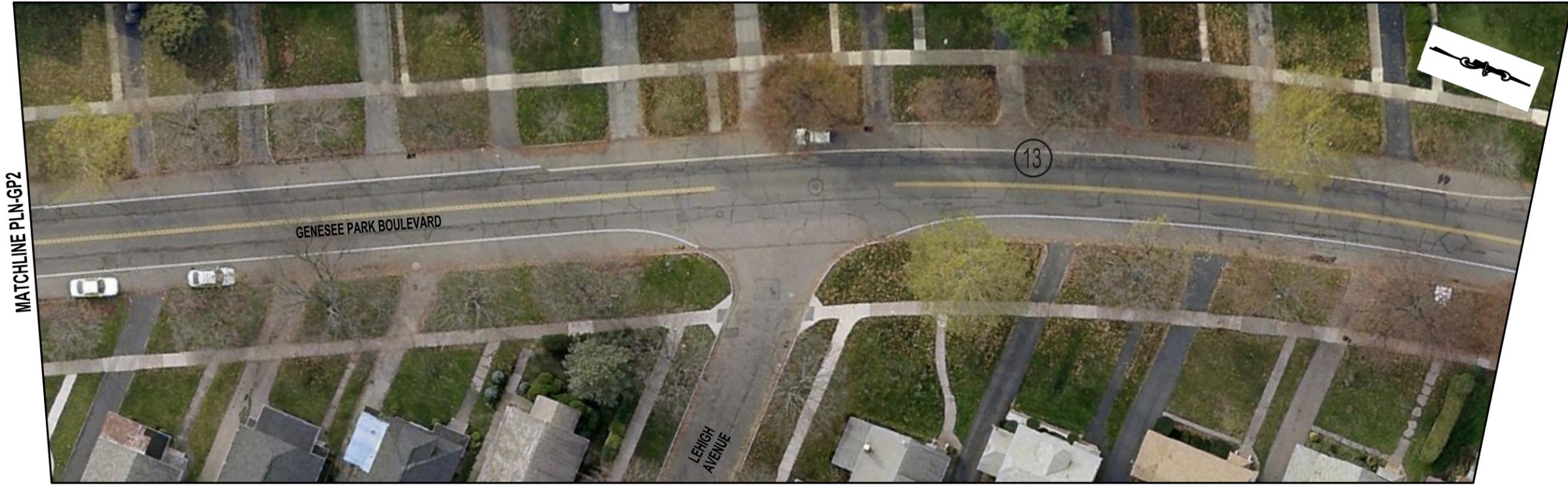
PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING NO.
GENESEE PARK BLVD
BROOKS AVENUE TO
ARNETT BOULEVARD
PLN-GP2

OF XX
XX



MATCHLINE PLN-GP2



MATCHLINE ABOVE RIGHT

MATCHLINE PLN-GP4

NOVEMBER 2013 - OCTOBER 2014

LEGEND

ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER: LISA REYES, P.E.
CITY ENGINEER: JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
GENESSEE PARK BLVD
BROOKS AVENUE TO
ARNETT BOULEVARD
PLN-GP3

DRAWING NO.
XX
OF XX



NOVEMBER 2013 - OCTOBER 2014

LEGEND

ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York



MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
GENESEE PARK BLVD
BROOKS AVENUE TO
ARNETT BOULEVARD
PLN-GP4

DRAWING NO.
XX
OF **XX**



**Genesee Park Blvd Accident Analysis
 November 2011 - October 2014**

Accident Summary	December 2011 - October 2014				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Arnett Blvd	4	0	1	0	3
Roxborough Rd	0	0	0	0	0
Inglewood Dr	1	1	0	0	0
Marlborough Rd	0	0	0	0	0
Ravenwood Ave	2	0	1	0	1
Penhurst St	2	0	0	0	2
Lehigh Ave	0	0	0	0	0
Raeburn Ave	1	0	1	0	0
W Sawyer Pl	0	0	0	0	0
Hillendale St	2	1	0	0	1
Midvale Ter	1	0	1	0	0
Rosalind St	1	0	1	0	0
Margaret St	0	0	0	0	0
Ernestine St	1	1	0	0	0
Brooks Ave	6	1	0	0	5
Totals	21	4	5	0	12
Segments					
Arnett Blvd - Roxborough Rd	0	0	0	0	0
Roxborough Rd - Inglewood Dr	0	0	0	0	0
Inglewood Dr - Marlborough Rd	0	0	0	0	0
Marlborough Rd - Ravenwood Ave	0	0	0	0	0
Ravenwood Ave - Penhurst St	1	1	0	0	0
Penhurst St - Lehigh Ave	2	1	1	0	0
Lehigh Ave - Raeburn Ave	1	1	0	0	0
Raeburn Ave - W Sawyer Pl	2	1	0	0	1
W Sawyer Pl - Hillendale St	0	0	0	0	0
Hillendale St - Midvale Ter	0	0	0	0	0
Midvale Ter - Rosalind St	0	0	0	0	0
Rosalind St - Margaret St	0	0	0	0	0
Margaret St - Ernestine St	1	0	0	0	1
Ernestine St - Brooks Ave	0	0	0	0	0
Totals	7	4	1	0	2
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	SWA Rate ²	% > SWA
Intersections						
Arnett Blvd	4	10825		0.34	0.28	21%
Brooks Ave	6	16647		0.33	0.55	-40%
Segments						
Arnett Blvd - Brooks Ave	28	5002	0.820	6.23	2.21	182%

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**Webster Ave Accident Analysis
 November 2011 - October 2012**

Accident Summary	November 2011 - October 2012				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Bay St	0	0	0	0	0
Bock St	0	0	0	0	0
Wendell St	0	0	0	0	0
Shafer St	1	1	0	0	0
Stunz St	0	0	0	0	0
Ellison St	0	0	0	0	0
Rosewood Ter	2	0	0	0	2
Copeland St	0	0	0	0	0
Ackerman St	0	0	0	0	0
Hazelwood Ter	0	0	0	0	0
Diamond Pl	0	0	0	0	0
Lamont Pl	0	0	0	0	0
Melville St	1	0	0	0	1
Webster Cres	0	0	0	0	0
Ferndale Cres	0	0	0	0	0
Parsells Ave	2	2	0	0	0
Ripley St	0	0	0	0	0
Grand Ave	0	0	0	0	0
Totals	6	3	0	0	3
Segments					
Bay St - Bock St	1	1	0	0	0
Bock St - Wendell St	1	0	0	0	1
Wendell St - Shafer St	0	0	0	0	0
Shafer St - Stunz St	1	0	0	0	1
Stunz St - Ellison St	0	0	0	0	0
Ellison St - Rosewood Ter	0	0	0	0	0
Rosewood Ter - Copeland St	0	0	0	0	0
Copeland St - Ackerman St	0	0	0	0	0
Ackerman St - Hazelwood Ter	0	0	0	0	0
Hazelwood - Ter Diamond Pl	0	0	0	0	0
Diamond Pl - Lamont Pl	1	0	0	0	1
Melville St - Webster Cres	0	0	0	0	0
Webster Cres - Ferndale Cres	0	0	0	0	0
Ferndale Cres - Parsells Ave	0	0	0	0	0
Parsells Ave - Ripley St	0	0	0	0	0
Ripley St - Grand Ave	0	0	0	0	0
Grand Ave - Garson Ave	2	1	1	0	0
Totals	6	2	1	0	3
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	CWA Rate ²	% > CWA
Segments						
Bay St - Garson Ave	12	4463	0.840	2.92	2.21	32%

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MATCHLINE PLN-W2

NOVEMBER 2011 - OCTOBER 2012

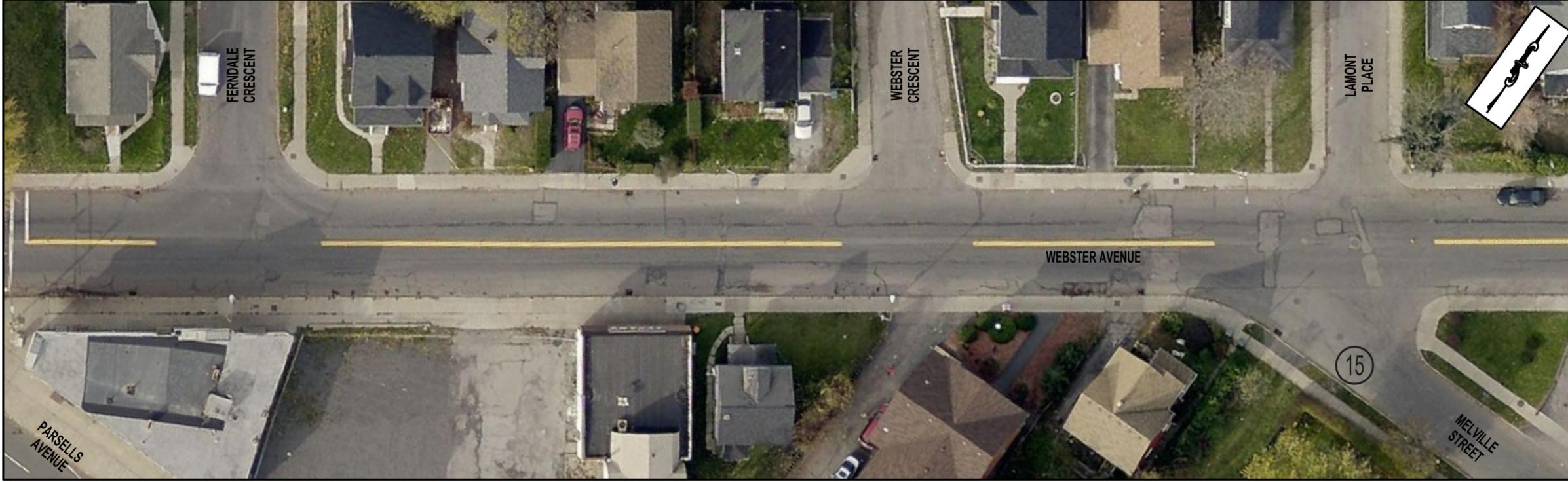
LEGEND

 ACCIDENT LOCATION



 Department of Environmental Services Architecture and Engineering Services City of Rochester, New York		MANAGING ENGINEER LISA REYES, P.E.	
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5		CITY ENGINEER JAMES R. MCINTOSH, P.E.	
PROJECT NUMBER B93.007.001		PIN 4760.44	
DRAWING TITLE WEBSTER AVENUE GARSON AVENUE TO BAY STREET PLN-W1		DXXXXXX	
ISSUED	04/17/2015	NO.	DATE
CHECKED	SDK	REVISION	BY
DRAWN	DTB		
DESIGN	DTB		
SCALE	1" = 20'		

MATCHLINE PLN-W1



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MATCHLINE PLN-W3

NOVEMBER 2011 - OCTOBER 2012

LEGEND

(XX) ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W2

DRAWING NO.
XX
OF XX

MATCHLINE PLN-W2



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-W4

NOVEMBER 2011 - OCTOBER 2012

LEGEND

 ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W3

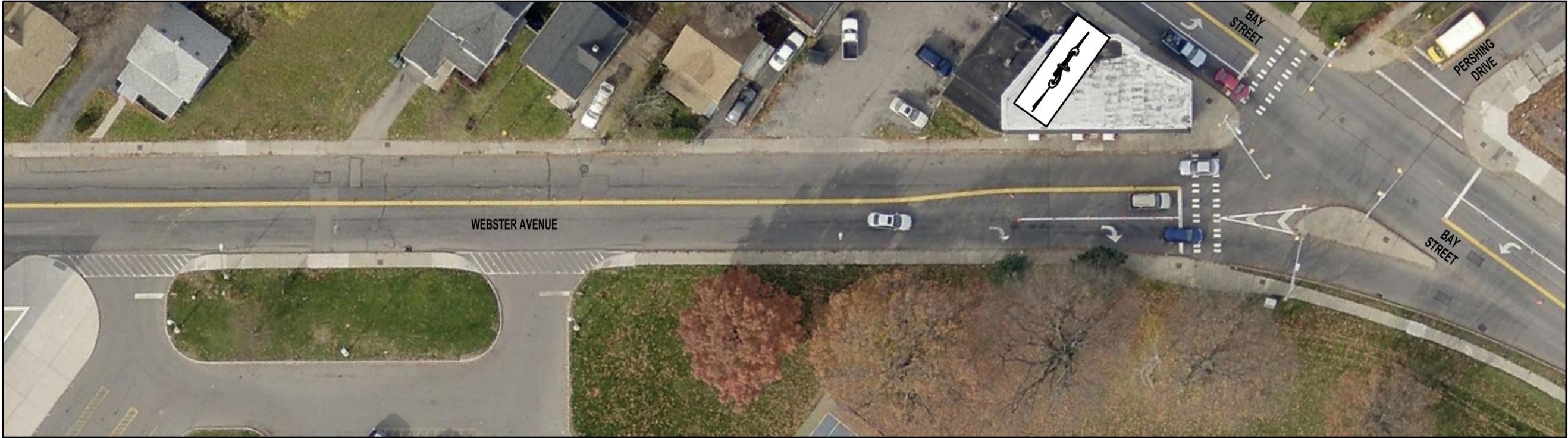
DRAWING NO.
XX
OF XX

MATCHLINE PLN-W3



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MATCHLINE ABOVE RIGHT



NOVEMBER 2011 - OCTOBER 2012

LEGEND

 ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE TO
GARSON AVENUE TO
BAY STREET
PLN-W4

DRAWING NO.
XX
OF **XX**



**Webster Ave Accident Analysis
 November 2012 - October 2013**

Accident Summary	November 2012 - October 2013				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Bay St	0	0	0	0	0
Bock St	1	0	0	0	1
Wendell St	1	0	0	0	1
Shafer St	0	0	0	0	0
Stunz St	2	0	0	0	2
Ellison St	0	0	0	0	0
Rosewood Ter	0	0	0	0	0
Copeland St	1	0	1	0	0
Ackerman St	1	0	1	0	0
Hazelwood Ter	1	1	0	0	0
Diamond Pl	0	0	0	0	0
Lamont Pl	0	0	0	0	0
Melville St	5	1	2	0	2
Webster Cres	1	0	1	0	0
Ferndale Cres	1	1	0	0	0
Parsells Ave	3	1	0	0	2
Ripley St	0	0	0	0	0
Grand Ave	0	0	0	0	0
Totals	17	4	5	0	8
Segments					
Bay St - Bock St	1	0	0	0	1
Bock St - Wendell St	0	0	0	0	0
Wendell St - Shafer St	0	0	0	0	0
Shafer St - Stunz St	1	0	1	0	0
Stunz St - Ellison St	1	1	0	0	0
Ellison St - Rosewood Ter	1	0	1	0	0
Rosewood Ter - Copeland St	0	0	0	0	0
Copeland St - Ackerman St	0	0	0	0	0
Ackerman St - Hazelwood Ter	0	0	0	0	0
Hazelwood - Ter Diamond Pl	0	0	0	0	0
Diamond Pl - Lamont Pl	0	0	0	0	0
Melville St - Webster Cres	0	0	0	0	0
Webster Cres - Ferndale Cres	0	0	0	0	0
Ferndale Cres - Parsells Ave	0	0	0	0	0
Parsells Ave - Ripley St	0	0	0	0	0
Ripley St - Grand Ave	0	0	0	0	0
Grand Ave - Garson Ave	0	0	0	0	0
Totals	4	1	2	0	1
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	SWA Rate ²	% > SWA
Segments						
Bay St - Garson Ave	21	4463	0.840	15.35	2.21	595%

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MATCHLINE PLN-W2

NOVEMBER 2012 - OCTOBER 2013

LEGEND

(XX) ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5

PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W1

DRAWING NO.
XX
OF XX

MATCHLINE PLN-W1



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-W3

NOVEMBER 2012 - OCTOBER 2013

LEGEND

(XX) ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W2

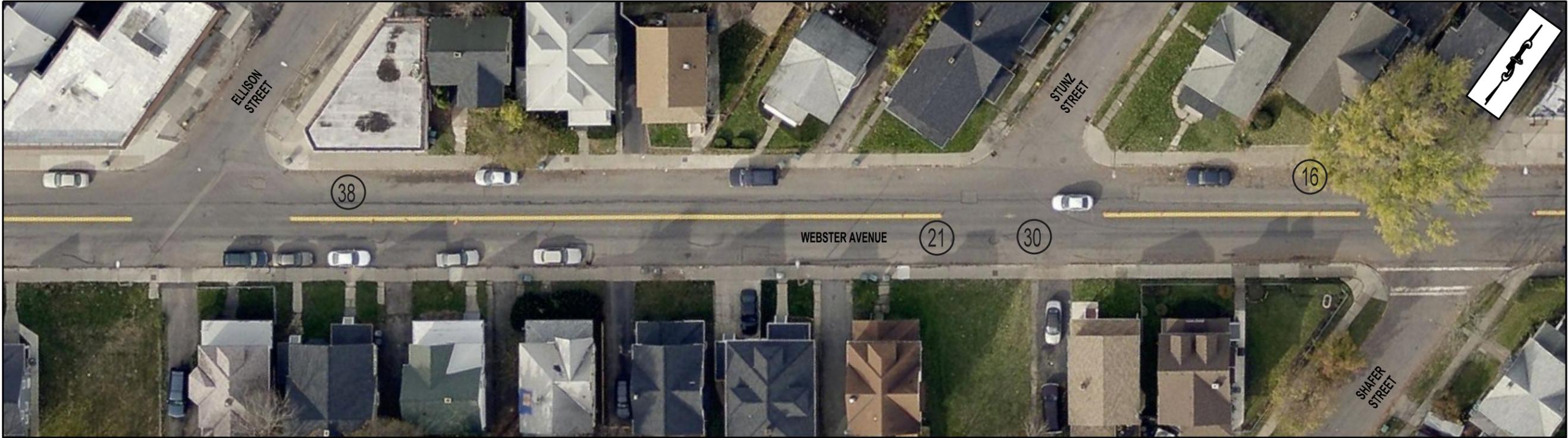
DRAWING NO.
XX
OF XX

MATCHLINE PLN-W2



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-W4

NOVEMBER 2012 - OCTOBER 2013

LEGEND

 ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W3

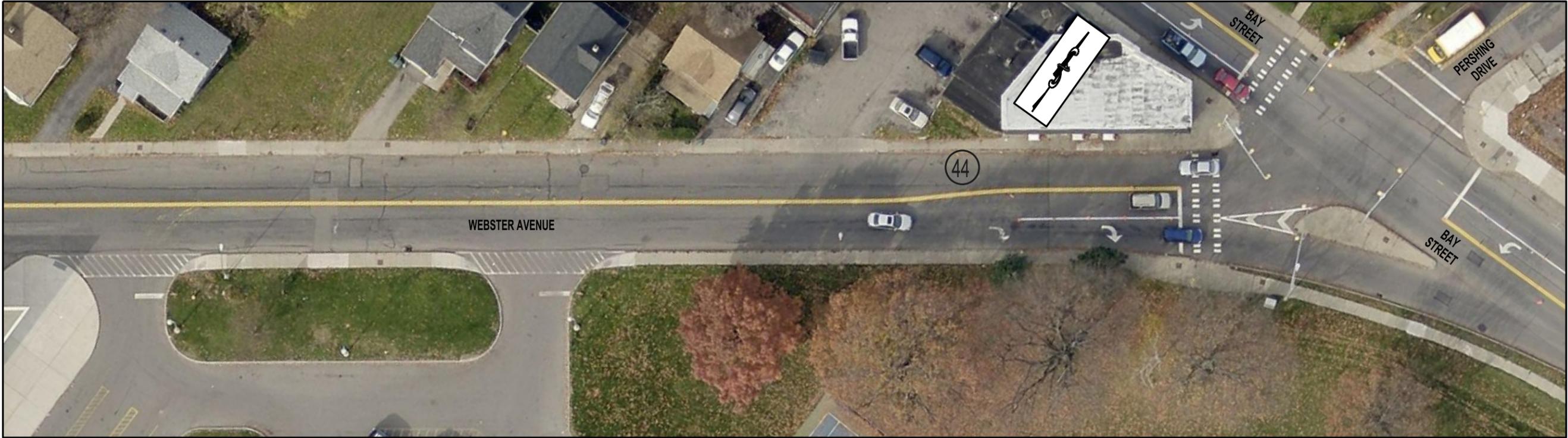
DRAWING NO.
XX
OF XX

MATCHLINE PLN-W3



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



NOVEMBER 2012 - OCTOBER 2013

LEGEND

ACCIDENT LOCATION



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York	
MANAGING ENGINEER	LISA REYES, P.E.
CITY ENGINEER	JAMES R. MCINTOSH, P.E.

PROJECT TITLE	
2017 PREVENTATIVE MAINTENANCE, CONTRACT 5	
PIN 4760.44	DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE	
WEBSTER AVENUE GARSON AVENUE TO BAY STREET PLN-W4	
DRAWING NO.	
XX	XX
OF	

DRAWING TITLE	
WEBSTER AVENUE GARSON AVENUE TO BAY STREET PLN-W4	
DRAWING NO.	
XX	XX
OF	

DRAWING TITLE	
WEBSTER AVENUE GARSON AVENUE TO BAY STREET PLN-W4	
DRAWING NO.	
XX	XX
OF	



**Webster Ave Accident Analysis
 November 2013 - October 2014**

Accident Summary	November 2013 - October 2014				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Bay St	0	0	0	0	0
Bock St	2	1	0	0	1
Wendell St	1	0	0	0	1
Shafer St	0	0	0	0	0
Stunz St	0	0	0	0	0
Ellison St	0	0	0	0	0
Rosewood Ter	0	0	0	0	0
Copeland St	0	0	0	0	0
Ackerman St	2	2	0	0	0
Hazelwood Ter	1	1	0	0	0
Diamond Pl	0	0	0	0	0
Lamont Pl	0	0	0	0	0
Melville St	0	0	0	0	0
Webster Cres	1	0	1	0	0
Ferndale Cres	1	0	0	0	1
Parsells Ave	2	1	0	0	1
Ripley St	1	0	1	0	0
Grand Ave	0	0	0	0	0
Totals	11	5	2	0	4
Segments					
Bay St - Bock St	0	0	0	0	0
Bock St - Wendell St	0	0	0	0	0
Wendell St - Shafer St	0	0	0	0	0
Shafer St - Stunz St	0	0	0	0	0
Stunz St - Ellison St	0	0	0	0	0
Ellison St - Rosewood Ter	2	1	0	0	1
Rosewood Ter - Copeland St	0	0	0	0	0
Copeland St - Ackerman St	0	0	0	0	0
Ackerman St - Hazelwood Ter	0	0	0	0	0
Hazelwood - Ter Diamond Pl	0	0	0	0	0
Diamond Pl - Lamont Pl	1	1	0	0	0
Melville St - Webster Cres	1	0	1	0	0
Webster Cres - Ferndale Cres	1	0	0	0	1
Ferndale Cres - Parsells Ave	0	0	0	0	0
Parsells Ave - Ripley St	0	0	0	0	0
Ripley St - Grand Ave	1	0	0	0	1
Grand Ave - Garson Ave	1	0	0	0	1
Totals	7	2	1	0	4
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	CWA Rate ²	% > CWA
Segments						
Bay St - Garson Ave	18	4463	0.840	13.15	2.21	495%

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MATCHLINE PLN-W2

NOVEMBER 2013 - OCTOBER 2014

LEGEND

 ACCIDENT LOCATION



--

	Department of Environmental Services Architecture and Engineering Services City of Rochester, New York
	MANAGING ENGINEER LISA REYES, P.E.
	CITY ENGINEER JAMES R. MCINTOSH, P.E.

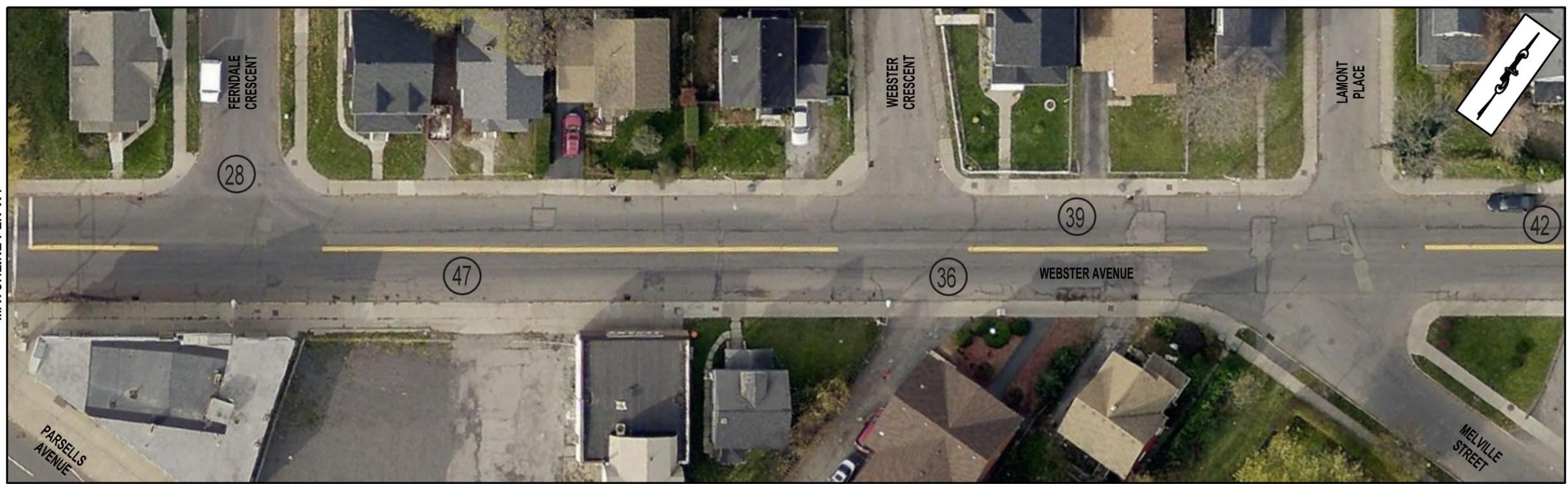
PROJECT TITLE	2017 PREVENTATIVE MAINTENANCE, CONTRACT 5
PIN	4760.44
DXXXXXX	

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE	WEBSTER AVENUE TO GARSON AVENUE TO BAY STREET PLN-W1
---------------	--

DRAWING NO.	XX
OF	XX

MATCHLINE PLN-W1



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MATCHLINE ABOVE RIGHT



MATCHLINE PLN-W3

NOVEMBER 2013 - OCTOBER 2014

LEGEND

(XX) ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W2

DRAWING NO.
XX
OF XX

MATCHLINE PLN-W2



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



MATCHLINE PLN-W4

NOVEMBER 2013 - OCTOBER 2014

LEGEND

 ACCIDENT LOCATION



Department of Environmental Services
Architecture and Engineering Services
City of Rochester, New York

MANAGING ENGINEER LISA REYES, P.E.
CITY ENGINEER JAMES R. MCINTOSH, P.E.

PROJECT TITLE
2017 PREVENTATIVE
MAINTENANCE, CONTRACT 5
PIN 4760.44 DXXXXXX

ISSUED	CHECKED	DRAWN	DESIGN	SCALE	PROJECT NUMBER	NO.	REVISION	BY	DATE
04/17/2015	SDK	DTB	DTB	1" = 20'	B93.007.001				

DRAWING TITLE
WEBSTER AVENUE
GARSON AVENUE TO
BAY STREET
PLN-W3

DRAWING NO.
XX
OF XX

MATCHLINE PLN-W3



MATCHLINE BELOW LEFT

MATCHLINE ABOVE RIGHT



NOVEMBER 2013 - OCTOBER 2014

LEGEND

 ACCIDENT LOCATION



Department of Environmental Services Architecture and Engineering Services City of Rochester, New York		MANAGING ENGINEER LISA REYES, P.E.	CITY ENGINEER JAMES R. MCINTOSH, P.E.
PROJECT TITLE 2017 PREVENTATIVE MAINTENANCE, CONTRACT 5		PIN 4760.44	DXXXXXX
ISSUED 04/17/2015	CHECKED SDK	DRAWN DTB	DESIGN DTB
SCALE 1" = 20'	PROJECT NUMBER B93.007.001	NO.	REVISION BY DATE
DRAWING TITLE WEBSTER AVENUE GARSON AVENUE TO BAY STREET PLN-W4		DRAWING NO. XX OF XX	



Webster Ave Accident Analysis
 November 2011 - October 2014

Accident Summary	May 2011 - October 2014				
	Total # Accidents	PDO	Injury	Fatality	Non- Reportable
Intersections					
Bay St	0	0	0	0	0
Bock St	3	1	0	0	2
Wendell St	2	0	0	0	2
Shafer St	1	1	0	0	0
Stunz St	2	0	0	0	2
Ellison St	1	0	0	0	1
Rosewood Ter	2	0	0	0	2
Copeland St	1	0	1	0	0
Ackerman St	3	2	1	0	0
Hazelwood Ter	2	2	0	0	0
Diamond Pl	0	0	0	0	0
Lamont Pl	0	0	0	0	0
Melville St	6	1	2	0	3
Webster Cres	1	0	1	0	0
Ferndale Cres	3	1	0	0	2
Parsells Ave	7	4	0	0	3
Ripley St	1	0	1	0	0
Grand Ave	0	0	0	0	0
Totals	35	12	6	0	17
Segments					
Bay St - Bock St	2	1	0	0	1
Bock St - Wendell St	1	0	0	0	1
Wendell St - Shafer St	0	0	0	0	0
Shafer St - Stunz St	2	0	1	0	1
Stunz St - Ellison St	1	1	0	0	0
Ellison St - Rosewood Ter	3	1	1	0	1
Rosewood Ter - Copeland St	0	0	0	0	0
Copeland St - Ackerman St	0	0	0	0	0
Ackerman St - Hazelwood Ter	0	0	0	0	0
Hazelwood - Ter Diamond Pl	0	0	0	0	0
Diamond Pl - Lamont Pl	2	1	0	0	1
Melville St - Webster Cres	1	0	1	0	0
Webster Cres - Ferndale Cres	1	0	0	0	1
Ferndale Cres - Parsells Ave	0	0	0	0	0
Parsells Ave - Ripley St	0	0	0	0	0
Ripley St - Grand Ave	2	0	1	0	1
Grand Ave - Garson Ave	2	1	0	0	1
Totals	17	5	4	0	8
* "Non-reportable" accidents include police reports where officers indicated cost of repairs to any one vehicle were expected to be more than \$ 1000 checked as "unknown/unable to be determined"					

Entire Year Analysis	Total # Accidents	AADT ¹	Segment Length	Total Acc Rate	SWA Rate ²	% > SWA
Segments						
Bay St - Garson Ave	52	4463	0.840	12.67	2.21	473%

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ATTACHMENT H

TRAFFIC AND INTERSECTION CAPACITY ANALYSIS

TRAFFIC COUNT DATA AND PROJECTIONS

Growth Rate:	0.50%
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Intersection	Year	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Arnett/Thurston - AM	2015	6	52	10	29	46	42	11	183	38	61	184	4
	2017	7	53	11	30	47	43	12	185	39	62	186	5
	2027	7	56	11	31	49	45	12	194	41	65	196	5
Arnett/Thurston - PM	2015	9	69	18	75	95	89	22	265	79	69	298	7
	2017	10	70	19	76	96	90	23	268	80	70	301	8
	2027	10	74	20	80	101	95	24	281	84	74	316	8

Intersection	Year	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Arnett/Rugby - AM	2015	3	129	11	2	97	12	7	15	17	10	13	10
	2017	4	131	12	3	98	13	8	16	18	11	14	11
	2027	4	137	12	3	103	13	8	16	19	11	14	11
Arnett/Rugby - PM	2015	11	207	11	13	240	16	8	13	21	14	19	12
	2017	12	210	12	14	243	17	9	14	22	15	20	13
	2027	12	220	12	14	255	17	9	14	23	15	21	13

Intersection	Year	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Arnett/Genesee - AM	2015	57	24	62	11	19	9	43	395	5	4	332	23
	2017	58	25	63	12	20	10	44	399	6	5	336	24
	2027	61	26	66	12	21	10	46	419	6	5	352	25
Arnett/Genesee - PM	2015	78	40	96	17	56	15	106	448	17	10	437	68
	2017	79	41	97	18	57	16	108	453	18	11	442	69
	2027	83	43	102	19	60	16	113	475	19	11	464	73

Growth Rate:	0.50%
---------------------	-------

Intersection	Year	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Genesee Park/Brooks - AM	2007	33	244	239	4	270	18	71	49	8	24	142	112
	2017	35	257	251	5	284	19	75	52	9	26	150	118
	2027	37	269	263	5	297	20	79	54	9	27	157	124
Genesee Park/Brooks - PM	2007	67	315	106	6	409	29	254	192	14	14	74	90
	2017	71	332	112	7	430	31	267	202	15	15	78	95
	2027	75	349	118	7	452	33	281	213	16	16	82	100

Growth Rate:	0.50%
--------------	-------

Intersection	Year	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	SWL2	SWL	SWR	SWR2
Webster/Garson/ Goodman - AM	2007	0	3	17	10	4	14	8	0	5	282	143	0	0	0	499	9	0	411	23	0
	2017	0	4	18	11	5	15	9	0	6	297	151	0	0	0	524	10	0	432	25	0
	2027	0	4	19	11	5	16	9	0	6	311	158	0	0	0	549	10	0	453	26	0
Webster/Garson/ Goodman - PM	2007	0	4	13	8	1	7	21	0	13	472	304	0	0	2	404	13	0	160	22	0
	2017	0	5	14	9	2	8	23	0	14	497	320	0	0	3	425	14	0	169	24	0
	2027	0	5	15	9	2	8	24	0	15	520	335	0	0	3	445	15	0	176	25	0

Intersection	Year	WBL	WBR	NET	NER	SWL	SWT
Webster/Parsells - AM	2007	50	80	86	41	47	364
	2017	53	84	91	44	50	383
	2027	55	88	95	46	52	401
Webster/Parsells - PM	2007	39	106	398	107	91	192
	2017	41	112	418	113	96	202
	2027	43	117	438	118	101	212

Intersection	Year	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBT	SBR	NEL2	NEL	NER
Webster/Bay/ Pershing - AM	2007	7	115	5	141	151	6	0	21	55	6	43	10
	2017	8	121	6	149	159	7	0	23	58	7	46	11
	2027	8	127	6	156	167	7	0	24	61	7	48	11
Webster/Bay/ Pershing - PM	2007	15	228	6	80	173	12	0	62	172	7	12	1
	2017	16	240	7	84	182	13	0	66	181	8	13	2
	2027	17	251	7	88	191	14	0	69	190	8	14	2

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LOS SUMMARY TABLES

Arnett Boulevard - Genesee Street to Thurston Avenue

		EXISTING - 2017				FUTURE NO-BUILD - 2027			
		AM		PM		AM		PM	
		LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)
Arnett & Genesee									
Eastbound	LT/THRU/RT	C (26.3)	93	D (45.2)	175	C (26.6)	98	D (45.6)	183
Westbound	LT/THRU/RT	C (23.4)	39	C (33.4)	86	C (23.0)	38	C (32.9)	88
Northbound	LT/THRU/RT	A (5.0)	140	A (8.1)	266	A (5.4)	155	A (9.0)	299
Southbound	LT/THRU/RT	A (4.1)	100	A (6.4)	203	A (4.3)	109	A (7.0)	224
Average Intersection		A (8.5)		B (14.8)		A (8.9)		B (15.4)	
Arnett & Rugby									
Eastbound	LT/THRU/RT	A (2.7)	30	A (3.3)	49	A (2.7)	31	A (3.4)	51
Westbound	LT/THRU/RT	A (2.5)	22	A (3.4)	56	A (2.5)	24	A (3.4)	59
Northbound	LT/THRU/RT	B (14.7)	30	B (13.8)	31	B (14.5)	30	B (13.7)	31
Southbound	LT/THRU/RT	B (16.3)	29	B (17.1)	36	B (16.3)	29	B (17.1)	36
Average Intersection		A (5.2)				A (5.5)		A (5.2)	
Arnett & Thurston									
Eastbound	LT/THRU/RT	A (4.9)	27	A (6.3)	38	A (5.1)	29	A (6.4)	39
Westbound	LT/THRU/RT	A (4.1)	35	A (6.7)	89	A (4.2)	37	A (7.1)	94
Northbound	Left	B (17.2)	15	B (17.5)	23	B (17.0)	15	B (17.6)	24
	THRU/RT	C (22.7)	130	C (24.6)	199	C (22.8)	136	C (24.9)	212
Southbound	Left	C (25.1)	52	C (25.6)	59	C (25.8)	54	C (26.9)	64
	THRU/RT	C (23.8)	118	C (25.0)	185	C (24.0)	124	C (25.0)	195
Average Intersection		B (18.8)				B (18.2)		B (19.1)	

Queue = 95th percentile queue

m = Volume metered by upstream signal

= 95th percentile volume exceed capacity, queue may be longer

2017 Preventive Maintenance Contract 5 - P.I.N. 4760.44

Arterial Level of Service

I93.007.001

July 2015

Genesee Park Boulevard - Brooks Ave to Arnett Blvd

		EXISTING - 2017				FUTURE NO-BUILD - 2027			
		AM		PM		AM		PM	
		LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)
Genesee Park & Brooks									
Eastbound	LT/THRU	B (13.0)	135	B (17.1)	211	B (13.3)	142	B (18.3)	230
	RT	A (2.8)	36	A (3.0)	25	A (2.8)	37	A (3.0)	25
Westbound	LT/THRU/RT	B (12.3)	136	B (15.7)	228	B (12.6)	143	B (16.4)	244
Northbound	LT	B (12.7)	45	B (18.8)	156	B (12.9)	48	B (19.6)	166
	THRU/RT	B (10.1)	33	B (13.1)	103	B (10.1)	34	B (13.3)	109
Southbound	LT/THRU	B (13.0)	87	B (11.9)	50	B (13.1)	91	B (11.9)	52
	RT	A (3.5)	28	A (3.7)	25	A (3.5)	29	A (3.7)	26
Average Intersection		A (9.8)		B (14.4)		A (9.9)		B (15.1)	

Queue = 95th percentile queue

m = Volume metered by upstream signal

= 95th percentile volume exceed capacity, queue may be longer

2017 Preventive Maintenance Contract 5 - P.I.N. 4760.44

Arterial Level of Service

I93.007.001

July 2015

Webster Avenue - Garson Ave to Bay St

		EXISTING - 2017				FUTURE NO-BUILD - 2027			
		AM		PM		AM		PM	
		LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)	LOS (Delay)	Queue (FT)
Webster & Garson & Goodman									
Eastbound	LT/THRU/RT	C (27.9)	39	D (35.7)	42	C (28.1)	40	D (36.0)	43
Westbound	LT/THRU/RT	D (37.1)	44	D (47.8)	53	D (37.2)	45	D (47.9)	55
Northbound	LT/THRU	B (12.2)	167	B (12.9)	323	B (12.4)	176	B (13.5)	349
	RT	A (2.0)	29	A (3.1)	80	A (2.0)	30	A (3.2)	85
Southbound	LT/THRU/RT	B (15.7)	337	B (11.7)	263	B (16.4)	360	B (12.2)	282
Southwest	LT/RT	D (35.4)	191	D (39.2)	79	D (36.1)	201	D (39.2)	81
Average Intersection		C (20.3)		B (15.0)		C (20.8)		B (15.4)	
Webster & Parsells									
Westbound	LT	D (36.0)	64	D (44.1)	58	D (36.1)	66	D (44.4)	63
	RT	B (10.3)	41	B (13.2)	51	B (10.1)	42	B (13.0)	53
Northbound	THRU	A (2.2)	21	A (6.3)	164	A (2.3)	22	A (6.7)	186
	RT	A (0.8)	5	A (2.2)	27	A (0.8)	5	A (2.2)	29
Southbound	LT/THRU	A (3.0)	98	A (4.0)	79	A (3.1)	104	A (4.3)	92
Average Intersection		A (6.1)		A (7.5)		A (6.1)		A (7.7)	
Webster & Bay & Pershing									
Eastbound	LT	B (11.6)	9	B (13.1)	16	B (11.6)	9	B (14.3)	19
	THRU/RT	B (13.5)	61	B (16.3)	132	B (13.7)	64	B (17.7)	163
Westbound	LT	A (5.4)	35	A (5.5)	29	A (5.4)	36	A (6.1)	36
	THRU/RT	A (4.6)	36	A (5.5)	59	A (4.6)	38	A (6.1)	75
Southbound	RT	A (4.8)	24	B (10.9)	93	A (5.1)	26	B (12.7)	119
Northbound	LT	B (13.8)	35	B (15.5)	20	B (13.9)	36	B (16.6)	25
	RT	A (0.1)	0	A (0.0)	0	A (0.1)	0	A (0.0)	0
Average Intersection		A (7.5)		B (10.8)		A (7.7)		B (12.0)	

Queue = 95th percentile queue

m = Volume metered by upstream signal

= 95th percentile volume exceed capacity, queue may be longer

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ARNETT BOULEVARD

EXISTING BACKUP

Lanes, Volumes, Timings
193: Genesee & Arnett

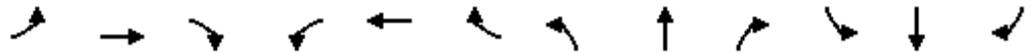
ETC (2017) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	58	25	63	12	20	10	44	399	6	5	336	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	15	15	15	10	10	10	12	12	12
Storage Length (ft)	0		0	0		0	75		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			1.00			1.00	
Frt		0.941			0.969			0.998			0.991	
Flt Protected		0.981			0.986			0.995			0.999	
Satd. Flow (prot)	0	1644	0	0	1619	0	0	1646	0	0	1723	0
Flt Permitted		0.864			0.921			0.940			0.996	
Satd. Flow (perm)	0	1448	0	0	1510	0	0	1553	0	0	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			10			1			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			390			263			266	
Travel Time (s)		44.2			8.9			6.0			6.0	
Confl. Peds. (#/hr)			3	3			19		25	25		19
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	23%	8%	13%	9%	16%	56%	7%	7%	0%	25%	8%	17%
Adj. Flow (vph)	60	26	66	12	21	10	46	416	6	5	350	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	152	0	0	43	0	0	468	0	0	380	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.88	0.88	0.88	0.88	0.88	0.88	1.09	1.09	1.09	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	20	20		15	15		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		50	50		50	50	
Detector 1 Position(ft)	0	0		0	0		50	50		50	50	
Detector 1 Size(ft)	20	20		15	15		0	0		0	0	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	

Lanes, Volumes, Timings
193: Genesee & Arnett

ETC (2017) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		36.5	36.5		36.5	36.5	
Total Split (s)	32.0	32.0		32.0	32.0		48.0	48.0		48.0	48.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	27.0	27.0		27.0	27.0		42.5	42.5		42.5	42.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-2.0			-2.0			-2.5			-2.5	
Total Lost Time (s)		3.0			3.0			3.0			3.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.0			13.0			61.0			61.0	
Actuated g/C Ratio		0.16			0.16			0.76			0.76	
v/c Ratio		0.54			0.17			0.40			0.29	
Control Delay		26.3			23.4			5.0			4.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		26.3			23.4			5.0			4.1	
LOS		C			C			A			A	
Approach Delay		26.3			23.4			5.0			4.1	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		45			14			59			42	
Queue Length 95th (ft)		93			39			140			100	
Internal Link Dist (ft)		1866			310			183			186	
Turn Bay Length (ft)												
Base Capacity (vph)		559			553			1183			1311	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.27			0.08			0.40			0.29	

Intersection Summary

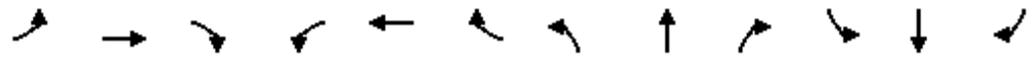
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 42 (53%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 8.5
 Intersection Capacity Utilization 68.3%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 193: Genesee & Arnett



Lanes, Volumes, Timings
351: Rugby & Arnett

ETC (2017) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	4	131	12	3	98	13	8	16	18	11	14	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	13	13	13	13	13	13	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.989			0.984			0.942			0.958	
Flt Protected		0.999			0.999			0.991			0.985	
Satd. Flow (prot)	0	1571	0	0	1718	0	0	1643	0	0	1735	0
Flt Permitted		0.996			0.996			0.935			0.889	
Satd. Flow (perm)	0	1566	0	0	1713	0	0	1548	0	0	1564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			14			19			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2029			1946			275			265	
Travel Time (s)		46.1			44.2			6.3			6.0	
Confl. Peds. (#/hr)	4		6	6		4	4		2	2		4
Confl. Bikes (#/hr)			1						1			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	11%	18%	0%	14%	0%	14%	0%	18%	10%	8%	10%
Adj. Flow (vph)	4	138	13	3	103	14	8	17	19	12	15	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	155	0	0	120	0	0	44	0	0	39	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	44.5	44.5		44.5	44.5		24.5	24.5		24.5	24.5	

Lanes, Volumes, Timings
351: Rugby & Arnett

ETC (2017) AM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	44.5	44.5		44.5	44.5		31.5	31.5		31.5	31.5	
Total Split (%)	58.6%	58.6%		58.6%	58.6%		41.4%	41.4%		41.4%	41.4%	
Maximum Green (s)	39.0	39.0		39.0	39.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		-2.5			-2.5			-3.5			-3.5	
Total Lost Time (s)		3.0			3.0			3.0			3.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	30.0	30.0		30.0	30.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.7			48.7			11.1			11.1	
Actuated g/C Ratio		0.82			0.82			0.19			0.19	
v/c Ratio		0.12			0.09			0.14			0.13	
Control Delay		2.7			2.5			14.7			16.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.7			2.5			14.7			16.3	
LOS		A			A			B			B	
Approach Delay		2.7			2.5			14.7			16.3	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		12			9			7			8	
Queue Length 95th (ft)		30			22			30			29	
Internal Link Dist (ft)		1949			1866			195			185	
Turn Bay Length (ft)												
Base Capacity (vph)		1286			1407			753			757	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.12			0.09			0.06			0.05	

Intersection Summary

Area Type: Other
 Cycle Length: 76
 Actuated Cycle Length: 59.4
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.14
 Intersection Signal Delay: 5.6
 Intersection Capacity Utilization 45.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 351: Rugby & Arnett



Lanes, Volumes, Timings
352: Thurston & Arnett

ETC (2017) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Volume (vph)	7	53	11	30	47	43	12	185	39	62	186	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	16	16	12	13	13	11	10	10
Storage Length (ft)	0		0	0		0	73		0	72		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99		0.99	0.99		0.99	1.00	
Frt		0.978			0.951			0.974			0.996	
Flt Protected		0.995			0.988		0.950			0.950		
Satd. Flow (prot)	0	1744	0	0	1781	0	1656	1716	0	1454	1576	0
Flt Permitted		0.983			0.939		0.517			0.456		
Satd. Flow (perm)	0	1723	0	0	1692	0	894	1716	0	690	1576	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			46			16				2
Link Speed (mph)		30			30			30				30
Link Distance (ft)		297			2029			934				521
Travel Time (s)		6.8			46.1			21.2				11.8
Confl. Peds. (#/hr)	2		3	3		2	6		9	9		6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	33%	6%	10%	17%	17%	5%	9%	8%	24%	20%	11%	50%
Adj. Flow (vph)	7	56	12	32	50	46	13	197	41	66	198	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	0	0	128	0	13	238	0	66	203	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	0.85	0.85	0.85	1.00	0.96	0.96	1.04	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			4				4
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												

Lanes, Volumes, Timings
352: Thurston & Arnett

ETC (2017) AM
7/15/2015

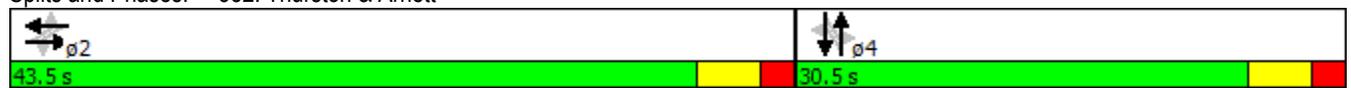


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	30.0	30.0		30.0	30.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	43.5	43.5		43.5	43.5		25.5	25.5		25.5	25.5	
Total Split (s)	43.5	43.5		43.5	43.5		30.5	30.5		30.5	30.5	
Total Split (%)	58.8%	58.8%		58.8%	58.8%		41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	38.0	38.0		38.0	38.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.5			-2.5		-2.5	-2.5		-2.5	-2.5	
Total Lost Time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	30.0	30.0		30.0	30.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.7			40.7		16.3	16.3		16.3	16.3	
Actuated g/C Ratio		0.65			0.65		0.26	0.26		0.26	0.26	
v/c Ratio		0.07			0.12		0.06	0.52		0.37	0.50	
Control Delay		4.9			4.1		17.2	22.7		25.1	23.8	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		4.9			4.1		17.2	22.7		25.1	23.8	
LOS		A			A		B	C		C	C	
Approach Delay		4.9			4.1			22.4			24.1	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		7			9		4	72		21	65	
Queue Length 95th (ft)		27			35		15	130		52	118	
Internal Link Dist (ft)		217			1949			854			441	
Turn Bay Length (ft)							73			72		
Base Capacity (vph)		1117			1109		392	761		302	692	
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		0.07			0.12		0.03	0.31		0.22	0.29	

Intersection Summary

Area Type: Other
 Cycle Length: 74
 Actuated Cycle Length: 63
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 18.0
 Intersection Capacity Utilization 60.1%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 352: Thurston & Arnett



Lanes, Volumes, Timings
193: Genesee & Arnett

ETC (2017) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	79	41	97	18	57	16	108	453	18	11	442	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	15	15	15	16	16	16	16	16	16
Storage Length (ft)	0		0	0		0	75		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97			0.99			0.99			0.99	
Frt		0.939			0.977			0.996			0.982	
Flt Protected		0.982			0.990			0.991			0.999	
Satd. Flow (prot)	0	1907	0	0	1961	0	0	2072	0	0	2025	0
Flt Permitted		0.836			0.876			0.815			0.988	
Satd. Flow (perm)	0	1609	0	0	1732	0	0	1699	0	0	2002	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			11			3			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			390			263			266	
Travel Time (s)		44.2			8.9			6.0			6.0	
Confl. Peds. (#/hr)	13		8	8		13	26		35	35		26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	2%	2%	0%	0%	13%	0%	3%	0%	0%	3%	7%
Adj. Flow (vph)	81	42	100	19	59	16	111	467	19	11	456	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	223	0	0	94	0	0	597	0	0	538	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	20	20		15	15		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		50	50		50	50	
Detector 1 Position(ft)	0	0		0	0		50	50		50	50	
Detector 1 Size(ft)	20	20		15	15		0	0		0	0	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												

Lanes, Volumes, Timings
193: Genesee & Arnett

ETC (2017) PM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		36.5	36.5		36.5	36.5	
Total Split (s)	40.0	40.0		40.0	40.0		60.0	60.0		60.0	60.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0		54.5	54.5		54.5	54.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.5			5.5	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		16.5			16.5			73.0			73.0	
Actuated g/C Ratio		0.16			0.16			0.73			0.73	
v/c Ratio		0.74			0.32			0.48			0.37	
Control Delay		45.2			33.4			8.1			6.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		45.2			33.4			8.1			6.4	
LOS		D			C			A			A	
Approach Delay		45.2			33.4			8.1			6.4	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)		109			47			134			104	
Queue Length 95th (ft)		175			86			266			203	
Internal Link Dist (ft)		1866			310			183			186	
Turn Bay Length (ft)												
Base Capacity (vph)		592			613			1240			1463	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.38			0.15			0.48			0.37	

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	60 (60%), Referenced to phase 1:NBSB, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	14.8
Intersection LOS:	B
Intersection Capacity Utilization:	92.2%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 193: Genesee & Arnett



Lanes, Volumes, Timings
351: Rugby & Arnett

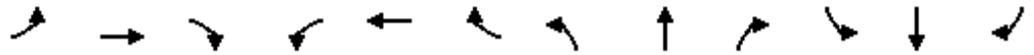
ETC (2017) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	12	210	12	14	243	17	9	14	22	15	20	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	13	13	13	13	13	13	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.993			0.992			0.934			0.964	
Flt Protected		0.997			0.997			0.990			0.985	
Satd. Flow (prot)	0	1692	0	0	1796	0	0	1670	0	0	1909	0
Flt Permitted		0.983			0.983			0.931			0.896	
Satd. Flow (perm)	0	1666	0	0	1770	0	0	1567	0	0	1735	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		6			7			24			14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2029			1946			275			265	
Travel Time (s)		46.1			44.2			6.3			6.0	
Confl. Peds. (#/hr)	30		11	11		30	5		1	1		5
Peak Hour Factor	0.93	0.93	0.93	0.90	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	9%	3%	9%	0%	8%	12%	25%	0%	5%	0%	0%	0%
Adj. Flow (vph)	13	226	13	16	261	18	10	15	24	16	22	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	252	0	0	295	0	0	49	0	0	52	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	44.5	44.5		44.5	44.5		24.5	24.5		24.5	24.5	
Total Split (s)	44.5	44.5		44.5	44.5		31.5	31.5		31.5	31.5	

Lanes, Volumes, Timings
351: Rugby & Arnett

ETC (2017) PM
7/15/2015

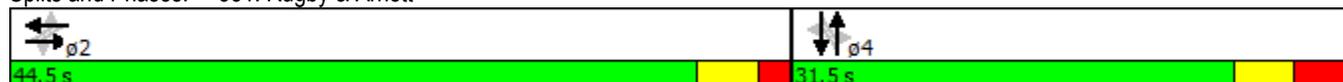


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	58.6%	58.6%		58.6%	58.6%		41.4%	41.4%		41.4%	41.4%	
Maximum Green (s)	39.0	39.0		39.0	39.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		-2.5			-2.5			-3.5			-3.5	
Total Lost Time (s)		3.0			3.0			3.0			3.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	30.0	30.0		30.0	30.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		47.5			47.5			11.4			11.4	
Actuated g/C Ratio		0.77			0.77			0.19			0.19	
v/c Ratio		0.20			0.22			0.16			0.16	
Control Delay		3.3			3.4			13.8			17.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.3			3.4			13.8			17.1	
LOS		A			A			B			B	
Approach Delay		3.3			3.4			13.8			17.1	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		22			27			7			11	
Queue Length 95th (ft)		49			56			31			36	
Internal Link Dist (ft)		1949			1866			195			185	
Turn Bay Length (ft)												
Base Capacity (vph)		1286			1366			740			813	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.22			0.07			0.06	

Intersection Summary

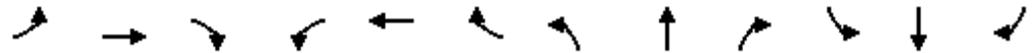
Area Type:	Other
Cycle Length:	76
Actuated Cycle Length:	61.6
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.22
Intersection Signal Delay:	5.2
Intersection LOS:	A
Intersection Capacity Utilization:	45.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 351: Rugby & Arnett



Lanes, Volumes, Timings
352: Thurston & Arnett

ETC (2017) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Volume (vph)	10	70	19	76	96	90	23	268	80	70	301	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	16	16	12	13	13	11	10	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99		0.99	0.99		1.00	1.00	
Frt		0.974			0.954			0.966			0.996	
Flt Protected		0.995			0.986		0.950			0.950		
Satd. Flow (prot)	0	1760	0	0	1831	0	1656	1751	0	1745	1698	0
Flt Permitted		0.972			0.898		0.371			0.317		
Satd. Flow (perm)	0	1719	0	0	1665	0	640	1751	0	580	1698	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		20			56			23			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		297			2029			934			521	
Travel Time (s)		6.8			46.1			21.2			11.8	
Confl. Peds. (#/hr)	8		6	6		8	11		4	4		11
Confl. Bikes (#/hr)			1			2			2			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	22%	6%	6%	11%	6%	12%	9%	6%	13%	0%	4%	0%
Adj. Flow (vph)	10	73	20	79	100	94	24	279	83	73	314	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	103	0	0	273	0	24	362	0	73	322	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	0.85	0.85	0.85	1.00	0.96	0.96	1.04	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	43.5	43.5		43.5	43.5		25.5	25.5		25.5	25.5	

Lanes, Volumes, Timings
352: Thurston & Arnett

ETC (2017) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	43.5	43.5		43.5	43.5		30.5	30.5		30.5	30.5	
Total Split (%)	58.8%	58.8%		58.8%	58.8%		41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	38.0	38.0		38.0	38.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.5			-2.5		-2.5	-2.5		-2.5	-2.5	
Total Lost Time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	30.0	30.0		30.0	30.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.8			40.8		20.9	20.9		20.9	20.9	
Actuated g/C Ratio		0.60			0.60		0.31	0.31		0.31	0.31	
v/c Ratio		0.10			0.27		0.12	0.65		0.41	0.61	
Control Delay		6.3			6.7		17.5	24.6		25.6	25.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		6.3			6.7		17.5	24.6		25.6	25.0	
LOS		A			A		B	C		C	C	
Approach Delay		6.3			6.7			24.1			25.1	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		13			37		7	119		24	111	
Queue Length 95th (ft)		38			89		23	199		59	185	
Internal Link Dist (ft)		217			1949			854			441	
Turn Bay Length (ft)												
Base Capacity (vph)		1042			1025		261	729		237	695	
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		0.10			0.27		0.09	0.50		0.31	0.46	

Intersection Summary

Area Type: Other
 Cycle Length: 74
 Actuated Cycle Length: 67.7
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 18.8
 Intersection Capacity Utilization 65.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 352: Thurston & Arnett



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ARNETT BOULEVARD

PROPOSED BACKUP

Lanes, Volumes, Timings
193: Genesee & Arnett

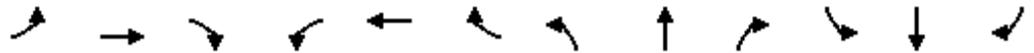
Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	61	26	66	12	21	10	46	419	6	5	352	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	15	15	15	15	15	15	10	10	10	12	12	12
Storage Length (ft)	0		0	0		0	75		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			1.00			1.00				1.00
Frt		0.942			0.969			0.998				0.991
Flt Protected		0.980			0.987			0.995				0.999
Satd. Flow (prot)	0	1643	0	0	1623	0	0	1646	0	0	1724	0
Flt Permitted		0.864			0.923			0.937				0.996
Satd. Flow (perm)	0	1448	0	0	1516	0	0	1548	0	0	1718	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54			10			1				7
Link Speed (mph)		30			30			30				30
Link Distance (ft)		1946			390			263				266
Travel Time (s)		44.2			8.9			6.0				6.0
Confl. Peds. (#/hr)			3	3			19		25	25		19
Confl. Bikes (#/hr)									2			2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	23%	8%	13%	9%	16%	56%	7%	7%	0%	25%	8%	17%
Adj. Flow (vph)	64	27	69	12	22	10	48	436	6	5	367	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	160	0	0	44	0	0	490	0	0	398	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0				0
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	0.88	0.88	0.88	0.88	0.88	0.88	1.09	1.09	1.09	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	20	20		15	15		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		50	50		50	50	
Detector 1 Position(ft)	0	0		0	0		50	50		50	50	
Detector 1 Size(ft)	20	20		15	15		0	0		0	0	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			1				1
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	

Lanes, Volumes, Timings
193: Genesee & Arnett

Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		36.5	36.5		36.5	36.5	
Total Split (s)	32.0	32.0		32.0	32.0		48.0	48.0		48.0	48.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	27.0	27.0		27.0	27.0		42.5	42.5		42.5	42.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		-2.0			-2.0			-2.5			-2.5	
Total Lost Time (s)		3.0			3.0			3.0			3.0	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		13.5			13.5			60.5			60.5	
Actuated g/C Ratio		0.17			0.17			0.76			0.76	
v/c Ratio		0.56			0.17			0.42			0.31	
Control Delay		26.6			23.0			5.4			4.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		26.6			23.0			5.4			4.3	
LOS		C			C			A			A	
Approach Delay		26.6			23.0			5.4			4.3	
Approach LOS		C			C			A			A	
Queue Length 50th (ft)		48			15			66			47	
Queue Length 95th (ft)		98			38			155			109	
Internal Link Dist (ft)		1866			310			183			186	
Turn Bay Length (ft)												
Base Capacity (vph)		559			555			1171			1301	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.29			0.08			0.42			0.31	

Intersection Summary

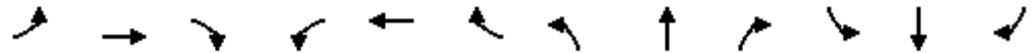
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 42 (53%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay: 8.9
 Intersection Capacity Utilization 71.6%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 193: Genesee & Arnett



Lanes, Volumes, Timings
351: Rugby & Arnett

Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	4	137	12	3	103	13	8	16	19	11	14	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	13	13	13	13	13	13	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.989			0.985			0.940			0.958	
Flt Protected		0.999			0.999			0.991			0.985	
Satd. Flow (prot)	0	1571	0	0	1719	0	0	1637	0	0	1735	0
Flt Permitted		0.996			0.997			0.936			0.889	
Satd. Flow (perm)	0	1566	0	0	1715	0	0	1544	0	0	1564	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13			20			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2029			1946			275			265	
Travel Time (s)		46.1			44.2			6.3			6.0	
Confl. Peds. (#/hr)	4		6	6		4	4		2	2		4
Confl. Bikes (#/hr)			1						1			1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	11%	18%	0%	14%	0%	14%	0%	18%	10%	8%	10%
Adj. Flow (vph)	4	144	13	3	108	14	8	17	20	12	15	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	161	0	0	125	0	0	45	0	0	39	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	44.5	44.5		44.5	44.5		24.5	24.5		24.5	24.5	

Lanes, Volumes, Timings
351: Rugby & Arnett

Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	44.5	44.5		44.5	44.5		31.5	31.5		31.5	31.5	
Total Split (%)	58.6%	58.6%		58.6%	58.6%		41.4%	41.4%		41.4%	41.4%	
Maximum Green (s)	39.0	39.0		39.0	39.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		-2.5			-2.5			-3.5			-3.5	
Total Lost Time (s)		3.0			3.0			3.0			3.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	30.0	30.0		30.0	30.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		48.7			48.7			11.1			11.1	
Actuated g/C Ratio		0.82			0.82			0.19			0.19	
v/c Ratio		0.13			0.09			0.15			0.13	
Control Delay		2.7			2.5			14.5			16.3	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		2.7			2.5			14.5			16.3	
LOS		A			A			B			B	
Approach Delay		2.7			2.5			14.5			16.3	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		13			9			7			8	
Queue Length 95th (ft)		31			24			30			29	
Internal Link Dist (ft)		1949			1866			195			185	
Turn Bay Length (ft)												
Base Capacity (vph)		1285			1408			751			756	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.13			0.09			0.06			0.05	

Intersection Summary

Area Type: Other
 Cycle Length: 76
 Actuated Cycle Length: 59.4
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.15
 Intersection Signal Delay: 5.5
 Intersection Capacity Utilization 45.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 351: Rugby & Arnett



Lanes, Volumes, Timings
352: Thurston & Arnett

Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Volume (vph)	7	56	11	31	49	45	12	194	41	65	196	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	16	16	12	13	13	11	10	10
Storage Length (ft)	0		0	0		0	73		0	72		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			0.99		0.99	0.99		0.99	1.00	
Frt		0.979			0.951			0.974			0.996	
Flt Protected		0.996			0.988		0.950			0.950		
Satd. Flow (prot)	0	1750	0	0	1782	0	1656	1715	0	1454	1577	0
Flt Permitted		0.984			0.938		0.501			0.440		
Satd. Flow (perm)	0	1729	0	0	1690	0	867	1715	0	666	1577	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			48			17				2
Link Speed (mph)		30			30			30				30
Link Distance (ft)		297			2029			934				521
Travel Time (s)		6.8			46.1			21.2				11.8
Confl. Peds. (#/hr)	2		3	3		2	6		9	9		6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	33%	6%	10%	17%	17%	5%	9%	8%	24%	20%	11%	50%
Adj. Flow (vph)	7	60	12	33	52	48	13	206	44	69	209	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	79	0	0	133	0	13	250	0	69	214	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	0.85	0.85	0.85	1.00	0.96	0.96	1.04	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			4				4
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												

Lanes, Volumes, Timings
352: Thurston & Arnett

Future No-Build (2027) AM
7/15/2015

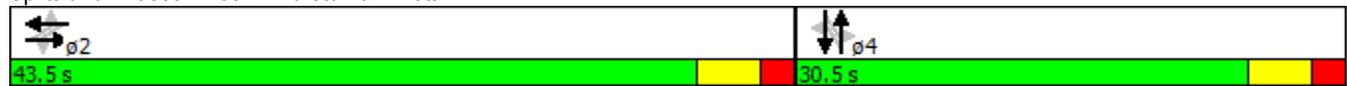


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	30.0	30.0		30.0	30.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	43.5	43.5		43.5	43.5		25.5	25.5		25.5	25.5	
Total Split (s)	43.5	43.5		43.5	43.5		30.5	30.5		30.5	30.5	
Total Split (%)	58.8%	58.8%		58.8%	58.8%		41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	38.0	38.0		38.0	38.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.5			-2.5		-2.5	-2.5		-2.5	-2.5	
Total Lost Time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	30.0	30.0		30.0	30.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.7			40.7		16.7	16.7		16.7	16.7	
Actuated g/C Ratio		0.64			0.64		0.26	0.26		0.26	0.26	
v/c Ratio		0.07			0.12		0.06	0.54		0.39	0.51	
Control Delay		5.1			4.2		17.0	22.8		25.8	24.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		5.1			4.2		17.0	22.8		25.8	24.0	
LOS		A			A		B	C		C	C	
Approach Delay		5.1			4.2			22.5			24.4	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		8			10		4	76		22	69	
Queue Length 95th (ft)		29			37		15	136		54	124	
Internal Link Dist (ft)		217			1949			854			441	
Turn Bay Length (ft)							73			72		
Base Capacity (vph)		1113			1101		377	756		290	687	
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		0.07			0.12		0.03	0.33		0.24	0.31	

Intersection Summary

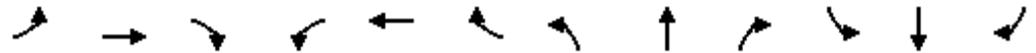
Area Type: Other
 Cycle Length: 74
 Actuated Cycle Length: 63.5
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 18.2
 Intersection Capacity Utilization 60.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 352: Thurston & Arnett



Lanes, Volumes, Timings
193: Genesee & Arnett

Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	83	43	102	19	60	16	113	475	19	11	464	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	16	16	15	15	15	16	16	16	16	16	16
Storage Length (ft)	0		0	0		0	75		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97			0.99			0.99			0.99	
Frt		0.940			0.978			0.996			0.982	
Flt Protected		0.982			0.990			0.991			0.999	
Satd. Flow (prot)	0	1909	0	0	1966	0	0	2072	0	0	2025	0
Flt Permitted		0.831			0.874			0.807			0.988	
Satd. Flow (perm)	0	1601	0	0	1732	0	0	1682	0	0	2002	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			11			3			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			390			263			266	
Travel Time (s)		44.2			8.9			6.0			6.0	
Confl. Peds. (#/hr)	13		8	8		13	26		35	35		26
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	2%	2%	0%	0%	13%	0%	3%	0%	0%	3%	7%
Adj. Flow (vph)	86	44	105	20	62	16	116	490	20	11	478	75
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	235	0	0	98	0	0	626	0	0	564	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85	0.85	0.85	0.85
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	20	20		15	15		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		50	50		50	50	
Detector 1 Position(ft)	0	0		0	0		50	50		50	50	
Detector 1 Size(ft)	20	20		15	15		0	0		0	0	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1			1		
Detector Phase	2	2		2	2		1	1		1	1	
Switch Phase												

Lanes, Volumes, Timings
193: Genesee & Arnett

Future No-Build (2027) PM
7/15/2015

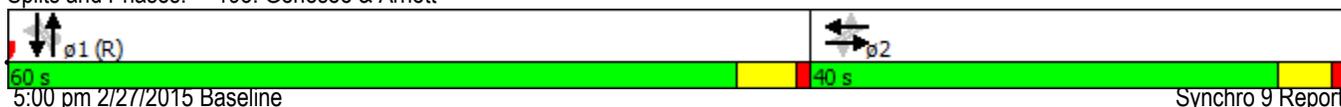


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)	6.0	6.0		6.0	6.0		15.0	15.0		15.0	15.0	
Minimum Split (s)	27.0	27.0		27.0	27.0		36.5	36.5		36.5	36.5	
Total Split (s)	40.0	40.0		40.0	40.0		60.0	60.0		60.0	60.0	
Total Split (%)	40.0%	40.0%		40.0%	40.0%		60.0%	60.0%		60.0%	60.0%	
Maximum Green (s)	35.0	35.0		35.0	35.0		54.5	54.5		54.5	54.5	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.5	4.5		4.5	4.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		5.0			5.0			5.5			5.5	
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0		10.0	10.0		15.0	15.0		15.0	15.0	
Flash Dont Walk (s)	12.0	12.0		12.0	12.0		16.0	16.0		16.0	16.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		17.3			17.3			72.2			72.2	
Actuated g/C Ratio		0.17			0.17			0.72			0.72	
v/c Ratio		0.75			0.32			0.52			0.39	
Control Delay		45.6			32.9			9.0			7.0	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		45.6			32.9			9.0			7.0	
LOS		D			C			A			A	
Approach Delay		45.6			32.9			9.0			7.0	
Approach LOS		D			C			A			A	
Queue Length 50th (ft)		117			49			151			116	
Queue Length 95th (ft)		183			88			299			224	
Internal Link Dist (ft)		1866			310			183			186	
Turn Bay Length (ft)												
Base Capacity (vph)		589			613			1214			1448	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.40			0.16			0.52			0.39	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 60 (60%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 15.4
 Intersection Capacity Utilization 95.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service F

Splits and Phases: 193: Genesee & Arnett



Lanes, Volumes, Timings
351: Rugby & Arnett

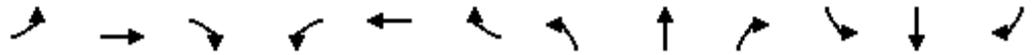
Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	12	220	12	14	255	17	9	14	23	15	21	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	13	13	13	13	13	13	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			0.99	
Frt		0.993			0.992			0.932			0.964	
Flt Protected		0.998			0.997			0.990			0.985	
Satd. Flow (prot)	0	1694	0	0	1796	0	0	1667	0	0	1909	0
Flt Permitted		0.983			0.983			0.932			0.897	
Satd. Flow (perm)	0	1667	0	0	1770	0	0	1566	0	0	1737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			6			25			14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2029			1946			275			265	
Travel Time (s)		46.1			44.2			6.3			6.0	
Confl. Peds. (#/hr)	30		11	11		30	5		1	1		5
Peak Hour Factor	0.93	0.93	0.93	0.90	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	9%	3%	9%	0%	8%	12%	25%	0%	5%	0%	0%	0%
Adj. Flow (vph)	13	237	13	16	274	18	10	15	25	16	23	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	263	0	0	308	0	0	50	0	0	53	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	44.5	44.5		44.5	44.5		24.5	24.5		24.5	24.5	
Total Split (s)	44.5	44.5		44.5	44.5		31.5	31.5		31.5	31.5	

Lanes, Volumes, Timings
351: Rugby & Arnett

Future No-Build (2027) PM
7/15/2015

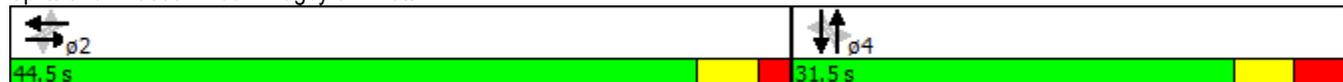


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	58.6%	58.6%		58.6%	58.6%		41.4%	41.4%		41.4%	41.4%	
Maximum Green (s)	39.0	39.0		39.0	39.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)		-2.5			-2.5			-3.5			-3.5	
Total Lost Time (s)		3.0			3.0			3.0			3.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		4.0	4.0		4.0	4.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	30.0	30.0		30.0	30.0		8.0	8.0		8.0	8.0	
Flash Dont Walk (s)	9.0	9.0		9.0	9.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		47.4			47.4			11.4			11.4	
Actuated g/C Ratio		0.77			0.77			0.19			0.19	
v/c Ratio		0.20			0.23			0.16			0.16	
Control Delay		3.4			3.4			13.7			17.1	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		3.4			3.4			13.7			17.1	
LOS		A			A			B			B	
Approach Delay		3.4			3.4			13.7			17.1	
Approach LOS		A			A			B			B	
Queue Length 50th (ft)		24			28			7			12	
Queue Length 95th (ft)		51			59			31			36	
Internal Link Dist (ft)		1949			1866			195			185	
Turn Bay Length (ft)												
Base Capacity (vph)		1285			1365			742			815	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.20			0.23			0.07			0.07	

Intersection Summary

Area Type:	Other
Cycle Length:	76
Actuated Cycle Length:	61.5
Natural Cycle:	70
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.23
Intersection Signal Delay:	5.2
Intersection LOS:	A
Intersection Capacity Utilization:	45.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 351: Rugby & Arnett



Lanes, Volumes, Timings
352: Thurston & Arnett

Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↘		↗	↘	
Volume (vph)	10	74	20	80	101	95	24	281	84	74	316	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	13	13	13	16	16	16	12	13	13	11	10	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99			0.99		0.99	0.99		1.00	1.00	
Frt		0.974			0.953			0.965			0.996	
Flt Protected		0.995			0.986		0.950			0.950		
Satd. Flow (prot)	0	1761	0	0	1829	0	1656	1749	0	1745	1698	0
Flt Permitted		0.972			0.895		0.359			0.301		
Satd. Flow (perm)	0	1720	0	0	1658	0	619	1749	0	551	1698	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			57			23			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		297			2029			934			521	
Travel Time (s)		6.8			46.1			21.2			11.8	
Confl. Peds. (#/hr)	8		6	6		8	11		4	4		11
Confl. Bikes (#/hr)			1			2			2			1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	22%	6%	6%	11%	6%	12%	9%	6%	13%	0%	4%	0%
Adj. Flow (vph)	10	77	21	83	105	99	25	293	88	77	329	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	0	0	287	0	25	381	0	77	337	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.96	0.96	0.96	0.85	0.85	0.85	1.00	0.96	0.96	1.04	1.09	1.09
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1		1	1	
Detector Template												
Leading Detector (ft)	50	50		50	50		50	50		50	50	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	
Detector 1 Type	Cl+Ex	Cl+Ex										
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	Perm	NA										
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Detector Phase	2	2		2	2		4	4		4	4	
Switch Phase												
Minimum Initial (s)	30.0	30.0		30.0	30.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	43.5	43.5		43.5	43.5		25.5	25.5		25.5	25.5	

Lanes, Volumes, Timings
352: Thurston & Arnett

Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (s)	43.5	43.5		43.5	43.5		30.5	30.5		30.5	30.5	
Total Split (%)	58.8%	58.8%		58.8%	58.8%		41.2%	41.2%		41.2%	41.2%	
Maximum Green (s)	38.0	38.0		38.0	38.0		25.0	25.0		25.0	25.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-2.5			-2.5		-2.5	-2.5		-2.5	-2.5	
Total Lost Time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Walk Time (s)	30.0	30.0		30.0	30.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	8.0	8.0		8.0	8.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)		40.7			40.7		21.8	21.8		21.8	21.8	
Actuated g/C Ratio		0.59			0.59		0.32	0.32		0.32	0.32	
v/c Ratio		0.10			0.28		0.13	0.67		0.44	0.62	
Control Delay		6.4			7.1		17.6	24.9		26.9	25.0	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.0	
Total Delay		6.4			7.1		17.6	24.9		26.9	25.0	
LOS		A			A		B	C		C	C	
Approach Delay		6.4			7.1			24.5			25.4	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)		14			42		7	127		25	117	
Queue Length 95th (ft)		39			94		24	212		64	195	
Internal Link Dist (ft)		217			1949			854			441	
Turn Bay Length (ft)												
Base Capacity (vph)		1030			1008		249	719		222	686	
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		0.10			0.28		0.10	0.53		0.35	0.49	

Intersection Summary

Area Type: Other
 Cycle Length: 74
 Actuated Cycle Length: 68.5
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 19.1
 Intersection Capacity Utilization 66.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 352: Thurston & Arnett



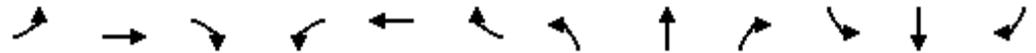
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GENESEE PARK BOULEVARD

EXISTING BACKUP

Lanes, Volumes, Timings
554: Genesee Park & Brooks

ETC (2017) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↖			↕	↗
Volume (vph)	35	257	251	5	284	19	75	52	9	26	150	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12	11	12	12	12	12	12
Storage Length (ft)	0		93	0		0	100		0	0		50
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.978				0.850
Flt Protected		0.994			0.999		0.950				0.993	
Satd. Flow (prot)	0	1790	1583	0	1846	0	1711	1822	0	0	1850	1583
Flt Permitted		0.933			0.994		0.600				0.960	
Satd. Flow (perm)	0	1680	1583	0	1837	0	1080	1822	0	0	1788	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			279		7			10				131
Link Speed (mph)		30			30			30				30
Link Distance (ft)		368			386			330				369
Travel Time (s)		8.4			8.8			7.5				8.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	39	286	279	6	316	21	83	58	10	29	167	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	325	279	0	343	0	83	68	0	0	196	131
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		4
Minimum Split (s)	34.0	34.0	34.0	34.0	34.0		31.0	31.0		31.0	31.0	31.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0		31.0	31.0		31.0	31.0	31.0
Total Split (%)	52.3%	52.3%	52.3%	52.3%	52.3%		47.7%	47.7%		47.7%	47.7%	47.7%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0		25.0	25.0		25.0	25.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		-3.0	-1.0		-3.0		-3.0	-3.0			-3.0	-1.0
Total Lost Time (s)		3.0	5.0		3.0		3.0	3.0			3.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		18.0	18.0		18.0	18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	0
Act Effct Green (s)		31.0	29.0		31.0		28.0	28.0			28.0	26.0
Actuated g/C Ratio		0.48	0.45		0.48		0.43	0.43			0.43	0.40
v/c Ratio		0.41	0.32		0.39		0.18	0.09			0.25	0.18



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		13.0	2.8		12.3		12.7	10.1			13.0	3.5
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		13.0	2.8		12.3		12.7	10.1			13.0	3.5
LOS		B	A		B		B	B			B	A
Approach Delay		8.3			12.3			11.5			9.2	
Approach LOS		A			B			B			A	
Queue Length 50th (ft)		78	0		80		19	13			47	0
Queue Length 95th (ft)		135	36		136		45	33			87	28
Internal Link Dist (ft)		288			306			250			289	
Turn Bay Length (ft)			93				100					50
Base Capacity (vph)		801	860		879		465	790			770	711
Starvation Cap Reductn		0	0		0		0	0			0	0
Spillback Cap Reductn		0	0		0		0	0			0	0
Storage Cap Reductn		0	0		0		0	0			0	0
Reduced v/c Ratio		0.41	0.32		0.39		0.18	0.09			0.25	0.18

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
 Natural Cycle: 65
 Control Type: Pretimed
 Maximum v/c Ratio: 0.41
 Intersection Signal Delay: 9.8
 Intersection Capacity Utilization 85.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service E

Splits and Phases: 554: Genesee Park & Brooks



Lanes, Volumes, Timings
554: Genesee Park & Brooks

ETC (2017) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	332	112	7	430	31	267	202	15	15	78	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12	11	12	12	12	12	12
Storage Length (ft)	0		93	0		0	100		0	0		50
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991			0.989				0.850
Flt Protected		0.991			0.999		0.950				0.992	
Satd. Flow (prot)	0	1784	1583	0	1844	0	1711	1842	0	0	1848	1583
Flt Permitted		0.853			0.993		0.690				0.942	
Satd. Flow (perm)	0	1536	1583	0	1833	0	1242	1842	0	0	1755	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			124		7			7				106
Link Speed (mph)		30			30			30				30
Link Distance (ft)		368			386			330				369
Travel Time (s)		8.4			8.8			7.5				8.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	79	369	124	8	478	34	297	224	17	17	87	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	448	124	0	520	0	297	241	0	0	104	106
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		4
Minimum Split (s)	34.0	34.0	34.0	34.0	34.0		31.0	31.0		31.0	31.0	31.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0		31.0	31.0		31.0	31.0	31.0
Total Split (%)	52.3%	52.3%	52.3%	52.3%	52.3%		47.7%	47.7%		47.7%	47.7%	47.7%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0		25.0	25.0		25.0	25.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		-3.0	-1.0		-3.0		-3.0	-3.0			-3.0	-1.0
Total Lost Time (s)		3.0	5.0		3.0		3.0	3.0			3.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		18.0	18.0		18.0	18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	0
Act Effct Green (s)		31.0	29.0		31.0		28.0	28.0			28.0	26.0
Actuated g/C Ratio		0.48	0.45		0.48		0.43	0.43			0.43	0.40
v/c Ratio		0.61	0.16		0.59		0.56	0.30			0.14	0.15



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		17.1	3.0		15.7		18.8	13.1			11.9	3.7
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		17.1	3.0		15.7		18.8	13.1			11.9	3.7
LOS		B	A		B		B	B			B	A
Approach Delay		14.0			15.7			16.2			7.7	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		123	0		139		84	58			24	0
Queue Length 95th (ft)		211	25		228		156	103			50	25
Internal Link Dist (ft)		288			306			250			289	
Turn Bay Length (ft)			93				100					50
Base Capacity (vph)		732	774		877		535	797			756	696
Starvation Cap Reductn		0	0		0		0	0			0	0
Spillback Cap Reductn		0	0		0		0	0			0	0
Storage Cap Reductn		0	0		0		0	0			0	0
Reduced v/c Ratio		0.61	0.16		0.59		0.56	0.30			0.14	0.15

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
 Natural Cycle: 65
 Control Type: Pretimed
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 14.4
 Intersection Capacity Utilization 77.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 554: Genesee Park & Brooks



GENESEE PARK BOULEVARD

PROPOSED BACKUP

Lanes, Volumes, Timings
554: Genesee Park & Brooks

Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	37	269	263	5	297	20	79	54	9	27	157	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12	11	12	12	12	12	12
Storage Length (ft)	0		93	0		0	100		0	0		50
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992			0.979				0.850
Flt Protected		0.994			0.999		0.950				0.993	
Satd. Flow (prot)	0	1790	1583	0	1846	0	1711	1824	0	0	1850	1583
Flt Permitted		0.930			0.994		0.591				0.960	
Satd. Flow (perm)	0	1675	1583	0	1837	0	1064	1824	0	0	1788	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			292		7			10				138
Link Speed (mph)		30			30			30				30
Link Distance (ft)		368			386			330				369
Travel Time (s)		8.4			8.8			7.5				8.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	41	299	292	6	330	22	88	60	10	30	174	138
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	340	292	0	358	0	88	70	0	0	204	138
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			11			11	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4			4	
Permitted Phases	2		2	2			4			4		4
Minimum Split (s)	34.0	34.0	34.0	34.0	34.0		31.0	31.0		31.0	31.0	31.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0		31.0	31.0		31.0	31.0	31.0
Total Split (%)	52.3%	52.3%	52.3%	52.3%	52.3%		47.7%	47.7%		47.7%	47.7%	47.7%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0		25.0	25.0		25.0	25.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		-3.0	-1.0		-3.0		-3.0	-3.0			-3.0	-1.0
Total Lost Time (s)		3.0	5.0		3.0		3.0	3.0			3.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		18.0	18.0		18.0	18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	0
Act Effct Green (s)		31.0	29.0		31.0		28.0	28.0			28.0	26.0
Actuated g/C Ratio		0.48	0.45		0.48		0.43	0.43			0.43	0.40
v/c Ratio		0.43	0.34		0.41		0.19	0.09			0.26	0.19



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		13.3	2.8		12.6		12.9	10.1			13.1	3.5
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		13.3	2.8		12.6		12.9	10.1			13.1	3.5
LOS		B	A		B		B	B			B	A
Approach Delay		8.4			12.6			11.7			9.2	
Approach LOS		A			B			B			A	
Queue Length 50th (ft)		83	0		84		21	13			50	0
Queue Length 95th (ft)		142	37		143		48	34			91	29
Internal Link Dist (ft)		288			306			250			289	
Turn Bay Length (ft)			93				100					50
Base Capacity (vph)		798	867		879		458	791			770	716
Starvation Cap Reductn		0	0		0		0	0			0	0
Spillback Cap Reductn		0	0		0		0	0			0	0
Storage Cap Reductn		0	0		0		0	0			0	0
Reduced v/c Ratio		0.43	0.34		0.41		0.19	0.09			0.26	0.19

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
 Natural Cycle: 65
 Control Type: Pretimed
 Maximum v/c Ratio: 0.43
 Intersection Signal Delay: 9.9
 Intersection Capacity Utilization 87.9%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service E

Splits and Phases: 554: Genesee Park & Brooks



Lanes, Volumes, Timings
554: Genesee Park & Brooks

Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕		↖	↗			↕	↗
Volume (vph)	75	349	118	7	452	33	281	213	16	16	82	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12	11	12	12	12	12	12
Storage Length (ft)	0		93	0		0	100		0	0		50
Storage Lanes	0		1	0		0	1		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991			0.989				0.850
Flt Protected		0.991			0.999		0.950				0.992	
Satd. Flow (prot)	0	1784	1583	0	1844	0	1711	1842	0	0	1848	1583
Flt Permitted		0.840			0.993		0.687				0.939	
Satd. Flow (perm)	0	1513	1583	0	1833	0	1237	1842	0	0	1749	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131		8			7				111
Link Speed (mph)		30			30			30				30
Link Distance (ft)		368			386			330				369
Travel Time (s)		8.4			8.8			7.5				8.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	83	388	131	8	502	37	312	237	18	18	91	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	471	131	0	547	0	312	255	0	0	109	111
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			11				11
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.00	1.00	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			2			4				4
Permitted Phases	2		2	2			4			4		4
Minimum Split (s)	34.0	34.0	34.0	34.0	34.0		31.0	31.0		31.0	31.0	31.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0		31.0	31.0		31.0	31.0	31.0
Total Split (%)	52.3%	52.3%	52.3%	52.3%	52.3%		47.7%	47.7%		47.7%	47.7%	47.7%
Maximum Green (s)	28.0	28.0	28.0	28.0	28.0		25.0	25.0		25.0	25.0	25.0
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		2.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)		-3.0	-1.0		-3.0		-3.0	-3.0			-3.0	-1.0
Total Lost Time (s)		3.0	5.0		3.0		3.0	3.0			3.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	18.0		18.0	18.0		18.0	18.0	18.0
Pedestrian Calls (#/hr)	0	0	0	0	0		0	0		0	0	0
Act Effct Green (s)		31.0	29.0		31.0		28.0	28.0			28.0	26.0
Actuated g/C Ratio		0.48	0.45		0.48		0.43	0.43			0.43	0.40
v/c Ratio		0.65	0.17		0.62		0.59	0.32			0.14	0.16

Lanes, Volumes, Timings
554: Genesee Park & Brooks

Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay		18.3	3.0		16.4		19.6	13.3			11.9	3.7
Queue Delay		0.0	0.0		0.0		0.0	0.0			0.0	0.0
Total Delay		18.3	3.0		16.4		19.6	13.3			11.9	3.7
LOS		B	A		B		B	B			B	A
Approach Delay		14.9			16.4			16.8			7.8	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)		133	0		149		90	62			25	0
Queue Length 95th (ft)		230	25		244		166	109			52	26
Internal Link Dist (ft)		288			306			250			289	
Turn Bay Length (ft)			93				100					50
Base Capacity (vph)		721	778		878		532	797			753	699
Starvation Cap Reductn		0	0		0		0	0			0	0
Spillback Cap Reductn		0	0		0		0	0			0	0
Storage Cap Reductn		0	0		0		0	0			0	0
Reduced v/c Ratio		0.65	0.17		0.62		0.59	0.32			0.14	0.16

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Offset: 0 (0%), Referenced to phase 2:EBWB, Start of Green
 Natural Cycle: 65
 Control Type: Pretimed
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 15.1
 Intersection LOS: B
 Intersection Capacity Utilization 80.9%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 554: Genesee Park & Brooks



WEBSTER AVENUE

EXISTING BACKUP



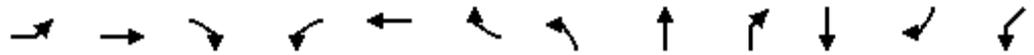
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	SWL
Lane Configurations												
Volume (vph)	4	18	11	5	15	9	6	297	151	524	10	432
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	13	13	13	12	12	12	12	12	10
Storage Length (ft)	0		0	0		0	0		0		0	125
Storage Lanes	0		0	0		0	0		1		0	1
Taper Length (ft)	25			25			25					25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Frt		0.955			0.959				0.850	0.997		0.992
Flt Protected		0.994			0.991			0.999				0.955
Satd. Flow (prot)	0	1886	0	0	1829	0	0	1861	1583	1857	0	3195
Flt Permitted		0.965			0.942			0.989				0.955
Satd. Flow (perm)	0	1831	0	0	1739	0	0	1842	1583	1857	0	3195
Right Turn on Red			Yes								Yes	
Satd. Flow (RTOR)		12								1		
Link Speed (mph)		30			30			30		30		30
Link Distance (ft)		305			298			333		1040		1072
Travel Time (s)		6.9			6.8			7.6		23.6		24.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	20	12	6	17	10	7	330	168	582	11	480
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	33	0	0	337	168	593	0	508
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Left
Median Width(ft)		0			0			0		0		20
Link Offset(ft)		0			0			0		0		0
Crosswalk Width(ft)		16			16			16		16		16
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.09
Turning Speed (mph)	15		9	15		9	15		9		9	15
Number of Detectors	1	1		1	1		1	1	1	1		1
Detector Template												
Leading Detector (ft)	40	40		40	40		35	35	35	40		15
Trailing Detector (ft)	-10	-10		-10	-10		-5	-5	-5	-5		-5
Detector 1 Position(ft)	-10	-10		-10	-10		-5	-5	-5	-5		-5
Detector 1 Size(ft)	50	50		50	50		40	40	40	45		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	pm+ov	NA		Prot
Protected Phases		3			3			1	2	1		2
Permitted Phases	3			3			1		1			
Detector Phase	3	3		3	3		1	1	2	1		2
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0		6.0
Minimum Split (s)	23.0	23.0		23.0	23.0		21.0	21.0	24.0	21.0		24.0
Total Split (s)	24.0	24.0		24.0	24.0		41.0	41.0	25.0	41.0		25.0



Lane Group	SWR
Lane Configurations	
Volume (vph)	25
Ideal Flow (vphpl)	1900
Lane Width (ft)	10
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.90
Adj. Flow (vph)	28
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.09
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	

Lanes, Volumes, Timings
132: Goodman & Garson & Webster

ETC (2017) AM
7/15/2015

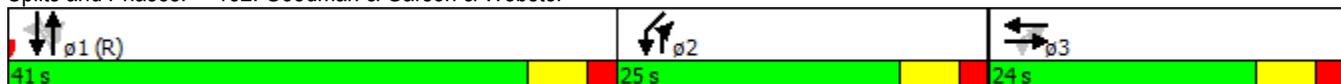


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	SWL
Total Split (%)	26.7%	26.7%		26.7%	26.7%		45.6%	45.6%	27.8%	45.6%		27.8%
Maximum Green (s)	18.0	18.0		18.0	18.0		35.0	35.0	19.0	35.0		19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		-3.0			-3.0			-3.0	-3.0	-3.0		-3.0
Total Lost Time (s)		3.0			3.0			3.0	3.0	3.0		3.0
Lead/Lag							Lead	Lead	Lag	Lead		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0		3.0
Recall Mode	None	None		None	None		C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0	11.0	8.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effct Green (s)		10.5			10.5			52.1	76.5	52.1		20.8
Actuated g/C Ratio		0.12			0.12			0.58	0.85	0.58		0.23
v/c Ratio		0.16			0.16			0.32	0.12	0.55		0.69
Control Delay		27.9			37.1			12.2	2.0	15.7		35.4
Queue Delay		0.0			0.0			0.0	0.0	0.0		0.0
Total Delay		27.9			37.1			12.2	2.0	15.7		35.4
LOS		C			D			B	A	B		D
Approach Delay		27.9			37.1			8.8		15.7		35.4
Approach LOS		C			D			A		B		D
Queue Length 50th (ft)		12			17			101	14	213		138
Queue Length 95th (ft)		39			44			167	29	337		191
Internal Link Dist (ft)		225			218			253		960		992
Turn Bay Length (ft)												125
Base Capacity (vph)		436			405			1067	1351	1076		781
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		0.08			0.08			0.32	0.12	0.55		0.65

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 40 (44%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 20.3
 Intersection Capacity Utilization 56.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 132: Goodman & Garson & Webster





Lane Group	SWR
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
329: Webster & Parsells

ETC (2017) AM
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Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	53	84	91	44	50	383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	16	16
Storage Length (ft)	0	52		75	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.994
Satd. Flow (prot)	1770	1583	1739	1478	0	2098
Flt Permitted	0.950					0.958
Satd. Flow (perm)	1770	1583	1739	1478	0	2022
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		93		49		
Link Speed (mph)	30		30			30
Link Distance (ft)	300		1072			3353
Travel Time (s)	6.8		24.4			76.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	59	93	101	49	56	426
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	93	101	49	0	482
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.09	1.09	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	20	20	50	50	50	50
Trailing Detector (ft)	-10	-10	50	50	50	50
Detector 1 Position(ft)	-10	-10	50	50	50	50
Detector 1 Size(ft)	30	30	0	0	0	0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	2		1			1
Permitted Phases		2		1	1	
Detector Phase	2	2	1	1	1	1
Switch Phase						
Minimum Initial (s)	10.0	10.0	12.0	12.0	12.0	12.0
Minimum Split (s)	21.5	21.5	43.0	43.0	43.0	43.0
Total Split (s)	28.0	28.0	62.0	62.0	62.0	62.0



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Total Split (%)	31.1%	31.1%	68.9%	68.9%	68.9%	68.9%
Maximum Green (s)	22.5	22.5	55.0	55.0	55.0	55.0
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.5	-2.5	-4.0	-4.0		-4.0
Total Lost Time (s)	3.0	3.0	3.0	3.0		3.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	4.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	12.0	12.0	12.0	12.0
Flash Dont Walk (s)	9.0	9.0	24.0	24.0	24.0	24.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	13.2	13.2	74.5	74.5		74.5
Actuated g/C Ratio	0.15	0.15	0.83	0.83		0.83
v/c Ratio	0.23	0.30	0.07	0.04		0.29
Control Delay	36.0	10.3	2.2	0.8		3.0
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	36.0	10.3	2.2	0.8		3.0
LOS	D	B	A	A		A
Approach Delay	20.3		1.8			3.0
Approach LOS	C		A			A
Queue Length 50th (ft)	30	0	9	0		55
Queue Length 95th (ft)	64	41	21	5		98
Internal Link Dist (ft)	220		992			3273
Turn Bay Length (ft)		52		75		
Base Capacity (vph)	491	506	1440	1232		1674
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.12	0.18	0.07	0.04		0.29

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 51 (57%), Referenced to phase 1:NESW, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.30
 Intersection Signal Delay: 6.1
 Intersection LOS: A
 Intersection Capacity Utilization 44.6%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 329: Webster & Parsells



Lanes, Volumes, Timings
360: Webster & Bay & Pershing

ETC (2017) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Volume (vph)	8	121	6	149	159	7	0	23	58	7	46	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	14	14	13	13	13	11	11	13
Storage Length (ft)	63		0	101		0	0	0			0	0
Storage Lanes	1		0	1		0	0	0			0	1
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.994			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1652	1726	0	1652	1975	0	0	1665	0	0	1711	1636
Flt Permitted	0.641			0.667							0.961	
Satd. Flow (perm)	1114	1726	0	1160	1975	0	0	1665	0	0	1730	1636
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			95				95
Link Speed (mph)		30			30		30				30	
Link Distance (ft)		348			300		294				3353	
Travel Time (s)		7.9			6.8		6.7				76.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	9	134	7	166	177	8	0	26	64	8	51	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	141	0	166	185	0	0	90	0	0	59	12
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(ft)		10			10		0				11	
Link Offset(ft)		0			0		0				0	
Crosswalk Width(ft)		16			16		16				16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	0.92	0.92	0.96	0.96	0.96	1.04	1.04	0.96
Turning Speed (mph)	15		9	15		9	15	9	9	15	15	9
Number of Detectors	1	1		1	1			1		1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50			50		50	50	50
Trailing Detector (ft)	0	0		0	0			0		0	0	0
Detector 1 Position(ft)	0	0		0	0			0		0	0	0
Detector 1 Size(ft)	50	50		50	50			50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Turn Type	Perm	NA		pm+pt	NA			Over		D.Pm	Prot	Prot
Protected Phases		4		3	3 4			2			2	2
Permitted Phases	4			3 4				2		2		2
Detector Phase	4	4		3	3 4			2		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		6.0				10.0		10.0	10.0	10.0
Minimum Split (s)	25.0	25.0		12.0				25.0		25.0	25.0	25.0
Total Split (s)	41.0	41.0		26.0				36.0		36.0	36.0	36.0

Lanes, Volumes, Timings
360: Webster & Bay & Pershing

ETC (2017) AM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Total Split (%)	39.8%	39.8%		25.2%				35.0%		35.0%	35.0%	35.0%
Maximum Green (s)	35.0	35.0		20.0				30.0		30.0	30.0	30.0
Yellow Time (s)	4.0	4.0		3.5				4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.5				2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0				-3.0			-3.0	-3.0
Total Lost Time (s)	3.0	3.0		3.0				3.0			3.0	3.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		2.0				4.0		4.0	4.0	4.0
Recall Mode	Min	Min		None				Min		Min	Min	Min
Walk Time (s)	10.0	10.0						10.0		10.0	10.0	10.0
Flash Dont Walk (s)	9.0	9.0						9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0						0		0	0	0
Act Effct Green (s)	13.9	13.9		23.6	26.6			13.0			13.0	13.0
Actuated g/C Ratio	0.30	0.30		0.52	0.58			0.28			0.28	0.28
v/c Ratio	0.03	0.27		0.24	0.16			0.17			0.12	0.02
Control Delay	11.6	13.5		5.4	4.6			4.8			13.8	0.1
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	11.6	13.5		5.4	4.6			4.8			13.8	0.1
LOS	B	B		A	A			A			B	A
Approach Delay		13.4			5.0						11.4	
Approach LOS		B			A						B	
Queue Length 50th (ft)	2	27		17	18			0			11	0
Queue Length 95th (ft)	9	61		35	36			24			35	0
Internal Link Dist (ft)		268			220		214				3273	
Turn Bay Length (ft)	63			101								
Base Capacity (vph)	929	1440		924	1975			1232			1253	1211
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.01	0.10		0.18	0.09			0.07			0.05	0.01

Intersection Summary

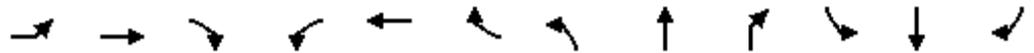
Area Type:	Other
Cycle Length:	103
Actuated Cycle Length:	45.7
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.27
Intersection Signal Delay:	7.5
Intersection LOS:	A
Intersection Capacity Utilization:	35.5%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 360: Webster & Bay & Pershing



Lanes, Volumes, Timings
132: Goodman & Garson & Webster

ETC (2017) PM
7/15/2015



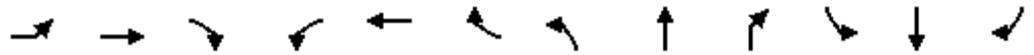
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Volume (vph)	5	14	9	2	8	23	14	497	320	3	425	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	13	13	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958			0.905				0.850		0.996	
Flt Protected		0.991			0.997			0.999				
Satd. Flow (prot)	0	1886	0	0	1737	0	0	1861	1583	0	1855	0
Flt Permitted		0.925			0.978			0.983			0.998	
Satd. Flow (perm)	0	1761	0	0	1704	0	0	1831	1583	0	1852	0
Right Turn on Red			Yes									Yes
Satd. Flow (RTOR)		10										2
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		305			298			333			671	
Travel Time (s)		6.9			6.8			7.6			15.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	16	10	2	9	26	16	552	356	3	472	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	0	0	37	0	0	568	356	0	491	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	40	40		40	40		35	35	35	40	40	
Trailing Detector (ft)	-10	-10		-10	-10		-5	-5	-5	-5	-5	
Detector 1 Position(ft)	-10	-10		-10	-10		-5	-5	-5	-5	-5	
Detector 1 Size(ft)	50	50		50	50		40	40	40	45	45	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		3			3			1	2		1	
Permitted Phases	3			3			1		1	1		
Detector Phase	3	3		3	3		1	1	2	1	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		21.0	21.0	24.0	21.0	21.0	
Total Split (s)	25.0	25.0		25.0	25.0		50.0	50.0	25.0	50.0	50.0	



Lane Group	SWL	SWR
Lane Configurations	TT	
Volume (vph)	169	24
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	10	10
Storage Length (ft)	125	0
Storage Lanes	1	0
Taper Length (ft)	25	
Lane Util. Factor	0.97	0.95
Frt	0.981	
Flt Protected	0.958	
Satd. Flow (prot)	3170	0
Flt Permitted	0.958	
Satd. Flow (perm)	3170	0
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)	30	
Link Distance (ft)	1072	
Travel Time (s)	24.4	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	188	27
Shared Lane Traffic (%)		
Lane Group Flow (vph)	215	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	20	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.09	1.09
Turning Speed (mph)	15	9
Number of Detectors	1	
Detector Template		
Leading Detector (ft)	15	
Trailing Detector (ft)	-5	
Detector 1 Position(ft)	-5	
Detector 1 Size(ft)	20	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Turn Type	Prot	
Protected Phases	2	
Permitted Phases		
Detector Phase	2	
Switch Phase		
Minimum Initial (s)	6.0	
Minimum Split (s)	24.0	
Total Split (s)	25.0	

Lanes, Volumes, Timings
132: Goodman & Garson & Webster

ETC (2017) PM
7/15/2015

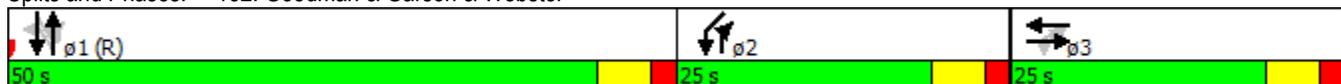


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	25.0%	25.0%		25.0%	25.0%		50.0%	50.0%	25.0%	50.0%	50.0%	
Maximum Green (s)	19.0	19.0		19.0	19.0		44.0	44.0	19.0	44.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0			6.0	6.0		6.0	
Lead/Lag							Lead	Lead	Lag	Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Recall Mode	None	None		None	None		C-Max	C-Max	None	C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0	11.0	8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		7.9			7.9			64.0	83.7		64.0	
Actuated g/C Ratio		0.08			0.08			0.64	0.84		0.64	
v/c Ratio		0.22			0.27			0.49	0.27		0.41	
Control Delay		35.7			47.8			12.9	3.1		11.7	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		35.7			47.8			12.9	3.1		11.7	
LOS		D			D			B	A		B	
Approach Delay		35.7			47.8			9.1			11.7	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		13			23			182	44		147	
Queue Length 95th (ft)		42			53			323	80		263	
Internal Link Dist (ft)		225			218			253			591	
Turn Bay Length (ft)												
Base Capacity (vph)		342			323			1170	1394		1185	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.09			0.11			0.49	0.26		0.41	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 31 (31%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.54
 Intersection Signal Delay: 15.0
 Intersection Capacity Utilization 63.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 132: Goodman & Garson & Webster





Lane Group	SWL	SWR
Total Split (%)	25.0%	
Maximum Green (s)	19.0	
Yellow Time (s)	4.0	
All-Red Time (s)	2.0	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)	12.5	
Actuated g/C Ratio	0.12	
v/c Ratio	0.54	
Control Delay	39.2	
Queue Delay	0.0	
Total Delay	39.2	
LOS	D	
Approach Delay	39.2	
Approach LOS	D	
Queue Length 50th (ft)	55	
Queue Length 95th (ft)	79	
Internal Link Dist (ft)	992	
Turn Bay Length (ft)	125	
Base Capacity (vph)	602	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.36	
Intersection Summary		

Lanes, Volumes, Timings
329: Webster & Parsells

ETC (2017) PM
7/15/2015



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	41	112	418	113	96	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	16	16
Storage Length (ft)	0	0		75	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.984
Satd. Flow (prot)	1770	1583	1739	1478	0	2077
Flt Permitted	0.950					0.743
Satd. Flow (perm)	1770	1583	1739	1478	0	1569
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		124		118		
Link Speed (mph)	30		30			30
Link Distance (ft)	300		1072			3353
Travel Time (s)	6.8		24.4			76.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	46	124	464	126	107	224
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	124	464	126	0	331
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.09	1.09	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	20	20	50	50	50	50
Trailing Detector (ft)	-10	-10	50	50	50	50
Detector 1 Position(ft)	-10	-10	50	50	50	50
Detector 1 Size(ft)	30	30	0	0	0	0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	2		1			1
Permitted Phases		2		1	1	
Detector Phase	2	2	1	1	1	1
Switch Phase						
Minimum Initial (s)	10.0	10.0	12.0	12.0	12.0	12.0
Minimum Split (s)	21.5	21.5	43.0	43.0	43.0	43.0
Total Split (s)	26.0	26.0	74.0	74.0	74.0	74.0



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Total Split (%)	26.0%	26.0%	74.0%	74.0%	74.0%	74.0%
Maximum Green (s)	20.5	20.5	67.0	67.0	67.0	67.0
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.5	5.5	7.0	7.0		7.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	4.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	12.0	12.0	12.0	12.0
Flash Dont Walk (s)	9.0	9.0	24.0	24.0	24.0	24.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	10.5	10.5	77.0	77.0		77.0
Actuated g/C Ratio	0.10	0.10	0.77	0.77		0.77
v/c Ratio	0.25	0.45	0.35	0.11		0.27
Control Delay	44.4	13.2	6.5	2.2		4.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	44.4	13.2	6.5	2.2		4.1
LOS	D	B	A	A		A
Approach Delay	21.6		5.6			4.1
Approach LOS	C		A			A
Queue Length 50th (ft)	28	0	118	11		48
Queue Length 95th (ft)	61	52	172	28		85
Internal Link Dist (ft)	220		992			3273
Turn Bay Length (ft)				75		
Base Capacity (vph)	362	423	1338	1165		1207
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.13	0.29	0.35	0.11		0.27

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 68 (68%), Referenced to phase 1:NESW, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay: 7.6
 Intersection Capacity Utilization 62.5%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 329: Webster & Parsells



Lanes, Volumes, Timings
360: Webster & Bay & Pershing

ETC (2017) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Volume (vph)	16	240	7	84	182	13	0	66	181	8	13	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	100		0	0	0			0	125
Storage Lanes	1		0	1		0	0	0			0	1
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.990			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1770	1855	0	1770	1844	0	0	1611	0	0	1770	1583
Flt Permitted	0.623			0.482							0.863	
Satd. Flow (perm)	1160	1855	0	898	1844	0	0	1611	0	0	1608	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			6			142				95
Link Speed (mph)		30			30		30				30	
Link Distance (ft)		348			300		294				3353	
Travel Time (s)		7.9			6.8		6.7				76.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	18	267	8	93	202	14	0	73	201	9	14	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	275	0	93	216	0	0	274	0	0	23	2
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(ft)		12			12		0				12	
Link Offset(ft)		0			0		0				0	
Crosswalk Width(ft)		16			16		16				16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	9	15	15	9
Number of Detectors	1	1		1	1			1		1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50			50		50	50	50
Trailing Detector (ft)	0	0		0	0			0		0	0	0
Detector 1 Position(ft)	0	0		0	0			0		0	0	0
Detector 1 Size(ft)	50	50		50	50			50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Turn Type	Perm	NA		pm+pt	NA			Over		D.Pm	Prot	Prot
Protected Phases		4		3	3 4			2			2	2
Permitted Phases	4			3 4				2		2		2
Detector Phase	4	4		3	3 4			2		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		6.0				10.0		10.0	10.0	10.0
Minimum Split (s)	25.0	25.0		12.0				25.0		25.0	25.0	25.0
Total Split (s)	41.0	41.0		26.0				36.0		36.0	36.0	36.0
Total Split (%)	39.8%	39.8%		25.2%				35.0%		35.0%	35.0%	35.0%

Lanes, Volumes, Timings
360: Webster & Bay & Pershing

ETC (2017) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Maximum Green (s)	35.0	35.0		20.0				30.0		30.0	30.0	30.0
Yellow Time (s)	4.0	4.0		3.5				4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.5				2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0				-3.0			-3.0	-3.0
Total Lost Time (s)	3.0	3.0		3.0				3.0			3.0	3.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		2.0				4.0		4.0	4.0	4.0
Recall Mode	Min	Min		None				Min		Min	Min	Min
Walk Time (s)	10.0	10.0						10.0		10.0	10.0	10.0
Flash Dont Walk (s)	9.0	9.0						9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0						0		0	0	0
Act Effct Green (s)	18.1	18.1		28.7	31.8			15.7			15.7	15.7
Actuated g/C Ratio	0.34	0.34		0.53	0.59			0.29			0.29	0.29
v/c Ratio	0.05	0.44		0.14	0.20			0.48			0.05	0.00
Control Delay	13.5	16.8		5.7	5.7			11.8			16.0	0.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	13.5	16.8		5.7	5.7			11.8			16.0	0.0
LOS	B	B		A	A			B			B	A
Approach Delay		16.6			5.7						14.8	
Approach LOS		B			A						B	
Queue Length 50th (ft)	4	60		10	23			31			5	0
Queue Length 95th (ft)	17	146		32	65			104			22	0
Internal Link Dist (ft)		268			220		214				3273	
Turn Bay Length (ft)	50			100								125
Base Capacity (vph)	844	1351		916	1726			1071			1017	1036
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.02	0.20		0.10	0.13			0.26			0.02	0.00

Intersection Summary

Area Type: Other
 Cycle Length: 103
 Actuated Cycle Length: 53.7
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.48
 Intersection Signal Delay: 11.4
 Intersection Capacity Utilization 43.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 360: Webster & Bay & Pershing

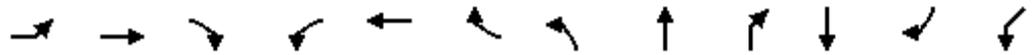


WEBSTER AVENUE

PROPOSED BACKUP

Lanes, Volumes, Timings
132: Goodman & Garson & Webster

Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	SWL
Lane Configurations		↕			↕			↕	↕	↕		↕
Volume (vph)	4	19	11	5	16	9	6	311	158	549	10	453
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	13	13	13	12	12	12	12	12	10
Storage Length (ft)	0		0	0		0	0		0		0	125
Storage Lanes	0		0	0		0	0		1		0	1
Taper Length (ft)	25			25			25					25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Frt		0.956			0.960				0.850	0.998		0.992
Flt Protected		0.995			0.991			0.999				0.955
Satd. Flow (prot)	0	1890	0	0	1831	0	0	1861	1583	1859	0	3195
Flt Permitted		0.966			0.943			0.989				0.955
Satd. Flow (perm)	0	1835	0	0	1743	0	0	1842	1583	1859	0	3195
Right Turn on Red			Yes								Yes	
Satd. Flow (RTOR)		12								1		
Link Speed (mph)		30			30			30		30		30
Link Distance (ft)		305			298			333		1040		1072
Travel Time (s)		6.9			6.8			7.6		23.6		24.4
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	4	21	12	6	18	10	7	346	176	610	11	503
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	37	0	0	34	0	0	353	176	621	0	532
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Right	Left
Median Width(ft)		0			0			0		0		20
Link Offset(ft)		0			0			0		0		0
Crosswalk Width(ft)		16			16			16		16		16
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.09
Turning Speed (mph)	15		9	15		9	15		9		9	15
Number of Detectors	1	1		1	1		1	1	1	1		1
Detector Template												
Leading Detector (ft)	40	40		40	40		35	35	35	40		15
Trailing Detector (ft)	-10	-10		-10	-10		-5	-5	-5	-5		-5
Detector 1 Position(ft)	-10	-10		-10	-10		-5	-5	-5	-5		-5
Detector 1 Size(ft)	50	50		50	50		40	40	40	45		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0		0.0
Turn Type	Perm	NA		Perm	NA		Perm	NA	pm+ov	NA		Prot
Protected Phases		3			3			1	2	1		2
Permitted Phases	3			3			1		1			
Detector Phase	3	3		3	3		1	1	2	1		2
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0		6.0
Minimum Split (s)	23.0	23.0		23.0	23.0		21.0	21.0	24.0	21.0		24.0
Total Split (s)	24.0	24.0		24.0	24.0		41.0	41.0	25.0	41.0		25.0



Lane Group	SWR
Lane Configurations	
Volume (vph)	26
Ideal Flow (vphpl)	1900
Lane Width (ft)	10
Storage Length (ft)	0
Storage Lanes	0
Taper Length (ft)	
Lane Util. Factor	0.95
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.90
Adj. Flow (vph)	29
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.09
Turning Speed (mph)	9
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	

Lanes, Volumes, Timings
132: Goodman & Garson & Webster

Future No-Build (2027) AM
7/15/2015

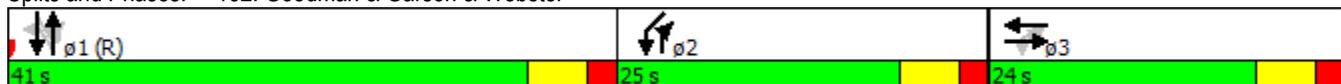


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	SWL
Total Split (%)	26.7%	26.7%		26.7%	26.7%		45.6%	45.6%	27.8%	45.6%		27.8%
Maximum Green (s)	18.0	18.0		18.0	18.0		35.0	35.0	19.0	35.0		19.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0		2.0
Lost Time Adjust (s)		-3.0			-3.0			-3.0	-3.0	-3.0		-3.0
Total Lost Time (s)		3.0			3.0			3.0	3.0	3.0		3.0
Lead/Lag							Lead	Lead	Lag	Lead		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0		3.0
Recall Mode	None	None		None	None		C-Max	C-Max	None	C-Max		None
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0	11.0	8.0		11.0
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0		0
Act Effct Green (s)		10.5			10.5			51.9	76.5	51.9		21.0
Actuated g/C Ratio		0.12			0.12			0.58	0.85	0.58		0.23
v/c Ratio		0.17			0.17			0.33	0.13	0.58		0.71
Control Delay		28.1			37.2			12.4	2.0	16.4		36.1
Queue Delay		0.0			0.0			0.0	0.0	0.0		0.0
Total Delay		28.1			37.2			12.4	2.0	16.4		36.1
LOS		C			D			B	A	B		D
Approach Delay		28.1			37.2			9.0		16.4		36.1
Approach LOS		C			D			A		B		D
Queue Length 50th (ft)		13			18			107	14	228		146
Queue Length 95th (ft)		40			45			176	30	360		201
Internal Link Dist (ft)		225			218			253		960		992
Turn Bay Length (ft)												125
Base Capacity (vph)		437			406			1062	1349	1072		781
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		0.08			0.08			0.33	0.13	0.58		0.68

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 40 (44%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 20.8
 Intersection Capacity Utilization 58.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 132: Goodman & Garson & Webster





Lane Group	SWR
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	55	88	95	46	52	401
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	16	16
Storage Length (ft)	0	52		75	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.850		0.850		
Fl _t Protected	0.950					0.994
Satd. Flow (prot)	1770	1583	1739	1478	0	2098
Fl _t Permitted	0.950					0.958
Satd. Flow (perm)	1770	1583	1739	1478	0	2022
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		98		51		
Link Speed (mph)	30		30			30
Link Distance (ft)	300		1072			3353
Travel Time (s)	6.8		24.4			76.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	61	98	106	51	58	446
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	98	106	51	0	504
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.09	1.09	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	20	20	50	50	50	50
Trailing Detector (ft)	-10	-10	50	50	50	50
Detector 1 Position(ft)	-10	-10	50	50	50	50
Detector 1 Size(ft)	30	30	0	0	0	0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	2		1			1
Permitted Phases		2		1	1	
Detector Phase	2	2	1	1	1	1
Switch Phase						
Minimum Initial (s)	10.0	10.0	12.0	12.0	12.0	12.0
Minimum Split (s)	21.5	21.5	43.0	43.0	43.0	43.0
Total Split (s)	28.0	28.0	62.0	62.0	62.0	62.0



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Total Split (%)	31.1%	31.1%	68.9%	68.9%	68.9%	68.9%
Maximum Green (s)	22.5	22.5	55.0	55.0	55.0	55.0
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	-2.5	-2.5	-4.0	-4.0		-4.0
Total Lost Time (s)	3.0	3.0	3.0	3.0		3.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	4.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	12.0	12.0	12.0	12.0
Flash Dont Walk (s)	9.0	9.0	24.0	24.0	24.0	24.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	13.2	13.2	74.5	74.5		74.5
Actuated g/C Ratio	0.15	0.15	0.83	0.83		0.83
v/c Ratio	0.24	0.31	0.07	0.04		0.30
Control Delay	36.1	10.1	2.3	0.8		3.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	36.1	10.1	2.3	0.8		3.1
LOS	D	B	A	A		A
Approach Delay	20.1		1.8			3.1
Approach LOS	C		A			A
Queue Length 50th (ft)	31	0	10	0		58
Queue Length 95th (ft)	66	42	22	5		104
Internal Link Dist (ft)	220		992			3273
Turn Bay Length (ft)		52		75		
Base Capacity (vph)	491	510	1439	1231		1673
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.12	0.19	0.07	0.04		0.30

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 51 (57%), Referenced to phase 1:NESW, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.31
 Intersection Signal Delay: 6.1
 Intersection LOS: A
 Intersection Capacity Utilization 45.6%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 329: Webster & Parsells



Lanes, Volumes, Timings
360: Webster & Bay & Pershing

Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Volume (vph)	8	127	6	156	167	7	0	24	61	7	48	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	10	10	10	14	14	13	13	13	11	11	13
Storage Length (ft)	63		0	101		0	0	0			0	0
Storage Lanes	1		0	1		0	0	0			0	1
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.993			0.994			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1652	1726	0	1652	1975	0	0	1665	0	0	1711	1636
Flt Permitted	0.636			0.663							0.961	
Satd. Flow (perm)	1106	1726	0	1153	1975	0	0	1665	0	0	1730	1636
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			4			95				95
Link Speed (mph)		30			30		30				30	
Link Distance (ft)		348			300		294				3353	
Travel Time (s)		7.9			6.8		6.7				76.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	9	141	7	173	186	8	0	27	68	8	53	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	148	0	173	194	0	0	95	0	0	61	12
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(ft)		10			10		0				11	
Link Offset(ft)		0			0		0				0	
Crosswalk Width(ft)		16			16		16				16	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	0.92	0.92	0.96	0.96	0.96	1.04	1.04	0.96
Turning Speed (mph)	15		9	15		9	15	9	9	15	15	9
Number of Detectors	1	1		1	1			1		1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50			50		50	50	50
Trailing Detector (ft)	0	0		0	0			0		0	0	0
Detector 1 Position(ft)	0	0		0	0			0		0	0	0
Detector 1 Size(ft)	50	50		50	50			50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Turn Type	Perm	NA		pm+pt	NA			Over		D.Pm	Prot	Prot
Protected Phases		4		3	3 4			2			2	2
Permitted Phases	4			3 4				2		2		2
Detector Phase	4	4		3	3 4			2		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		6.0				10.0		10.0	10.0	10.0
Minimum Split (s)	25.0	25.0		12.0				25.0		25.0	25.0	25.0
Total Split (s)	41.0	41.0		26.0				36.0		36.0	36.0	36.0

Lanes, Volumes, Timings
360: Webster & Bay & Pershing

Future No-Build (2027) AM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Total Split (%)	39.8%	39.8%		25.2%				35.0%		35.0%	35.0%	35.0%
Maximum Green (s)	35.0	35.0		20.0				30.0		30.0	30.0	30.0
Yellow Time (s)	4.0	4.0		3.5				4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.5				2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0				-3.0			-3.0	-3.0
Total Lost Time (s)	3.0	3.0		3.0				3.0			3.0	3.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		2.0				4.0		4.0	4.0	4.0
Recall Mode	Min	Min		None				Min		Min	Min	Min
Walk Time (s)	10.0	10.0						10.0		10.0	10.0	10.0
Flash Dont Walk (s)	9.0	9.0						9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0						0		0	0	0
Act Effct Green (s)	14.0	14.0		23.8	26.8			13.1			13.1	13.1
Actuated g/C Ratio	0.31	0.31		0.52	0.58			0.29			0.29	0.29
v/c Ratio	0.03	0.28		0.25	0.17			0.18			0.12	0.02
Control Delay	11.6	13.7		5.4	4.6			5.1			13.9	0.1
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	11.6	13.7		5.4	4.6			5.1			13.9	0.1
LOS	B	B		A	A			A			B	A
Approach Delay		13.6			5.0						11.7	
Approach LOS		B			A						B	
Queue Length 50th (ft)	2	28		17	19			0			11	0
Queue Length 95th (ft)	9	64		36	38			26			36	0
Internal Link Dist (ft)		268			220		214				3273	
Turn Bay Length (ft)	63			101								
Base Capacity (vph)	918	1433		924	1975			1227			1247	1206
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.01	0.10		0.19	0.10			0.08			0.05	0.01

Intersection Summary

Area Type: Other
 Cycle Length: 103
 Actuated Cycle Length: 45.9
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.28
 Intersection Signal Delay: 7.7
 Intersection Capacity Utilization 35.9%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 360: Webster & Bay & Pershing



Lanes, Volumes, Timings
132: Goodman & Garson & Webster

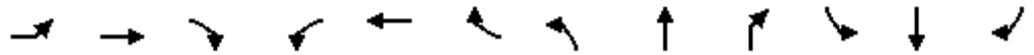
Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Volume (vph)	5	15	9	2	8	24	15	520	335	3	445	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	13	13	13	12	12	12	12	12	12
Storage Length (ft)	0		0	0		0	0		0	0		0
Storage Lanes	0		0	0		0	0		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.959			0.904				0.850		0.996	
Flt Protected		0.991			0.997			0.999				
Satd. Flow (prot)	0	1888	0	0	1735	0	0	1861	1583	0	1855	0
Flt Permitted		0.927			0.978			0.981			0.998	
Satd. Flow (perm)	0	1766	0	0	1702	0	0	1827	1583	0	1852	0
Right Turn on Red			Yes									Yes
Satd. Flow (RTOR)		10										2
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		305			298			333			671	
Travel Time (s)		6.9			6.8			7.6			15.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	6	17	10	2	9	27	17	578	372	3	494	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	38	0	0	595	372	0	514	0
Enter Blocked Intersection	No											
Lane Alignment	Left	Left	Right									
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	0.92	0.92	0.96	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	1	1	1	1	
Detector Template												
Leading Detector (ft)	40	40		40	40		35	35	35	40	40	
Trailing Detector (ft)	-10	-10		-10	-10		-5	-5	-5	-5	-5	
Detector 1 Position(ft)	-10	-10		-10	-10		-5	-5	-5	-5	-5	
Detector 1 Size(ft)	50	50		50	50		40	40	40	45	45	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA	pm+ov	Perm	NA	
Protected Phases		3			3			1	2		1	
Permitted Phases	3			3			1		1	1		
Detector Phase	3	3		3	3		1	1	2	1	1	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0	6.0	6.0	6.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		21.0	21.0	24.0	21.0	21.0	
Total Split (s)	25.0	25.0		25.0	25.0		50.0	50.0	25.0	50.0	50.0	



Lane Group	SWL	SWR
Lane Configurations	TT	
Volume (vph)	176	25
Ideal Flow (vphpl)	1900	1900
Lane Width (ft)	10	10
Storage Length (ft)	125	0
Storage Lanes	1	0
Taper Length (ft)	25	
Lane Util. Factor	0.97	0.95
Frt	0.981	
Flt Protected	0.958	
Satd. Flow (prot)	3170	0
Flt Permitted	0.958	
Satd. Flow (perm)	3170	0
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)	30	
Link Distance (ft)	1072	
Travel Time (s)	24.4	
Peak Hour Factor	0.90	0.90
Adj. Flow (vph)	196	28
Shared Lane Traffic (%)		
Lane Group Flow (vph)	224	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	Right
Median Width(ft)	20	
Link Offset(ft)	0	
Crosswalk Width(ft)	16	
Two way Left Turn Lane		
Headway Factor	1.09	1.09
Turning Speed (mph)	15	9
Number of Detectors	1	
Detector Template		
Leading Detector (ft)	15	
Trailing Detector (ft)	-5	
Detector 1 Position(ft)	-5	
Detector 1 Size(ft)	20	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Turn Type	Prot	
Protected Phases	2	
Permitted Phases		
Detector Phase	2	
Switch Phase		
Minimum Initial (s)	6.0	
Minimum Split (s)	24.0	
Total Split (s)	25.0	

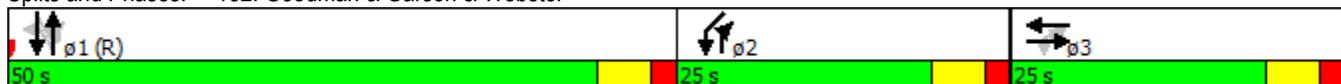


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Split (%)	25.0%	25.0%		25.0%	25.0%		50.0%	50.0%	25.0%	50.0%	50.0%	
Maximum Green (s)	19.0	19.0		19.0	19.0		44.0	44.0	19.0	44.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0			0.0	0.0		0.0	
Total Lost Time (s)		6.0			6.0			6.0	6.0		6.0	
Lead/Lag							Lead	Lead	Lag	Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Recall Mode	None	None		None	None		C-Max	C-Max	None	C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0		10.0	10.0		8.0	8.0	11.0	8.0	8.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0	0	0	0	
Act Effct Green (s)		8.0			8.0			63.6	83.6		63.6	
Actuated g/C Ratio		0.08			0.08			0.64	0.84		0.64	
v/c Ratio		0.22			0.28			0.51	0.28		0.44	
Control Delay		36.0			47.9			13.5	3.2		12.2	
Queue Delay		0.0			0.0			0.0	0.0		0.0	
Total Delay		36.0			47.9			13.5	3.2		12.2	
LOS		D			D			B	A		B	
Approach Delay		36.0			47.9			9.5			12.2	
Approach LOS		D			D			A			B	
Queue Length 50th (ft)		14			23			197	47		158	
Queue Length 95th (ft)		43			55			349	85		282	
Internal Link Dist (ft)		225			218			253			591	
Turn Bay Length (ft)												
Base Capacity (vph)		343			323			1162	1390		1179	
Starvation Cap Reductn		0			0			0	0		0	
Spillback Cap Reductn		0			0			0	0		0	
Storage Cap Reductn		0			0			0	0		0	
Reduced v/c Ratio		0.10			0.12			0.51	0.27		0.44	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 31 (31%), Referenced to phase 1:NBSB, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 15.4
 Intersection Capacity Utilization 65.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 132: Goodman & Garson & Webster





Lane Group	SWL	SWR
Total Split (%)	25.0%	
Maximum Green (s)	19.0	
Yellow Time (s)	4.0	
All-Red Time (s)	2.0	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag	Lag	
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	11.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)	12.8	
Actuated g/C Ratio	0.13	
v/c Ratio	0.55	
Control Delay	39.2	
Queue Delay	0.0	
Total Delay	39.2	
LOS	D	
Approach Delay	39.2	
Approach LOS	D	
Queue Length 50th (ft)	58	
Queue Length 95th (ft)	81	
Internal Link Dist (ft)	992	
Turn Bay Length (ft)	125	
Base Capacity (vph)	602	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.37	
Intersection Summary		



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Volume (vph)	43	117	438	118	101	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	10	16	16
Storage Length (ft)	0	0		75	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Fr _t		0.850		0.850		
Fl _t Protected	0.950					0.984
Satd. Flow (prot)	1770	1583	1739	1478	0	2077
Fl _t Permitted	0.950					0.734
Satd. Flow (perm)	1770	1583	1739	1478	0	1550
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		130		117		
Link Speed (mph)	30		30			30
Link Distance (ft)	300		1072			3353
Travel Time (s)	6.8		24.4			76.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	48	130	487	131	112	236
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	130	487	131	0	348
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.09	1.09	0.85	0.85
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	1	1	1	1
Detector Template						
Leading Detector (ft)	20	20	50	50	50	50
Trailing Detector (ft)	-10	-10	50	50	50	50
Detector 1 Position(ft)	-10	-10	50	50	50	50
Detector 1 Size(ft)	30	30	0	0	0	0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	2		1			1
Permitted Phases		2		1	1	
Detector Phase	2	2	1	1	1	1
Switch Phase						
Minimum Initial (s)	10.0	10.0	12.0	12.0	12.0	12.0
Minimum Split (s)	21.5	21.5	43.0	43.0	43.0	43.0
Total Split (s)	26.0	26.0	74.0	74.0	74.0	74.0



Lane Group	WBL	WBR	NET	NER	SWL	SWT
Total Split (%)	26.0%	26.0%	74.0%	74.0%	74.0%	74.0%
Maximum Green (s)	20.5	20.5	67.0	67.0	67.0	67.0
Yellow Time (s)	3.5	3.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.5	5.5	7.0	7.0		7.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead	Lead
Lead-Lag Optimize?						
Vehicle Extension (s)	4.0	4.0	2.0	2.0	2.0	2.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	12.0	12.0	12.0	12.0
Flash Dont Walk (s)	9.0	9.0	24.0	24.0	24.0	24.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	10.6	10.6	76.9	76.9		76.9
Actuated g/C Ratio	0.11	0.11	0.77	0.77		0.77
v/c Ratio	0.26	0.46	0.36	0.11		0.29
Control Delay	44.4	13.0	6.7	2.2		4.3
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	44.4	13.0	6.7	2.2		4.3
LOS	D	B	A	A		A
Approach Delay	21.5		5.7			4.3
Approach LOS	C		A			A
Queue Length 50th (ft)	29	0	126	12		52
Queue Length 95th (ft)	63	53	186	29		92
Internal Link Dist (ft)	220		992			3273
Turn Bay Length (ft)				75		
Base Capacity (vph)	362	427	1337	1163		1192
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.13	0.30	0.36	0.11		0.29

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 68 (68%), Referenced to phase 1:NESW, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 7.7
 Intersection LOS: A
 Intersection Capacity Utilization 64.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 329: Webster & Parsells



Lanes, Volumes, Timings
360: Webster & Bay & Pershing

Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Lane Configurations												
Volume (vph)	17	251	7	88	191	14	0	69	190	8	14	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	100		0	0	0			0	125
Storage Lanes	1		0	1		0	0	0			0	1
Taper Length (ft)	25			25			25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.989			0.865				0.850
Flt Protected	0.950			0.950							0.950	
Satd. Flow (prot)	1770	1855	0	1770	1842	0	0	1611	0	0	1770	1583
Flt Permitted	0.616			0.463							0.871	
Satd. Flow (perm)	1147	1855	0	862	1842	0	0	1611	0	0	1622	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			7			141				95
Link Speed (mph)		30			30		30				30	
Link Distance (ft)		348			300		294				3353	
Travel Time (s)		7.9			6.8		6.7				76.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	19	279	8	98	212	16	0	77	211	9	16	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	287	0	98	228	0	0	288	0	0	25	2
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Right	Right	Left	Left	Right
Median Width(ft)		12			12		0				12	
Link Offset(ft)		0			0		0				0	
Crosswalk Width(ft)		16			16		16				16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15	9	9	15	15	9
Number of Detectors	1	1		1	1			1		1	1	1
Detector Template												
Leading Detector (ft)	50	50		50	50			50		50	50	50
Trailing Detector (ft)	0	0		0	0			0		0	0	0
Detector 1 Position(ft)	0	0		0	0			0		0	0	0
Detector 1 Size(ft)	50	50		50	50			50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	0.0
Turn Type	Perm	NA		pm+pt	NA			Over		D.Pm	Prot	Prot
Protected Phases		4		3	3 4			2			2	2
Permitted Phases	4			3 4				2		2		2
Detector Phase	4	4		3	3 4			2		2	2	2
Switch Phase												
Minimum Initial (s)	10.0	10.0		6.0				10.0		10.0	10.0	10.0
Minimum Split (s)	25.0	25.0		12.0				25.0		25.0	25.0	25.0
Total Split (s)	41.0	41.0		26.0				36.0		36.0	36.0	36.0
Total Split (%)	39.8%	39.8%		25.2%				35.0%		35.0%	35.0%	35.0%

Lanes, Volumes, Timings
360: Webster & Bay & Pershing

Future No-Build (2027) PM
7/15/2015



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBL	SBR	SBR2	NEL2	NEL	NER
Maximum Green (s)	35.0	35.0		20.0				30.0		30.0	30.0	30.0
Yellow Time (s)	4.0	4.0		3.5				4.0		4.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.5				2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0				-3.0			-3.0	-3.0
Total Lost Time (s)	3.0	3.0		3.0				3.0			3.0	3.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?												
Vehicle Extension (s)	4.0	4.0		2.0				4.0		4.0	4.0	4.0
Recall Mode	Min	Min		None				Min		Min	Min	Min
Walk Time (s)	10.0	10.0						10.0		10.0	10.0	10.0
Flash Dont Walk (s)	9.0	9.0						9.0		9.0	9.0	9.0
Pedestrian Calls (#/hr)	0	0						0		0	0	0
Act Effct Green (s)	19.0	19.0		29.9	33.0			16.5			16.5	16.5
Actuated g/C Ratio	0.34	0.34		0.54	0.59			0.30			0.30	0.30
v/c Ratio	0.05	0.45		0.15	0.21			0.50			0.05	0.00
Control Delay	14.3	17.7		6.1	6.1			12.7			16.6	0.0
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	14.3	17.7		6.1	6.1			12.7			16.6	0.0
LOS	B	B		A	A			B			B	A
Approach Delay		17.5			6.1						15.4	
Approach LOS		B			A						B	
Queue Length 50th (ft)	4	66		11	26			36			6	0
Queue Length 95th (ft)	19	163		36	75			119			25	0
Internal Link Dist (ft)		268			220		214				3273	
Turn Bay Length (ft)	50			100								125
Base Capacity (vph)	812	1314		899	1688			1045			997	1010
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.02	0.22		0.11	0.14			0.28			0.03	0.00

Intersection Summary

Area Type: Other
 Cycle Length: 103
 Actuated Cycle Length: 55.8
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 12.0
 Intersection LOS: B
 Intersection Capacity Utilization 44.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 360: Webster & Bay & Pershing



ATTACHMENT I

COST ESTIMATES



PRELIMINARY PROJECT WORKUP SUMMARY

Project: 2017 Preventative Maintenance Contract 5, City of Rochester, Monroe County
2017 Construction

PIN: 4760.44

C&S File Number: I93.007.001

Item No.	Description	Qty	Units	Unit Cost	Extension
203	Excavation - driveways, sidewalk & curb ramps	745	CY	\$ 50.00	\$ 37,250.00
203	Fill - Curb Extensions, Pavement Removal	180	CY	\$ 15.00	\$ 2,700.00
304	Subbase - Sidewalk, Curb Ramps, Full Depth Repairs	345	CY	\$ 45.00	\$ 15,525.00
402	Pavement - 1 course overlay	4,820	TON	\$ 110.00	\$ 530,200.00
402	Pavement - 2 course overlay	1,100	TON	\$ 120.00	\$ 132,000.00
402	Pavement - Deep Repair	990	TON	\$ 120.00	\$ 118,800.00
402	Pavement - Full Depth Repair	770	TON	\$ 120.00	\$ 92,400.00
407	Tack Coat	6,450	GAL	\$ 4.00	\$ 25,800.00
490	Milling	58,940	SY	\$ 4.00	\$ 235,760.00
604	Manhole - Adjust Elevation	1	EA	\$ 1,000.00	\$ 1,000.00
604	Valve - Repair	3	EA	\$ 700.00	\$ 2,100.00
604	Catch Basin - Clean and Reset	10	EA	\$ 1,500.00	\$ 15,000.00
604	Catch Basin - Clean	3	EA	\$ 500.00	\$ 1,500.00
604	Drainage Structure Relocation	12	EA	\$ 5,000.00	\$ 60,000.00
608	Concrete Sidewalk	140	CY	\$ 400.00	\$ 56,000.00
608	Embedded Detectable Warning Units	100	SY	\$ 200.00	\$ 20,000.00
608	Surface Applied Detectable Warning Units	45	SY	\$ 250.00	\$ 11,250.00
608	HMA Driveways	10	TON	\$ 120.00	\$ 1,200.00
609	New/Reset Granite Curb	2,330	LF	\$ 50.00	\$ 116,500.00
610	Topsoil	50	CY	\$ 60.00	\$ 3,000.00
610	Establish Turf	380	SY	\$ 2.00	\$ 760.00
619	Work Zone Traffic Control (assume 9%)	-	LS	9.0%	\$ 137,675.25
625	Survey (assume 1%)	-	LS	1.0%	\$ 15,297.25
645	Signage (assume 4%)	-	LS	4.0%	\$ 61,189.00
680	Inductance Loop Wire & Installation	420	LF	\$ 20.00	\$ 8,400.00
685	Striping	42,580	LF	\$ 1.00	\$ 42,580.00

Subtotal Highway \$ 1,743,887

Contingencies Assume 15% + \$ 262,000
Subtotal \$ 2,005,887

Change Order Assume 5% + \$ 101,000
Subtotal \$ 2,106,887

Mobilization Assume 4% + \$ 85,000
Subtotal \$ 2,191,887

Construction Inspection Assume 10% \$ 220,000.00
Subtotal \$ 2,411,887.00

Total Construction Cost \$ 2,412,000.00



PRELIMINARY PROJECT WORKUP
Arnett Boulevard

Project: 2017 Preventative Maintenance Contract 5, City of Rochester, Monroe County
 2017 Construction

PIN: 4760.44

C&S File Number: I93.007.001

Item No.	Description	Qty	Units	Unit Cost	Extension
203	Excavation - driveways, sidewalk & curb ramps	520	CY	\$ 50.00	\$ 26,000.00
203	Fill - Curb Extensions, Pavement Removal	180	CY	\$ 15.00	\$ 2,700.00
304	Subbase - driveways, sidewalk & curb ramps	220	CY	\$ 45.00	\$ 9,900.00
402	Pavement - 1 course overlay	1,420	TON	\$ 120.00	\$ 170,400.00
402	Pavement - 2 course overlay	210	TON	\$ 120.00	\$ 25,200.00
402	Pavement - Deep Repair	90	TON	\$ 120.00	\$ 10,800.00
402	Pavement - Full Depth Repair	230	TON	\$ 120.00	\$ 27,600.00
407	Tack Coat	2,030	GAL	\$ 4.00	\$ 8,120.00
490	Milling	17,610	SY	\$ 5.00	\$ 88,050.00
604	Catch Basin - Clean and Reset	4	EA	\$ 1,500.00	\$ 6,000.00
604	Drainage Structure Relocation	12	EA	\$ 5,000.00	\$ 60,000.00
608	Concrete Sidewalk	90	CY	\$ 450.00	\$ 40,500.00
608	Embedded Detectable Warning Units	50	SY	\$ 350.00	\$ 17,500.00
608	HMA Driveways	10	TON	\$ 120.00	\$ 1,200.00
609	New/Reset Granite Curb	1,540	LF	\$ 50.00	\$ 77,000.00
610	Topsoil	50	CY	\$ 60.00	\$ 3,000.00
610	Establish Turf	380	SY	\$ 2.00	\$ 760.00
619	Work Zone Traffic Control (assume 9%)	-	LS	9.0%	\$ 53,165.70
625	Survey (assume 1%)	-	LS	1.0%	\$ 5,907.30
645	Signage (assume 4%)	-	LS	4.0%	\$ 23,629.20
685	Striping	16,000	LF	\$ 1.00	\$ 16,000.00
Subtotal Highway \$					673,433

Assumptions:

Drainage structure relocations include all associated work including new DS, pipe modifications, and removal of existing

Select curb will have to be new/reset for sidewalk ramps.

Most curb can be cut or existing configuration retained.

Install one 6' x 30' loop for each approach travel lane at all signalized intersections

Only estimate CL and Edge Line striping



PRELIMINARY PROJECT WORKUP

Genesee Park Boulevard

Project: 2017 Preventative Maintenance Contract 5, City of Rochester, Monroe County

2017 Construction

PIN: 4760.44

C&S File Number: I93.007.001

Item No.	Description	Qty	Units	Unit Cost	Extension
203	Excavation - Full Depth Repair	5	CY	\$ 50.00	\$ 250.00
304	Subbase - Full Depth Repair	5	CY	\$ 45.00	\$ 225.00
402	Pavement - 1 course overlay	1,890	TON	\$ 120.00	\$ 226,800.00
402	Pavement - 2 course overlay	890	TON	\$ 120.00	\$ 106,800.00
402	Pavement - Deep Repair	30	TON	\$ 120.00	\$ 3,600.00
402	Pavement - Full Depth Repair	10	TON	\$ 120.00	\$ 1,200.00
407	Tack Coat	2,250	GAL	\$ 4.00	\$ 9,000.00
490	Milling	20,100	SY	\$ 5.00	\$ 100,500.00
604	Catch Basin - Clean	3	EA	\$ 500.00	\$ 1,500.00
608	Surface Applied Detectable Warning Units	40	SY	\$ 350.00	\$ 14,000.00
619	Work Zone Traffic Control (assume 9%)	-	LS	9.0%	\$ 43,341.75
625	Survey (assume 1%)	-	LS	1.0%	\$ 4,815.75
645	Signage (assume 4%)	-	LS	4.0%	\$ 19,263.00
685	Striping	17,700	LF	\$ 1.00	\$ 17,700.00
Subtotal Highway \$					548,996

Assumptions:

Only estimate CL and Edge Line striping



PRELIMINARY PROJECT WORKUP

Webster Avenue

Project: 2017 Preventative Maintenance Contract 5, City of Rochester, Monroe County
2017 Construction

PIN: 4760.44

C&S File Number: 193.007.001

Item No.	Description	Qty	Units	Unit Cost	Extension
203	Excavation - sidewalk & curb ramps	220	CY	\$ 50.00	\$ 11,000.00
304	Subbase - sidewalk & curb ramps	120	CY	\$ 45.00	\$ 5,400.00
402	Pavement - 1 course overlay	1,510	TON	\$ 120.00	\$ 181,200.00
402	Pavement - Deep Repair	870	TON	\$ 120.00	\$ 104,400.00
402	Pavement - Full Depth Repair	530	TON	\$ 120.00	\$ 63,600.00
407	Tack Coat	2,170	GAL	\$ 4.00	\$ 8,680.00
490	Milling	21,230	SY	\$ 5.00	\$ 106,150.00
604	Manhole - Adjust Elevation	1	EA	\$ 1,000.00	\$ 1,000.00
604	Valve - Repair	3	EA	\$ 700.00	\$ 2,100.00
604	Catch Basin - Clean and Reset	6	EA	\$ 1,500.00	\$ 9,000.00
608	Concrete Sidewalk	50	CY	\$ 450.00	\$ 22,500.00
608	Embedded Detectable Warning Units	50	SY	\$ 350.00	\$ 17,500.00
608	Surface Applied Detectable Warning Units	5	SY	\$ 350.00	\$ 1,750.00
609	New/Reset Granite Curb	790	LF	\$ 50.00	\$ 39,500.00
619	Work Zone Traffic Control (assume 9%)	-	LS	9.0%	\$ 53,195.40
625	Survey (assume 1%)	-	LS	1.0%	\$ 5,910.60
645	Signage (assume 4%)	-	LS	4.0%	\$ 23,642.40
680	Inductance Loop Wire & Installation	420	LF	\$ 20.00	\$ 8,400.00
685	Striping	8,880	LF	\$ 1.00	\$ 8,880.00
Subtotal Highway \$					673,809

Assumptions:

Select curb will have to be new/reset for sidewalk ramps.

Most curb can be cut or existing configuration retained.

Install one 6' x 30' loop for each approach travel lane at all signalized intersections

Only estimate CL and Edge Line striping

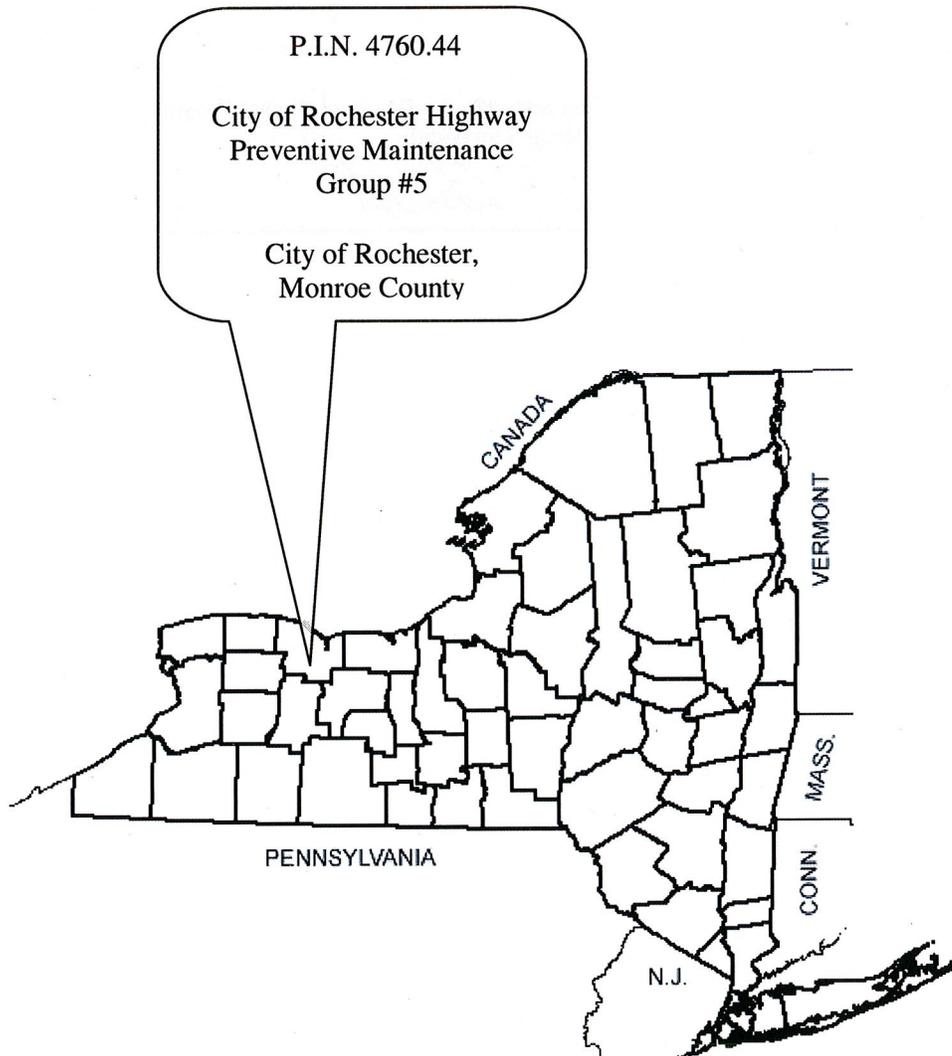
ATTACHMENT J

Initial Project Proposal (IPP)

TRANSPORTATION

INITIAL PROJECT PROPOSAL

November 2014



TRANSPORTATION

U.S. Department of Transportation Federal Highway Administration

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
ANDREW M. CUOMO, Governor

JOAN MCDONALD, Commissioner



PROJECT APPROVAL SHEET

(Pursuant to SAFETEA-LU Matrix)

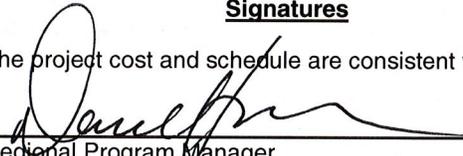
Milestones

Signatures

Dates

A. Recommendation for
IPP Approval:

The project cost and schedule are consistent with the Regional Capital Program.

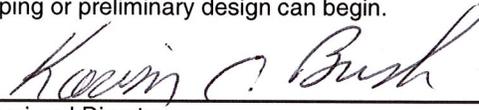


Regional Program Manager

11/12/14

B. IPP Approval:

The project is ready to be added to the Regional Capital Program and project
scoping or preliminary design can begin.



Regional Director

11/13/14

PIN: 4760.44

PROJECT NAME: City of Rochester Highway Preventive Maintenance Group #5

MUNICIPALITY: City of Rochester **COUNTY:** Monroe

ROUTE/SH #: N/A

BIN: N/A

LIMITS: Arnett Boulevard (Thurston Road to Genesee Street)
Genesee Park Boulevard (Brooks Avenue to Arnett Boulevard)
Webster Avenue (Garson Avenue to Bay Street)

PROJECT LENGTH: **CENTERLINE MILES:** 2.43 **LANE MILES:** 9.13

FEDERAL AID SYSTEM: Non-NHS **FUNCTIONAL CLASS:** Urban Collectors

EXISTING AADT: Arnett Boulevard – 6,134 (in 2009)
Genesee Park Boulevard – 5,303 (in 2008)
Webster Avenue – 4,194 (in 2011)

TRUCKS (%): Arnett Boulevard 4.2% (2010). Webster Avenue 4.9% (2010).
Genesee Park Blvd not known at this time.

EXISTING CHARACTERISTICS OF CONCERN: Water is infiltrating the sub-base thereby compromising the structural capacity and making it susceptible to accelerated damage which may require extensive base reconstruction in the future. The geometrics are proposed to remain the same. All pavement marking layouts will be evaluated for the purpose of improving safety and incorporation of bicycle lanes or other lane features.

ELEMENT

MEASURE/INDICATOR

Pavement Condition Score (all roads) 5 (2013)

PROJECT OBJECTIVE(S): This Preventive Maintenance project will replace the oxidized wearing surface and rehabilitate the pavement's structure. Handicap accessibility will be upgraded. Currently, limited City funds targeted for handicap accessibility are directed to special request areas where ramps do not exist. Surface drainage and ride quality will be improved which will help preserve existing investment within the pavement structure. This project will provide an additional 15 years of service life.

PROJECT ELEMENT(S) TO BE ADDRESSED:

- | | | | |
|-------------------------------------|----------------------------------|--------------------------|---------------------------------------|
| <input type="checkbox"/> | Deck/Minor Bridge Rehabilitation | <input type="checkbox"/> | Bridge Replacement, Existing Location |
| <input type="checkbox"/> | Major Bridge Rehabilitation | <input type="checkbox"/> | Bridge Replacement, New Location |
| <input checked="" type="checkbox"/> | Highway Resurfacing | <input type="checkbox"/> | Highway Reconstruction |
| <input type="checkbox"/> | Appurtenance | <input type="checkbox"/> | Culvert Rehabilitation/Replacement |
| <input type="checkbox"/> | Traffic Control | <input type="checkbox"/> | Corrective/Preventative Bridge PM |
| <input type="checkbox"/> | Other: | | |

DESCRIPTION OF PROPOSED WORK: The project includes the milling 1-1/2" and resurfacing 1-1/2" of the existing pavement along with spot base repair, spot curb repair, sidewalk repair inclusive of installation of handicap ramps as well as equipping existing ramps with truncated domes, adjustment of sewer and water castings along with repairing receiving basins, and replacement of traffic loops and pavement markings.

PRIORITY RESULTS: Mobility & Reliability Safety Security
 Economic Competitiveness Environmental Stewardship

FUNDING SOURCE: 100% State Federal

RECOMMENDED ENVIRONMENTAL CLASSIFICATION:

PROJECTED ENVIRONMENTAL PROCESS:				
NEPA:	<input type="checkbox"/> No Federal Funds	<input checked="" type="checkbox"/> Class II, CE <input type="checkbox"/> CE/Auto <input checked="" type="checkbox"/> CE/Prog <input type="checkbox"/> CE/Doc	<input type="checkbox"/> Class III, EA <input type="checkbox"/> SAFTEA-LU Applies	<input type="checkbox"/> Class I, EIS <input type="checkbox"/> SAFTEA-LU Applies
SEQR:	<input type="checkbox"/> Exempt	<input checked="" type="checkbox"/> Type II	<input type="checkbox"/> Non-Type II <input type="checkbox"/> EA -or-	<input type="checkbox"/> EIS

The following checklists will be completed during preliminary engineering:

- Federal Environmental Approval Worksheet
- Regional Environmental Checklist
- Landscape Architectural/Environmental Services IPP Report

MPO INVOLVEMENT: No Yes TIP Name: City of Rochester Highway Preventive Maintenance Group #5
 TIP No.: H14-05-MN1

TIP AMENDMENT REQUIRED: No Yes Needed by:

STIP STATUS: On STIP Not on STIP

NOTES ON SPECIAL CIRCUMSTANCES: Scoping, design, and construction are to be administered by the City of Rochester. The sponsor's project manager is Al Giglio (585-428-7164).

SPECIAL TECHNICAL ACTIVITES REQUIRED: A State-Local agreement will be required to allow for reimbursement of sponsor expenditures consistent with the applicable Federal Aid Program. A safety screening will be conducted during preliminary engineering.

PLANNED PUBLIC INVOLVEMENT: A Public Involvement Plan will be developed during preliminary engineering and will be implemented throughout final design and construction.

WORKZONE SAFETY & MOBILITY: The sponsor has determined that the subject project is not significant per 23 CFR 630.1010. A Transportation Management Plan (TMP) will be prepared for the project consistent with 23 CFR 630.1012. The TMP will consist of a Temporary Traffic Control (TTC) plan. Transportation Operations (TO) and Public Information (PI) components of a TMP will be considered during final design.

PROBABLE SCHEDULE AND COST: Scoping/Preliminary Engineering will begin in January 2015. Final design will begin in August 2015. The PS&E will be produced in December 2016 with letting in February 2017. Construction will begin in April 2017 and will be completed by November 2017. The estimated cost of engineering, construction and inspection is \$2,689,000.

DESIRED LETTING: 2/17

DESIRED CONSTRUCTION COMPLETION: 11/17

SCHEDULE ISSUES: Public Meeting 4(f)/106 FHWA sign-off
 Permits Other – T&E Species
 Consultant(s) for: Design/CI No Consultant Needed

Project Phase	Activity Duration	Estimated Cost	Fund Source	Obligation Date
Design I-IV	9 months	\$ 63,000	Federal Aid	11/14/14
Design V-VI	16 months	\$ 95,000	Federal Aid	08/14/14
Construction	9 months	\$ 2,176,000	Federal Aid	12/15/16
Construction Inspection	9 months	\$ 355,000	Federal Aid	12/15/16
TOTAL		\$2,689,000		

BASIS OF ESTIMATE: TIP Application

PROJECT MANAGEMENT GROUP: Simple Moderate Complex

STATEWIDE SIGNIFICANCE: Yes No Remarks:

ASSET MANAGEMENT (OPTIONAL): Applies Not Applicable

AM Team	IPP Initiator	Asset Specific Cost Share (\$M)	Asset Team Specific Cost/Scope/Schedule/Concurrence (Team Chair Signature)

PUBLIC FRIENDLY DESCRIPTION OF PROJECT: The project proposes to provide a smooth riding surface for the traveling public by removing the top layer of asphalt and replacing it with a new riding surface on three City of Rochester, Monroe County roadways. Proposed limits are Arnett Boulevard from Thurston Road to Genesee Street; Genesee Park Boulevard from Brooks Avenue to Arnett Boulevard; and Webster Avenue from Garson Avenue to Bay Street. Spot repairs to sidewalk and curb and the installation or upgrading of handicap ramps may also be accomplished under this project.

PROJECT MANAGER/JOB MANAGER: Craig Ekstrom
FUNCTIONAL AREA(S): Local Projects Unit
PHONE(S): 585-272-3410

IPP PREPARED BY: Lora Barnhill (for City of Rochester)

DATE: 11/12/14

