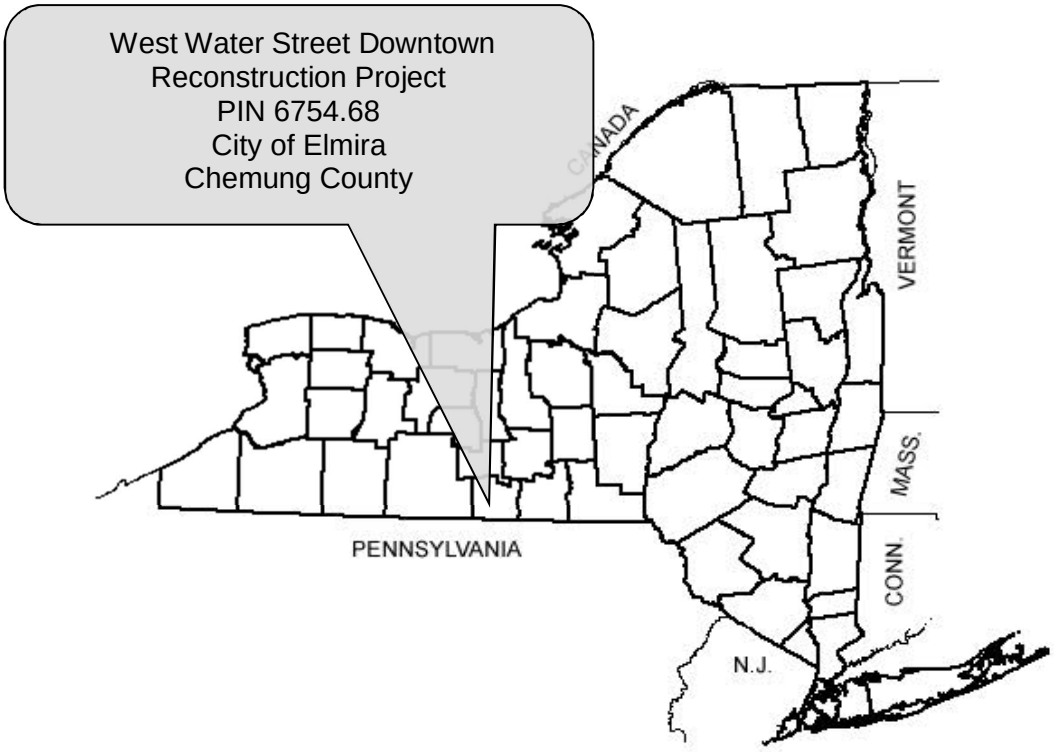
TRANSPORTATION

PROJECT REPORT

PROJECT SCOPING REPORT/ FINAL DESIGN REPORT

September 2018



NEW YORK STATE OF OPPORTUNITY. Department of Transportation

ANDREW M. CUOMO
Governor

PAUL A. KARAS
Acting Commissioner

U.S. Department of Transportation
Federal Highway Administration

PROJECT APPROVAL SHEET

(Pursuant to SAFETEA-LU Matrix)

A. IPP Approval:

The project cost and schedule are consistent with the Regional Capital Program. The IPP was signed by:

Brian C. Kelly 3/25/16

Regional Director

B. Scope Approval:

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

Regional Planning and Program Manager

C. Public Hearing Certification (23 USC 128):

A public hearing was not required and was not held.

(Responsible Local Official) City of Elmira

D. Recommendation for Design and Nonstandard Feature Approval:

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.

9/28/18

(Consultant Designer or PM) Erdman Anthony

E. Recommendation for Design and Nonstandard Feature Approval:

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.

(Responsible Local Official) City of Elmira

F. Design and Nonstandard Feature Approval:

The required environmental determinations have been made and the preferred alternative for this project is ready for final design. The required environmental determinations have been made and the preferred alternative for this project is ready for final design.

Regional Director, NYSDOT

LIST OF PREPARERS

Group Director Responsible for Production of the Design Approval Document:

Paul Presutti, PE, Principal Associate, Erdman Anthony

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

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.*

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CHAPTER 1 - EXECUTIVE SUMMARY

1.1. Introduction

This Design Report serves as a decision-making tool and documents impacts of the pavement reconstruction with streetscape improvements along West Water Street. The project is located in the Central Business District of the City of Elmira, Chemung County, New York. West Water Street is owned and maintained by the City of Elmira. This report was prepared in accordance with the New York State Department of Transportation (NYSDOT) Procedures for Locally Administered Federal Aid Projects Manual, NYSDOT Project Development Manual, 6 NYCRR Part 617, and 23 CFR 771.

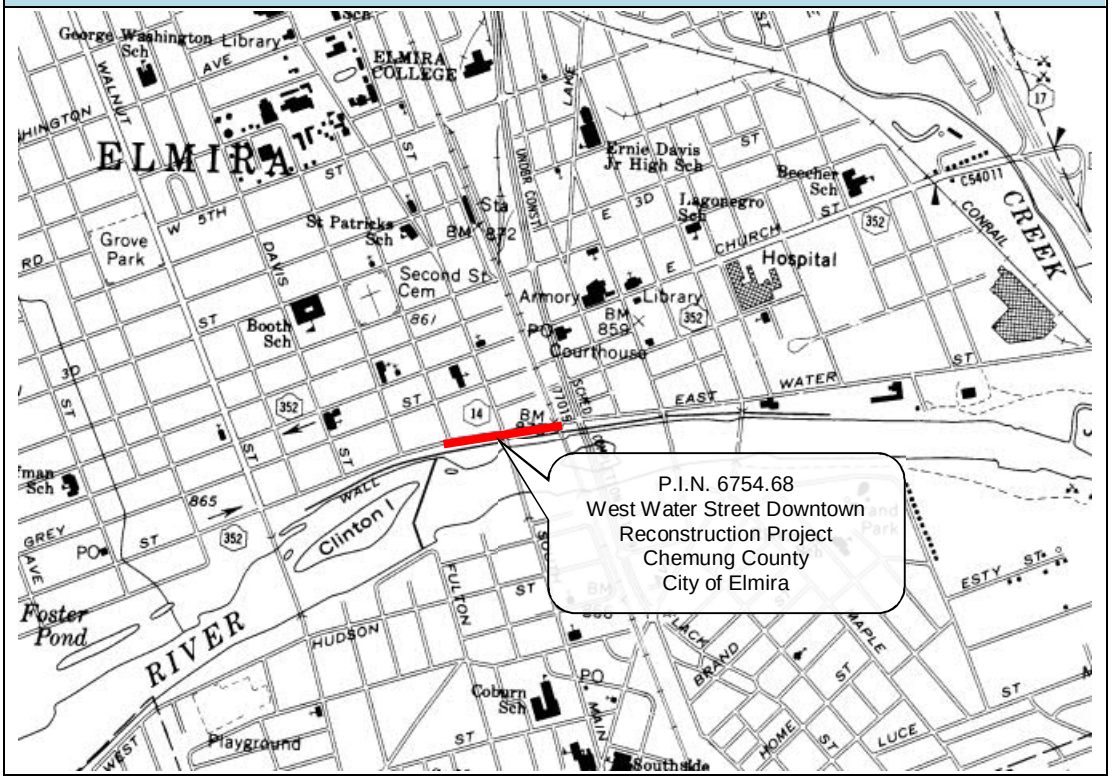
1.2. Purpose and Need

1.2.1. Where is the Project Located?

A Project location map is included in Exhibit 1.2.1. The project is located on West Water Street between College Avenue and Carl Proper Drive in the City of Elmira, Chemung County, New York. The following is a project location summary:

A. Route number: NYS Route 352
B. Route name: West Water Street
C. Municipality: City of Elmira
D. County: Chemung
E. Length: 0.22 Miles (approximately 1,160 Feet)
F. Limits: College Avenue to Carl Proper Drive

Exhibit 1.2.1 – Project Location Map



1.2.2. Why is the Project Needed?

West Water Street is an urban principal arterial on the National Highway System (NHS) in the central business district of downtown Elmira. The surrounding land uses include commercial, retail and local businesses, municipal, and other mixed-use properties which generate high vehicle, pedestrian and bicyclist activity along the corridor.

The project is needed to address the following transportation needs:

- Sidewalk conditions vary from good to poor and some curb ramps do not meet current accessibility requirements.
- The asphalt surface is in fair to poor condition with major distresses and cracking resulting in poor rideability.
- Bicycle route accommodations are not consistent with minimum widths outlined in the Highway Design Manual.
- Streetscape and pedestrian amenities are degrading or lacking and in need of enhancement for successful revitalization of downtown Elmira.

1.2.3. What are the Objectives/Purposes of the Project?

The project would be progressed with the following primary objectives:

(1) Improve pedestrian facilities in compliance with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) and improve the safety of pedestrian, bicycle and motor vehicle traffic.

(2) Provide a pavement surface that increases the service life and rideability of West Water Street.

(3) Improve landscape and aesthetics of the corridor to establish community identity.

(4) Improve the condition of traffic control devices (signs, pavement markings) in accordance with the National Manual of Uniform Traffic Control Devices and the New York State Supplement (MUTCD).

1.3. What Alternative is Being Considered?

The following alternatives are being considered as possible engineering solutions to satisfy the project objectives:

- No Action Alternative
- Alternative 5: Full Depth Pavement Reconstruction with Streetscape Improvements

A discussion of each of the alternatives that are being considered and their ability to satisfy the project objectives are as follows:

No Action Alternative

This alternative would not provide any streetscape or pavement improvements. Although this alternative would not satisfy any of the project objectives, it will be carried forward as a baseline for comparison to the other alternatives being considered.

Alternative 5 – Full Depth Pavement Reconstruction with Streetscape Improvements, Eastbound Left Turn Lane Removed

In general, this alternative includes full depth pavement reconstruction of West Water Street with streetscape improvements that would consist of curbed bump-outs, median islands, and various landscape elements throughout the project limits. Curb bump-outs would increase safety by reducing crossing time for

pedestrians and the median islands would encourage lower vehicle speeds and enhance the identity of the city. The left turn lane at Main Street in the eastbound direction would be removed in order to accommodate a median island west of Main Street and wider sidewalks. New sidewalks and curb ramps would be installed according to ADAAG or PROWAG as applicable. Bicyclists would be accommodated in an upgraded wide travel lane where motor vehicles and bicycles can safely share the facility. Traffic signs would be upgraded to meet current MUTCD standards. Existing traffic signals would be maintained with minor enhancements. This project would also relocate the existing light poles as necessary.

Landscape elements would include street trees and low-level plantings in the sidewalk and median islands if desired. As funding allows, pedestrian furnishings in the form of trash receptacles, benches, tables, bike racks and meter-free parking would be installed. Pay stations would be included in lieu of parking meters.

With the exception of a loading zone area, parking on the south side of West Water Street would be restricted west of Main Street in order to develop necessary space for wider sidewalks, curb bump-outs and median islands. Standard parallel parking would be installed on the north side of West Water Street. Back-in angle parking would be installed east of Main Street on the south side of West Water Street. Overall parking availability would be increased by approximately 6 spaces.

The pavement of West Water Street would be reconstructed with a full depth asphalt treatment. The new asphalt pavement would improve service life, ride quality, friction, and cross slope of the roadway.

Plans and typical sections for Alternative 5 are provided in Appendix A.

The following alternatives were considered and have been eliminated from further study due to feedback from the public meeting, business owners, and other property owners adjacent to the project:

Alternative 1 - Full Depth Pavement Reconstruction with Streetscape Improvements – Eastbound Left Turn Lane Retained

Alternative 1 would include all of the same improvements as Alternative 5 except the eastbound left turn lane at Main Street would be retained and a loading zone would not be installed on the south side of West Water Street west of Main Street providing additional sidewalk space for pedestrians. While this alternative meets all of the project objectives, overwhelming comments from the public information meeting were to provide more on-street parking within the project. This alternative would not provide a significant increase in parking spaces. In addition, the left turn lane would not allow enough space for the median or a wider sidewalk. Therefore, this alternative was eliminated from further study.

Alternative 2 - Full Depth Pavement Reconstruction with Streetscape Improvements – No Median Islands West of Main Street, Parking Permitted on Both Sides of West Water Street

Alternative 2 would include all of the same improvements as Alternative 5 except the median islands would not be installed west of Main Street and parking would be permitted on both sides of the street. While this alternative meets all of the project objectives, it does not provide a traffic calming effect or downtown identity that the median islands would achieve. Comments from the property owners along the street and public information meeting support the installation of median islands and the community agrees they should be included under the preferred alternative. Therefore, this alternative was eliminated from further study.

Alternative 3 - Full Depth Pavement Reconstruction with Streetscape Improvements – No Median Islands, Bike Lanes and Parking on Both Sides of West Water Street

Alternative 3 would include all of the same improvements as Alternatives 2, except that median islands would not be installed east or west Main Street and a 5’ bike lane would be installed in the eastbound and westbound directions of West Water Street throughout the project limits. This alternative narrows the sidewalk width on the south side of West Water Street and would not satisfy comments received from the property owners and community at the public information meeting in support of the median islands. Therefore, this alternative was eliminated from further study.

Alternative 4 - Full Depth Pavement Reconstruction with Streetscape Improvements – No Median Islands West of Main Street, Parking Permitted on Both Sides of West Water Street

Alternative 4 would include all of the same improvements as Alternative 2 except the eastbound left turn lane would also be removed and a midblock crosswalk would be installed on West Water Street between College Avenue and Main Street. This alternative was eliminated from further study for similar reasons stated above under Alternative 2.

1.4 Environmental Review

NEPA (National Environmental Policy Act):
The proposed project meets the criteria established for a NEPA Class II, C List Categorical Exclusion in accordance with 23 CFR 771.117(c). Class II actions that do not individually or cumulatively have a significant environmental effect are excluded from the requirement to prepare an Environmental Impact Statement (EIS) or an Environmental Assessment (EA). The Federal Environmental Approval Worksheet (FEAW) is contained in Appendix B. Categorical Exclusions do not require FHWA's concurrence.

SEQRA (State Environmental Quality Review Act):
The City of Elmira is the SEQRA Lead Agency. The city has classified the project as a Type II Action in accordance with 6 NYCRR, Part 617. No further review under SEQR is required and a SEQR Environmental Assessment Form is not required.

1.5 How will the Alternatives Affect the Environment?

Exhibit 1.5
Comparison of Alternatives

Category	Alternatives Evaluated	
	Null	**Alternative 5**
Property impacts	None	1 Permanent Easement
Operation at ETC + 10	LOS C	LOS C
20 year Crash Costs	N/A	N/A
Construction Cost	None	$2.49M

Proposed Mitigation:

No Mitigation is anticipated.

Anticipated Permits/Certifications/Coordination:

Permits
- State Pollutant Discharge Elimination System (SPDES) General Permit

Certifications
None

Coordination
- New York State Department of Transportation (NYSDOT)
- Chemung County
- City of Elmira

- Property and business owners in the vicinity of the project

1.6 What are the Costs & Schedules?

Design approval is scheduled for Spring of 2018 with construction scheduled to begin in Spring of 2020 and last 8 months.

Exhibit 1.6-1 - Project Schedule	
Activity	**Date Occurred/Tentative**
Scope Approval	August 2017
Design Approval	October 2018
Construction Start	March 2020
Construction Complete	November 2020

Exhibit 1.6-2 – Project Cost (in millions)		
Activities		**Alternative 5**
Construction Costs	Bridge	$0
	Highway	$1,639,675
Wetland Mitigation		$0
SPDES Permit Compliance		$30,000
Incidentals (10%)		$163,968
Subtotal 1		$1,833,643
Contingency (15% at Design Approval)		$275,047
Subtotal 2		$2,108,690
Field Change Order		$105,435
Subtotal 3		$2,214,125
Mobilization (4%)		$88,565
Subtotal 4		$2,302,690
Expected Award Amount (Inflate current costs/prices at 3%/yr. to midpoint of construction to arrive at $ amount to be entered here) See HDM 21.6.3.2 B		$2,372,000
Construction Inspection (9%)		$117,000
ROW Costs		$0
Total Alternative Costs		$2,489,000

1.7 Which Alternative is Preferred?

Only one reasonable build alternative, Alternative 5, has been identified that meets the project objectives. A decision to enter final design will not be made until after the environmental determination and evaluation of the comments on the draft design approval document and comments received from the public informational meeting.

1.8 What are the Opportunities for Public Involvement?

A public informational meeting was held in May 2018. The project letting is scheduled for December 2019.

Exhibit 1.8
Public Involvement Plan Schedule of Milestone Dates

Activity	Date Occurred/Tentative
Public Informational Meeting	May 2018
Current Project Letting date	December 2019

Refer to Appendix E for project correspondence.

For additional information or to provide comments, please contact:

Elissa Manwaring, Project Manager
Please include the six digit Project Identification Number (PIN) 6754.68
Questions or comments: email: emanwaring@co.chemung.ny.us
Telephone: (607) 739-3896

Mailing Address:
Chemung County Department of Public Works
803 Chemung Street
Horseheads, NY 14845

The remainder of this report is a detailed technical evaluation of existing conditions, anticipated impacts of the one reasonable/preferred alternative and comparison to the null alternative, copies of technical reports and plans and other supporting information.

CHAPTER 2 – PROJECT INFORMATION

2.1 Local Plans for the Project Area

This project is on the approved Elmira-Chemung Transportation Council's (ECTC) Transportation Improvement Program (TIP) as project No. 675468 and is consistent with the City of Elmira's Comprehensive Plan 2016-2026 and the ECTC's Bicycle Pedestrian Trail 2035 Plan.

Other infrastructure projects that are planned in the vicinity of the project including:

- PIN 6755.20 DRI parking lot within the project limits of this project;
- PIN 6754.77 N. Main Street Cultural Connector project;
- PIN 6754.70 Main Street bridge project;
- PIN 6754.98 Madison Street bridge project;
- PIN 6754.99 Walnut Street bridge project;
- PIN 6755.09 Lake Street bridge project;
- PIN 6754.91 Coleman Avenue drainage improvement project; and
- PIN 6805.55 Scour Repair and Channel Cleaning of NYS Route 14 over the Chemung River.

The City of Elmira has approved private site development consisting of a mixed-use multi-story building located on the north side of West Water Street. The building will be funded from Downtown Revitalization Initiative funding and is anticipated to be complete in 2019. The proposed development is not anticipated to adversely affect vehicular, bicyclist, or pedestrian traffic.

2.2. Abutting Highway Segments and Future Plans for Abutting Highway Segments

West Water Street (NYS Route 352) is an urban principal arterial roadway on the National Highway System (NHS) that extends east-west through downtown Elmira. West Water Street begins at its intersection with NYS Route 225 near the western town of Elmira boundary and continues east to Clemens Center Parkway (NYS Route 14). At that point, West Water Street changes to East Water Street and continues east to I-86. West Water Street travel lanes vary between 12 to 14 feet wide with 9-foot wide parking lanes. The horizontal alignment is tangent and the roadway profile is considered level. The speed limit is 30 miles per hour. Based on field inspection, the existing pavement is in fair to poor condition with general longitudinal and traverse cracking. College Avenue and North Main Street intersect West Water Street within the project limits. The immediate abutting segments of West Water Street typically consist of a curbed roadway with 12-foot wide travel lanes and 9-foot wide parking lanes with tangent horizontal alignment and level vertical alignment. According to the ECTC's Long Range Plan 2035, there are no plans to reconstruct or widen West Water Street abutting highway segments, or the intersecting highway segments, within the next 20 years.

College Avenue is a two-way, two-lane urban local roadway that extends north-south through Elmira beginning at the intersection of West Water Street and continues north to Gates Lane on the Elmira College campus. Within the project vicinity, the roadway is curbed and the asphalt pavement width is 42 feet wide with 12-foot wide travel lanes and 9-foot wide parking lanes. The posted speed limit is 30 miles per hour.

North Main Street is a two-way two-lane urban minor arterial roadway that extends north-south through Elmira beginning at the intersection of NYS Route 427 and continues north to Woodlawn Avenue. Within the project vicinity, the roadway is curbed and the pavement width is typically 50 feet wide north of West Water Street and 36 feet wide to the south. The posted speed limit is 30 miles per hour.

2.3 Transportation Conditions, Deficiencies and Engineering Considerations

2.3.1 Traffic and Safety and Maintenance Operations

2.3.1.1 Functional Classification and National Highway System (NHS) –

West Water Street functional classification and NHS data was obtained from the NYSDOT Functional Classification Viewer. Truck Access and Qualifying Highway data was obtained from NYSDOT's Official Description of Designated Qualifying and Access Highways (April 2015). A summary of the data is provided in Exhibit 2.3.1.1.

Exhibit 2.3.1.1 Classification Data	
Route(s)	West Water Street
Functional Classification	Urban Principal Arterial (other)
National Highway System (NHS)	Yes
Designated Truck Access Route	No
Qualifying Highway	No
Within 1 mile (1.6 km) of a Qualifying Highway	No
Within the 16 ft (4.9 m) vertical clearance network	No

2.3.1.2 Control of Access -

West Water Street is without control of access throughout the project limits and would remain unchanged under the proposed alternative.

2.3.1.3 Traffic Control Devices –

2.3.1.3 (1) Traffic Signals - There are two signalized intersections along West Water Street, one located at College Avenue and the other at North Main Street. The traffic signal equipment is summarized in Exhibits 2.3.1.3-1 and 2.3.1.3-2 below:

Exhibit - 2.3.1.3-1 Traffic Signal System Summary – College Avenue at West Water Street	
Ownership and Maintenance	City of Elmira
Signal Configuration	Spanwire with tether wire
Signal Section Type	12-inch with backplates
Signal Head Illumination Type	LED
Overhead Signs	Left Turn Only on eastbound approach
Cabinet & Controller Type	Ground mounted in northeast quadrant
Actuation/Phasing	Semi-actuated, 8-Phase
Coordination	Yes
Pedestrian Signal	Hand/man with countdown timers at all crossing approaches
Pedestrian Push Buttons	Yes, at all crossing approaches

Exhibit - 2.3.1.3-2 Traffic Signal System Summary – North Main Street at West Water Street	
Ownership and Maintenance	City of Elmira
Signal Configuration	Spanwire with tether wire
Signal Section Type	12-inch with backplates
Signal Head Illumination Type	LED
Overhead Signs	Left Turn Only on southbound, eastbound, westbound approaches
Cabinet & Controller Type	Ground mounted in southwest quadrant
Actuation/Phasing	Semi-actuated, 8-Phase
Coordination	Yes
Pedestrian Signal	Hand/man with countdown timers at all crossing approaches
Pedestrian Push Buttons	Yes, at all crossing approaches

Based on field observation, the traffic signal systems appear to be in good condition and would be retained. Signal heads would be relocated as appropriate based on the proposed lane configurations. Powder coating of the poles as an aesthetic feature would be reviewed during detailed design. Inductance loops disturbed by construction would be replaced in kind. Pedestrian poles and push button modifications would also be reviewed during detailed design and modified as appropriate to meet current National Manual of Uniform Traffic Control Devices (MUTCD) standards.

2.3.1.3 (2) Signs - Signs within the project limits are generally in fair condition based upon field inspection. There are some signs that are not compliant with the MUTCD and the New York State Supplement. Existing signs, including but not limited to parking, street name, and other regulatory and warning signs would be removed and replaced with new signs and posts meeting current NYSDOT and MUTCD standards.

2.3.1.3 (3) Pavement Markings - Pavement markings on West Water Street were in poor condition at the time of field inspection. A double yellow full barrier line separates two-way traffic; one-lane in each direction with auxiliary left turn lanes at the intersections with College Avenue and North Main Street. White edge lines delineate the auxiliary turn lanes and through lanes. Arrow symbols identify the left turn lanes. Stop bars and NYSDOT Type L crosswalks exist at all project approaches to signalized intersections. New pavement markings would be installed throughout the project limits in accordance with current NYSDOT and MUTCD standards. High visibility crosswalks would be installed at the crosswalks to improve the safety of the crossings.

2.3.1.4 Traffic Volumes –

2.3.1.4.(1) Existing and Future Traffic Volumes -

Manual turning movement counts at the intersections of West Water Street with College Avenue and North Main Street were collected on Tuesday, January 9th, 2018 between 4:00 PM and 6:00 PM and Wednesday, 25th, 2018 between 6:00 AM and 9:00 AM. The intersection weekday AM and PM peak hours at the intersection occurred from 7:45 AM to 8:45 AM and 4:30 PM to 5:30 PM, respectively. Detailed count data and peak hour volumes are contained in Appendix B.

Annual average daily traffic (AADT) for West Water Street was obtained from the NYSDOT Traffic Data Viewer. The project's Estimated Time of Completion (ETC) is 2019. A design year of 2029 (ETC+10) was selected per Appendix 5 of the NYSDOT Project Development Manual. Traffic volume projections were completed for ETC (2019) and the design year ETC+10 (2029). A growth rate of 0.5% was applied based on historical AADT data. This growth factor (annually compounded) was used to forecast AADT volumes for the years 2019, 2029, and 2039, which appear in Exhibit 2.3.1.4. Similarly, the growth factor was used to forecast peak hour volumes and are contained in Appendix C. According to NYSDOT Classification Reports, the heavy vehicle percentage for West Water Street is 4%.

Exhibit 2.3.1.4 Existing and Future Traffic Volumes				
	West Water Street (College Ave to Main St)		West Water Street (Main St to Carl Proper Drive)	
Year	ADT	DHV	ADT	DHV
Existing (2018)	13,476	1,122	16,504	1,593
ETC (2020)	13,543	1,127	16,586	1,601
ETC+10 (2030)	14,236	1,185	17,434	1,683

Note: ETC is the Estimated Time of Completion

2.3.1.5 Speeds

The posted speed limit and operating speeds were obtained using NYSDOT's Speed Count Hourly Reports. The latest speed count report for West Water Street was obtained from August 2014. Speed data is presented in Exhibit 2.3.1.5.

Exhibit 2.3.1.5 Speeds	
Route	West Water Street
Existing Speed Limit (mph)	30
Operating Speed (mph) and Method Used for Measurement	34.8 EB / 34.8 WB Station Speed Count Report

The operating speed is a single speed that reflects the majority of motorists. Transportation agencies use the internationally accepted off-peak 85th percentile speed to represent the operating speed. The 85th percentile speed is the operating speed that only 15% of the motorists exceed during off-peak hours.

2.3.1.6 Level of Service

2.3.1.6. (1) Existing level of service and capacity analysis –

Existing and future No Build scenario levels of service (LOS) for roadway segments within the study area were observed to operate at level of service B or better during the morning and evening peak hours and are expected to continue to provide an acceptable level of service throughout the design year.

A capacity analysis was performed on the signalized intersections within the project study area. Level of Service (LOS) is a qualitative measure describing motorist satisfaction with various factors influencing the degree of traffic congestion including travel time, speed, maneuverability, and delay. The methodology for performing capacity analyses and determining level of service is documented in the Highway Capacity Manual (HCM) (Transportation Research Board, Washington D.C., 2010) Levels of service range from A to F. LOS A describes traffic operations with little or no delay while LOS F describes highly congested conditions with substantial delays. LOS D or better is generally considered acceptable during peak traffic hours in urban areas. Analyses based on the HCM methodology were generated using Synchro traffic analysis software for the signalized intersections of College Avenue and North Main Street with West Water Street. The LOS was calculated for AM and PM peak hours in order to determine delay and congestion during commuter peak hours. Detailed LOS results, analysis, and methodology along with software outputs are contained in Appendix C.

Existing levels of service results for the signalized intersections are provided in Exhibit 2.3.1.6-1. The intersection operates with acceptable levels of service of LOS A. Detailed intersection analysis results are contained in Appendix C.

Exhibit – 2.3.1.6 (1) Peak Hour Level of Service and Delay Existing (2018) Conditions					
Intersection	Approach	Weekday AM		Weekday PM	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
West Water Street / College Avenue	Eastbound L	A	8.3	B	10.3
	Eastbound T	B	18.6	B	17.5
	Westbound TR	A	7.8	B	11.2
	Southbound LR	B	11.6	A	8.3
	Overall	B	16.3	B	14.6
West Water Street / N. Main Street	Eastbound L	B	15.7	B	17.8
	Eastbound TR	C	31.4	C	24.1
	Westbound L	C	20.9	B	19.8
	Westbound TR	B	13.1	B	16.9
	Northbound LTR	B	12.1	B	14.4
	Southbound L	A	8.1	A	7.9
	Southbound TR	A	8.9	A	9.3
	Overall	B	19.6	B	16.1

2.3.1.6. (2) Future No-Build Design Year Level of Service –

The Estimated Time of Completion (ETC) is 2019. A design year of 2029 (ETC+10) was selected per Appendix 5 of the NYSDOT Project Development Manual. Traffic volume projections were completed for ETC (2019) and the design year ETC+10 (2029).

Level of service intersection analyses were completed for future No Build conditions at ETC (2019) and ETC+10 (2029). They are summarized in Exhibits 2.3.1.6 (2)-1, and Exhibit 2.3.1.6 (2)-2. According to the projected future No Build analyses, the signalized intersections of West Water Street with College Avenue and North Main Street would operate with acceptable levels of service of LOS C or better and experience minor increases in delay through the design year.

Exhibit – 2.3.1.6 (2)-1 Peak Hour Level of Service and Delay No Build ETC (2020) Conditions					
Intersection	Approach	Weekday AM		Weekday PM	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
West Water Street / College Avenue	Eastbound L	A	8.3	B	10.3
	Eastbound T	B	18.7	B	17.5
	Westbound TR	A	7.8	B	11.8
	Southbound LR	B	11.6	A	8.4
	Overall	B	16.3	B	14.8
West Water Street / N. Main Street	Eastbound L	B	15.7	B	17.5
	Eastbound TR	C	31.4	C	24.0
	Westbound L	C	20.9	B	19.4
	Westbound TR	B	13.1	B	17.0

Exhibit – 2.3.1.6 (2)-1 Peak Hour Level of Service and Delay No Build ETC (2020) Conditions					
Intersection	Approach	Weekday AM		Weekday PM	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
	Northbound LTR	B	12.1	B	14.5
	Southbound L	A	8.1	A	7.9
	Southbound TR	A	8.9	A	9.4
	Overall	B	19.6	B	16.2

Exhibit – 2.3.1.6 (2)-2 Peak Hour Level of Service and Delay No Build ETC+10 (2030) Conditions					
Intersection	Approach	Weekday AM		Weekday PM	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
West Water Street / College Avenue	Eastbound L	A	8.2	B	10.2
	Eastbound T	B	19.0	B	17.8
	Westbound TR	A	7.	B	11.9
	Southbound LR	B	11.9	A	8.7
	Overall	B	16.6	B	15.0
West Water Street / N. Main Street	Eastbound L	B	15.7	B	17.7
	Eastbound TR	C	34.0	C	24.8
	Westbound L	C	21.4	B	20.0
	Westbound TR	B	12.5	B	17.1
	Northbound LTR	B	12.4	B	17.0
	Southbound L	A	8.2	A	8.2
	Southbound TR	A	9.1	A	9.7
	Overall	C	20.8	B	17.1

2.3.1.6. (3) Future Build Design Year Level of Service –

Level of service intersection analyses were also completed for future Build conditions at ETC (2020) and ETC+10 (2030). They are summarized in Exhibit 2.3.1.6 (3)-1 and Exhibit 2.3.1.6 (3)-2. The Build scenario levels of service represent the traffic impact on the study area if the preferred alternative in this report were constructed. Under the preferred alternative the eastbound left turn storage lane would be removed. According to the projected future Build analyses, the signalized intersections of West Water Street with College Avenue and North Main Street would operate with acceptable levels of service of LOS D or better and experience minor increases in delay through the design year.

Exhibit – 2.3.1.6 (3)-1 Peak Hour Level of Service and Delay Build ETC (2020) Conditions					
Intersection	Approach	Weekday AM		Weekday PM	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
West Water Street / College Avenue	Eastbound L	A	8.3	B	10.3
	Eastbound T	B	18.7	B	17.5
	Westbound TR	A	7.8	B	11.8
	Southbound LR	B	11.6	A	8.4
	Overall	B	16.3	B	14.8
West Water Street / N. Main Street	Eastbound LTR[1]	D	40.4	C	31.0
	Westbound L	C	18.7	B	17.6
	Westbound TR	B	12.9	B	16.1
	Northbound LTR	B	12.4	B	17.4
	Southbound L	A	8.2	A	8.5
	Southbound TR	A	9.1	A	10.2
	Overall	C	24.2	B	19.4
1. Under Alternative 5, the left turn lane is proposed to be removed.					

West Water Street and North Main Street – During the AM and PM peak hours of the Build ETC condition, the eastbound left is projected to operate at LOS D and LOS C with 40 and 31 seconds of delay, respectively. The eastbound approach would experience an increase of delay for this movement by approximately 9 and 7 seconds of delay, respectively, compared to the No Build ETC condition.

Exhibit – 2.3.1.6 (3)-2 Peak Hour Level of Service and Delay Build ETC+10 (2030) Conditions					
Intersection	Approach	Weekday AM		Weekday PM	
		LOS	Delay (s/veh)	LOS	Delay (s/veh)
West Water Street / College Avenue	Eastbound L	A	8.2	B	10.2
	Eastbound T	B	19.0	B	17.8
	Westbound TR	A	7.7	B	11.9
	Southbound LR	B	11.9	A	8.7
	Overall	B	16.6	B	15.0
West Water Street / N. Main Street	Eastbound LTR[1]	D	45.4	C	33.2
	Westbound L	C	21.4	B	17.9
	Westbound TR	B	19.3	B	16.2
	Northbound LTR	B	12.7	B	18.1
	Southbound L	A	8.2	A	8.6
	Southbound TR	A	9.3	A	10.6
	Overall	C	26.6	C	20.3
1. Under Alternative 5, the left turn lane is proposed to be removed.					

West Water Street and North Main Street – During the AM and PM peak hours of the Build ETC+10 condition, the eastbound left is projected to operate at LOS D and LOS C with 45 and 33 seconds of delay,

respectively. The eastbound approach would experience an increase of delay for this movement by approximately 11 and 8 seconds of delay, respectively, compared to the No Build ETC+10 condition.

2.3.1.7 Work Zone Safety & Mobility

A. Work Zone Traffic Control (WZTC) Plan

Vehicular traffic would be maintained on West Water Street at all times using lane shifts or one-lane two-way traffic controlled by a flagger. All work zones would be set up in conformance with the MUTCD including provisions for maintenance and protection of pedestrian and bicycle traffic. A clearly marked travel way would be delineated with traffic signs, barricades, drums, cones, etc. as applicable. Flaggers would be utilized to direct traffic where required. Access to affected retail, commercial, and residential properties would be maintained throughout construction or alternate accommodations provided. On-street parking would be restricted in some sections while construction is being completed. Bicyclists would be expected to continue to share the road with vehicles. Sidewalk on at least one side of West Water Street would be maintained, therefore, pedestrians would be rerouted to sidewalks along the other side of the road during sidewalk closures. Pedestrian access to buildings will be provided by temporary ramps while the sidewalk is being constructed. Access for emergency vehicles and local deliveries would also be maintained.

Construction at the intersections along West Water Street would be done using short term shoulder and lane closures on an as-needed basis. No detours would be required. Access would be maintained for local emergency service providers including Elmira Police & Fire Departments and Erway Ambulance.

Routes for emergency vehicles will be maintained and open during construction. The details for the work zone traffic control will be prepared and evaluated during final design.

B. Special Provisions

No Special Provisions would be required for this project. Work zone traffic control would be coordinated with county and city officials, business owners, residents, utility owners, school districts, and local emergency service providers.

C. Significant Projects (per 23 CFR 630.1010)

This project is not classified as a Significant Project, therefore, its Transportation Management Plan (TMP) would consist of a Temporary Traffic Control (TTC) plan consistent with 23 CFR 630.1012. To satisfy TTC plan requirements, construction documents would include work zone traffic control notes, plans, and details. The requirements of Section 619 of the New York State Standard Specifications would apply to the contract.

2.3.1.8 Safety Considerations, Accident History and Analysis

An accident analysis was performed in accordance with the Highway Design Manual Chapter 5 Section 5.3. Crash data covering a three-year period from April 1, 2014 to March 31, 2017 was compiled by the New York State Accident Location Information System (ALIS). Project study area data was provided along West Water Street from College Avenue to Carl Proper Drive.

West Water Street between College Avenue and Carl Proper Drive was investigated to identify high incident areas, possible accident clusters and potential causal factors. Crash rates for segments and intersections were calculated and compared to statewide average rates provided by the NYSDOT. Non-reportable crashes were not included in the accident rate calculations. These rates are illustrated in Exhibit 2.3.1.8.

Exhibit 2.3.1.8 Segment and Intersection Collision Summary				
Location	**No. of Acc.**	**Analysis Period (Months)**	**Acc. Rate**	**Statewide Average**
Segment				
West Water Street (College Avenue to Carl Proper Drive)	3	36	0.97 (Acc/MVM)	2.23 (Acc/MVM)
Intersections				
West Water Street & North Main Street	4	36	0.28 (Acc/MEV)	0.52 (Acc/MEV)
West Water Street & College Avenue	0	36	0.00 (Acc/MEV)	0.32 (Acc/MEV)

A total of 7 accidents occurred over the three-year study period; 3 midblock and 4 at the intersection with North Main Street. One of the accidents involved a pedestrian, however the pedestrian was not crossing at a crosswalk and crossed against moving traffic. Injury resulted from 2 of the 7 total accidents and the remaining 5 were property damage only. None resulted in a fatality. There were no reportable accidents at the intersection of College Avenue.

The calculated segment accident rate per million vehicle miles (Acc/MVM) was 0.97 (Acc/MVM), which was less than half of the statewide average accident rate of 2.23 (Acc/MVM) for similar type facility.

At the intersection of West Water Street and North Main Street, the calculated average annual accident rate per million entering vehicles (Acc/MEV) was 0.28 Acc/MEV, which was approximately half of the statewide average of 0.52 Acc/MEV. Supporting summary data is included in Appendix C. There were no clusters or patterns to indicate any inherent safety deficiencies at the subject intersections.

2.3.1.9 Ownership and Maintenance Jurisdiction –

The City of Elmira owns West Water Street (NYS Route 352) and maintains all pavement, signing, pavement markings, traffic signals, lighting system, sidewalks, curbs, storm sewers, and water mains. All intersecting streets are owned and maintained by the City of Elmira.

Snow removal operations of West Water Street are the responsibility of the City of Elmira under the authority of Section 12 of the New York State Highway Law and by contract with NYSDOT which is renewed annually. The City of Elmira is also responsible for snow removal operations on the intersecting roadways of West Water Street. The maintenance of sidewalks and driveways is the responsibility of the adjacent property owner per City of Elmira local law.

2.3.2 Complete Streets

A Complete Streets Planning Checklist is contained in Appendix C. The results from the checklist warrant the implementation of complete street features into this project. Refer to the sections below for future accommodations of complete street initiatives.

2.3.2.1 Pedestrians

West Water Street is a heavily utilized pedestrian facility as it is a central business district corridor. The Elmira-Chemung Transportation Council (ECTC) has designated the sidewalk of West Water Street as part of two, 1-mile Downtown Elmira Walking Routes.

Pedestrians are accommodated along both sides of West Water Street on concrete sidewalks with varying width. The condition of the sidewalks vary from good to poor. Curb ramps at intersection crossings are diagonal and many do not meet handicap accessibility requirements in accordance with the ADAAG or PROWAG.

West Water Street sidewalks and curb ramps along West Water Street would be reconstructed as shown in Appendix A with adequate width and slope consistent with ADAAG and PROWAG requirements as applicable. New sidewalk would be installed to tie-in new curb line modifications as necessary. Where possible, directional pedestrian crossings would be installed within the new curb-bump outs at the Water Street intersections of College Avenue and North Main Street. Under the proposed alternative, a new midblock crossing would be installed on West Water Street east of North Main Street to provide access from the north side of the roadway to Riverfront Park. Detectable warning devices would be installed at all curb ramp locations according to NYSDOT standards.

2.3.2.2 Bicyclists

West Water Street is a signed, on-road designated bicycle route, New York State Bicycle Route 17, where both bicyclists and motor vehicles share the road. According to the Complete Streets Checklist, portions of the existing bicycle accommodations along West Water Street do not meet the minimum standard guidelines according to HDM Chapter 17.

Under the proposed alternative, bicyclists would be accommodated by a consistent 14' wide curb lane that would comply with minimum bicycle facility widths as outlined in HDM Chapter 17. Bicycle share road warning signs, NYS bike route signs, and other bicycle appropriate signage would be upgraded to current MUTCD standards. Additionally, bicycle safe drainage grates would be installed as necessary.

Consideration was given to adding separate bicycle lanes between the travel and parking lanes. However inclusion of the bicycle lanes would significantly limit the space available for the proposed sidewalks and medians.

2.3.2.3 Transit –

Public transportation services for Chemung County are provided by CTran, previously known as the Chemung County Transportation System (CCTS). There are several CTran transit routes that use West Water Street, but there are no stops within the project limits.

2.3.3 Infrastructure

2.3.3.1 Design Standards – The following publications were used in the development of the design:

- A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO)
- NYSDOT Highway Design Manual (HDM)
- National Manual on Uniform Traffic Control Devices for Streets and Highways and the New York State Supplement (MUTCD)
- The Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (United States Access Board) (ADAAG)
- 2011 Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)
- Guide for the Development of Bicycle Facilities, 2012 4th Edition, American Association of State Highway and Transportation Officials (AASHTO)

2.3.3.2 Critical Design Elements

Exhibit 2.3.3.2 summarizes the critical design elements for West Water Street:

Exhibit 2.3.3.2
Critical Design Elements for West Water Street

PIN:	6754.68	**NHS (Y/N):**	Yes
Route No. & Name:	West Water Street	**Functional Classification:**	Urban Principal Arterial Other
Project Type:	Reconstruction	**Design Classification:**	Urban Principal Arterial Other
% Trucks:	4%	**Terrain:**	Level
ADT:	17,434	**Truck Access/Qualifying Hwy.**	Access-No; Qualifying-No

	Element	Standard	Existing Condition	Proposed Condition
1	Design Speed	30 mph Minimum, 40 mph Maximum (Central Business District) HDM Section 2.7.2.4 A	35 mph[1]	35 mph[1]
2	Lane Width	Travel Lanes: 13 ft Minimum, 15 ft Desirable Turning Lanes: 11 ft Minimum, 12 ft Desirable Parking Lanes: 8 ft minimum, 12 ft Desirable HDM Section 2.7.2.4 B. Exhibit 2-4a	12 ft - 14 ft 10 ft 9 ft	14 ft[3] 11 ft 8 ft
3	Shoulder Width	5 ft Minimum[2] HDM Section 2.7.2.4 C. Exhibit 2-4a	0 ft	0 ft
4	Horizontal Curve Radius	371 ft (@ e = 4.0%) HDM Section 2.7.2.4 D. Exhibit 2-4a	>250 ft	>250 ft
5	Superelevation	4% Maximum HDM Section 2.7.2.4 E	N/A	N/A
6	Stopping Sight Distance (Horizontal and Vertical)	250 ft Minimum HDM Section 2.7.2.4 F. Exhibit 2-4a	>200 ft	>200 ft
7	Maximum Grade	7% HDM Section 2.7.2.4 G. Exhibit 2-4a	3.1%	3.1%
8	Cross Slope	1.5% Min. to 2.5% Max. HDM Section 2.7.2.4 H	NC	NC
9	Vertical Clearance	14' Min., 14'-6" Desirable BM Section 2.4	N/A	N/A
10	Design Loading Structural Capacity	New and Replacement Bridges/Culverts NYSDOT LRFD Specifications AASHTO HL-93 Live Load and NYSDOT Design Permit Vehicle BM Section 2.6, HDM 19.5.3	N/A	N/A
11	Pedestrian Accommodations	Comply with HDM	5 ft (min)	7 ft (min)

1. It has been determined that the use of a Design Speed of 35 mph is consistent with the anticipated off-peak 85th percentile speed within the range of functional class speeds for the terrain and volume. Refer to Section 2.3.1.5.
2. A 0 to 4 ft minimum shoulder may be used where shared lanes or separate bicycling provisions (e.g., shared use path) are provided.
3. The proposed 14' travel lanes are shared lanes that will accommodate bicyclists.

2.3.3.3 Other Design Parameters

Other important engineering standards and normally accepted practices upon which the alternative is based are included in the following exhibits:

Exhibit 2.3.3.3-1
Other Design Parameters

Element	Standard	Proposed Condition
Level of Service	LOS D or better, HDM §5.2.3.4	LOS B
Drainage Design Storm:		
Culverts	50 Years	N/A
Storm Drainage System	5 Years	5 Years
Ditches	10 Years	N/A

Exhibit 2.3.3.3-2
Other Design Parameter: Design Vehicle

Location	Design Vehicle	Vehicle Accommodated
West Water Street and College Avenue	SU, HDM §5.7.1.1	SU
West Water Street and North Main Street	SU, HDM §5.7.1.1	SU

2.3.3.4 Existing and Proposed Highway Plan and Section

Plans and typical sections representing the proposed improvements are included in Appendix A. The existing horizontal and vertical alignments along West Water Street would be maintained throughout the project limits. In general, modifications would be made to the existing curb lines and the adjacent sidewalk in order to install the new curb and achieve adequate grade requirements.

Highway:
The existing typical section of West Water Street between College Avenue and North Main Street consists of a 46-foot curb to curb pavement width; 14-foot travel lanes and 9-foot parking lanes in each direction. East of North Main Street, the existing typical section consists of a 42-foot curb to curb pavement width; 12 foot travel lanes and 9-foot parking lanes in each direction. There are opposing 10-foot left turning lanes at the intersection of West Water Street with North Main Street and a 10-foot eastbound left turn lane at the intersection of West Water Street with College Avenue.

Under the proposed alternative, the West Water Street curb to curb pavement width would be modified in order to accommodate shared use travel lanes in each direction, parking lanes, and left turning lanes that meet the standard widths according to Exhibit 2.3.3.2.

Curb:
Existing curb lines both sides of West Water Street. The curb material is mainly granite with some portions of concrete curb. The curb condition appears to be in good to fair condition based on field observation with spot locations of significant deterioration. In general, the existing curb reveal is sufficient, however, there are locations where the existing curb reveal is below standard.

New granite curb would be installed where existing curb lines would be modified and for the proposed median islands. Additionally, any concrete curb or curb in poor condition would be replaced with new granite curb.

Driveways:
There are two sets of commercial driveways that lead to parking lots located at 237 and 130 West Water Street and one alley way located adjacent to 228 West Water Street. The driveways and alleyway would be modified to meet NYSDOT standards.

2.3.3.5 Non Standard/Non Conforming Features

There are no non-standard or non-conforming features within the project limits.

2.3.3.6 Pavement and Shoulder Conditions

The existing West Water Street pavement surface is in fair to poor condition based on field observation. The roadway exhibits general alligator cracking as well as transverse cracking throughout the project limits. In various locations, it appears the pavement has severe cracking or has recently been patched for utility repairs. Side street pavements appear to exhibit similar conditions as West Water Street.

Pavement core samples were taken at various locations along West Water Street and pavement core reports dated December 2017 and August 2018 are contained in Appendix D. The existing pavement section west of North Main Street consists of approximately 3” of asphalt concrete top course, 3 ¼” of asphalt concrete base, 8 ¾” reinforced cement concrete, and 24” of gravel subbase. At the intersection of North Main Street and east to the project limits, the pavement consists of 2 ½” to 4 ½” of asphalt concrete top course and 6” to 8” of asphalt concrete base course. According to the 2012 NYSDOT Pavement Data Report, West Water Street received a two course hot mix overlay (2”-3”) in 2000.

A Pavement Evaluation & Treatment Selection Report (PETSR) was completed by Erdman Anthony in August 2018. The report can be found in Appendix D. Based the review of the pavement core reports and PETSR, it is recommended to reconstruct the existing pavement. The West Water Street pavement would be reconstructed with a full depth treatment. Full depth reconstruction of the asphalt pavement would improve service life, ride quality, friction, and cross slope. The full depth pavement reconstruction treatment would be in accordance with NYSDOT Comprehensive Pavement Design Manual.

2.3.3.7 Drainage Systems

The existing drainage system consists of a closed system that conveys storm water collected by the curbed roadway. Existing catch basins affected by the curb line modifications or adjacent to new curb bump-out ramps would be replaced and/or relocated with new pipes to the existing. New curb and sidewalk improvements would also encourage positive drainage. Frames and covers would be replaced and/or adjusted to meet final grades as appropriate.

2.3.3.8 Geotechnical

There are no special geotechnical concerns with the soils within the project limits.

2.3.3.9 Structures

There are no structures within the project limits.

2.3.3.10 Hydraulics of Bridges and Culverts

There are no bridges or culverts within the project limits.

2.3.3.11 Constructability Review

A constructability review would be completed during final design.

2.3.3.12 Utilities

The following utilities are present in the general vicinity of the project improvement area:

- Underground gas lines owned by New York State Electric and Gas (private)
- Underground electrical distribution lines owned by New York State Electric and Gas (private)
- Underground electrical (lighting) distribution lines owned by City of Elmira (public)
- Underground water transmission and distribution lines owned by the Elmira Water Board (public)
- Underground sanitary sewers owned by Chemung County Pure Water Agency (public)
- Underground fiber optic cable owned by the City of Elmira (public)
- Underground telephone owned by Verizon (private)
- Underground cable television distribution lines owned by Spectrum Time Warner (private)

Proposed modifications to the existing utilities will be finalized as the design advances, with a coordination meeting held at the start of final design.

2.3.3.13 Right of Way

The right-of-way width along West Water Street is 66 feet. Plans illustrating the highway boundary are included in Appendix A. No fee acquisitions would be required to construct the proposed improvements. A permanent easement would be required in the northwest corner of the College Avenue and West Water Street intersection to install a sidewalk curb ramp. Grading releases would be obtained from property owners as necessary to install sidewalk, driveway, and other modifications. An anticipated grading release table is summarized in Appendix F. All other work would be performed within the existing highway boundary.

2.3.3.14 Landscaping/Environmental Enhancement

The existing landscape of West Water Street is consistent with an urban business district corridor. Current streetscape features include concrete sidewalks, pedestrian-scale ornamental lighting, street trees and shrubs located in individual planters, and limited street furnishings. The City of Elmira has expressed the desire to enhance the landscape of the street to support and attract redevelopment, improve the aesthetic character of the City, and provide a more inviting atmosphere for pedestrians. Landscape enhancements would include an upgrade to the existing lighting system, new street tree plantings, specialty sidewalk paving (colored pavers or exposed aggregate), street furnishings including benches, bike racks and trash receptacles, and other amenities as funding permits.

2.4 Miscellaneous

2.4.1 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). Specifically, the project:

- Does not degrade community cohesion in the area.
- Preserves the existing transportation corridor without expansion.
- Preserves farmland by not intruding on existing farmlands.
- Does not promote rapid or dense population growth in the project area.
- Will not interfere with non-motorized/transit modes now operating in the project area.
- Conforms to state and local transportation plans.

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 City of Elmira. A copy of the Smart Growth Screening Checklist is provided in Appendix C.

2.4.2 Other Miscellaneous Information

2.4.2.1 Lighting

The existing lighting along both sides of West Water Street consists of ornamental acorn-style street light poles with LED luminaires owned and maintained by the City of Elmira. The lighting system is powered through underground electrical conduit located underneath the existing roadway on the north side and underneath the sidewalk on the south side of West Water Street. Existing light poles and conduit in conflict with the proposed design would be relocated as necessary.

2.4.2.2 Parking

Existing on-street parking is metered and permitted on both sides of West Water Street. Parking signs denote handicapped parking spaces and loading zones. With the installation of curb bump-outs, some parking spaces may be eliminated. However, the curb bump-outs assist in the prevention of vehicles parking too closely to an intersection. Parking spaces on the south side of West Water Street between College Avenue and North Main Street would be eliminated under Alternative 5 although there would be a net gain of 6 total spaces, due to an additional 10 back-in angle parking spaces on the south side of the road east of North Main Street. Back-in angle parking provides a better view of traffic for vehicles exiting the parking space over traditional pull-in angle parking resulting in increased safety for bicyclists. The numbers of existing and proposed on-street parking spaces within the project limits are described in Exhibit 2.4.2.2.

Exhibit 2.4.2.2
On-Street Parking Spaces

Location	Side	Existing Number of Spaces	Proposed Number of Spaces under Alt. 5
College Avenue to N. Main Street	North	13	16
	South	6	0
N. Main Street to Carl Proper Drive	North	4	8
	South	5	10
TOTAL		**28**	**34**

CHAPTER 3 – SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS

This chapter discusses the environmental issues associated with the proposed West Water Street Downtown Reconstruction Project in the City of Elmira, Chemung County, New York. Refer to the Social, Economic and Environmental Resources Checklist included in Appendix B for information on all environmental issues for which the project was screened.

3.1 National Environmental Policy Act (NEPA)

The proposed project is anticipated to meet the criteria established for a NEPA Class II action in accordance with 23 CFR 771.117c and the FEAW. Class II actions that do not individually or cumulatively have a significant environmental effect are excluded from the requirement to prepare an Environmental Impact Statement (EIS) or an Environmental Assessment (EA). A copy of the draft FEAW is included in Appendix B.

3.2 State Environmental Quality Review Act (SEQRA)

The proposed project meets the criteria established for a SEQRA Type II Action in accordance with 6 NYCRR, Part 617. The project has been identified as a Type II action, per 6 NYCRR Section 617.5, Subdivision (c), Item 2, "replacement, rehabilitation of a structure or facility in kind, on the same site, including upgrading buildings to meet building or fire codes, unless such action meets or exceeds any thresholds in Section 617.4 of this part." This permits the project to be classified as Type II since the project does not exceed any of the criteria contained in Section 617.4. No further review under SEQR is required. **A SEQR Environmental Assessment Form is not required.**

3.3 Additional Environmental Information

3.3.1 Neighborhoods and Community Cohesion

3.3.2 General Social Groups

The intent of this project is to improve pedestrian amenities, upgrade the sidewalks to reduce trip hazards and eliminate non-ADA compliant road crossings.

3.3.3 Economic

3.3.3.1 Business Districts

The intent of this project is to improve pedestrian amenities. Shared use lanes would provide safe locations for bicycles to use the corridor, upgrading the sidewalks would reduce trip hazards and eliminate non-ADA compliant road crossings.

3.3.3.2 Specific Business Impacts

Access to and from adjacent business properties would be maintained during the construction of the sidewalk. No adverse effects to any specific business interests are anticipated.

3.3.5 Ground Water

Sole Source Aquifer

A review of the Environmental Protection Agency (EPA)-designated Sole Source Aquifer Areas Federal Register Notices, Maps, and Fact Sheets indicates that the project is not located in a Sole Source Aquifer Project Review Area. No federal review and/or approvals are required pursuant to Section 1424(e) of the Safe Drinking Water Act. No further review is required.

NYSDEC Primary and Principal Aquifers

NYSDEC aquifer GIS data files have been reviewed and it has been determined that the proposed project is underlain by a primary aquifer. The current project scope will not excavate to a depth to impact the aquifer. No federal review and/or approvals are required pursuant to Section 1424(e) of the Safe Drinking Water Act. No further review is required.

Unconfined Aquifer

The USGS Numbered Series map from the Water-Resources Investigations Report entitled "Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York, Finger Lakes Sheet," dated 1988, indicated the project area is underlain by an unconfined aquifer. The current project scope will not excavate to a depth to impact the aquifer. No federal review and/or approvals are required pursuant to Section 1424(e) of the Safe Drinking Water Act. No further review is required.

3.3.6 Surface Water

A NYSDEC Article 15 Protection of Waters Permit is required for disturbing the bed or banks of a stream with a classification of C(t) or higher. No surface water will be disturbed during the project enhancements; therefore, with regard to stream classification and standards, a NYSDEC Article 15 permit is not required.

It is expected that the project will not result in changes to the overall surface water drainage patterns and will not significantly increase pavement surface area. Therefore, increases in surface water runoff rates and volumes are not expected as a result of the proposed project.

During construction, storm water runoff from exposed soil surfaces may flow into the existing surface conveyance system and subsequently into adjacent surface water systems. These flows will be managed in accordance with an erosion and sediment control plan which will be developed prior to construction.

Total area of disturbance will be determined during final design, however it is expected that the proposed project will result in a total area of disturbance that will exceed the designated threshold of 1-acre, a SPDES General Permit GP-0-15-002 will be required. A Stormwater Pollution Prevention Plan (SWPPP) with the appropriate sediment and erosion control measures will be developed. Based on the SWPPP, permanent stormwater management practices may be required depending on the total amount of disturbance and changes in total impervious area.

3.3.7 General Ecology and Endangered Species

The National Oceanic and Atmospheric Administration (NOAA) division of National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service (USFWS) share the responsibility for managing federally listed threatened and endangered species. NOAA division of NMFS manages marine and anadromous species while the USFWS typically manages land and freshwater species. The NOAA, NMFS list of endangered, threatened and candidate species was reviewed. There are no marine or anadromous species listed as being present within the project area. No further coordination with the NOAA, NMFS is necessary.

The United States Fish and Wildlife Service (USFWS) web based process for Project Reviews in New York State was conducted for this project. The following species were identified by this review process as possibly being present within the vicinity of this project (subsequent information regarding preferred habitat was gathered from the USFWS website):

- **Northern Long-Eared Bat (*Myotis septentrionalis*)**: The northern long-eared bat predominantly occupies mature forest stands and woodlots. Suitable habitat, including trees greater than three inches diameter at breast height (DBH), and areas of open water are present adjacent to the project location. There is no documentation in the NYSDEC Natural Heritage Program database of this species being present along the project corridor. It is anticipated that approximately nine (9) trees will be removed for the proposed project. However, the FHWA New York Division: Environmental Procedures Endangered Species Act, Section 7: Process

for Compliance and Consultation lists urban street trees as "No Suitable Habitat" for the northern long-eared bat. In completion of the online Determination Key, it has been determined that the project with have "No Effect" on northern long-eared bat populations.

- **Bald Eagle (*Haliaeetus leucocephalus*)**: Prior to August 2007, the USFWS had listed the bald eagle as a threatened species with known or likely occurrences within Chemung County; however, this species was delisted on August 8, 2007. As such, there are no Endangered Species Act (ESA) requirements for the bald eagle; however, it is protected under the Bald and Golden Eagle Protection Act (BGEPA) and by New York State as a state-listed threatened species. Historically, bald eagle nesting sites have been found in forests along the shorelines of oceans, lakes and rivers. Coordination with the NYNHP revealed that there are no records of bald eagle nests adjacent to the project area. The habitat assessment revealed that the typical nesting habitat for the bald eagle is not present at this site. The habitat assessment also included a visual inspection of the adjacent trees for raptor nest as the bald eagle will frequently utilize other raptor's nests as their own. The habitat assessment revealed no raptor nests within the project area. Therefore, the proposed project is unlikely to disturb nesting bald eagles. No BGEPA permit is required, and the proposed project will have "No Effect" on bald eagles.

State Listed Threatened or Endangered Species

The New York State Department of Environmental Conservation (NYSDEC) was contacted for information regarding the presence of state listed threatened, endangered or special concern species that may be impacted by the proposed project. A response from the NYSDEC, New York National Heritage Program (NYNHP) was received on November 8, 2017 and indicated the Green Floater mussel and Yellow Lampmussel are located within the vicinity of the project. These species will not be impacted by the project. There are no other threatened, endangered or special concern species within the project limits or the immediate vicinity. A copy of the applicable correspondence is included in Appendix B. No further action is required.

Invasive Species

A site inspection of the proposed project area conducted on October 13, 2017 revealed no presence of invasive species within the project limits or the immediate vicinity.

3.3.8 Cultural Resource Investigation

Records from the New York State Historic Preservation Office (SHPO) and National Register of Historic Places were reviewed for listed historic properties that may be impacted by the proposed project. A segment of the project limits is located within the North Main and West Water Streets Commercial Historic District NR number 15NR00032. Twelve (12) National Register listed sites are located adjacent to the project limits.

The internet map prepared by the New York State Office of Parks, Recreations and Historic Preservation indicates the proposed project is within an archeologically sensitive area. A project review request was prepared and submitted to the NYSDOT Region 6 SHPO Cultural Resources Coordinator for determination as to potential cultural resources impacts. A response is pending.

3.3.9 State Wetlands and Federal Jurisdiction Wetlands

The NYSDEC online Environmental Resource Mapper was reviewed; there are no New York State regulated Freshwater Wetlands within or in the immediate vicinity of the proposed project. No further review is required.

The National Wetlands Inventory (NWI) online mapper accessed from the United States Fish and Wildlife Service (USFWS) indicates that the project is not located adjacent to any mapped federally regulated wetlands. A site visit conducted on October 13, 2017 confirmed that no wetlands are present within or adjacent to the project area. No further review is required.

3.3.10 Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) dated August 2, 2007 indicates that the project is located within a FEMA zone designation X. Zone X is an area between the limits of the base flood and the 500-year flood event. Zone X is an area of minimal flood hazard, for which no further review is required.

3.3.11 Coastal Zone Management

The project corridor is not within a coastal zone and is not covered by either the Coastal Zone Management Act or the Waterfront Revitalization and Coastal Resources Act. No further review is required.

3.3.12 Navigable Waterways

There are no waters in the project limits that are considered navigable as defined by the United States Army Corps of Engineers (USACE) or the United States Coast Guard (USCG), therefore; neither a Section 10 nor a Section 9 permit will be required.

There are no waters in the project limits that are considered navigable by NYSDEC. Therefore, an Article 15 Protection of Waters Permit for the excavation or placement of fill in navigable waters will not be required.

3.3.13 Hazardous Waste/Contaminated Materials

Introduction

A Hazardous Waste/Contaminated Materials (HW/CM) Screening was conducted within the project vicinity. This screening included a review of available records and a project corridor site walkover conducted on October 13, 2017. The purpose of this assessment is to identify potential areas of environmental concern that may be disturbed during construction of the proposed project. See attached Hazardous Waste/Contaminated Materials Screening Technical Memo in Appendix B.

HW/CM Screening Conclusion/Recommendations

The Hazardous Waste/ Contaminated Materials screening identified five (5) sites as having the potential to present an environmental concern to the proposed project (Table 3.5.10-1). It is recommended that a subsurface investigation to determine if contaminated soils are present or provide provisions in the contract documents to screen, and if necessary, segregate, stage and dispose of soil excavated during construction where the project limits adjoin to these sites.

Table 3.5.10-1: Environmental Records Review

Site ID	Site address	Past/Current land use	Reason for concern	Recommendation(s)
Site 1	100 College Avenue	**Past:** Gas station/auto repair & service **Current:** Restaurant	Potential contaminated soils	Subsurface investigation or during construction screen and if necessary remove and dispose of the contaminated soil in accordance with standard NYSDOT Item numbers.
Site 2:	232 West Water Street	**Past:** Gasoline filling station **Current:** Commercial Building	Potential contaminated soils	Subsurface investigation or during construction screen and if necessary remove and dispose of the contaminated soil in accordance with standard NYSDOT Item numbers.
Site 3:	302 West Water Street	**Past:** Gasoline filling station **Current:** Commercial Ba	Potential contaminated soils	Subsurface investigation or during construction screen and if necessary remove and dispose of the

Site ID	Site address	Past/Current land use	Reason for concern	Recommendation(s)
				contaminated soil in accordance with standard NYSDOT Item numbers.
Site 4:	303 West Water Street	**Past:** Gasoline filling station **Current:** Commercial Building	Potential contaminated soils	Subsurface investigation or during construction screen and if necessary remove and dispose of the contaminated soil in accordance with standard NYSDOT Item numbers.
Site 5:	301 West Water Street	**Past:** Gasoline filling station **Current:** Parking lot.	Potential contaminated soils	Subsurface investigation or during construction screen and if necessary remove and dispose of the contaminated soil in accordance with standard NYSDOT Item numbers.

As with any environmental assessment in areas where subsurface testing was not completed, the possibility of unknown subsurface contamination exists. Should suspect materials be encountered during the course of project execution, appropriate measures should be taken to report such contamination, determine the nature and extent of any possible hazardous materials, and planning for proper management of such materials. Provisions will be included within the construction documents that will require the contractor to properly dispose of any contaminated materials during construction.

3.3.14 Asbestos & Lead Paint

A site inspection conducted by New York State Department of Labor (NYSDOL) Certified Inspectors on October 13, 2017 revealed two (2) potential asbestos containing materials (ACMs) and one potential lead-containing painted surface.

Three (3) samples of gray curb grout and three (3) samples of gray sidewalk caulk were collected and submitted to Paradigm Environmental Services (Paradigm) for asbestos content determination. Results indicate that none of the materials sampled during this asbestos assessment contain asbestos.

One (1) sample of green paint was collected from light poles along West Water Street and submitted to Paradigm for lead content determination. Results indicate the paint sampled did not contain lead.

If additional suspect ACMs or paints that were not accessible or visible during the site inspection are discovered during the construction phase (Examples are: items below grade, expansion joints, caulks, bituminous materials etc.) these materials shall be treated as ACM until laboratory results prove otherwise.

If it is later determined that project components will include elements beyond the present scope of work for which this assessment was conducted, it is recommended that an additional assessment for Asbestos-Containing Materials and Lead Paint be completed by Certified Inspectors.

3.3.15 Noise

This project involves the reconstruction of existing sidewalks with no addition of through-traffic lanes. This is not a Type I project, and therefore no noise study is required.

3.3.16 Air Quality

The determination as to whether or not an Air Quality Analysis is necessary will be made once the design components become finalized. The determination is based, in part, upon whether or not an intersection is

to be signalized, intersection level of service, as well as the final geometry relative to potentially decreased source-receptor distances for residential properties adjacent to the intersection.

During construction, air quality is most affected by the increase of airborne particulates (dust). This increase is sporadic and temporary in nature and would be most noticeable in the area immediately adjacent to construction. The impacts can be minimized by the use of dust control provisions found in the NYSDOT Standard Specifications for Construction.

3.3.17 Energy

The proposed project will not have a significant impact on energy usage. No further review is required.

3.3.18 Farmlands

The majority of soils within and around the project corridor consist of Howard gravelly silt loam which is considered prime farmland. However, the proposed project will not convert any prime farmland or require the acquisition of actively farmed land. No further coordination regarding farmlands is required.

A review of the NYS Department of Agricultural and Markets Maps for Chemung County indicates that the project is not located adjacent to a NYS Agricultural District; therefore, the requirements of the NYS Agricultural and Markets Law do not apply. No further review is required.

3.3.19 Visual Impacts

The implementation of this project will result in a minor positive visual impact to the immediate environment.

3.3.20 Critical Environmental Areas

There are no critical environmental areas located within or adjacent to the project limits, per NYSDEC data. No further review is required.

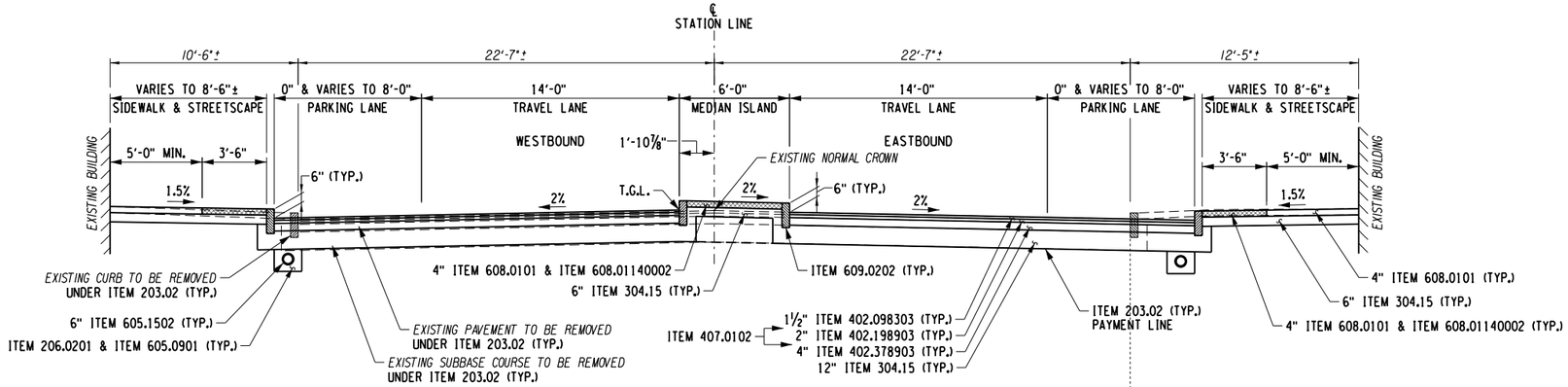
3.3.21 Anticipated Environmental Permits/Certifications

A State Pollutant Discharge Elimination System (SPDES) General Permit is anticipated for project construction. No other permits/approvals are anticipated.

3.3.22 Section 4(f) Involvement

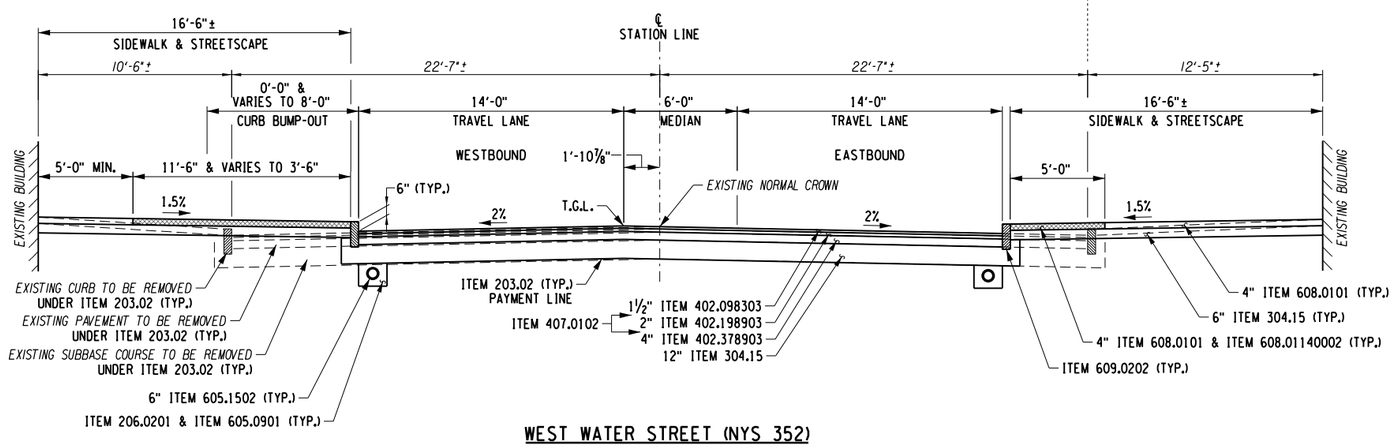
The project is located adjacent to Mark Twain Riverfront Park, a City of Elmira owned park. However, the project will have only *de minimis* impacts on the park. Written concurrence from the City of Elmira, along with a *de minimis* impact finding from FHWA, to satisfy Section 4(f) requirements have been obtained and are included in Appendix G.

APPENDIX A
TYPICAL SECTIONS & PLANS



WEST WATER STREET (NYS 352)
TYPICAL PARKING LANE & CURBED MEDIAN SECTION

COLLEGE AVENUE TO MAIN STREET
1/4" = 1'-0"



WEST WATER STREET (NYS 352)
TYPICAL BUMP-OUT SECTION @ INTERSECTION

COLLEGE AVENUE TO MAIN STREET
1/4" = 1'-0"

0 4 8 12 FT

ITEM NO.	DESCRIPTION	UNIT	ITEM NO.	DESCRIPTION	UNIT
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	610.1403	TOPSOIL - LAWNS	CY
203.03	EMBANKMENT IN PLACE	CY	610.1602	TURF ESTABLISHMENT - LAWNS	SY
206.0201	TRENCH AND CULVERT EXCAVATION	CY			
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY			
402.098303	9.5 F3 TOP COURSE HMA, 80 SERIES COMPACTION	TON			
402.198903	19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION	TON			
402.378903	37.5 F9 BASE COURSE HMA, 80 SERIES COMPACTION	TON			
407.0102	DILUTED TACK COAT	GAL			
608.0101	CONCRETE SIDEWALKS AND DRIVEWAYS	CY			
608.01140002	EXPOSED AGGRETGATE CONCRETE SURFACING FOR SIDEWALKS	SY			
609.0202	STONE CURB, GRANITE, TYPE B	LF			
605.0901	UNDERDRAIN FILTER, TYPE 1	CY			
605.1502	PERFORATED CORRUGATED POLYETHYLENE UNDERDRAIN TUBING, 6" DIA.	LF			

NOTES

1. TACK COAT (ITEM 407.0102) SHALL BE APPLIED BETWEEN ALL HOT MIX ASPHALT LIFTS BETWEEN THE TOP & BINDER PAVEMENT COURSES AND BETWEEN THE BINDER & BASE PAVEMENT COURSE.
2. SEE DWG. NO. CD-X FOR TYPICAL TREE IN LAWN DETAIL.
3. SEE DWG. NO. LP-X THRU LP-X FOR STREETSCAPING LOCATIONS.

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DATE DATE

REVISIONS

NO.	DESCRIPTION	BY	DATE

CLIENT

CITY OF ELMIRA

PROJECT NAME

WEST WATER STREET

DRAWING TITLE

TYPICAL SECTIONS

SCALE	DATE
1/4" = 1'-0"	SEPTEMBER 2018
P.I.N. XXXX.XX	EAA PROJECT NO. 19532.00
SHEET NO. XX OF XX	DRAWING NO. TS-1

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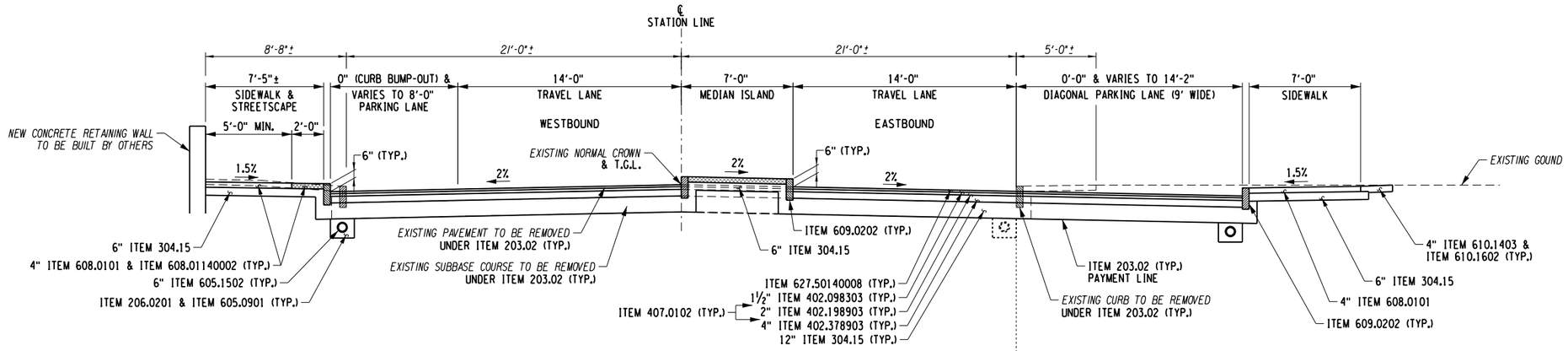
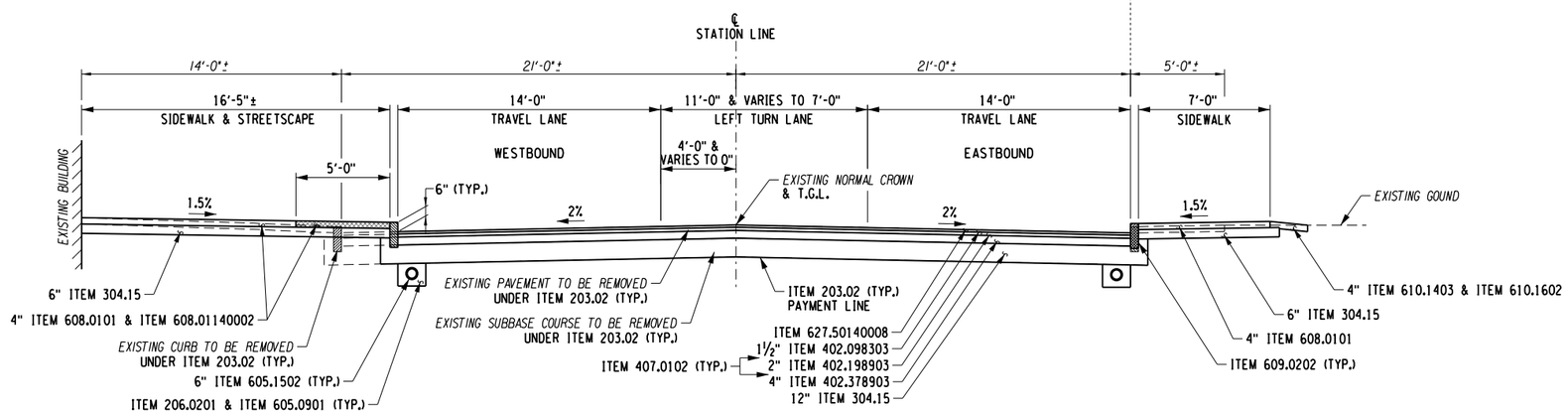


WEST WATER STREET (NYS 352)
TYPICAL PARKING LANE & CURBED MEDIAN SECTION

MAIN STREET TO CARL PROPER DRIVE
1/4" = 1'-0"



WEST WATER STREET (NYS 352)
TYPICAL BUMP-OUT SECTION @ INTERSECTION

MAIN STREET TO CARL PROPER DRIVE
1/4" = 1'-0"

0 4 8 12 FT

ITEM NO.	DESCRIPTION	UNIT	ITEM NO.	DESCRIPTION	UNIT
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203.03	EMBANKMENT IN PLACE	CY	610.1602	TURF ESTABLISHMENT - LAWNS	SY
206.0201	TRENCH AND CULVERT EXCAVATION	CY			
304.15	SUBBASE COURSE, OPTIONAL TYPE	CY			
402.098303	9.5 F3 TOP COURSE HMA, 80 SERIES COMPACTION	TON			
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CITY OF ELMIRA

PROJECT NAME

WEST WATER STREET

DRAWING TITLE

TYPICAL SECTIONS

SCALE	DATE
1/4" = 1'-0"	SEPTEMBER 2018
P.I.N. XXXX.XX	EAA PROJECT NO. 19532.00
SHEET NO. XX OF XX	DRAWING NO. TS-2

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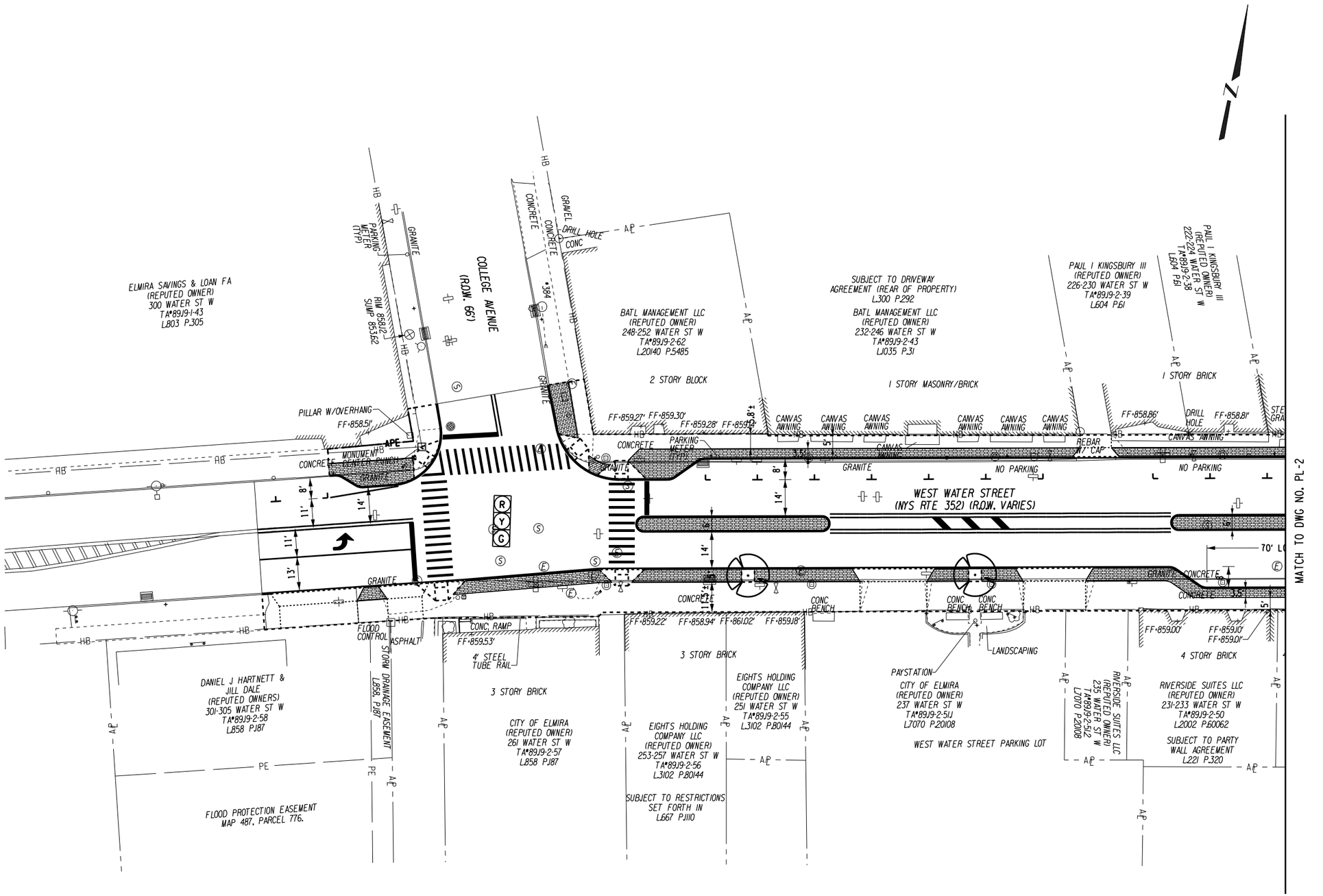

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REVISIONS

NO.	DESCRIPTION	BY	DATE

CLIENT

CITY OF ELMIRA

PROJECT NAME

WEST WATER STREET

DRAWING TITLE

ROADWAY PLAN

SCALE	DATE
1" = 20'	SEPTEMBER 2018
P.I.N. XXXX.XX	EAA PROJECT NO. 19532.00
SHEET NO. XX OF XX	DRAWING NO. PL-1

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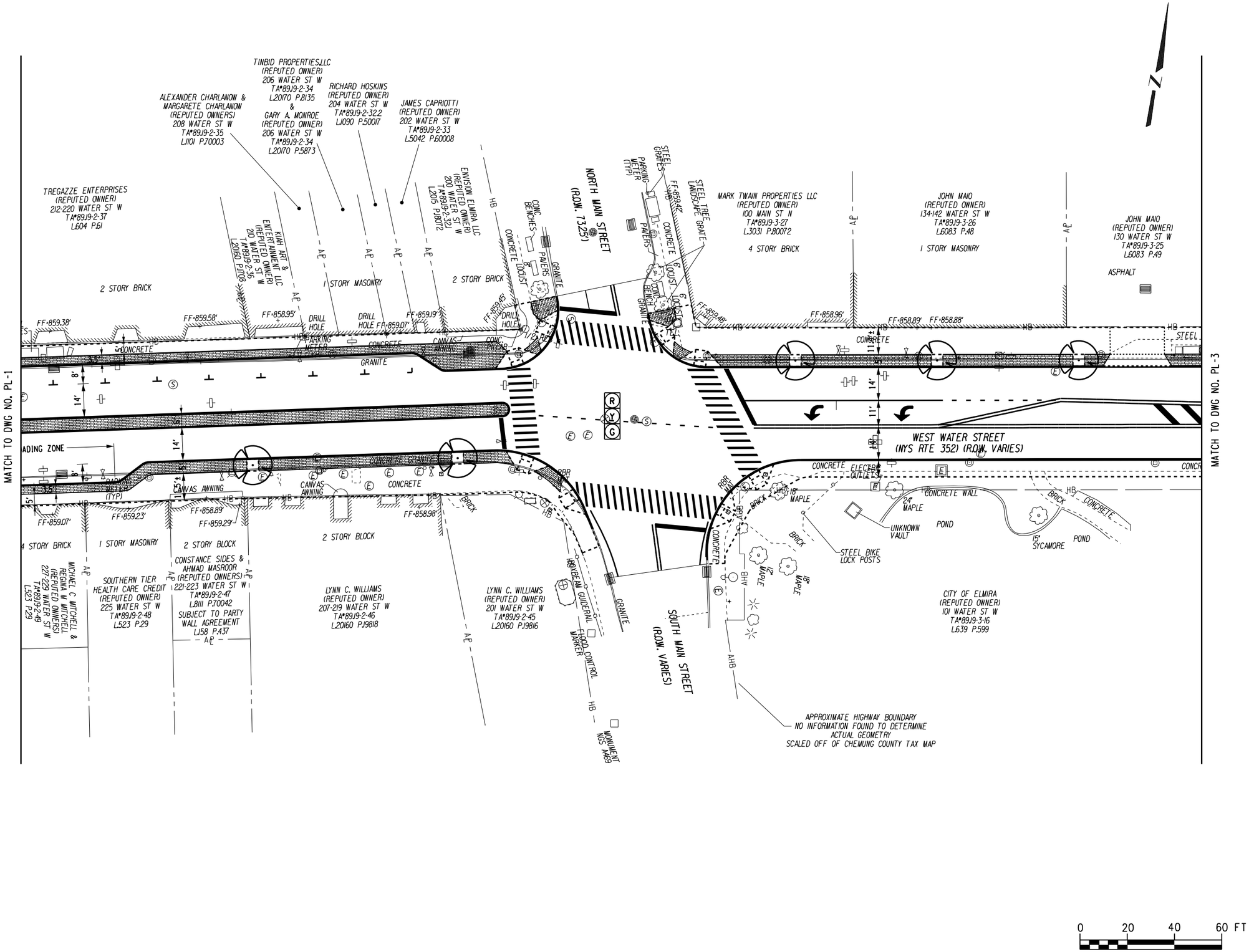

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CLIENT

CITY OF ELMIRA

PROJECT NAME

WEST WATER STREET

DRAWING TITLE

ROADWAY PLAN

SCALE	DATE
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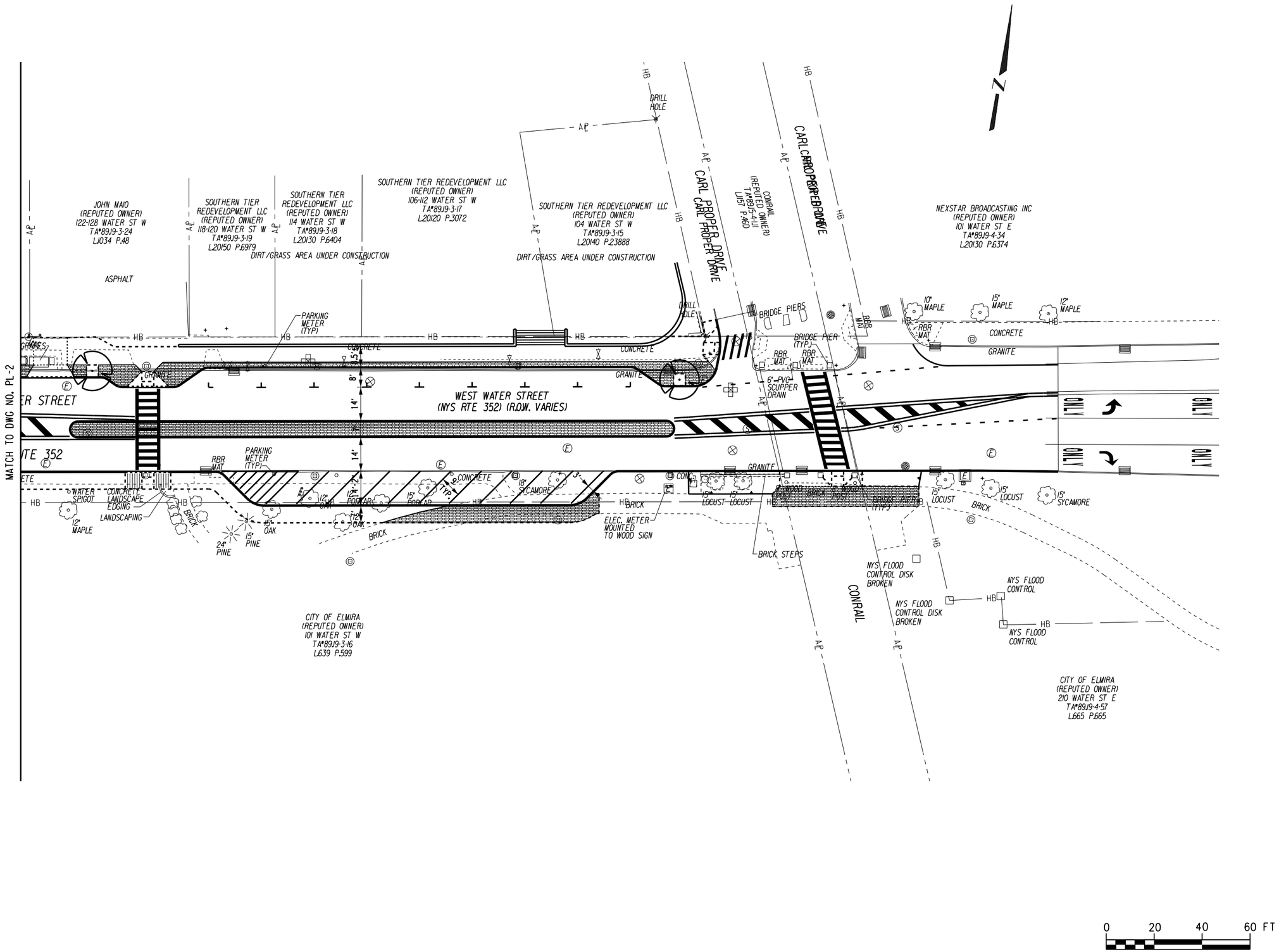
P.I.N. XXXX.XX	EAA PROJECT NO. 19532.00
SHEET NO. XX OF XX	DRAWING NO. PL-2



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REVISIONS

NO.	DESCRIPTION	BY	DATE

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CITY OF ELMIRA

PROJECT NAME

WEST WATER STREET

DRAWING TITLE

ROADWAY PLAN

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APPENDIX B
ENVIRONMENTAL INFORMATION

SOCIAL, ECONOMIC AND ENVIRONMENTAL RESOURCES CHECKLIST
FEAW
HAZARDOUS WASTE/CONTAMINATED MATERIALS SCREENING
NYNHP CONCURRENCE

Social, Economic and Environmental Resources Checklist

PIN:6754.68	FUNDING TYPE: Federal
DESCRIPTION: West Water Street Downtown Reconstruction	DATE: 12-1-17
	REVISION DATE:
MUNICIPALITY: City of Elmira	NEPA CLASS: II
COUNTY: Chemung	SEQRA TYPE: II
SCOPE: Full depth reconstruction of the roadway, and parking and sidewalk improvements.	

SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS	IF YES, GO TO IMPACT OR ISSUE; IF NO CHECK BOX BELOW	IMPACT[1] OR ISSUE?	
	NO	YES	NO
Social			
A. Land Use			
1. Is there potential to affect current land use/zoning?	☒	☐	☐
2. Is there a lack of consistency with community's comprehensive plan and/or other local or regional planning goals?	☒	☐	☐
3. Will the project affect any planned or future development?	☒	☐	☐
B. Neighborhoods and Community Cohesion			
1. Are relocations of homes or businesses proposed or acquisition of community resources anticipated?	☒	☐	☐
2. Is there potential for changes to neighborhood character?	☒	☐	☐
3. Is there a potential to impact transportation options (e.g., transit, walking, bicycling)?	☒	☐	☐
4. Are there potential changes to travel patterns that could affect neighborhood quality of life?	☒	☐	☐
5. Will the project divide or isolate portions of the community or generate new development that could affect the current community structure?	☒	☐	☐
C. General Social Groups			
1. Are there potential effects to the ability of transit dependent, elderly, or disabled populations to access destinations (particularly local businesses and health care facilities)?	☒	☐	☐
2. Does the project have the potential to disproportionately impact low income or minority populations (Environmental Justice)?	☒	☐	☐
3. Are there alterations to pedestrian facilities that would affect the elderly or disabled such as lengthening pedestrian crossings or providing median refuge?	☐	☐	☒
D. Community Services			
1. Is there potential to affect access to or use of Schools, Recreation Areas or Places of Worship (e.g., detours, sidewalk removal, addition of curb ramps, crosswalks, pedestrian signals, etc.)?	☒	☐	☐

SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS	IF YES, GO TO IMPACT OR ISSUE; IF NO CHECK BOX BELOW	IMPACT[1] OR ISSUE?	
	NO	YES	NO
2. Is there potential to affect emergency service response?	☒	☐	☐
Economic			
A. Regional and Local Economies			
1. Is there potential to affect local economic viability (e.g., development potential, tax revenues, employment opportunities, retail sales or public expenditures)?	☒	☐	☐
2. Is there a potential to divert traffic away from businesses?	☒	☐	☐
B. Business Districts			
1. Are there potential effects on the viability or character of Business Districts?	☒	☐	☐
2. Will the project affect transportation options available for patrons getting into or out of the District?	☒	☐	☐
3. Will sidewalks, bicycling opportunities or transit opportunities to or within the district be affected?	☐	☒	☐
4. Will parking within the district be affected?	☒	☐	☐
C. Specific Business Impacts			
1. Are effects to specific businesses anticipated? (e.g., sidewalks, bicycling opportunities, or handicapped access to and from businesses)?	☐	☒	☐
2. Will the project affect available transportation options for patrons to businesses?	☒	☐	☐
3. Will the project affect the ability of businesses to receive deliveries?	☒	☐	☐
4. Will parking for businesses be affected?	☒	☐	☐
Environmental			
1. Are there wetlands within or immediately adjacent to the project limits? *See Environmental Procedures Manual (EPM) 4.A.R, Executive Order (EO) 11990 may apply.*	☒	☐	☐
2. Are there Surface Waters (other than wetlands) within or immediately adjacent to the project limits? *lakes, ponds streams or wetlands of any jurisdiction*	☒	☐	☐
3. Is there a designated Wild or Scenic River within or immediately adjacent to the project limits? *(See The Environmental Manual (TEM) 4.4.3)*	☒	☐	☐
4. Will the project require a U.S. Coast Guard Bridge Permit? *Project area includes a bridge over navigable waters of U.S.*	☒	☐	☐
5. Does the project area contain waters regulated as Navigable by U. S. Army Corps of Engineers? *Section 404/10 Individual Permit or NWP 23 may be required*	☒	☐	☐
6. Is the project in a mapped Flood Zone? *TEM section 4.?, EO 11988*	☐	☐	☒
7. Is the project in or could it affect a designated coastal area? *FAN and/or Consistency determination may be required. See TEM 4.6*	☒	☐	☐
8. Is the project area above a Sole Source Aquifer? *See TEM 4.4 Coordination with FHWA and/or EPA may be required.*	☒	☐	☐

SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS	IF YES, GO TO IMPACT OR ISSUE; IF NO CHECK BOX BELOW	IMPACT[1] OR ISSUE?	
	NO	YES	NO
9. Will the project involve one (1) acre of ground disturbance (or 5,000 sf in the East of Hudson watershed)?	☒	☐	☐
10. Are federally/state listed endangered species or designated critical habitat indicated for the project county? *Coordination with DEC and/or a FHWA determination may be required. See TEM 4.4.9.3*	☐	☐	☒
11. Is the project in a designated Critical Environmental Area? *TEM 4.4.11(SEQR issue)*	☒	☐	☐
12. Are there any resources protected by Section 106 (or Section 1409) within the project limits or immediate area? *See TEM 4.4.12 Appendix G*	☐	☐	☐
13. Is Native American coordination required outside of Section 106 consultation? *The project on or affecting Native American Lands or other areas of interest*	☒	☐	☐
14. Is there a use, constructive use or temporary occupancy of a 4(f) resource? *See SECTION 4(f) POLICY PAPER and contact Area Engineer.*	☒	☐	☐
15. Will the project involve conversion of a 6(f) resource? *listed as having Land and Water Conservation funds spent on the resource*	☒	☐	☐
16. Is there any potential to affect the character of important and possibly significant the visual resources of the project area and its environs? (*See PDM Chapter 3.2.2.2*)	☒	☐	☐
17. Will the project convert land protected by the Federal Farmland Protection Act? *See TEM 4.4.15*	☒	☐	☐
18. Will the project acquire active farmland from an Agricultural District? *(SEQR issue)*	☒	☐	☐
19. Is the project in a non-attainment area and exceed the CO screening criteria? *see EPM Chapter 1 1.1-19 an Air Quality Analysis required*	☒	☐	☐
20. Is the project in a non-attainment area and exceed the PM screening criteria? *see EPM Chapter 1 1.1-19? A hot spot analysis is required*	☒	☐	☐
21. Is the project a Type I Noise project as per 23 CFR 772? *See TEM 4.4.18*	☒	☐	☐
22. Will the project require the removal of Asbestos Containing Materials? *See TEM 4.4.19*	☒	☐	☐
23. Does the project area contain Contaminated and Hazardous Materials? *EPA National Priority List*	☐	☒	☐
24. Will the project increase the height of towers, construct new towers or other obstructions in a known migratory bird flyway?	☒	☐	☐

NOTES:

[1] The term "impacts" means both positive and negative effects. Both types of effects should be discussed in the body of the report as appropriate.

PREPARED BY: **ANTHONY HILL SENIOR ENVIRONMENTAL SCIENTIST**

CERTIFICATION:

I certify that the information provided above is true and accurate.

Ravi Environmental Project Manager _____ Date: September 7, 2018

Print Name and Title: Jams D. MacKecknie, P.G. Environmental Project Manager.

Federal Environmental Approval Worksheet

PIN: 6754.68	Completed by: Ravi Engineering & L.S.	Date Completed: 9/6/18	FUNDING TYPE: Federal
DESCRIPTION: West Water Street Downtown Reconstruction			NEPA CLASS: Class II: CE
			SEQR TYPE: Type II
LOCALITY (Village, Town, City): City of Elmira			COUNTY: Chemung

Purpose of this Worksheet:

- Implement the ***P**rogrammatic **A**greement Between the Federal Highway Administration, New York Division (FHWA), and the New York State Department of Transportation (NYSDOT) **R**egarding the Processing of Actions Classified as **C**ategorical **E**xclusions (CEs) for Federal-Aid Highway Projects* (PARCE)**,** executed September 2017.
- Communicate the project National Environmental Policy Act (NEPA) classification and identify whether the FHWA or the NYSDOT (titles identified per Project Development Manual (PDM) Chapter 4, Exhibit 4-2) is making the CE determination.
- Identify any FHWA independent determinations, approvals and/or concurrences required before the CE determination can be made.
- To be included within the Design Approval Document (DAD) in accordance with the documentation requirements in the PARCE.

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)).

Instructions:
Initial review of the Federal Environmental Approval Worksheet (FEAW) should occur in scoping or early in Design Phase I to identify potential risks. Complete new review of the FEAW periodically, particularly if project parameters or site condition changes result in potential resource impacts. Completion of the FEAW with signature in Step 4 is required prior to Design Approval. See PDM Chapter 4 for additional details.

Step 1A: Unusual Circumstances Threshold Determination – 23 CFR 771.117(b)
Do any, or the potential for any, unusual circumstances exist[1]?

- Significant environmental impacts **YES**☐ **NO**☒
- Substantial controversy on environmental grounds **YES**☐ **NO**☒
- Significant impact on properties protected by Section 4(f) of the DOT Act or Section 106 of the National Historic Preservation Act **YES**☐ **NO**☐
- Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the project **YES**☐ **NO**☒

If yes to any of the above, contact the Main Office Project Liaison (MOPL) (see PDM Exhibit 4-1). Any project which would normally be classified as a CE but could involve unusual circumstances (or even uncertainty) will require consultation with the Office of Environment (OOE) and subsequently with the FHWA to determine if CE classification is still warranted. If, after consultation with the 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. If, after consultation with the FHWA, it is determined that the project can be progressed as a CE, **proceed to step 1B.**

If no to all the above, then this project qualifies as a CE; **proceed to step 1B**.

Step 1B: Identification of CE action
Is the project an action listed in 23 CFR 771.117 (c) - (d) (or as identified in FHWA's additional flexibilities memo)?
YES☒ **NO**☐

If Yes, proceed to step 2.

If No, contact the MOPL (see PDM Exhibit 4-1). If, after consultation with the OOE and the 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. If, after consultation with the FHWA, it is determined that the project can continue as a CE, **proceed to step 2.**

[1] See definitions and examples of unusual circumstances *in FEAW_Instructions.doc*

Federal Environmental Approval Worksheet

Project ID Number: 6754.68

Step 2: FHWA environmental actions required prior to CE determination[2]
The Step 2 table identifies certain issues that require: the FHWA to make the CE determination (Column A and 2.4); independent FHWA determinations (2.1); FHWA approvals, compliance or concurrence (2.2); or notification to the FHWA (2.3). Review ***the FEAW Thresholds document*** to determine how to fill out each column of Step 2.

2.1	Required FHWA Independent environmental determinations	PARCE threshold exceeded[3]	FHWA independent determination/ concurrence required	Date determination/ concurrence issued	Resource not present, or present but threshold not exceeded
		A	B	B1	C
Executive Order (EO) 11990 Protection of Wetlands Individual Finding			☐	Date Issued	☒
ESA Section 7 Threatened and Endangered Species		☐	☒	9/17/2018	☒
Section 106 of National Historic Preservation Act		☐	☒	9/7/2018	☐
Section 4(f) (Park, Wildlife Refuge, Historic Sites, and National Wild and Scenic Rivers)		☐	☒	8/30/2018	☐
2.2	**Other FHWA environmental approvals, compliance and/or concurrence required**	**PARCE threshold exceeded[3]**	**Threshold exceeded; FHWA approval, compliance or concurrence required**		**Resource not present, or present but threshold not exceeded**
EO 11988 Floodplains		☐	☐		☒
EO 13112 Invasive Species			☐		☒
EO 12898 Environmental Justice			☐		☒
Safe Drinking Water Act Section 1424(e)			☐		☒
US Army Corps of Engineers, Section 404/10 NWP #23			☐		☒
Section 6(f) Land and Water Conservation Funds			☐		☒
Migratory Bird Treaty Act			☐		☒
23CFR772 Type I Noise abatement			☐		☒
2.3	**Other Environmental Issues requiring FHWA notification**	**PARCE threshold exceeded[3]**	**FHWA notification threshold exceeded**		**Resource not present, or present but threshold not exceeded**
US Army Corps of Engineers, Section 404/10 Individual Permit		☐	☐		☒
National Wild and Scenic Rivers		☐	☐		☒
US Coast Guard Bridge Permit		☐	☐		☒
Known hazardous waste site (only EPA National Priority list)			☐		☒
Project on or affecting Native American Lands			☐		☒
2.4	**Other Issues Triggering FHWA Approval of Categorical Exclusion**	**PARCE threshold exceeded[3]**			**Resource not present, or present but threshold not exceeded**
Property Acquisition		☐			☒
Major Traffic Disruptions		☐			☒
Changes in Access Control		☐			☒

[2] **This table does not represent all environmental issues and actions that a project is subject to**. Classification as a CE does not exempt the project from further environmental review. Refer to the PDM and The Environmental Manual (TEM) to determine review requirements**.**
[3] When PARCE threshold is exceeded, the NYSDOT recommends that the project qualifies as a CE and requests the FHWA make the CE determination. Information on PARCE specific thresholds are contained within ***the FEAW Thresholds document.***

Federal Environmental Approval Worksheet

Project ID Number: 6754.68

Step 3: Who makes the NEPA CE Determination?

To identify which party, either the FHWA or the NYSDOT, makes the CE determination in accordance with the PARCE, follow the instructions found in the table below, beginning in Step 3A. This step also identifies which correspondence shell to use to distribute the FEAW and other environmental notifications or approvals.

3	**Determine whether the FHWA or the NYSDOT makes the CE determination and whether additional notifications or approvals are required.**
3A	**Is the project an action listed in 23 CFR 771.117 (c) - (d)** (Answered yes in Step 1B)**?** **YES** ☒ If Yes, **proceed to 3B.** **NO** ☐ If No, the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD, the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the Regional Planning and Program Manager (RPPM) to the FHWA directly using **Shell 4.** • For all other projects, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **Shell 3**. **Proceed to Step 4.**
3B	**Are any of the CE Thresholds from the PARCE not met** (Are there any checks in Column A of Step 2)**?** **YES** ☐ If Yes, the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the RPPM to the FHWA directly using **Shell 4.** • For all other projects, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **Shell 3**. **Proceed to Step 4.** **NO** ☒ If No, **proceed to 3C.**
3C	**Are there outstanding independent environmental approvals or concurrences?** (Are there checks in column B of Step 2.1 without dates in column B1)**?** **YES** ☒ If Yes, then the FHWA makes the CE determination. • For **Locally Administered Federal Aid Projects only**, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the RPPM to the FHWA directly using **Shell 4.** • For all other projects, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using **Shell 3**. **Proceed to Step 4.** **NO** ☐ If No, the NYSDOT makes the NEPA CE determination. **Proceed to 3D.**
3D	**Are there** ☐ any circumstances requiring demonstration of applicable EO compliance (any checks in column B of Table 2.2); or ☐ any issues requiring the FHWA environmental notification (any checks in column B of Table 2.3)? **YES** ☐ If **either** box is checked, **once all required approvals and concurrences have been secured,** the NYSDOT makes the CE determination but the information must be forwarded to FHWA for notification or action prior to Design Approval using **Shell 1. Proceed to step 5.** **NO** ☒ If **neither** box is checked, **once all required approvals and concurrences have been secured** the NYSDOT makes the CE determination without notification to the FHWA. The project will use **Shell 2**. **Proceed to step 4.**

Federal Environmental Approval Worksheet

Project ID Number: 6754.68

Step 4: Summary and Recommendation

- The project **is not** located within an area subject to transportation air quality conformity.
  - **If the project is within such areas, the NEPA process may not be completed until all transportation conformity requirements are met[4].** Transportation conformity requirements **Select** been met at the time of this signature.
- This project does qualify to be progressed as a Categorical Exclusion.
- The NEPA Determination will be made by NYSDOT
- Project is c(26) "Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes), if the action meets the constraints in paragraph (e)..." [4]
- All outstanding FHWA environmental approvals will be obtained and are listed here:

Section 106 of the National Historic Preservation Act.

- All the conditions of the PARCE are addressed herein (or within the DAD or attachments).

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

Project Manager/Designer
(or Responsible Local Official) X _____ Date_____

Print Name and Title: _____

Regional Environmental Unit Supervisor X _____ Date_____

Print Name and Title: _____

Regional Local Project Liaison
(Locally Administered Projects Only) X _____ Date_____

Print Name and Title: _____

Changes that may have occurred since the preparation of the FEAW which would create the need to go through the FEAW 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; and a significant amount of time has passed (equal or greater than three years).

[4] See additional information on identifying (c)26, (c)27 & (c)28 versus d (13) *in FEAW_Instructions.doc*

DRAFT TECHNICAL MEMORANDUM

RAVI ENGINEERING & LAND SURVEYING, P.C.

TO: Paul Presutti
Erdman Anthony
145 Culver Road, Suite 200
Rochester, New York 16420

FROM: Anthony Hill
Ravi Engineering & Land Surveying, P.C.

DATE: December 1, 2017

PROJECT: PIN 6754.68
West Water Street Downtown Reconstruction
City of Elmira, Chemung County, New York

SUBJECT: **HAZARDOUS WASTE/CONTAMINATED MATERIALS SCREENING**

INTRODUCTION

Ravi Engineering & Land Surveying, P.C. (RE&LS), as a sub-consultant to Erdman Anthony, has been retained by the City of Elmira Public Works Department to perform a Hazardous Waste/Contaminated Materials Screening for the reconstruction of West Water Street from College Avenue to Railroad Avenue, in the City of Elmira.

A Hazardous Material Screening was conducted for the project area in accordance with the New York State Department of Transportation's Environmental Manual, Chapter 4.4.20.5 "Contaminated Materials and Hazardous Substances – General Methodology: Analysis and Evaluation". The objective of this screening was to identify hazardous materials that have the potential to be impacted by the proposed project. This screening is based on a review of available records and a visual inspection of the project area, conducted on October 13, 2017. The following information provides a summary of the findings of the Hazardous Waste Screening.

Historical Sanborn Map Review

Sanborn Maps are utilized as part of the Hazardous Material Screening Report since they serve as a historical reference to prior land use. Available Sanborn Maps from various years were reviewed to indicate past land usage in and around the project area.

The process used for the Sanborn Map review is to highlight all addresses whose past use could be considered an environmental concern. Examples of this are the presence of contaminated soils from a former filling station, automotive repair shop, large manufacturing plant, chemical plant, drycleaner, etc.

Environmental Data Resources (EDR)

A review of local, State and Federal Environmental databases was conducted. Environmental Data Resources (EDR) Inc. was contracted to provide a comprehensive review of Federal, State and local listed data for potential hazardous waste sites in the project vicinity. A complete copy of the EDR report is available upon request. This data search was performed in accordance with ASTM E-1527-13 standards for minimum search distance. The use of the EDR resource allows for a comprehensive listing of sites of potential concern. The following table summarizes the information available through the EDR report:

Table 1: Environmental Records Review

Standard Environmental Record Sources	**Minimum Search Distance: (miles)**	**No. of Listed Properties[1]**
Federal CERCLIS Facility	0.5	0
Federal CERCLIS NFRAP (SEMS-Archive)	0.5	0
Federal RCRA Large Quantity Generator (LQG)	0.25	1
Federal RCRA-Small Quantity Generators (SQG)	0.25	0
Federal RCRA-Conditionally Exempt Small Quantity Generators (CESQG)	0.25	3
New York State Hazardous Waste Sites	1	6
New York Vapor Reopened	1	0
State & Tribal Landfill and/or Solid Waste Disposal (SWF/LF)	0.5	0
State & Tribal Leaking Storage Tanks (LTANKS)	0.5	13
Local list of Registered Storage Tanks	0.25	0
State & Tribal Registered Storage Tank List (UST)	0.25	7
State & Tribal Aboveground Storage Tank (AST)	0.25	5
State & Tribal Brownfield sites	0.5	0
Additional Environmental Records		
US Brownfield sites	0.5	1
Local List of Hazardous Waste/Contaminated Sites (DEL SHWS)	1	0

Local List of Historically Registered Storage Tanks (HISTORICAL UST)	0.25	0
Records of Emergency Release Reports (NY SPILLS)	0.125	7
NY Historical (HIST) Spills	0.125	0
RCRA-NonGen	0.25	13
Hazardous Substance Waste Disposal Sites (HSWDS)	0.5	0
Manifest Records	0.25	12
Historical Drycleaners (Hist Cleaner)	0.25	1
US Historic Automobile Station listing	0.25	6

Notes: [1] some sites are listed in more than 1 record.

EDR Findings Overview

A review of local, State, and Federal environmental databases indicates that there are 68 listed properties of concern located within a 1 mile radius of the proposed project site. Many sites were eliminated from further review due to their location in relation to the project area.

Project Site Walkover

The Hazardous Waste Screening also included a walkover of the proposed project area. The objective of the walkover is to obtain familiarity with the project area and properties located adjacent to the project limits, to note observable environmental concerns, review the characteristics of the project area, and identify areas exhibiting signs of possible environmental degradation. A walkover was completed on October 13, 2017. The site visit was limited to a street side evaluation of the project area.

The following sites present the potential for environmental concern (See Attachment 1 for site locations):

Site 1: 100 College Avenue

The site is located on the north side of West Water Street, on the northeast side of the intersection of College Avenue and West Water Street.

Project Area Walkover

The site is currently a commercial restaurant. No visual evidence of environmental contamination was observed.

EDR US Historic Automobile Station listing

The site has been identified by EDR on the EDR Historical Auto Stations list as a gasoline station (College Avenue Hess Sales/Gasoline Service Station) from 1969 to 1985. A review of Historical Sanborn Maps and Aerial Photography could not confirm the location of this gasoline station at the address provided.

Conclusion and Recommendation

This site poses a potential for environmental concern to the proposed project based on its proximity to the project limits and its history as a gasoline filling station. Automotive stations house hazardous materials and potentially generate hazardous waste. There is the potential for soil adjacent to the site to be contaminated by hazardous wastes or petroleum.

If this site, or the adjacent right of way, will be disturbed by the construction it is recommended to either:

- Conduct a subsurface investigation to determine if contaminated soils are present within area of impact at this site, or
- Provide provisions in the contract documents to screen, and if necessary, segregate, stage and dispose of soil excavated during construction at this site.

Site 2: 232 West Water Street

The site is located on the north side of West Water Street, between College Avenue and North Main Street.

Project Area Walkover

The site is currently a commercial building. No visual evidence of environmental contamination was observed.

Historical Sanborn Map Review

A review of Certified Sanborn Map dated 1931 identified a gasoline filling station located adjacent to the project limits at 232 West Water Street. City Directories from 1938 indicate the address was occupied by Wilson & Johnson Gas and Oils as well as Glider Oil Co., oil distributors.

Conclusion and Recommendation

This site poses a potential for environmental concern to the proposed project based on its proximity to the project limits and its history as an oil distributor and gasoline filling station. Oil distributors and gasoline filling stations house hazardous materials and potentially generate hazardous waste. There is the potential for soil adjacent to the automotive shop to be contaminated by hazardous wastes or petroleum.

If this site, or the adjacent right of way, will be disturbed by the construction it is recommended to either:

- Conduct a subsurface investigation to determine if contaminated soils are present within area of impact at this site, or
- Provide provisions in the contract documents to screen, and if necessary, segregate, stage and dispose of soil excavated during construction at this site.

Site 3: 302 West Water Street

The site is located on the north side of West Water Street, on the western side of the intersection of College Avenue and West Water Street.

Project Area Walkover

The site is currently a commercial bank. No visual evidence of environmental contamination was observed.

Historical Sanborn Map Review

A review of Certified Sanborn Map dated 1931 identified a gasoline filling station located adjacent to the project limits at 302 West Water Street. Certified Sanborn mapping confirms this filling station was still in operation as of 1950. City Directories from 1938 indicate the address was occupied by J. Forrest Warner Gas Station.

Conclusion and Recommendation

This site poses a potential for environmental concern to the proposed project based on its proximity to the project limits and its history as a gasoline filling station. Gasoline filling stations house hazardous materials and potentially generate hazardous waste. There is the potential for soil adjacent to the automotive shop to be contaminated by hazardous wastes or petroleum.

If this site, or the adjacent right of way, will be disturbed by the construction it is recommended to either:

- Conduct a subsurface investigation to determine if contaminated soils are present within area of impact at this site, or
- Provide provisions in the contract documents to screen, and if necessary, segregate, stage and dispose of soil excavated during construction at this site.

Site 4: 303 West Water Street

The site is located on the south side of West Water Street, southwest of the intersection of College Avenue and West Water Street.

Project Area Walkover

The site is currently a commercial building. No visual evidence of environmental contamination was observed.

Historical Sanborn Map Review

A review of Certified Sanborn Map dated 1931 identified a gasoline filling station located adjacent to the project limits at 303 West Water Street. City Directories from 1938 indicate the address was occupied by Hagar W. Kaar Service Stations.

Conclusion and Recommendation

This site poses a potential for environmental concern to the proposed project based on its proximity to the project limits and its history as a gasoline filling station. Gasoline filling stations house hazardous materials and potentially generate hazardous waste. There is the potential for soil adjacent to the automotive shop to be contaminated by hazardous wastes or petroleum.

If this site, or the adjacent right of way, will be disturbed by the construction it is recommended to either:

- Conduct a subsurface investigation to determine if contaminated soils are present within area of impact at this site, or
- Provide provisions in the contract documents to screen, and if necessary, segregate, stage and dispose of soil excavated during construction at this site.

Site 5: 301 West Water Street

The site is located on the south side of West Water Street, southwest of the intersection of College Avenue and West Water Street.

Project Area Walkover

The site is currently a parking lot. No visual evidence of environmental contamination was observed.

Historical Sanborn Map Review

A review of Certified Sanborn Map dated 1950 identified a gasoline filling station located adjacent to the project limits at 301 West Water Street.

Conclusion and Recommendation

This site poses a potential for environmental concern to the proposed project based on its proximity to the project limits and its history as a gasoline filling station. Gasoline filling stations house hazardous materials and potentially generate hazardous waste. There is the potential for soil adjacent to the automotive shop to be contaminated by hazardous wastes or petroleum.

If this site, or the adjacent right of way, will be disturbed by the construction it is recommended to either:

- Conduct a subsurface investigation to determine if contaminated soils are present within area of impact at this site, or
- Provide provisions in the contract documents to screen, and if necessary, segregate, stage and dispose of soil excavated during construction at this site.

Conclusions/Recommendations – Hazardous Waste

In conclusion, 5 sites were identified as having the potential to present an environmental concern to the proposed project. Each site is listed below with the corresponding recommendation for further work (see Attachment 1 for site locations).

Table 2-Summary of Recommendations

Site ID	Site address	Past/Current land use	Reason for concern	Recommendation(s)
Site 1	100 College Avenue	**Past:** Gas station/auto repair & service **Current:** Restaurant	Potential contaminated soils	Subsurface investigation or screen during construction
Site 2:	232 West Water Street	**Past:** Gasoline filling station **Current:** Commercial Building	Potential contaminated soils	Subsurface investigation or screen during construction
Site 3:	302 West Water Street	**Past:** Gasoline filling station **Current:** Commercial Ba	Potential contaminated soils	Subsurface investigation or screen during construction
Site 4:	303 West Water Street	**Past:** Gasoline filling station **Current:** Commercial Building	Potential contaminated soils	Subsurface investigation or screen during construction
Site 5:	301 West Water Street	**Past:** Gasoline filling station **Current:** Parking lot.	Potential contaminated soils	Subsurface investigation or screen during construction

As with any environmental assessment completed without subsurface environmental testing, the possibility of unknown subsurface contamination exists. Should suspect materials be encountered during the course of project execution, appropriate measures should be taken to report such contamination, determine the nature and extent of any possible hazardous materials, and for proper management of such materials.

ATTACHMENT 1

Site Location Map

Hazardous Waste/Contaminated Materials

PIN 6754.68

West Water Street Downtown Reconstruction

MAP SOURCE:
Google Earth

Legend

Location of site:

Site #

N

RAVI ENGINEERING & LAND SURVEYING, P.C. 2110 SOUTH CLINTON AVENUE, SUITE 1 ROCHESTER, NEW YORK 14618 TL: (585) 223-3660 FX (585) 223-4250	WEST WATER STREET DOWNTOWN RECONSTRUCTION PROJECT CITY OF ELMIRA, CHEMUNG COUNTY, NEW YORK PIN 6754.68	PROJECT NO. 20-17-199	DATE: November 2017
	FIGURE 3: SITE LOCATION MAP	SCALE: N.T.S.	DRAWING NO: 3

U.S. Department of Transportation
Federal Highway Administration

New York Division

Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207
Fax: 518-431-4121
New York.FHWA@dot.gov

September 19, 2018

In Reply Refer To:
HED-NY

Mr. Todd Stauring
Planning and Program Management
New York State Department of Transportation, Region
107 Broadway
Hornell, NY 14843

Subject: PIN 6754.68 ESA Determination
West Water Street Downtown Pavement Reconstruction
City of Elmira, Chemung County

Dear Mr. Stauring:

We have reviewed the documentation submitted dated September 11 regarding consultation under Section 7 of the Endangered Species Act for the subject project.

The Federal Highway Administration (FHWA) has determined, as recommended by the New York State Department of Transportation (NYSDOT), that the project will have "*No Effect, No Suitable Habitat*" on the Northern Long-eared Bat since the tree removal associated with this project is limited to unsuitable street trees as documented in the Suitable Habitat Assessment Form. There are no known hibernacula or roosting sites within the vicinity of the project.

If at any time during construction the presence of this federally listed species or its habitat is discovered or suspected, construction activities must be halted. Activities cannot resume until FHWA and the USFWS are consulted. If you have any questions or concerns, please contact me at 518-431-8859.

Sincerely,

Lorin Willett
Area Engineer

RAVI ENGINEERING
& LAND SURVEYING, P.C.

September 14, 2018

NYSDOT Region 6
Planning & Management Group
107 Broadway
Hornell, NY 14843

Attn: Sharon Grabosky- Regional Local Projects Liaison

Re: **West Water Street Downtown Reconstruction**
City of Elmira, Chemung County, New York, PIN 6754.68
Consistency Determination for Threatened and Endangered Species

Dear Mr. Coleman:

The City of Elmira, in conjunction with the New York State Department of Transportation (NYSDOT) Region 6, is in the design approval phase for the above referenced project. As part of the environmental process for this federally funded project, a determination of effect is required for potential impacts to federal threatened, endangered species, or to critical habitat for such species. At this time, we are seeking concurrence with the following effect determination for the federal listed species recorded within the project area.

The project proposes to rehabilitate the corridor of West Water Street from College Avenue to Railroad Avenue located in the City of Elmira, Chemung County, New York. The surrounding land is dominated by commercial buildings, paved parking spaces, and residential properties. No trees located within the project area will be cut to facilitate construction.

The United States Fish and Wildlife Service's (USFWS) "Federally Listed Endangered and Threatened Species" list as received through the Section 7 ESA Information, Planning and Consultation (IPaC) System for the proposed project was reviewed to determine whether any federally listed endangered, threatened, or candidate species are known to inhabit the project area. According to the USFWS, the northern long-eared Bat (*Myotis septentrionalis* - threatened) is a federally protected species that may be present in the proposed project area. Additionally, through completion of the Seven Step Process for Project Reviews in New York State, an evaluation was conducted for the bald eagle (*Haliaeetus leucocephalus* – Delisted, protected under the Bald and Golden Eagle Protection Act). A copy of the official USFWS species list for the proposed project is included as Attachment A.

A review of New York State Department of Environmental Conservation (NYSDEC) endangered

Rochester: 2110 South Clinton Avenue, Suite 1, Rochester, NY 14618 **P**: 585-223-3660 **F**: 585-697-1764
Buffalo, NY Albany, NY Binghamton, NY Allentown, PA
www.ravieng.com info@ravieng.com

and threatened species list revealed the following regarding the USFWS listed species;

- The northern long-eared bat is a New York State listed threatened species.
- The bald eagle is a New York State listed threatened species.

In follow-up, the NYSDEC, New York Natural Heritage Program (NYNHP) was contacted for information regarding the reported presence of any state-listed endangered species, threatened species, species of special concern, or significant natural communities within or adjacent to the project area. A response from the NYNHP received on November 6, 2017, indicates no presence of state listed threatened, endangered, or special concern species in the vicinity of the project (Attachment A).

A habitat assessment of the project area was completed by Ravi Engineering & Land Surveying (RE&LS) Environmental Staff on October 13, 2017. The main objective of this habitat assessment was to identify the presence of any state or federal protected species within or adjacent to the project limits, or the presence of suitable habitat. A synopsis of the site observations related to each state and federal listed species and their habitat requirements are provided below:

- **Northern Long-Eared Ba** The northern long-eared bat predominantly occupies mature forest stands and woodlots. Suitable habitats, including trees greater than three inches diameter at breast height (DBH) and areas of open water, are present, adjacent to the project location. There is no documentation in the NYSDEC Natural Heritage Program database of this species being present along the project corridor. It is anticipated that approximately nine (9) trees will be removed for the proposed project. The trees proposed for removal are individual trees located in the urban setting, Mark Twain River Front Park, located greater than 4,500 feet from the nearest forested wood lot. According to the *FHWA New York Division: Environmental Procedures Endangered Species Act, Section 7: Process for Compliance and Consultation* lists "Urban street trees (trees found in highly-developed urban areas)" are considered "Not Suitable Habitat" for the northern long-eared bat. Therefore it is assumed that the project will have "no affect" on northern long eared bat populations due to no suitable habit.

- **Bald Eagle**: Prior to August 2007, the USFWS had listed the bald eagle as a threatened species with known or likely occurrences within Chemung County; however, this species was delisted on August 8, 2007. As such, there are no Endangered Species Act (ESA) requirements for the bald eagle; however, it is protected under the Bald and Golden Eagle Protection Act (BGEPA) and by New York State as a state listed threatened species. Historically, bald eagle nesting sites have been found in forests along the shorelines of oceans, lakes and rivers. Coordination with the NYNHP revealed that there are no records of bald eagle nest adjacent to the project area. The habitat assessment revealed

that the typical nesting habitat for the bald eagle is not present at this site. The habitat assessment also included a visual inspection of the adjacent trees for raptor nest as the bald eagle will frequently utilize other raptor's nest as their own. The habitat assessment revealed no raptor nest within the project area. Therefore, the proposed project is unlikely to disturb nesting bald eagles. No BGEPA permit is required, and the proposed project will have "No Effect" on bald eagles.

At this time, we are seeking concurrence from the Federal Highway Administration (FHWA) that the West Water Street Downtown Reconstruction will have a "No Affect" determination on effects to northern long-eared bat populations and bald eagle populations. These determinations were based on the knowledge of the habitat characteristics for each species and on the observations, findings of the habitat site assessment that was completed at and adjacent to the West Water Street project and review of the FHWA Endangered Species Act Section 7 Process for Compliance and Consultation. If you have any questions on this determination, or require additional documentation, please contact James D. MacKecknie at (585) 697-2821 or David Deyoung at (585) 697-2069.

Respectfully Submitted:

James D. MacKecknie, PG
Project Manager

Attachments:

Attachment A: USFWS Official Species List & NYSDEC, NYNHP Response Letter
Attachment B: FHWA Section 7 ESA Process: ESA Transmittal Sheet
Attachment C: NLEB Suitable Habitat Assessment Form for Trees (NLEB SHAFT)

<u>ATTACHMENT A</u>

United Sates Department of Interior, Fish and Wildlife Service Letter (USFWS) with the Official Species List for the Project & NYSDEC, NYNHP Response Letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
Phone: (607) 753-9334 Fax: (607) 753-9699
http://www.fws.gov/northeast/nyfo/es/section7.htm

In Reply Refer To: September 07, 2018
Consultation Code: 05E1NY00-2018-SLI-3248
Event Code: 05E1NY00-2018-E-09905
Project Name: West Water Street Downtown Reconstruction

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(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New York Ecological Services Field Office
3817 Luker Road
Cortland, NY 13045-9385
(607) 753-9334

Project Summary

Consultation Code: 05E1NY00-2018-SLI-3248

Event Code: 05E1NY00-2018-E-09905

Project Name: West Water Street Downtown Reconstruction

Project Type: TRANSPORTATION

Project Description: Full depth reconstruction between College Ave and Railroad. Project will include pedestrian improvements to the sidewalks and access points to Mark Twain Water Front Park.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.08759191336651N76.80749012551256W

Counties: Chemung, NY

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish and Wildlife, New York Natural Heritage Program
625 Broadway, Fifth Floor, Albany, NY 12233-4757
P: (518) 402-8935 | F: (518) 402-8925
www.dec.ny.gov

November 6, 2017

Anthony Hill
Ravi Engineering & Land Surveying, P.C.
2110 South Clinton Avenue, Suite 1
Rochester, NY 14618

Re: West Water Street Downtown Reconstruction
County: Chemung Town/City: City of Elmira

Dear Mr. Hill:

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

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities that our database indicates occur in the vicinity of the project site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to 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 sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the NYS DEC Region 8 Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

1343

The following state-listed animals have been documented in the vicinity of the project site.

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing.

For information about any permit considerations for the project, contact the Permits staff at the NYSDEC Region 8 Office. For information about potential impacts of the project on these species, and how to avoid, minimize, or mitigate any impacts, contact the Wildlife Manager.

A listing of Regional Offices is at http://www.dec.ny.gov/about/558.html.

The following species has been documented near the project site, within 0.5 mile.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*FEDERAL LISTING*	
Freshwater Mussels				
Green Floater	*Lasmigona subviridis*	Threatened		13940

This report only includes records from the NY Natural Heritage database.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at www.dec.ny.gov/animals/7494.html.

The following rare plants, rare animals, and significant natural communities have been documented in the vicinity of the project site.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following animal, while not listed by New York State as Endangered or Threatened, is of conservation concern to the state, and is considered rare by the New York Natural Heritage Program.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Freshwater Mussels			
Yellow Lampmussel	*Lampsilis cariosa*	Unlisted	Vulnerable in NYS

Chemung River, 2008-10-04: The mussels were observed in runs and riffles of a river with a bottom substrate composed of gravel and cobble. 6864

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

ATTACHMENT B

FHWA Section 7 ESA Process: ESA Transmittal Sheet

PIN: 6754.68 PROJECT NAME: West Water Street Downtown Reconstruction DATE: 9-7-18

Section 7 ESA Process: ESA Transmittal Sheet

Step 3: Documentation. Please complete the appropriate boxes below and complete the documentation as described.

	ESA Does Not Apply	No Effect, Activity-Based	No Effect, No Suitable Habitat or No Effect	BATS: MA, NLAA, 14-Day Form, or IPaC Submittal	NLEB: MA, LAA 30 Day Form or IPaC Submittal	MA, NLAA, Traditional 7-step Process	MA, LAA, Formal Consultation
Northern Long-eared Bat	☐		☒	☐	☐	☐	☐
Indiana Bat	☒		☐	☐	NA	☐	☐
Bog Turtle	☒		☐	NA	NA	☐	☐
Mollusks (Dwarf Wedge Mussel, Rayed Bean, Clubshell, Chittenango Ovate Amber Snail)	☒		☐	NA	NA	☐	☐
Karner Blue Butterfly	☒		☐	NA	NA	☐	☐
Sturgeon (Shortnose, Atlantic)	☒		☐	NA	NA	☐	☐
Other listed species (Please List)	☒		☐	NA	NA	☐	☐
Documentation Required	The IPaC report is included in the Design Report.	Record the corresponding number(s) of the activity in the box above. This sheet and the IPaC printout are included in the Design Report.	NYSDOT submits "No Suitable Habitat Determination" or "No Effect" Documentation to FHWA for Concurrence.	NYSDOT submits 14-day Form to the USFWS (cc: Area Engineer), or submits through IPaC w/ Area Engineer included	NYSDOT submits 30-day Form to FHWA (then to USFWS) or submits through IPaC w/ Area Engineer included	NYSDOT submits either BE or BA to FHWA, who submits to USFWS for concurrence.	NYSDOT submits BA to FHWA for Initiation of Formal Consultation with USFWS.

Instructions for Use: This Summary Sheet is sent to FHWA for concurrence for all submissions, except "ESA Does Not Apply" and "No Effect, Activity-Based". A submittal package should include all documentation for all species requiring concurrence, with a cover letter requesting concurrence, so that FHWA can make one ESA determination. **SEE EACH SPECIES-SPECIFIC PACKAGE FOR SPECIFIC DOCUMENTATION REQUIREMENTS FOR SUBMITTALS**. Also, FHWA requires documentation of compliance with ESA in the Design Report.

ATTACHMENT C

NLEB Suitable Habitat Assessment Form for Trees (NLEB SHAFT)

FHWA-NY ESA Process

NLEB Suitable Habitat Assessment Form for Trees (NLEB SHAFT)

Project Name: West Water Street Downtown Reconstruction, Elmira, NY PIN: 6754.68

Acres Proposed to be Cut: 9 trees Lat/ Long: 42.087569 N, -76.80745

Project Description: Full depth reconstruction of West Water Street between College Avenue amd Rail Road Avenue. Project includes sidwalk improvements, on street parking, curb bump outs and a median.

Summary of NYNHP Database Results (Proximity to known hibernacula, roost trees, maternity colonies, or forage locations): No northern long-eared bat hibernacula, roost trees, maternity colonies or forage locations are listed by NYNHP. The closest wood lot to the project is 4,500 feet to the west.

Results of Field-based NLEB Suitable Bat Habitat Assessment:

- Does the Tree Removal Area contain forested/wooded habitat that is made up of trees greater than 3" dbh, that also exhibit signs of exfoliating bark, cracks crevices, and/or cavities? **No** Trees are streetside trees
- Does the Tree Removal Area have individual trees that are 3" dbh or greater, have exfoliating bark, cracks, crevices, and/or cavities, and are closer than 1000' from other forested/wooded habitat? **No**
- Does the Tree Removal Area contain any of the following: adjacent and interspersed emergent wetlands and adjacent areas of agricultural fields, old fields, and pastures, and forests and woodlots (range from dense to loose aggregates of trees) that contain live trees and/or snags greater or equal to 3" dbh that have exfoliating bark, cracks, crevices, and/or cavities? **No**

If the answer is yes to any of the above questions, the determination is that "Suitable NLEB Habitat" exists within the Tree Removal Area.

Determination:

☐ Suitable NLEB Habitat
*Must complete IPaC keys, or Formal Consultation.

☒ No Suitable NLEB Habitat
*You can conclude "No Effect", No Suitable Habitat.

Characterization/Description of the Habitat: Open city park with scattered trees including locusts, sycamore, Norway maple, pin oak, and pine trees.

Comments (include specific bat species, if applicable, such as no roost trees for northern long-eared bat specifically were noted by NYNHP):

Name (individual completing the field assessment): Anthony Hill

Signature: Date: 10-13-2017

Phone Number: 585-223-3660 Email Address: jmackecknie@ravieng.com

Northern Long Eared Bat

Fill-able Form v. April 2017

APPENDIX C
TRAFFIC INFORMATION

AADT VOLUME FORECAST
TURNING MOVEMENT COUNT DATA
TRAFFIC VOLUME FORECAST
INTERSECTION CAPACITY ANALYSIS REPORTS
ACCIDENT ANALYSIS RATE COMPUTATION
ACCIDENT DETAILS, HISTORY, LOCATION
INTERSECTION CAPACITY ANALYSIS
COMPLETE STREETS CHECKLIST
SMART GROWTH SCREENING TOOL

CURRENT AND PROJECTED TRAFFIC DATA BASED ON TUBE COUNTS

Projected Growth Rate 0.5% annually (compounded)

	TUBE COUNT 2010			Existing 2018			ETC 2019			ETC+10 2029			ETC+20 2039		
AADT	EB	WB	Combined	EB	WB	Comb.	EB	WB	Comb.	EB	WB	Comb.	EB	WB	Comb.
W Water Street (College Ave to Main St)	6685	6264	12949	6957	6519	13476	6992	6552	13543	7349	6887	14236	7725	7239	14964
DHV															
W Water Street (College Ave to Main St)	506	572	1078	527	595	1122	529	598	1127	556	629	1185	585	661	1246

	TUBE COUNT 2010			Existing 2018			ETC 2019			ETC+10 2029			ETC+20 2039		
AADT	EB	WB	Combined	EB	WB	Comb.	EB	WB	Comb.	EB	WB	Comb.	EB	WB	Comb.
W Water Street (Main St to Clemens Ctr)	5292	1277	6569	5507	1329	6836	5535	1336	6871	5818	1404	7222	6116	1476	7591
DHV															
W Water Street (Main St to Clemens Ctr)	434	152	586	452	158	610	454	159	613	477	167	644	502	176	677

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

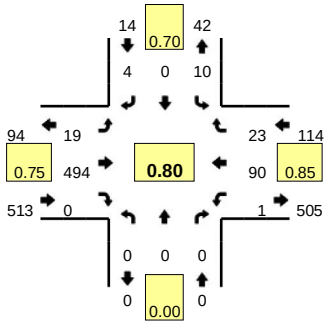
LOCATION: College Ave -- W Water St

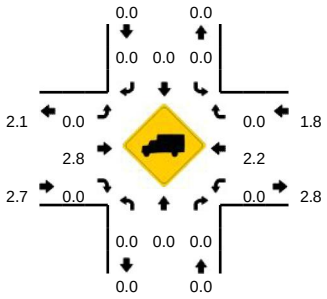
CITY/STATE: Elmira, NY

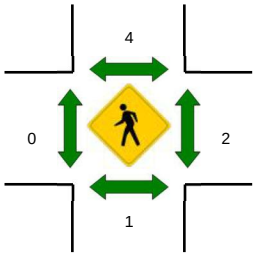
QC JOB #: 14592203

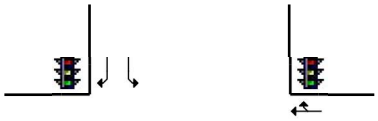
DATE: Wed, Jan 10 2018

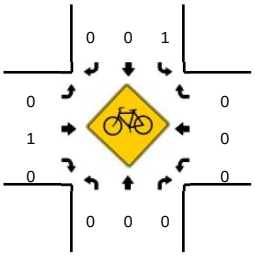
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

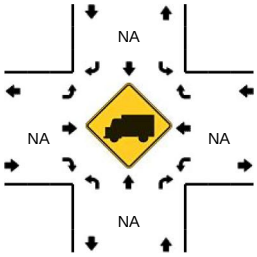


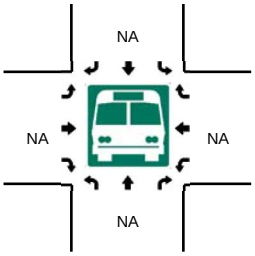












15-Min Count Period Beginning At	College Ave (Northbound)				College Ave (Southbound)				W Water St (Eastbound)				W Water St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	8	53	0	0	0	16	0	0	77	
7:15 AM	0	0	0	0	0	0	0	0	3	87	0	0	0	22	0	0	112	
7:30 AM	0	0	0	0	1	0	1	0	4	109	0	0	0	16	7	0	138	
7:45 AM	0	0	0	0	2	0	1	0	7	166	0	0	0	22	2	0	200	527
8:00 AM	0	0	0	0	1	0	1	0	4	115	0	0	0	21	5	0	147	597
8:15 AM	0	0	0	0	2	0	2	0	4	113	0	0	0	19	11	0	151	636
8:30 AM	0	0	0	0	5	0	0	0	4	100	0	0	0	28	5	1	143	641
8:45 AM	0	0	0	0	3	0	0	0	8	76	0	0	0	19	6	0	112	553

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	8	0	4	0	28	664	0	0	0	88	8	0	800
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	0	0		4
Pedestrians		0				4				0				0			4
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments: Need pedestrian crossing counts at this intersection

Report generated on 1/15/2018 12:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

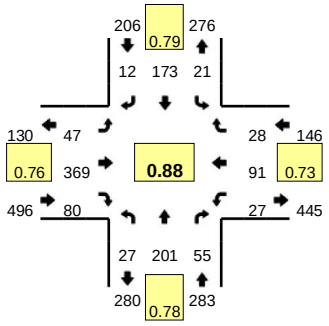
LOCATION: N Main St -- W Water St

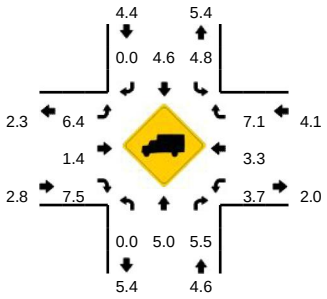
QC JOB #: 14592201

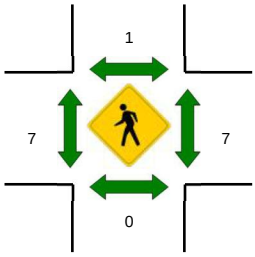
CITY/STATE: Elmira, NY

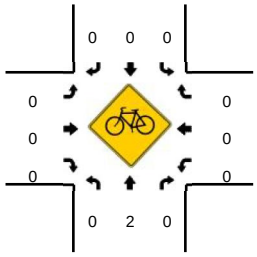
DATE: Wed, Jan 10 2018

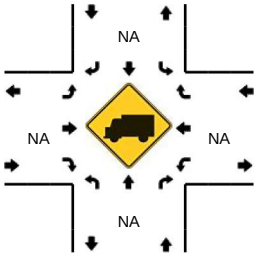
Peak-Hour: 7:45 AM -- 8:45 AM
Peak 15-Min: 7:45 AM -- 8:00 AM

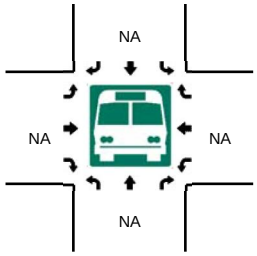












15-Min Count Period Beginning At	N Main St (Northbound)				N Main St (Southbound)				W Water St (Eastbound)				W Water St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	4	25	2	0	3	18	1	0	5	44	4	0	3	11	4	0	124	
7:15 AM	2	31	9	0	6	20	4	0	3	74	6	0	3	19	2	0	179	
7:30 AM	4	42	15	0	2	21	4	0	14	87	8	0	5	16	8	0	226	
7:45 AM	6	55	30	0	1	29	2	0	14	125	24	0	8	19	9	0	322	851
8:00 AM	6	47	10	0	7	41	2	0	13	87	16	0	7	22	3	0	261	988
8:15 AM	10	47	8	0	7	58	5	0	7	81	22	0	4	19	5	0	273	1082
8:30 AM	5	52	7	0	6	45	3	0	13	76	18	0	8	31	11	0	275	1131
8:45 AM	4	43	10	0	9	36	1	0	12	65	5	0	5	22	7	0	219	1028

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	24	220	120	0	4	116	8	0	56	500	96	0	32	76	36	0	1288
Heavy Trucks	0	12	0		0	0	0		4	0	0		4	4	4		28
Pedestrians		0				0				0				12			12
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments: Need pedestrian crossing counts at this intersection

Report generated on 1/15/2018 12:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

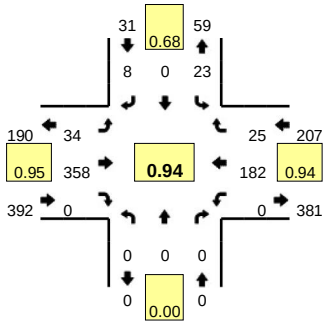
LOCATION: College Ave -- W Water St

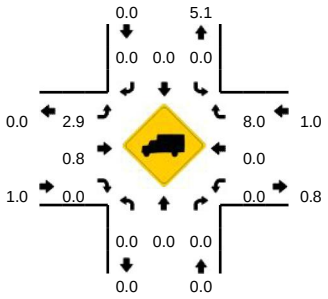
CITY/STATE: Elmira, NY

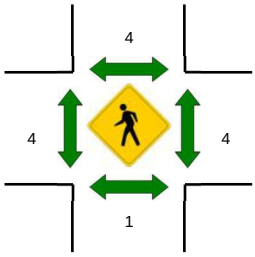
QC JOB #: 14592204

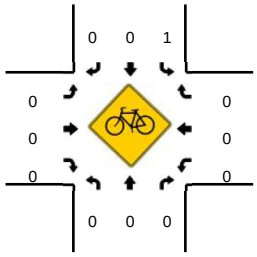
DATE: Tue, Jan 09 2018

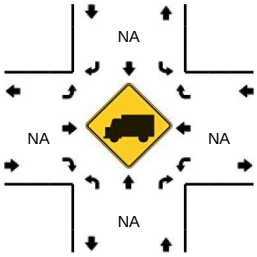
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

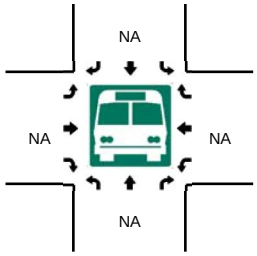












15-Min Count Period Beginning At	College Ave (Northbound)				College Ave (Southbound)				W Water St (Eastbound)				W Water St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	4	0	2	0	3	85	0	0	0	35	4	0	133	
4:15 PM	0	0	0	0	9	0	1	0	11	92	0	0	0	42	7	0	162	
4:30 PM	0	0	0	0	7	0	1	0	11	89	0	0	0	49	6	0	163	
4:45 PM	0	0	0	0	3	0	1	0	7	86	0	0	0	45	5	0	147	605
5:00 PM	0	0	0	0	5	0	4	0	9	87	0	0	0	42	5	0	152	624
5:15 PM	0	0	0	0	8	0	2	0	7	96	0	0	0	46	9	0	168	630
5:30 PM	0	0	0	0	15	0	0	0	5	72	0	0	0	33	6	0	131	598
5:45 PM	0	0	0	0	5	0	2	0	7	64	0	0	0	32	2	0	112	563

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	32	0	8	0	28	384	0	0	0	184	36	0	672
Heavy Trucks	0	0	0		0	0	0		0	4	0		0	0	0		4
Pedestrians		4				12				16				0			32
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Railroad																	
Stopped Buses																	

Comments: Need pedestrian crossing counts at this intersection

Report generated on 1/15/2018 12:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

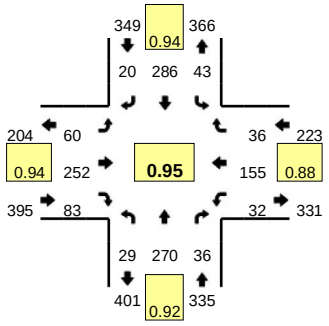
LOCATION: N Main St -- W Water St

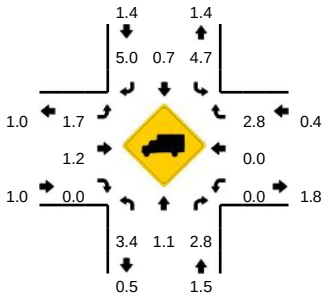
CITY/STATE: Elmira, NY

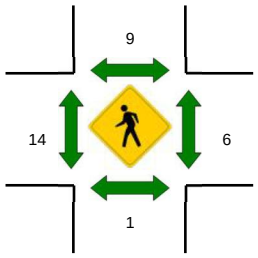
QC JOB #: 14592202

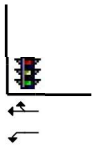
DATE: Tue, Jan 09 2018

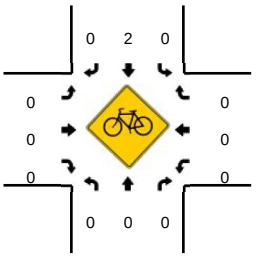
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 4:30 PM -- 4:45 PM

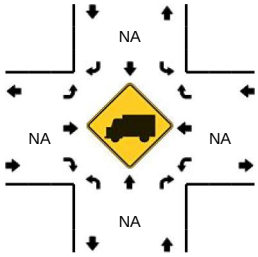


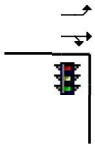


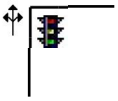


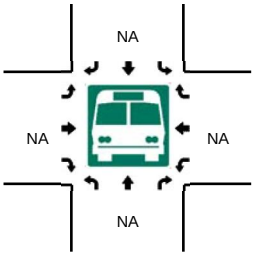












15-Min Count Period Beginning At	N Main St (Northbound)				N Main St (Southbound)				W Water St (Eastbound)				W Water St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	5	58	6	0	3	66	5	0	16	63	17	0	11	31	9	0	290	
4:15 PM	9	62	10	0	10	53	8	0	13	70	17	0	10	30	11	0	303	
4:30 PM	9	68	8	0	11	75	5	0	14	71	20	0	10	40	12	0	343	
4:45 PM	7	62	10	0	7	83	3	0	15	55	20	0	4	42	6	0	314	1250
5:00 PM	4	66	10	0	14	69	7	0	15	61	21	0	9	30	7	0	313	1273
5:15 PM	9	74	8	0	11	59	5	0	16	65	22	0	9	43	11	0	332	1302
5:30 PM	4	43	6	0	7	51	3	0	5	54	30	0	13	33	12	0	261	1220
5:45 PM	11	52	7	0	3	60	3	0	6	53	8	0	3	26	8	0	240	1146

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	36	272	32	0	44	300	20	0	56	284	80	0	40	160	48	0	1372
Heavy Trucks	0	0	0		4	4	4		0	4	0		0	0	4		20
Pedestrians		4				4				28				4			40
Bicycles	0	0	0		0	1	0		0	0	0		0	0	0		1
Railroad																	
Stopped Buses																	

Comments: Need pedestrian crossing counts at this intersection

Report generated on 1/15/2018 12:05 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

TRAFFIC VOLUME FORECAST

AM Peak Hour

W. Water Street / College Avenue		Existing Volumes Year 2018	ETC @ 0.5% Year 2019	ETC+10 @ 0.5% Year 2029
EB	Left	19	19	20
	Thru	494	496	521
	Right	0	0	0
WB	Left	0	0	0
	Thru	90	90	95
	Right	23	23	24
NB	Left	0	0	0
	Thru	0	0	0
	Right	0	0	0
SB	Left	10	10	11
	Thru	0	0	0
	Right	4	4	4
		640	642	675

PM Peak Hour

W. Water Street / College Avenue		Existing Volumes Year 2018	ETC @ 0.5% Year 2019	ETC+10 @ 0.5% Year 2029
EB	Left	34	34	36
	Thru	358	360	378
	Right	0	0	0
WB	Left	0	0	0
	Thru	182	183	192
	Right	25	25	26
NB	Left	0	0	0
	Thru	0	0	0
	Right	0	0	0
SB	Left	23	23	24
	Thru	0	0	0
	Right	8	8	8
		630	633	664

AM Peak Hour

W. Water Street / N. Main Street		Existing Volumes Year 2018	ETC @ 0.5% Year 2019	ETC+10 @ 0.5% Year 2029
EB	Left	47	47	49
	Thru	369	371	390
	Right	80	80	84
WB	Left	27	27	28
	Thru	91	91	96
	Right	28	28	29
NB	Left	27	27	28
	Thru	201	202	212
	Right	55	55	58
SB	Left	21	21	22
	Thru	173	174	183
	Right	12	12	13
		1131	1135	1192

PM Peak Hour

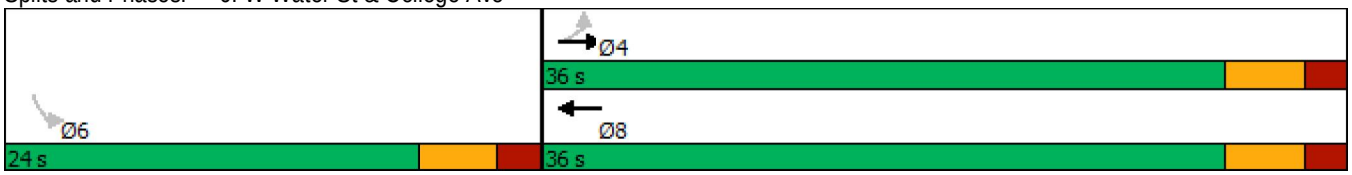
W. Water Street / N. Main Street		Existing Volumes Year 2018	ETC @ 0.5% Year 2019	ETC+10 @ 0.5% Year 2029
EB	Left	60	60	63
	Thru	252	253	266
	Right	83	83	87
WB	Left	32	32	34
	Thru	155	156	164
	Right	36	36	38
NB	Left	29	29	30
	Thru	270	271	285
	Right	36	36	38
SB	Left	43	43	45
	Thru	286	287	302
	Right	20	20	21
		1302	1306	1373

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	494	90	23	10	4
Future Volume (vph)	19	494	90	23	10	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.964	
Flt Protected	0.950				0.965	
Satd. Flow (prot)	1652	1863	1812	0	1733	0
Flt Permitted	0.678				0.965	
Satd. Flow (perm)	1179	1863	1812	0	1733	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			25		4	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	537	98	25	11	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	537	123	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	19.7	19.7	19.7		18.8	
Actuated g/C Ratio	0.40	0.40	0.40		0.38	
v/c Ratio	0.05	0.73	0.17		0.02	
Control Delay	8.3	18.6	7.8		11.6	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	8.3	18.6	7.8		11.6	
LOS	A	B	A		B	
Approach Delay		18.2	7.8		11.6	
Approach LOS		B	A		B	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 49.7	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 39.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave



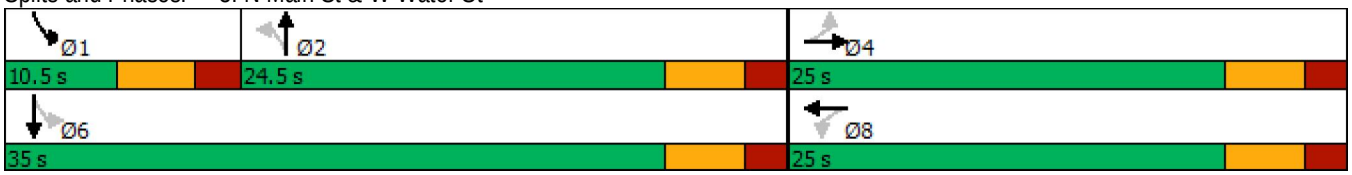
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	369	80	27	91	28	27	201	55	21	173	12
Future Volume (vph)	47	369	80	27	91	28	27	201	55	21	173	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	75		0	90		0	0		0	115		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.973			0.965			0.974			0.990	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1652	1933	0	1652	1917	0	0	1926	0	1652	1783	0
Flt Permitted	0.674			0.230				0.961		0.480		
Satd. Flow (perm)	1172	1933	0	400	1917	0	0	1860	0	835	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			27			21			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	401	87	29	99	30	29	218	60	23	188	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	488	0	29	129	0	0	307	0	23	201	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	17.4	17.4		17.4	17.4			27.5		29.5	29.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30			0.47		0.51	0.51	
v/c Ratio	0.14	0.82		0.24	0.22			0.34		0.05	0.22	
Control Delay	15.7	31.4		20.9	13.1			12.1		8.1	8.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	15.7	31.4		20.9	13.1			12.1		8.1	8.9	
LOS	B	C		C	B			B		A	A	
Approach Delay		29.9			14.5			12.1			8.8	
Approach LOS		C			B			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 58
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 19.6 Intersection LOS: B
Intersection Capacity Utilization 63.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: N Main St & W Water St

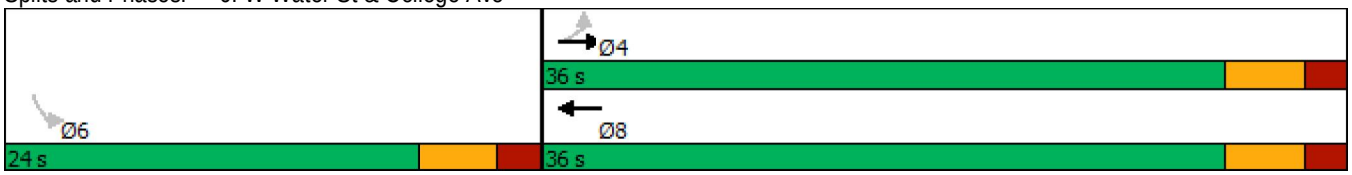


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	34	358	182	25	23	8
Future Volume (vph)	34	358	182	25	23	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	16	16	16	16
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.984		0.964	
Flt Protected	0.950				0.965	
Satd. Flow (prot)	1652	1863	2077	0	1964	0
Flt Permitted	0.618				0.965	
Satd. Flow (perm)	1074	1863	2077	0	1964	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			17		9	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	389	198	27	25	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	389	225	0	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		16	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	0.85	0.85	0.85	0.85
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	14.5	14.5	14.5		18.7	
Actuated g/C Ratio	0.33	0.33	0.33		0.42	
v/c Ratio	0.11	0.64	0.33		0.04	
Control Delay	10.3	17.5	11.2		8.3	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	10.3	17.5	11.2		8.3	
LOS	B	B	B		A	
Approach Delay		16.9	11.2		8.3	
Approach LOS		B	B		A	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 44.3	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 14.6	Intersection LOS: B
Intersection Capacity Utilization 33.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave



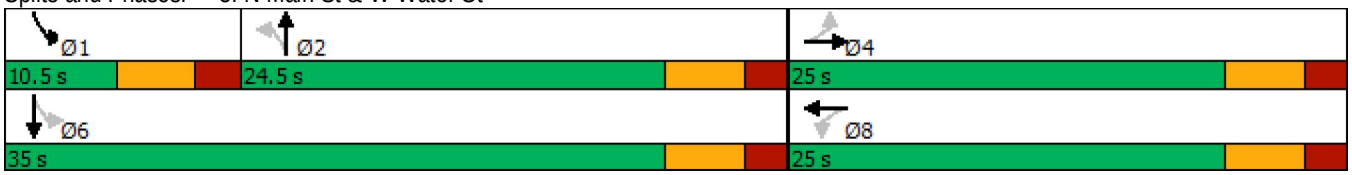
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	252	83	32	155	36	29	270	36	43	286	20
Future Volume (vph)	60	252	83	32	155	36	29	270	36	43	286	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	9	14	14	9	14	14	14	14	14	10	11	11
Storage Length (ft)	75		0	90		0	0		0	115		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.963			0.972			0.986			0.990	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1593	1913	0	1593	1931	0	0	1951	0	1652	1783	0
Flt Permitted	0.618			0.333				0.950		0.439		
Satd. Flow (perm)	1036	1913	0	558	1931	0	0	1861	0	763	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			21			11			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	274	90	35	168	39	32	293	39	47	311	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	364	0	35	207	0	0	364	0	47	333	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		9			9			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.14	0.92	0.92	1.14	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	14.6	14.6		14.6	14.6			25.7		29.6	29.6	
Actuated g/C Ratio	0.26	0.26		0.26	0.26			0.46		0.54	0.54	
v/c Ratio	0.24	0.69		0.24	0.39			0.42		0.10	0.35	
Control Delay	17.8	24.1		19.8	16.9			14.4		7.9	9.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	17.8	24.1		19.8	16.9			14.4		7.9	9.3	
LOS	B	C		B	B			B		A	A	
Approach Delay		23.1			17.3			14.4			9.1	
Approach LOS		C			B			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 55.3
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 16.1 Intersection LOS: B
Intersection Capacity Utilization 75.1% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: N Main St & W Water St

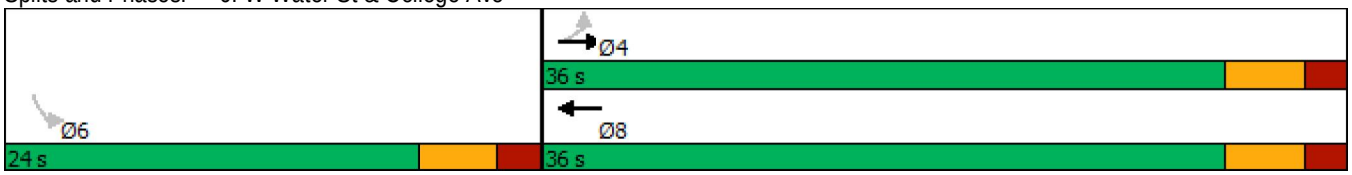


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	496	90	23	10	4
Future Volume (vph)	19	496	90	23	10	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.964	
Flt Protected	0.950				0.965	
Satd. Flow (prot)	1652	1863	1812	0	1733	0
Flt Permitted	0.678				0.965	
Satd. Flow (perm)	1179	1863	1812	0	1733	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			25		4	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	539	98	25	11	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	539	123	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	19.7	19.7	19.7		18.8	
Actuated g/C Ratio	0.40	0.40	0.40		0.38	
v/c Ratio	0.04	0.73	0.17		0.02	
Control Delay	8.3	18.7	7.8		11.6	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	8.3	18.7	7.8		11.6	
LOS	A	B	A		B	
Approach Delay		18.3	7.8		11.6	
Approach LOS		B	A		B	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 49.7	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 39.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave



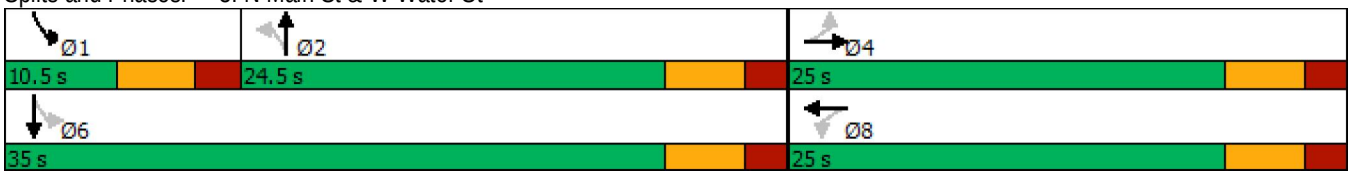
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	369	80	27	91	28	27	202	55	21	173	12
Future Volume (vph)	47	369	80	27	91	28	27	202	55	21	173	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	75		0	90		0	0		0	115		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.973			0.965			0.974			0.990	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1652	1933	0	1652	1917	0	0	1926	0	1652	1783	0
Flt Permitted	0.674			0.230				0.961		0.478		
Satd. Flow (perm)	1172	1933	0	400	1917	0	0	1860	0	831	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			27			21			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	401	87	29	99	30	29	220	60	23	188	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	488	0	29	129	0	0	309	0	23	201	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	17.4	17.4		17.4	17.4			27.5		29.5	29.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30			0.47		0.51	0.51	
v/c Ratio	0.14	0.82		0.24	0.22			0.35		0.05	0.22	
Control Delay	15.7	31.4		20.9	13.1			12.1		8.1	8.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	15.7	31.4		20.9	13.1			12.1		8.1	8.9	
LOS	B	C		C	B			B		A	A	
Approach Delay		29.9			14.5			12.1			8.8	
Approach LOS		C			B			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 58
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 19.6 Intersection LOS: B
Intersection Capacity Utilization 63.3% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: N Main St & W Water St

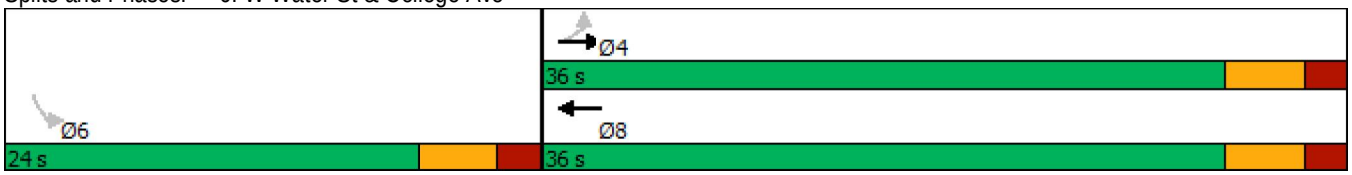


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	34	360	183	25	23	8
Future Volume (vph)	34	360	183	25	23	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.984		0.964	
Flt Protected	0.950				0.965	
Satd. Flow (prot)	1652	1863	1833	0	1733	0
Flt Permitted	0.617				0.965	
Satd. Flow (perm)	1073	1863	1833	0	1733	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			17		9	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	391	199	27	25	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	391	226	0	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	14.6	14.6	14.6		18.7	
Actuated g/C Ratio	0.33	0.33	0.33		0.42	
v/c Ratio	0.10	0.64	0.37		0.05	
Control Delay	10.3	17.5	11.8		8.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	10.3	17.5	11.8		8.4	
LOS	B	B	B		A	
Approach Delay		16.9	11.8		8.4	
Approach LOS		B	B		A	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 44.4	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 14.8	Intersection LOS: B
Intersection Capacity Utilization 33.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave

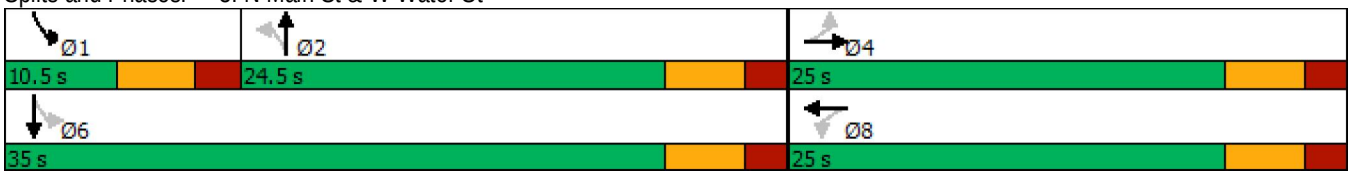


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	253	83	32	156	36	29	271	36	43	287	20
Future Volume (vph)	60	253	83	32	156	36	29	271	36	43	287	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	75		0	90		0	0		0	115		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.963			0.972			0.986			0.990	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1652	1913	0	1652	1931	0	0	1951	0	1652	1783	0
Flt Permitted	0.615			0.332				0.950		0.438		
Satd. Flow (perm)	1069	1913	0	577	1931	0	0	1861	0	761	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			20			10			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	275	90	35	170	39	32	295	39	47	312	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	365	0	35	209	0	0	366	0	47	334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	14.7	14.7		14.7	14.7			25.8		29.7	29.7	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.47		0.54	0.54	
v/c Ratio	0.23	0.69		0.23	0.40			0.42		0.10	0.35	
Control Delay	17.5	24.0		19.4	17.0			14.5		7.9	9.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	17.5	24.0		19.4	17.0			14.5		7.9	9.4	
LOS	B	C		B	B			B		A	A	
Approach Delay		23.1			17.4			14.5			9.2	
Approach LOS		C			B			B			A	

Intersection Summary	
Area Type:	Other
Cycle Length: 60	
Actuated Cycle Length: 55.4	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 75.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: N Main St & W Water St

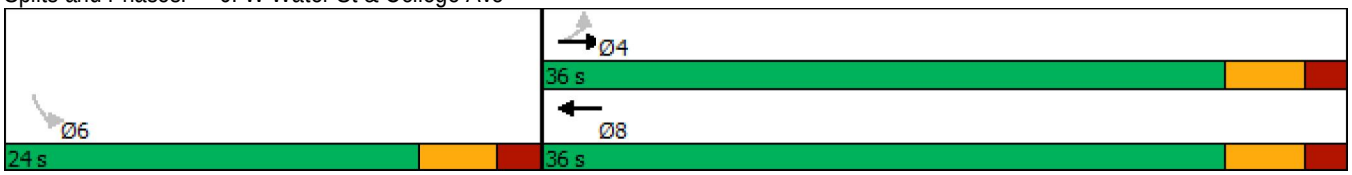


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	521	95	24	11	4
Future Volume (vph)	20	521	95	24	11	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.966	
Flt Protected	0.950				0.964	
Satd. Flow (prot)	1652	1863	1812	0	1735	0
Flt Permitted	0.674				0.964	
Satd. Flow (perm)	1172	1863	1812	0	1735	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			26		4	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	566	103	26	12	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	566	129	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	20.6	20.6	20.6		18.8	
Actuated g/C Ratio	0.41	0.41	0.41		0.37	
v/c Ratio	0.05	0.74	0.17		0.02	
Control Delay	8.2	19.0	7.7		11.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	8.2	19.0	7.7		11.9	
LOS	A	B	A		B	
Approach Delay		18.6	7.7		11.9	
Approach LOS		B	A		B	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 50.6	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 40.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave

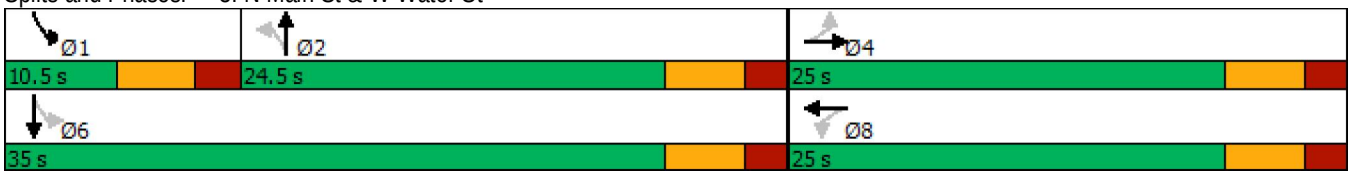


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	390	84	28	86	29	28	212	58	22	183	13
Future Volume (vph)	49	390	84	28	86	29	28	212	58	22	183	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	75		0	90		0	0		0	115		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.973			0.962			0.974			0.990	
Flt Protected	0.950			0.950				0.995		0.950		
Satd. Flow (prot)	1652	1933	0	1652	1911	0	0	1926	0	1652	1783	0
Flt Permitted	0.677			0.223				0.960		0.466		
Satd. Flow (perm)	1177	1933	0	388	1911	0	0	1858	0	810	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			31			21			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	424	91	30	93	32	30	230	63	24	199	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	515	0	30	125	0	0	323	0	24	213	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	17.9	17.9		17.9	17.9			27.5		29.6	29.6	
Actuated g/C Ratio	0.31	0.31		0.31	0.31			0.47		0.51	0.51	
v/c Ratio	0.15	0.85		0.25	0.21			0.36		0.05	0.24	
Control Delay	15.7	34.0		21.4	12.5			12.4		8.2	9.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	15.7	34.0		21.4	12.5			12.4		8.2	9.1	
LOS	B	C		C	B			B		A	A	
Approach Delay		32.3			14.2			12.4			9.0	
Approach LOS		C			B			B			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 58.5	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 20.8	Intersection LOS: C
Intersection Capacity Utilization 66.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: N Main St & W Water St

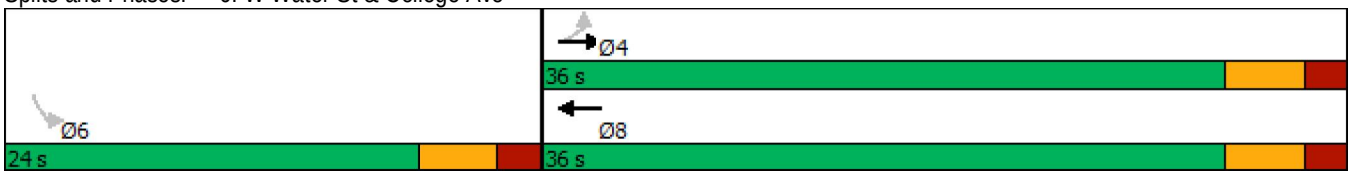


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	36	378	192	26	24	8
Future Volume (vph)	36	378	192	26	24	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.984		0.965	
Flt Protected	0.950				0.964	
Satd. Flow (prot)	1652	1863	1833	0	1733	0
Flt Permitted	0.611				0.964	
Satd. Flow (perm)	1062	1863	1833	0	1733	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			16		9	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	411	209	28	26	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	411	237	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	15.2	15.2	15.2		18.7	
Actuated g/C Ratio	0.34	0.34	0.34		0.42	
v/c Ratio	0.11	0.66	0.38		0.05	
Control Delay	10.2	17.8	11.9		8.7	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	10.2	17.8	11.9		8.7	
LOS	B	B	B		A	
Approach Delay		17.1	11.9		8.7	
Approach LOS		B	B		A	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 45	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 15.0	Intersection LOS: B
Intersection Capacity Utilization 33.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave

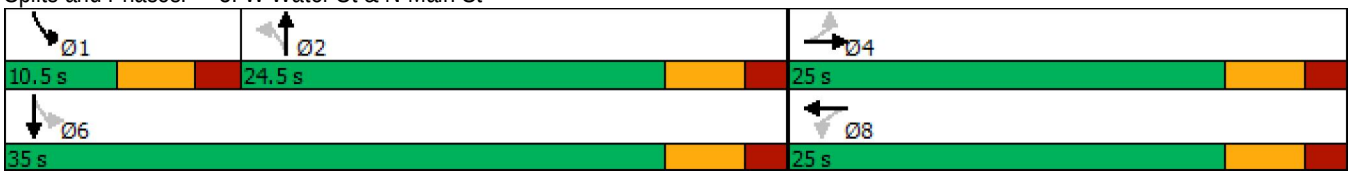


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	266	87	34	164	38	30	285	38	45	302	21
Future Volume (vph)	63	266	87	34	164	38	30	285	38	45	302	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	75		0	90		0	0		0	115		0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.963			0.972			0.986			0.990	
Flt Protected	0.950			0.950				0.996		0.950		
Satd. Flow (prot)	1652	1913	0	1652	1931	0	0	1951	0	1652	1783	0
Flt Permitted	0.603			0.316				0.948		0.409		
Satd. Flow (perm)	1048	1913	0	549	1931	0	0	1857	0	711	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			20			10			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	289	95	37	178	41	33	310	41	49	328	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	384	0	37	219	0	0	384	0	49	351	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)	15.1	15.1		15.1	15.1			23.6		29.6	29.6	
Actuated g/C Ratio	0.27	0.27		0.27	0.27			0.42		0.53	0.53	
v/c Ratio	0.24	0.71		0.25	0.41			0.48		0.11	0.37	
Control Delay	17.7	24.8		20.0	17.1			17.0		8.2	9.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	17.7	24.8		20.0	17.1			17.0		8.2	9.7	
LOS	B	C		C	B			B		A	A	
Approach Delay		23.7			17.6			17.0			9.5	
Approach LOS		C			B			B			A	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 55.8	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 17.1	Intersection LOS: B
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: W Water St & N Main St

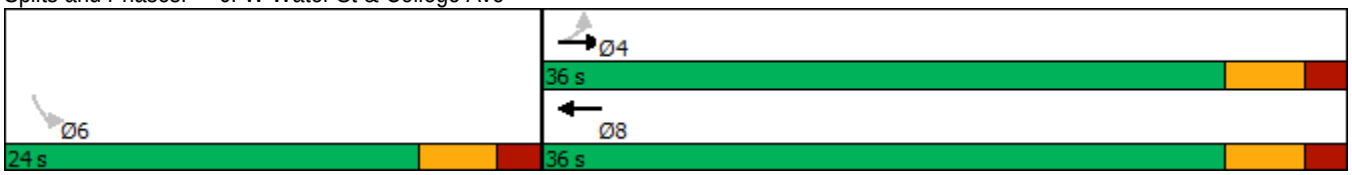


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	496	90	23	10	4
Future Volume (vph)	19	496	90	23	10	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.964	
Flt Protected	0.950				0.965	
Satd. Flow (prot)	1652	1863	1812	0	1733	0
Flt Permitted	0.678				0.965	
Satd. Flow (perm)	1179	1863	1812	0	1733	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			25		4	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	539	98	25	11	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	539	123	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	19.7	19.7	19.7		18.8	
Actuated g/C Ratio	0.40	0.40	0.40		0.38	
v/c Ratio	0.04	0.73	0.17		0.02	
Control Delay	8.3	18.7	7.8		11.6	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	8.3	18.7	7.8		11.6	
LOS	A	B	A		B	
Approach Delay		18.3	7.8		11.6	
Approach LOS		B	A		B	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 49.7	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 39.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave



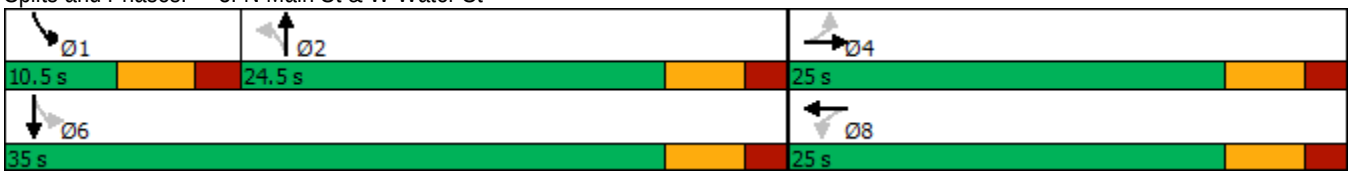
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	369	80	27	91	28	27	202	55	21	173	12
Future Volume (vph)	47	369	80	27	91	28	27	202	55	21	173	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	0		0	90		0	0		0	115		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.978			0.965			0.974			0.990	
Flt Protected		0.995		0.950				0.995		0.950		
Satd. Flow (prot)	0	1933	0	1652	1917	0	0	1926	0	1652	1783	0
Flt Permitted		0.956		0.268				0.961		0.473		
Satd. Flow (perm)	0	1858	0	466	1917	0	0	1860	0	822	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			27			21			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	401	87	29	99	30	29	220	60	23	188	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	539	0	29	129	0	0	309	0	23	201	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)		0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)		18.7		18.7	18.7			27.4		29.5	29.5	
Actuated g/C Ratio		0.32		0.32	0.32			0.46		0.50	0.50	
v/c Ratio		0.90		0.20	0.21			0.35		0.05	0.23	
Control Delay		40.4		18.7	12.9			12.4		8.2	9.1	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		40.4		18.7	12.9			12.4		8.2	9.1	
LOS		D		B	B			B		A	A	
Approach Delay		40.4			13.9			12.4			9.0	
Approach LOS		D			B			B			A	

Intersection Summary

Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 59.2	
Natural Cycle: 60	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 24.2	Intersection LOS: C
Intersection Capacity Utilization 72.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: N Main St & W Water St

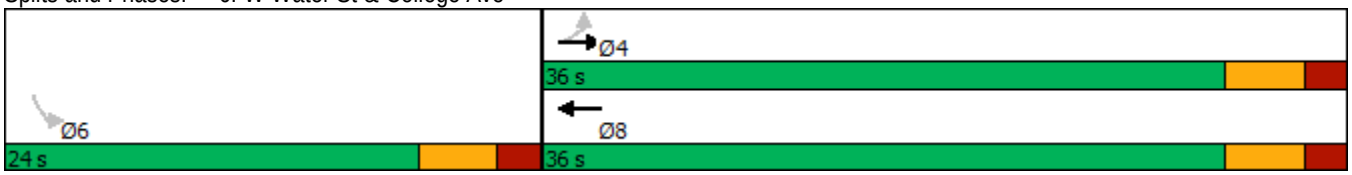


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	34	360	183	25	23	8
Future Volume (vph)	34	360	183	25	23	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.984		0.964	
Flt Protected	0.950				0.965	
Satd. Flow (prot)	1652	1863	1833	0	1733	0
Flt Permitted	0.617				0.965	
Satd. Flow (perm)	1073	1863	1833	0	1733	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			17		9	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	391	199	27	25	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	391	226	0	34	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	14.6	14.6	14.6		18.7	
Actuated g/C Ratio	0.33	0.33	0.33		0.42	
v/c Ratio	0.10	0.64	0.37		0.05	
Control Delay	10.3	17.5	11.8		8.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	10.3	17.5	11.8		8.4	
LOS	B	B	B		A	
Approach Delay		16.9	11.8		8.4	
Approach LOS		B	B		A	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 44.4	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 14.8	Intersection LOS: B
Intersection Capacity Utilization 33.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave



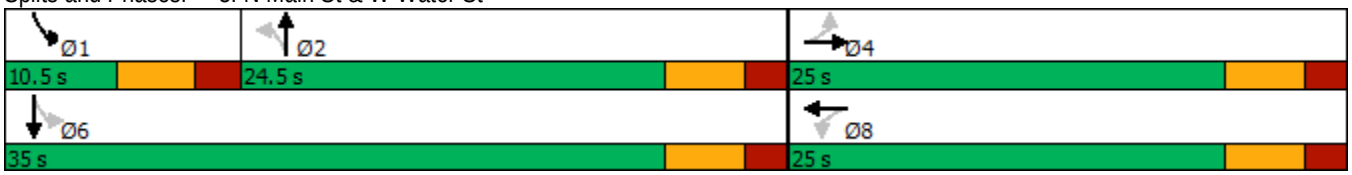
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	253	83	32	156	36	29	271	36	43	287	20
Future Volume (vph)	60	253	83	32	156	36	29	271	36	43	287	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	0		0	90		0	0		0	115		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.972			0.972			0.986			0.990	
Flt Protected		0.992		0.950				0.996		0.950		
Satd. Flow (prot)	0	1916	0	1652	1931	0	0	1951	0	1652	1783	0
Flt Permitted		0.910		0.368				0.949		0.412		
Satd. Flow (perm)	0	1757	0	640	1931	0	0	1859	0	716	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			20			10			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	275	90	35	170	39	32	295	39	47	312	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	430	0	35	209	0	0	366	0	47	334	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)		0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)		16.9		16.9	16.9			23.5		29.6	29.6	
Actuated g/C Ratio		0.29		0.29	0.29			0.41		0.51	0.51	
v/c Ratio		0.81		0.19	0.36			0.48		0.10	0.36	
Control Delay		31.0		17.6	16.1			17.4		8.5	10.2	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		31.0		17.6	16.1			17.4		8.5	10.2	
LOS		C		B	B			B		A	B	
Approach Delay		31.0			16.3			17.4			10.0	
Approach LOS		C			B			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 57.5
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 19.4 Intersection LOS: B
Intersection Capacity Utilization 84.8% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: N Main St & W Water St

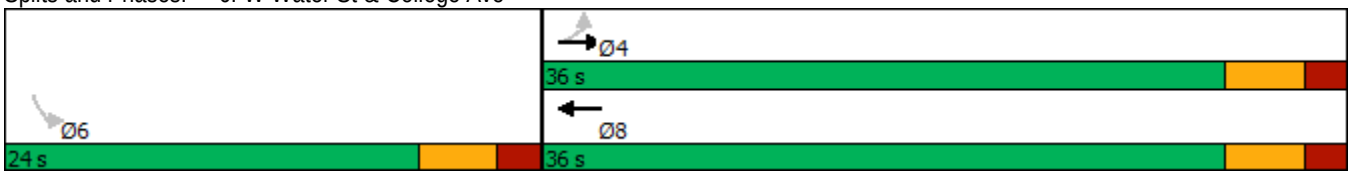


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	20	521	95	24	11	4
Future Volume (vph)	20	521	95	24	11	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.973		0.966	
Flt Protected	0.950				0.964	
Satd. Flow (prot)	1652	1863	1812	0	1735	0
Flt Permitted	0.674				0.964	
Satd. Flow (perm)	1172	1863	1812	0	1735	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			26		4	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	566	103	26	12	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	566	129	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	20.6	20.6	20.6		18.8	
Actuated g/C Ratio	0.41	0.41	0.41		0.37	
v/c Ratio	0.05	0.74	0.17		0.02	
Control Delay	8.2	19.0	7.7		11.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	8.2	19.0	7.7		11.9	
LOS	A	B	A		B	
Approach Delay		18.6	7.7		11.9	
Approach LOS		B	A		B	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 50.6	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 40.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave



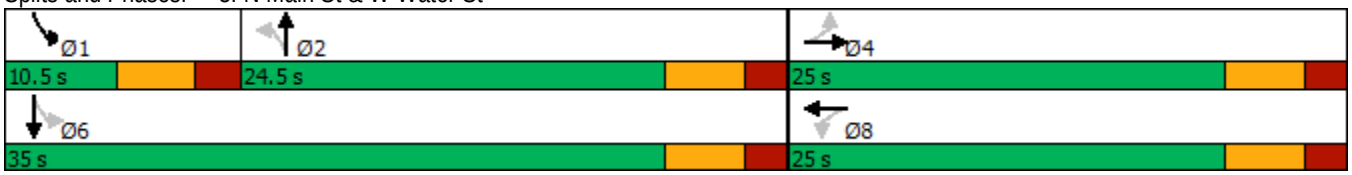
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	390	84	28	86	29	28	212	58	22	183	13
Future Volume (vph)	49	390	84	28	86	29	28	212	58	22	183	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	0		0	90		0	0		0	115		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.978			0.962			0.974			0.990	
Flt Protected		0.995		0.950				0.995		0.950		
Satd. Flow (prot)	0	1933	0	1652	1911	0	0	1926	0	1652	1783	0
Flt Permitted		0.957		0.254				0.960		0.461		
Satd. Flow (perm)	0	1860	0	442	1911	0	0	1858	0	801	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			31			21			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	53	424	91	30	93	32	30	230	63	24	199	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	568	0	30	125	0	0	323	0	24	213	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)		0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)		19.2		19.2	19.2			27.4		29.5	29.5	
Actuated g/C Ratio		0.32		0.32	0.32			0.46		0.49	0.49	
v/c Ratio		0.93		0.21	0.20			0.37		0.05	0.24	
Control Delay		45.4		19.3	12.3			12.7		8.2	9.3	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		45.4		19.3	12.3			12.7		8.2	9.3	
LOS		D		B	B			B		A	A	
Approach Delay		45.4			13.6			12.7			9.2	
Approach LOS		D			B			B			A	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 59.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 26.6 — Intersection LOS: C
Intersection Capacity Utilization 75.4% — ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: N Main St & W Water St

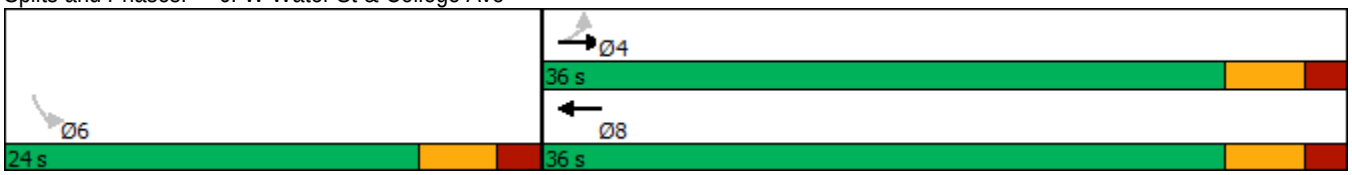


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	36	378	192	26	24	8
Future Volume (vph)	36	378	192	26	24	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	12	12	12	12
Storage Length (ft)	50			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	75				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.984		0.965	
Flt Protected	0.950				0.964	
Satd. Flow (prot)	1652	1863	1833	0	1733	0
Flt Permitted	0.611				0.964	
Satd. Flow (perm)	1062	1863	1833	0	1733	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			16		9	
Link Speed (mph)		30	30		30	
Link Distance (ft)		508	555		423	
Travel Time (s)		11.5	12.6		9.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	411	209	28	26	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	411	237	0	35	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		10	10		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.09	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (ft)	20	100	100		20	
Trailing Detector (ft)	0	0	0		0	
Detector 1 Position(ft)	0	0	0		0	
Detector 1 Size(ft)	20	6	6		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(ft)		94	94			
Detector 2 Size(ft)		6	6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Perm	
Protected Phases		4	8			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4				6	
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	23.5	23.5	23.5		23.5	
Total Split (s)	36.0	36.0	36.0		24.0	
Total Split (%)	60.0%	60.0%	60.0%		40.0%	
Maximum Green (s)	30.5	30.5	30.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.5	5.5	5.5		5.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		Max	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	15.2	15.2	15.2		18.7	
Actuated g/C Ratio	0.34	0.34	0.34		0.42	
v/c Ratio	0.11	0.66	0.38		0.05	
Control Delay	10.2	17.8	11.9		8.7	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	10.2	17.8	11.9		8.7	
LOS	B	B	B		A	
Approach Delay		17.1	11.9		8.7	
Approach LOS		B	B		A	

Intersection Summary	
Area Type: Other	
Cycle Length: 60	
Actuated Cycle Length: 45	
Natural Cycle: 50	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 15.0	Intersection LOS: B
Intersection Capacity Utilization 33.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: W Water St & College Ave



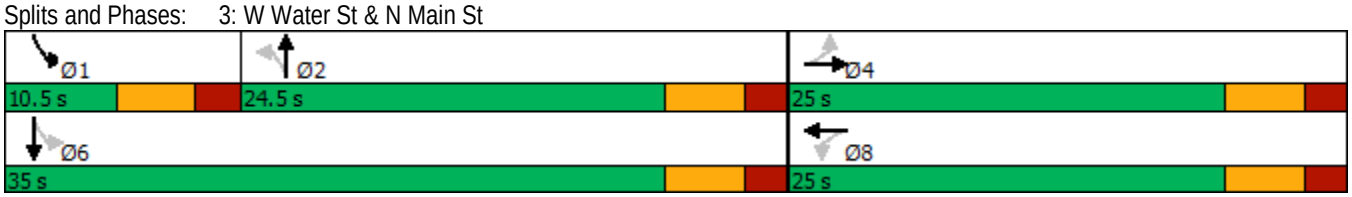
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	266	87	34	164	38	30	285	38	45	302	21
Future Volume (vph)	63	266	87	34	164	38	30	285	38	45	302	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	14	14	10	14	14	14	14	14	10	11	11
Storage Length (ft)	0		0	90		0	0		0	115		0
Storage Lanes	0		0	1		0	0		0	1		0
Taper Length (ft)	75			60			25			50		
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		0.972			0.972			0.986			0.990	
Flt Protected		0.993		0.950				0.996		0.950		
Satd. Flow (prot)	0	1918	0	1652	1931	0	0	1951	0	1652	1783	0
Flt Permitted		0.908		0.354				0.947		0.397		
Satd. Flow (perm)	0	1754	0	615	1931	0	0	1855	0	690	1783	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			20			10			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		555			546			409			439	
Travel Time (s)		12.6			12.4			9.3			10.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	289	95	37	178	41	33	310	41	49	328	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	452	0	37	219	0	0	384	0	49	351	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		10			10			10			10	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.09	0.92	0.92	1.09	0.92	0.92	0.92	0.92	0.92	1.09	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
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)	20	6		20	6		20	6		20	6	
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	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	23.5	23.5		23.5	23.5		23.5	23.5		10.5	23.5	
Total Split (s)	25.0	25.0		25.0	25.0		24.5	24.5		10.5	35.0	
Total Split (%)	41.7%	41.7%		41.7%	41.7%		40.8%	40.8%		17.5%	58.3%	
Maximum Green (s)	19.5	19.5		19.5	19.5		19.0	19.0		5.0	29.5	
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)		0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)		5.5		5.5	5.5			5.5		5.5	5.5	
Lead/Lag							Lag	Lag		Lead		
Lead-Lag Optimize?							Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		Max	Max		None	Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0			7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0			11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0			0	
Act Effct Green (s)		17.4		17.4	17.4			23.5		29.6	29.6	
Actuated g/C Ratio		0.30		0.30	0.30			0.41		0.51	0.51	
v/c Ratio		0.83		0.20	0.37			0.51		0.11	0.38	
Control Delay		33.2		17.9	16.2			18.1		8.6	10.6	
Queue Delay		0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay		33.2		17.9	16.2			18.1		8.6	10.6	
LOS		C		B	B			B		A	B	
Approach Delay		33.2			16.5			18.1			10.3	
Approach LOS		C			B			B			B	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 58
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 20.3 Intersection LOS: C
Intersection Capacity Utilization 88.2% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: W Water St & N Main St



ACCIDENT RATE CALCULATIONS

ROUTE:	*West Water Street*	**LOCATION:**	*Between Collge Avenue and Railroad Avenue*
MUNICIPALITY:	*City of Elmira*		**COUNTY:** *Chemung*
TIME PERIOD COVERED:	*4/1/2014 - 3/31/2017*	**REFERENCE MARKERS / NODES:**	
REMARKS:			**DATE:** *10/24/2017*

Summary of Accident Rates

Location	No. Accidents	AR actual Acc/MVM	AR statewide Acc/MVM	AR actual Acc/MEV	AR statewide Acc/MEV
College Avenue to Railroad Ave	3	0.97	2.23		
West Water Street / Main Street	4			0.28	0.25
Total Accidents	7				

ACCIDENT RATE CALCULATIONS

ROUTE:	*West Water Street*	**LOCATION:**	*Between Collge Avenue and N Main Street*
MUNICIPALITY:	*City of Elmira*		**COUNTY:** *Chemung*
TIME PERIOD COVERED:	*4/1/2014 - 3/31/2017*	**REFERENCE MARKERS / NODES:**	
REMARKS:			**DATE:** *10/24/2017*

Reportable Midblock Accidents (per Million Vehicle Miles)

Segment: College Avenue to Railroad Ave

Accident Period: 4/1/2014 to 3/31/2017

Traffic Count:

Length of Section: 0.22 mi

ACCIDENT RATE = $\frac{\text{Acc/Yr} \times 1{,}000{,}000}{365 \text{ days/year} \times \_\_\_\_ \text{ Veh/day} \times \_\_\_\_ \text{ miles}}$

Entering Vehicles: 12,847 AADT West Water Street

Total Number of Accidents: 3 Acc. in 3 Yrs = 1.00 Acc/Yr

ACCIDENT RATE = $\frac{1.00 \text{ Acc/Yr} \times 1{,}000{,}000}{365 \text{ days/year} \times 12{,}847 \text{ Veh/day} \times 0.22 \text{ miles}}$

Rate per MVM = 0.97 Acc / Mvm

Statewide Rate per MVM = 2.23 Acc / Mvm (Based on 2015-16 NYSDOT Average Rate for Urban Undivided 2 Lanes Mainline Accidents)

ACCIDENT RATE CALCULATIONS

ROUTE:	*West Water Street*	**LOCATION:**	*Between Collge Avenue and Railroad Avenue*
MUNICIPALITY:	*City of Elmira*		**COUNTY:** *Chemung*
TIME PERIOD COVERED:	*4/1/2014 - 3/31/2017*	**REFERENCE MARKERS / NODES:**	
REMARKS:			**DATE:** *10/24/2017*

Reportable Intersection Accidents (per Million Entering Vehicles)

Intersection: West Water Street / Main Street

Accident Period: 4/1/2014 to 3/31/2017

Traffic Count: See below

Intersection Type: 4-Way

Intersection Control: Signalized

ACCIDENT RATE = $\frac{\text{Acc/yr} \times 1{,}000{,}000}{\text{veh/day} \times 365 \text{ days/year}}$

Entering Vehicles:

6,685	AADT	West Water Street EB
1,277	AADT	West Water Street WB
3,981	AADT	Main St NB
6,234	AADT	Main St SB
12,919		

Total Number of Accidents: 4 Acc. In 3 Yrs = 1.33 Acc/Yr

ACCIDENT RATE = $\frac{1.33 \text{ Acc/yr} \times 1{,}000{,}000}{12{,}919 \text{ veh/day} \times 365 \text{ days/year}}$

Rate per MEV = 0.28 Acc/MEV

Statewide Rate per MEV = 0.25 Acc/MEV (Based on 2015-16 NYSDOT Average Rate for Urban 4 Legged &> Intersections Signal w/ Left Turn 5&> Lanes)

TE 213 (9/79)

DETAILS OF ACCIDENT HISTORY FOR LOCATION (AS SHOWN ON CRASH DIAGRAM)

DIAGRAM SHEET

STUDY NO.	West Water St	COUNTY Chemung
P.I.N. 6754.68		MUNICIPALITY City of Elmira
INVENTORY NO.	Between College Ave and Railroad Ave	BY ELM
		DATE 10/2/17

NO. OF MONTHS	LIGHT CONDITIONS (LC)	ROADWAY CHARACTER (RC)	ROADWAY SURFACE CONDITION (RSC)	WEATHER (WEA)
36	1. Daylight 2. Dawn 3. Dusk 4. Dark Road Lighted 5. Dark Road Unlighted	1. Straight & Level 2. Straight & Grade 3. Straight at Hillcrest 4. Curve & Level 5. Curve & Grade 6. Curve at Hillcrest	1. Dry 2. Wet 3. Muddy 4. Snow/Ice 5. Slush 10. Other	1. Clear 2. Cloudy 3. Rain 4. Snow 5. Sleet/Hail/Freezing Rain 6. Fog/Smog/Smoke 10. Other

Begin Date 4/1/14

End Date 3/31/17

NO	CASE	DATE	TIME	# OF VEH	SEV	LC	RC	RSC	WEA	CONTRIB FACTORS	REF MKR	ACC TYPE	DESCRIPTION
1	35247094	5/1/2014	17:03	2	NR	1	1	1	1	13, YY	352 62022012	OVERTAKING	V2 WAS OCCUPIED AND PARKED IN FRONT OF 215 W WATER ST FACING EAST. V1 WAS TRAVELING EAST ON W WATER ST. WHEN V1 APPROACHED V2, V1'S PASSENGER SIDE MIRROR STRUCK V2'S DRIVER'S SIDE MIRROR. THERE WAS DAMAGE TO V2'S MIRROR BUT V1'S MIRROR WAS NOT DAMAGED. V1 WAS CITED FOR MOVING FROM LANE UNSAFELY/VTL 1128A AND V2'S REGISTRATION WAS FOUND TO BE EXPIRED, V2 WAS CITED FOR UNREGISTERED MOTOR VEHICLE/VTL 4011A./KIERST5636
2	35270757	5/21/2014	16:42	2	NR	1	1	2	3	18, YY	352 62022013	REAR END	V2 WAS PARKED IN THE PARKING LOT OF NEW YORK SPORT AND FITNESS LOCATED AT 134 W WATER ST. V1 HAD BEEN LEAVING A PARKING SPOT AND TURNING RIGHT. WHILE TURNING RIGHT V1 STRUCK V2. V1 THEN LEFT THE SCENE. THE DESCRIPITON GIVEN BY AN UNKNOWN WITNESS WAS A BLACK SIERRA PICK UP TRUCK WITH PARTIAL PLATE OF 54493. THIS VEHICLE COULD NOT BE IDENTIFIED./KIERST5636 THE DRIVER OF V1 WAS IDENTIFIED. THE REPORT WAS UPDATED WITH HIS INFORMATION. V1 ADMITTED FAULT AND NOT CITED./KIERST5636
3	35277056	5/30/2014	06:16	2	NR	5	1	1	1	03, YY	352 62022012	REAR END	ON 5/30/2014 AT APPROX 6:16AM PO OROPALLO RESPONDED TO THE AREA OF ROUNDING 3RD, LOCATED AT 255 WEST WATER ST FOR A LEAVING THE SCENE MVA. PO OROPALLO SPOKE WITH VEHICLE #1 OWNER, JANET SHOPE, WHO STATED SHE PARKED HER 2012 NISSAN MAXIMA, NYREG#CSV2992 IN THE PARKING LOT JUST EAST OF ROUNDING 3RD AT APPROX 5:30AM 5/29/2014. WHEN SHE RETURNED TO PICK THE VEHICLE UP AT AROUND 6:00AM 5/30/2014 SHE OBSERVED DAMAGE TO THE REAR DRIVER SIDE CORNER PANEL THAT WAS NOT THERE WHEN SHE PARKED THE VEHICLE THE NIGHT PRIOR. VEHICLE NUMBER 2 HAS LEFT THE SCENE. PO OROPALLO COULD NOT LOCATE ANY VIDEO OF INCIDENT LOCATION.
4	35338936	7/18/2014	21:22	2	NR	5	1	1	1	05, YY	352 62022012	OVERTAKING	V2 WAS LAWFULLY PARKED FACING WESTBOUND AT 255 W WATER ST. PARKING LOT. V1 ATTEMPTED TO PARK NEXT TO V2, HOWEVER SIDESWIPPED V2 CAUSING DAMAGE TO BOTH VEHICLES. V1 DRIVER ADMITTED GUILT AND TOOK FULL RESPONSIBILITY FOR THE ACCIDENT.
5	35457046	10/30/2014	11:56	2	NR	1	1	1	1	03, YY	352 62022011	REAR END	V1 WAS AN ILLEGALLY PARKED OCCUPIED MOTOR VEHICLE WITH ITS FRONT END STICKING INTO THE DRIVING PATH AT THE PARKING LOT AT 300 W WATER ST. V2 BACKED UP UNSAFELY STRIKING V1 CAUSING MINOR DAMAGE TO V1'S FRONT RIGHT BUMPER. V2 SUSTAINED MINOR DAMAGE TO IT'S RIGHT REAR BUMPER.
6	35486349	11/24/2014	13:13	2	NR	1	1	1	2	03, YY	352 62022012	REAR END	VEHICLE 2 WHILE PARKED ON THE SOUTH SIDE OF W WATER ST FACING EASTBOUND WAS STRUCK BY VEHICLE 1 AS IT WAS BACKING. OPERATOR 1, WHO WAS CLEANING LEAVES FROM THE STREET IN A CITY OF ELMIRA OWNED DUMP TRUCK, ADVISED THAT WHEN HE HAD LOOKED THROUGH THE RIGHT SIDE VIEW MIRROR HE COULD NOT SEE VEHILE 2 DUE TO A BLIND SPOT CAUSED BY THE VEHICLES SUCTION HOSE. AS VEHICLE 1 BEGAN TO BACK FURTHER, THE REAR TAILGATE ON VEHICLE 1 STRUCK THE HOOD OF VEHICLE 2 RESULTING IN A COLLISION AND MINOR DAMAGE TO VEHICLE 2.
7	35507836	12/8/2014	14:03	2	NR	1	2	1	2	09, YY, ZZ	352 62022012	REAR END	V1 WAS NORTH ON THE MAIN ST BRIDGE JUST SOUTH OF W WATER ST WHEN OP1'S FOOT "SLIPPED" OFF THE BRAKE AND V1 REAR ENDED V2 WHICH WAS STOPPED IN TRAFFIC. NO INJURIES REPORTED. MINOR DAMAGE TO BOTH VEHICLES. INSURANCE FORMS ISSUED. OP1 CITED.
8	35555510	1/13/2015	15:26	2	NR	1	1	1	1	04, 07, YY	352 62022011	LEFT TURN (AGAINST OTHER CAR)	V1 RAN STEADY RED LIGHT WHILE HEADING WEST ON W WATER ST. V2 PROCEEDED INTO INTERSECTION TO MAKE A LEFT (EAST) ON W. WATER ST. WHILE THE LIGHT WAS GREEN. V2 STRUCK V1 ON THE REAR RIGHT QUATERPANEL, WITH FRONT RIGHT BUMPER. V1 DRIVER STATED SHE WAS NOT PAYING ATTENTION AND WAS NOT SURE IF THE SIGNAL LIGHT WAS YELLOW OR RED. V2 DRIVER STATED THAT W. WATER TRAFFIC HAD A STEADY RED AND THAT ALL COLLEGE AVE. TRAFFIC HAD A STEADY GREEN LIGHT.
9	35555521	1/14/2015	08:54	2	NR	1	1	1	1	18, YY	352 62022012	LEFT TURN (AGAINST OTHER CAR)	V1 DRIVING EASTBOUND ON W WATER ST MADE A LEFT TURN HEADING NORTHBOUND ON N MAIN ST AND CUT ACROSS THE STOP LINE FOR SOUTHBOUND TRAFFIC ON N MAIN ST. V2 WAS SOUTHBOUND ON N MAIN SLOWING DOWN TO STOP BEHIND THE STOP LINE FOR A RED LIGHT AT THE INTERSECTION OF W WATER ST. V2 WAS PULLING INTO THE LEFT TURNING LANE TO STOP ON MAIN ST FOR THE RED LIGHT. V1 CUT THE CORNER SHORT AND CROSSED OVER THE STOP LINE THAT V2 WAS PULLING UP TO STRIKING V2. V1 HAD DAMAGE TO LEFT SIDE REAR DOOR. V2 HAD DAMAGE TO LEFT SIDE FRONT BUMPER
10	35579945	1/29/2015	11:54	2	NR	1	1	2	1	04, YY	352 62022012	REAR END	V2 WAS STOPPED AT A STOP LIGHT FACING NORTH AT THE INTERSECTION OF N MAIN ST AND W WATER ST. V1 WAS TRAVELING NORTH AND DID NOT REALIZE V2 WAS STOPPED AND REAR ENDED THE VEHICLE.
11	35584119	2/2/2015	13:00	2	NR	1	1	4	4	03, YY	352 62022011	SIDESWIPE	VEHICLE 1, ELMIRA CITY OWNED PLOW TRUCK ACTIVELY PLOWING CITY OF ELMIRA PARKING AREA. OPERATOR 1 WAS BACKING FROM WESTERN MOST DRIVEWAY WHEN VEH 1 ENTERED ROADWAY AND COLLIDED WITH VEHICLE 2. VEHICLE 2 WAS TRAVELING IN EASTERLY DIRECTION ON W WATER ST. VEHICLE 2 STRUCK THE SALT SPREADER ATTACHED TO THE REAR OF VEHICLE 1, CAUSING DAMAGE TO METAL HOUSING/FRAME AND RENDERED IT INOPERABLE.

TE 213 (9/79)

DETAILS OF ACCIDENT HISTORY FOR LOCATION (AS SHOWN ON CRASH DIAGRAM)

DIAGRAM SHEET

STUDY NO.	West Water St	COUNTY Chemung
P.I.N. 6754.68		MUNICIPALITY City of Elmira
INVENTORY NO.	Between College Ave and Railroad Ave	BY ELM
		DATE 10/2/17

NO. OF MONTHS	LIGHT CONDITIONS (LC)	ROADWAY CHARACTER (RC)	ROADWAY SURFACE CONDITION (RSC)	WEATHER (WEA)
36	1. Daylight	1. Straight & Level	1. Dry	1. Clear
Begin Date 4/1/14	2. Dawn	2. Straight & Grade	2. Wet	2. Cloudy
End Date 3/31/17	3. Dusk	3. Straight at Hillcrest	3. Muddy	3. Rain
	4. Dark Road Lighted	4. Curve & Level	4. Snow/Ice	4. Snow
	5. Dark Road Unlighted	5. Curve & Grade	5. Slush	5. Sleet/Hail/Freezing Rain
		6. Curve at Hillcrest	10. Other	6. Fog/Smog/Smoke
				10. Other

NO	CASE	DATE	TIME	# OF VEH	SEV	LC	RC	RSC	WEA	CONTRIB FACTORS	REF MKR	ACC TYPE	DESCRIPTION	
12	35670115	3/24/2015	11:30	2	NR	1	1	1	1	13, YY, ZZ	352 62022012	OVERTAKING	OFFICER SAUNDERS RESPONDED TO THE 200 BLK OF W WATER ST FOR A MVA HIT AND RUN. UPON ARRIVAL, WILLIAM WALKER ADVISED AN UNKNOWN VEHICLE CLIPPED THE DRIVER'S SIDE VIEW MIRROR TO HIS 2007 DODGE, NY REGISTRATION FXB3497 WHILE IT WAS PARKED ON THE SOUTHSIDE OF W WATER ST IN THE 200 BLK. WALKER ADVISED THAT MARGARETE CHARLANOW FROM FIRST WARD BARBERSHOP HAS VIDEO OF THE INCIDENT. OFFICER SAUNDERS OBSERVED WALKER'S SIDE VIEW MIRROR HANGING FROM THE MOUNT, WITH A VERY SMALL SCRATCH ON THE OUTSIDE OF THE MIRROR COVER WHERE IT APPEARS THE OTHER VEHICLE HAD CONTACTED IT. NO COLOR TRANSFER AND NO EVIDENCE WAS LEFT BEHIND BY THE STRIKING VEHICLE. OFFICER SAUNDERS RESPONDED TO THE FIRST WARD BARBER SHOP AND CHARLANOW SHOWED THE VIDEO. AT 11:30 AM THIS DATE, THE VIDEO SHOWS A TRACTOR TRAILER PULL UP INTO THE LEFT TURNING LANE ON W WATER ST AND A MAROON DODGE DAKOTA PICK UP TRUCK PULLS BETWEEN THE TRACTOR TRAILER AND WALKER'S VEHICLE. ONCE BOTH VEHICLES CLEAR THE FRAME, WALKER'S MIRROR IS HANGING FROM THE MOUNT, PRESUMABLY STUCK BY THE DODGE DAKOTA AS THE MIRROR WAS INTACT PRIOR TO BEING OBSTRUCTED ON THE VIDEO BY THE TRACTOR TRAILER. DUE TO THE TRACTOR TRAILER OBSTRUCTION ON THE VIDEO, A DRIVER DESCRIPTION WAS NOT AVAILABLE. THE VIDEO WAS UNABLE TO ASCERTAIN A LICENSE PLATE DUE TO THE OBSTRUCTION AND ANGLE OF THE VIDEO. OFFICER SAUNDERS COMPLETED A MV104A IN TRACS.	
13	35790417	6/30/2015	12:00	1	INJURY	1	1	1	1	14, YY	352 62022012	PEDESTRIAN	V1 TRAVELING EAST IN THE 200 BLOCK OF W WATER ST WHEN PED 1 AND 2 WERE CROSSING STREET FROM N TO S. PED 1 AND 2 WERE NOT IN CROSS WALK AND CROSSING AGAINST MOVING TRAFFIC. V1 STRUCK P1 RIGHT ELBOW WITH DRIVER SIDE MIRROR AS P1 ENTERED THE EAST BOUND LANE. P1 AND P2 WALKED TO ST JOES ER FOR TREATMENT AFTER THE COLLISION.	midblock
14	35845669	8/15/2015	13:53	3	NR	1	1	1	2	09, YY	352 62022011	OTHER	V1 REAR ENDED V2. V2 WAS PUSHED BY V1 INTO THE REAR OF V3. V3 AND V2 WERE SLOWING.	
15	35869036	9/1/2015	14:22	2	NR	1	1	1	1	09, YY	352 62022012	REAR END	V1 WAS TRAVELING NORTHBOUND ON MAIN ST BRIDGE AND REARENDED V2 WHICH WAS STOPPED AT A RED LIGHT AT THE INTERESECTION WITH WATER ST. WITNESS OBSERVED V1 TRAVELING AT A HIGH RATE OF SPEED AND ATTEMPT TO STOP SUDDENLY BEFORE STRIKING V2. NO INJURIES SUSTAINED. DRIVER OF V1 CITED FOR VTL 1129A FOLLOWING TOO CLOSELY. - WITNESS 001 ANDERSEN, JASON P 360 FRANKLIN ST ELMIRA NY 14904 6077342310	
16	35898902	9/21/2015	22:00	2	NR	5	1	1	1	02, 03, YY	352 62022011	BUILDING/WALL	V1 WAS BACKING FROM PARKING SPACE AND BACKED INTO BUILDING, 231 W. WATER ST. V1 ALSO STRUCK V2 AT SAME TIME. V1 LEFT THE SCENE. DAMAGE TO BUILDING AND V2 WAS NOT FOUND UNTIL NEXT DAY, 9/21/15. IT WAS FOUND THE OPERATOR OF V1 HAD BEEN ARRESTED FOR DWI ON 9/20/15, EVENT 15-26654. THERE WAS FRESH DAMAGE TO VEHICLE OBSERVED AT THE TIME OF ARREST BUT NO REPORT OF ACCIDENT. DAMAGE TO V1 AND EVIDENCE LEFT AT SCENE WAS CONSISTENT WITH POLICE FINDINGS.	
17	35988480	11/24/2015	08:50	2	PDO	1	1	4	4	09, 66, YY	352 62022012	REAR END	V1 TRAVELING NORTHBOUND ON MAIN ST BRIDGE REARENDED V2 WHICH WAS IN FRONT OF IT AND STOPPED FOR THE TRAFFIC SIGNAL AT THE INTERSECTION WITH W WATER ST. NO INJURIES REPORTED AND DRIVER OF V1 CITED NYS VTL 1129A FOLLOWING TOO CLOSELY.	intersection
18	36042250	12/23/2015	13:16	2	NR	1	1	2	3	09, YY	352 62022012	REAR END	VEHICLE 2 WAS STOPPED IN TRAFFIC FACING NORTH ON N MAIN ST WAITING FOR THE LIGHT TO CHANGE WHEN IT WAS STRUCK BY VEHICLE 1. NO INJURIES AND VEHICLE 1 WAS FOUND TO BE AT FAULT FOR FOLLOWING TOO CLOSELY.	
19	36099326	2/11/2016	15:28	2	PDO	1	1	1	1	03, 07, YY	352 62022011	RIGHT ANGLE		midblock
20	36114400	2/25/2016	09:55	2	NR	1	1	1	2	09, YY	352 62022012	REAR END	VEH 1 TRAVELING SOUTH ON N MAIN ST APPROACHING STOPPED TRAFFIC AT W WATER ST. VEH 1 REAR ENDED VEH 2 WHICH WAS STOPPED IN TRAFFIC FACING SOUTH ON N MAIN ST.	
21	36179759	4/12/2016	15:08	3	NR	1	1	1	1	09, YY	352 62022012	OTHER	V1, V2, AND V3 WERE ALL TRAVELING WEST ON W WATER ST JUST WEST OF N MAIN ST. V1 STRUCK V2 IN THE REAR BUMPER WHICH CAUSED V2 TO HIT V3. V1 WAS CITED FOR FOLLOWING TOO CLOSELY/VTL 1129A./KIERST5636	
22	36237407	6/1/2016	12:16	2	PDO	1	1	1	1	13, 18, YY	352 62022012	SIDESWIPE		intersection
23	36283151	6/26/2016	03:55	2	PDO	4	2	1	1	09, YY		REAR END		intersection
24	36315050	7/26/2016	10:12	2	INJURY	1	1	1	1	09, YY	352 62022012	REAR END	V1 TRAVELING NORTHBOUND ON MAIN ST BRIDGE REARENDS V2 WHICH WAS STOPPED AT RED TRAFFIC SIGNAL AT INTERSECTION WITH W WATER ST. DRIVER OF V1 ADVISED HIS FOOT SLIPPED OFF THE BREAK. DRIVER OF V2 COMPLAINED OF BACK PAIN DUE TO PRIOR BACK INJURY AND ERWAY AMBULANCE #23 RESPONDED TO TRANSPORT HER TO ST JOSEPHS HOSPITAL FOR AN EVALUATION. DRIVER OF V1 ISSUED UTT FOR VTL 1129A FOLLOWING TOO CLOSELY.	intersection

TE 213 (9/79)

DETAILS OF ACCIDENT HISTORY FOR LOCATION (AS SHOWN ON CRASH DIAGRAM)

DIAGRAM SHEET

STUDY NO.	West Water St	COUNTY Chemung
P.I.N. 6754.68		MUNICIPALITY City of Elmira
INVENTORY NO.	Between College Ave and Railroad Ave	BY ELM DATE 10/2/17

NO. OF MONTHS	LIGHT CONDITIONS (LC)	ROADWAY CHARACTER (RC)	ROADWAY SURFACE CONDITION (RSC)	WEATHER (WEA)
36 Begin Date 4/1/14 End Date 3/31/17	1. Daylight 2. Dawn 3. Dusk 4. Dark Road Lighted 5. Dark Road Unlighted	1. Straight & Level 2. Straight & Grade 3. Straight at Hillcrest 4. Curve & Level 5. Curve & Grade 6. Curve at Hillcrest	1. Dry 2. Wet 3. Muddy 4. Snow/Ice 5. Slush 10. Other	1. Clear 2. Cloudy 3. Rain 4. Snow 5. Sleet/Hail/Freezing Rain 6. Fog/Smog/Smoke 10. Other

NO	CASE	DATE	TIME	# OF VEH	SEV	LC	RC	RSC	WEA	CONTRIB FACTORS	REF MKR	ACC TYPE	DESCRIPTION	
25	36315052	7/19/2016	16:08	3	PDO	1	1	1	1	07, 20, YY	352 62022012	OTHER	V1 WAS A LEGALLY PARKED MOTOR VEHICLE. V1 WAS PARKED FACING WEST BOUND ON THE 200 BLOCK OF W WATER ST. V2 WAS TRAVELING IN THE WEST BOUND LANE ON W WATER ST. V3 WAS A LEGALLY PARKED VEHICLE FACING WEST BOUND WEST OF V1. V1 DID FAIL TO YIELD TO THE RIGHT OF WAY OF V2. V1 MOVED FROM LANE UNSAFELY STRIKING V2 IN THE FRONT PASSENGER SIDE QUARTER PANEL NEAR THE DOOR CAUSING V2 TO VEER RIGHT. V2 STRUCK V3 IN THE FRONT DRIVER'S SIDE QUARTER PANEL AND WHEEL CAUSING EXTENSIVE DAMAGE. V2 STOPPED MOVING FORWARD WEST OF V3. OPERATOR OF V1 DID STATE THAT HE PULL INTO TRAFFIC AND DID NOT SEE V2.	midblock
26	36317212	7/22/2016	01:38	2	NR	4	1	1	1	02, 04, YY	352 62022011	OVERTAKING	ON THE AFORESAID DATE AND TIME, VEHICLE #1 WAS PARKING ON W WATER ST FACING WESTBOUND, ON THE NORTH SIDE OF THE STREET. VEHICLE #2 WAS TRAVELING WESTBOUND IN THE SAME LOCATION. DUE TO DRIVER OF VEHICLE #2 BEING INTOXICATED BY ALCOHOLIC BEVERAGES VEHICLE #2 SIDE SWIPED PARKED VEHICLE #1. VEHICLE #2 STRUCK VEHICLE #! IN THE REAR DRIVERS SIDE, WITH ITS PASSENGER SIDE MIRROR. DRIVER OF VEHICLE #2 THEN LEFT THE SCENE. NO INJURIES. - WITNESS 1 LINCOLN, STEPHEN M 85 SCOTT ST ELMIRA NY 14905 TICKETS ISSUED: KEVIN A LELIK DRIVER OF VEHICLE NUMBER (2) TICKETS: TICKET NUMBER: CE495WH51L VIOLATION: 1120A TICKET NUMBER: CE495WH58W VIOLATION: 1128C TICKET NUMBER: CE495WH5HZ VIOLATION: 6001A TICKET NUMBER: CE495WH5N2 VIOLATION: 1160A TICKET NUMBER: CE495WH5QC VIOLATION: 11923 TICKET NUMBER: CE495WH5T6 VIOLATION: 11922AA;	
27	36567655	1/6/2017	20:56	1	NR	4	2	1	2	18, YY	352 62022012	LIGHT SUPPORT/UTILITY POLE	WHILE ON PATROL AN EPD PATROL OFFICER LOCATED A STRUCK AND DAMAGED STREET LAMP OWNED BY THE CITY OF ELMIRA, DOWN AND IN THE ROADWAY AT THE INTERSECTION OF W WATER ST AND N MAIN ST. UPON INSPECTION OF THE STREET LAMP IT APPEARED THAT IT HAD BEEN STRUCK BY A VEHICLE. SCUFFS AND ABRASIONS AT THE BASE OF THE LAMP SHOWED THAT IT HAD MADE CONTACT WITH A TIRE. FURTHERMORE, TIRE MARKS WERE LOCATED ON THE ROADWAY AND SIDEWALK LEADING UP TO THE LAMP. THE STRIKING VEHICLE DID MAKE A RIGHT HAND TURN FROM THE S MAIN ST BRIDGE ONTO W WATER ST, DROVE UP ONTO THE SIDEWALK AND STRUCK THE LAMP. ALSO, THESE TIRE TRACKS THAT WERE VISIBLE APPEARED TO BE PARALLEL TO ONE ANOTHER AND EQUALLY TRACKING AS IF THEY WERE FROM A HEAVY DUTY DUALLY PICK UP TRUCK OR SEMI TRAILER. THE STRIKING VEHICLE LEFT THE SCENE WITHOUT CONTACTING POLICE. CITY OF ELMIRA NOTIFIED OF DAMAGE.	
28	36612518	2/17/2017	21:45	2	NR	4	1	1	2	09, YY	352 62022012	REAR END	V2 WAS STOPPED, FACING SOUTBOUND, ON N.MAIN ST., FOR THE TRAFFIC LIGHT AT W. WATER ST. V1 WAS STOPPED BEHIND V2. OV-1 STATES THAT TOOK HER FOOT OF THE GAS AND LOOKED AWAY, BRIEFLY, CAUSING THE MINOR COLLISION. NO INJURIES, NO TOW. OV-1 WAS CITED FOR FOLLOWING TO CLOSELY	
29	36656573	3/17/2017	23:00	2	NR	4	1	1	1	03, YY	352 62022011	REAR END	VEHICLE 1 WAS BACKING OUT OF A PARKING SPOT IN THE PARKING LOT FOR ROUNDING THIRD BAR. SAID VEHICLE BACKED UP TOO FAR AND STRUCK THE REAR RIGHT BUMPER OF VEHICLE 2, WITH ITS REAR RIGHT BUMPER. SAID COLLISION CAUSED MINOR DAMAGE TO BOTH VEHICLES. - WITNESS 1 ALLYN, JAMES M 22 WILLOW DR PAINTED POST NY 14830 7323576593	

PIN:	6754.68	**Project Location:**	W. Water Street, City of Elmira
Context:	☑ Urban/Village ☐ Suburban, or ☐ Rural		
Project Title:	West Water Street Downtown Reconstruction		

STEP 1- APPLICABILITY OF CHECKLIST		
1.1	Is the project located entirely on a facility where bicyclists and pedestrians are prohibited by law and the project does not involve a shared use path or pedestrian/bicycle structure? *If **no**, continue to question 1.2. If **yes**, stop here.*	☐ **Yes** ☑ **No**
1.2	a. Is this project a 1R* Maintenance project? *If **no**, continue to question 1.3. If **yes**, go to part b of this question.* b. Are there opportunities on the 1R project to improve safety for bicyclists and pedestrians with the following Complete Street features? • Sidewalk curb ramps and crosswalks • Shoulder condition and width • Pavement markings • Signing *Document opportunities or deficiencies in the IPP and **stop here.*** ** Refer to Highway Design Manual (HDM) Chapter 7, Exhibit 7-1 "Resurfacing ADA and Safety Assessment Form" under ADA, Pavement Markings and Shoulder Resurfacing for guidance.*	☐ **Yes** ☑ **No** ☐ **Yes** ☐ **No**
1.3	Is this project a Cyclical Pavement Marking project? *If **no**, continue to question 1.4. If **yes**, review EI 13-021* and identify opportunities to improve safety for bicyclists and pedestrians with the following Complete Streets features:* • Travel lane width • Shoulder width • Markings for pedestrians and bicyclists *Document opportunities or deficiencies in the IPP and **stop here.*** ** EI 13-021, "Requirements and Guidance for Pavement Marking Operations - Required Installation of CARDS and Travel Lane and Shoulder Width Adjustments".*	☐ **Yes** ☑ **No**
1.4	Is this a Maintenance project *(as described in the "Definitions" section of this checklist)* and different from 1.2 and 1.3 projects? *If **no**, continue to Step 2. If **yes**, the Project Development Team should continue to look for opportunities during the Design Approval process to improve existing bicycle and pedestrian facilities within the scope of project. Identify the project type in the space below and **stop here.*** _____	☐ **Yes** ☑ **No**

STEP 1 prepared by: Todd A. Stauring Date: 1/7/2016

STEP 2 - IPP LEVEL QUESTIONS (At Initiation)			**Comment/Action**
2.1	Are there public policies or approved known development plans (e.g., community Complete Streets policy, Comprehensive Plan, MPO Long Range and/or Bike/Ped plan, Corridor Study, etc.) that call for consideration of pedestrian, bicycle or transit facilities in, or linking to, the project area? *Contact municipal planning office, Regional Planning Group and Regional Bicycle/Pedestrian Coordinator.*	☑ **Yes** ☐ **No**	The Elmira-Chemung Transportation Council has a current long range plan for peds & bikes. The City's Comprehensive Plan lists Water Street as an important pedestrian facility.

2.2	Is there an existing or planned sidewalk, shared use path, bicycle facility, pedestrian-crossing facility or transit stop in the project area?	☑ **Yes** ☐ **No**	NYS Bike Route 17. Existing sidewalks on both sides of the street with crosswalks.
2.3	a. Is the highway part of an existing or planned State, regional or local bicycle route? *If **no**, proceed to question 2.4. If **yes**, go to part b of this question.* b. Do the existing bicycle accommodations meet the minimum standard guidelines of HDM Chapter 17 or the AASHTO "Guide for the Development of Bicycle Facilities"? * *Contact Regional Bicycle/Pedestrian Coordinator* ** Per HDM Chapter 17- Section 17.4.3, Minimum Standards and Guidelines.*	☑ **Yes** ☐ **No** ☑ **Yes** ☑ **No**	NYS Bike Route 17. . . . Some portions meet standards, and some do not.
2.4	Is the highway considered important to bicycle tourism by the municipality or region?	☑ **Yes** ☐ **No**	NYS Bike Route 17.
2.5	Is the highway affected by special events (e.g., fairs, triathlons, festivals) that might influence bicycle, pedestrian or transit users? *Contact Regional Traffic and Safety*	☑ **Yes** ☐ **No**	There are special events in the downtown area nearby.
2.6	Are there existing or proposed generators within the project area (*refer to the "Guidance" section*) that have the potential to generate pedestrian or bicycle traffic or improved transit accommodations? *Contact the municipal planning office, Regional Planning Group, and refer to the CAMCI Viewer, described in the "Definitions" section.*	☑ **Yes** ☐ **No**	Generators in the project area: Linear park, and businesses. Generators nearby: Bus station, Elmira Business Institute, & the Clemens Center.
2.7	Is the highway an undivided 4 lane section in an urban or suburban setting, with narrow shoulders, no center turn lanes, and existing Annual Average Daily Traffic (AADT) < 15,000 vehicles per day? *If **yes**, consider a road diet evaluation for the scoping/design phase. Refer to the "Definitions" section for more information on road diets.*	☐ **Yes** ☑ **No**	
2.8	Is there evidence of pedestrian activity (e.g., a worn path) and no or limited pedestrian infrastructure?	☐ **Yes** ☑ **No**	

STEP 2 prepared by: Todd A. Stauring Date: 3/15/2016

Bicycle/Pedestrian Coordinator has been provided an opportunity to comment: ☑ **Yes** ☐ **No**

ATTACH TO IPP AND INCLUDE RECOMMENDATIONS FOR SCOPING/DESIGN.

STEP 3 - PROJECT DEVELOPMENT LEVEL QUESTIONS (Scoping/Design Stage)			Comment/Action
3.1	Is there an identified need for bicycle/pedestrian/ transit or "way finding" signs that could be incorporated into the project?	☐ Yes ☒ No	There is designated 'Downtown Elmira Walking Route' within the project limits. No other needs for bicyclists/peds have been identified by comprehensive plans or the City.
3.2	Is there history of bicycle or pedestrian crashes in the project area for which improvements have not yet been made?	☐ Yes ☒ No	There was one crash involving a pedestrian, however the description did not indicate an issue with the existing pedestrian facilities.
3.3	Are there existing curb ramps, crosswalks, pedestrian traffic signal features, or sidewalks that don't meet ADA standards per HDM Chapter 18?	☒ Yes ☐ No	Some curb ramps do not have detectable warning units. Push button location at Main St does not meet MUTCD standard.
3.4	Is the posted speed limit is 40 mph or more and the paved shoulder width less than 4' (1.2 m) (6' in the Adirondack or other State Park)? *Refer to EI 13-021.*	☐ Yes ☒ No	
3.5	Is there a perceived pedestrian safety or access concern that could be addressed by the use of traffic calming tools (e.g., bulb outs, raised pedestrian refuge medians, corner islands, raised crosswalks, mid-block crossings)?	☒ Yes ☐ No	Proposed bump-outs would reduce existing pedestrian crossing distances at intersections while providing a clear parking delineation. Raised medians would provide a traffic calming effect, lowering the speed of through vehicles.
3.6	Are there conflicts among vehicles (moving or parked) and bike, pedestrian or transit users which could be addressed by the project?	☒ Yes ☐ No	Various locations along W. Water Street do do not meet Ch. 18 minimum width standard for bicyclists to share the road with motorists.
3.7	Are there opportunities (or has the community expressed a desire) for new/improved pedestrian-level lighting, to create a more inviting or safer environment?	☒ Yes ☐ No	The City has expressed the desire to improve the existing lighting system.
3.8	Does the community have an existing street furniture program or a desire for street appurtenances (e.g., bike racks, benches)?	☒ Yes ☐ No	The City does not have an existing furniture program, however, street appurtenances are desired and will be included in the project.
3.9	Are there gaps in the bike/pedestrian connections between existing/planned generators? *Consider locations within and in close proximity of the project area. (Within 0.5 mi (800 m) for pedestrian facilities and within 1.0 mi (1600 m) for bicycle facilities.)*	☐ Yes ☒ No	
3.10	Are existing transit route facilities (bus stops, shelters, pullouts) inadequate or in inconvenient locations? (e.g., not near crosswalks) *Consult with Traffic and Safety and transit operator, as appropriate*	☐ Yes ☒ No	While CTran transit service has routes that exist along Water Street, no bus stop exist within the project limits.
3.11	Are there opportunities to improve vehicle parking patterns or to consolidate driveways, (which would benefit transit, pedestrians and bicyclists) as part of this project?	☒ Yes ☐ No	Striping enhancements such as parking lane "T's" would improve safety by appropriately delineating legal parking locations and prevent vehicles from parking too closely to driveway openings and intersections.

3.12	Is the project on a "local delivery" route and/or do area businesses rely upon truck deliveries that need to be considered in design?	☒ **Yes** ☐ **No**	
3.13	Are there opportunities to include green infrastructure which may help reduce stormwater runoff and/or create a more inviting pedestrian environment?	☒ **Yes** ☐ **No**	
3.14	Are there opportunities to improve bicyclist operation through intersections and interchanges such as with the use of bicycle lane width and/or signing?	☐ **Yes** ☒ **No**	

STEP 3 prepared by: Robert Schiller, PE Date: 1/2/2018

Preparer's Supporting Documentation, Comments and Clarifications:

Smart Growth Screening Tool

PIN 6754.68

Prepared By: TimothyAlimossy, NYSDOT Region 6 Planning

Smart Growth Screening Tool (STEP 1)

NYSDOT & 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: West Water Street Downtown Reconstruction

Location of Project: City of Elmira, Chemung County

Brief Description: Rehabilitation of the pavement and streetscape on W. Water Street from College Avenue to Railroad Avenue, including modern amenities such as benches, plantings, bike lanes, etc.

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 portion of West Water Street, a City of Elmira street that is part of State Touring Route 352 and on the NHS, has deteriorated pavement and a lack of street appeal or proper pedestrian facilities. This project will correct the existing deficiencies.

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 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 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)

   This project is intended to improve the levels of service for pedestrian and vehicle mobility on West Water Street, in the central business district of the City of Elmira. The project scope will greatly improve the community's aesthetic character. The project is not expected to have an immediate effect on vehicle emissions. See section E for discussion of included transit features.

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)

This project is in conformance with the Elmira Chemung Transportation Committee's (the MPO's) Long Range Plan. The project is in the municipal center and includes a development site which has $2.2M of Restore NY Grant money available to a developer. There are also vacant storefronts along this corridor. This project is one of several public infrastructure projects that, together, will develop an attractive corridor from Elmira College to the center of downtown Elmira. The project site is not in a Brownfield Opportunity 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?

   Yes ☐ No ☐ N/A ☒

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

This project is not in a brownfield location. The project includes new Ped/Bike amenities such as benches, tables, decorative trees, bicycle racks, and dedicated bicycle lanes, all designed to the latest aesthetic for such features, provding an attractive corridor appropriate for adjacent destinations such as Elmira Riverfront Park and the Elmira Promenade. The project is not inended to affect existing land use regulations or building codes.

E. Transportation and Access:

NYSDOT 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)

   This project will not provide public transit, but it includes providing better access to existing public transit services in the area in the form of dedicated bus shelters/loading areas. No immediate, significant effect on modal choices is expected. This project will provide the use of dedicated bicycle lanes in addition to other Ped/Bike features, as mentioned in section D.

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 was first conceived to address the need for pavement improvements on West Water Street. It was proposed by the City through the MPO. This project does not conflict with existing transportation plans. This project is on the STIP.

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.)

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)

The project location has no influence on forests or agricultural lands. The scope of this project will have no net influence on water quality. Providing a more attractive facility for non-motorized transportation is expected to improve air quality, if marginally.

Smart Growth Impact Statement (STEP 2)

NYSDOT: 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: 6754.68

Project Name: W. Water St. Business District Reconstruction

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:

- Does not degrade community cohesion in the area.
- Preserves the existing transportation corridor without expansion.
- Preserves farmland by not intruding on existing farmlands.
- Does not promote rapid or dense population growth in the project area.
- Will not interfere with non-motorized/transit modes now operating in the project area.
- Conforms to State and local transportation plans.

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.

Review & Attestation Instructions (STEP 3)

Local Sponsors: Once the Smart Growth Screening Tool is completed, the next step is to submit the project certification statement **(Section A)** to Responsible Local Official for signature. After signing the document, the completed Screening Tool and Certification statement should be sent to NYSDOT for review as noted below.

NYSDOT: For state-let projects, the Screening Tool and SGIS is forwarded to Regional Director/ RPPM/Main Office Program Director or designee for review, and upon approval, the attestation is signed **(Section B.2).** For locally administered projects, the sponsor's submission and certification statement is reviewed by NYSDOT staff, the appropriate box **(Section B.1)** is checked, and the attestation is signed (Section B.2).

A. CERTIFICATION (LOCAL PROJECT)

***I HEREBY CERTIFY**, to the best of my knowledge, all of the above to be true and correct.*

Preparer of this document:

Signature	3/23/2016 Date
Civil Engineer 2 Title	Timothy Alimossy Printed Name

Responsible Local Official (for local projects):

Signature	3/23/16 Date
City Engineer Title	Craig Southard Printed Name

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
Regional Planning and Program Manager	Andrew H. Williams
Title	Printed Name

APPENDIX D
PAVEMENT INFORMATION

GEOTECHNICAL DATA REPORT

Terracon GeoReport

PIN 6754.68 – West Water Street Downtown Reconstruction
Elmira, New York

December 15, 2017

Terracon Project No. J5171361

Prepared for:

Erdman Anthony
Rochester, New York

Prepared by:

Terracon Consultants-NY, Inc.
Rochester, New York

December 15, 2017

Erdman Anthony
2165 Brighton Henrietta Town Line Road
Rochester, New York 14623

Attn: Mr. Brian Hyde, P.E.
P: (585) 427-8888 x1085
E: HydeBR@ermananthony.com

Re: Geotechnical Data Report
PIN 6754.68 – West Water Street Downtown Reconstruction
Pavement Cores
Elmira, New York
Terracon Project No. J5171361

Dear Mr. Hyde:

Terracon Consultants-NY, Inc. (Terracon) has completed the geotechnical exploration services for the above referenced project. This study was performed in general accordance with our Subconsultant Agreement dated November 15, 2017. This report presents the findings of the subsurface exploration and laboratory testing for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report, or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants-NY, Inc.

Marcey J. Fox
Project Manager

Charles B. Guzzetta
Office Manager

REPORT TOPICS

GEOTECHNICAL DATA REPORT
PIN 6754.68 – WEST WATER STREET DOWNTOWN RECONSTRUCTION
PAVEMENT CORES
ELMIRA, NEW YORK

Terracon Project No. J5171361
December 15, 2017

INTRODUCTION

This report presents the results of our subsurface exploration services performed for the West Water Street Downtown Reconstruction project located on West Water Street, between College Avenue and Railroad Avenue in Elmira, New York. The purpose of these services is to provide information relative to:

- Pavement thickness and type
- Subbase information
- Pavement comments

The geotechnical exploration scope of work for this project included the advancement of 4 pavement cores through the existing asphalt section and into the subbase material.

Maps showing the site are shown in the **Site Location** section and boring locations are shown on the **Exploration Plan,** respectively. Core photographs with measurements are included in the **Pavement Photo Log** section. These sections are included as an appendix to this report.

PROJECT DESCRIPTION

Our understanding of the project conditions can be generalized as follows:

Item	Description
Project Location	West Water Street, Elmira, New York
Existing Improvements	Existing roadway
Current Ground Cover	Asphalt

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Our field exploration consisted of extracting 4 pavement cores and sampling subbase material to depths of approximately 2.0 feet below ground surface. The coring locations were selected by Erdman Anthony and laid out in the field by Terracon personnel. The locations of the pavement cores should be considered accurate only to the degree implied by the means and methods used to define them.

Subsurface Exploration Procedures: The existing flexible pavement at each location was cored using a portable coring machine equipped with a 6-inch (nominal) diameter diamond thin wall core barrel and hand sampling was performed in the subbase material. The samples were labeled and returned to the laboratory for measurement and photographs.

Pavements are patched with cold-mix asphalt and/or pre-mixed concrete, as appropriate.

Results of the field exploration can be found in the **Pavement Photo Log** section.

GENERAL COMMENTS

Variations will occur between exploration point locations, across the site, or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Our scope of services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third party beneficiaries intended. Any third party access to services or correspondence is solely for information purposes only. Reliance upon the services and any work product is limited to our client, and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

SITE LOCATION AND EXPLORATION PLAN

SITE LOCATION

PIN 6754.68 West Water Street Reconstruction ■ Elmira, NY
December 15, 2017 ■ Terracon Project No. J5171361

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY QUADRANGLES INCLUDE: ELMIRA, NY (1/1/1969).

EXPLORATION PLAN

PIN 6754.68 West Water Street Reconstruction ■ Elmira, NY
December 15, 2017 ■ Terracon Project No. J5171361

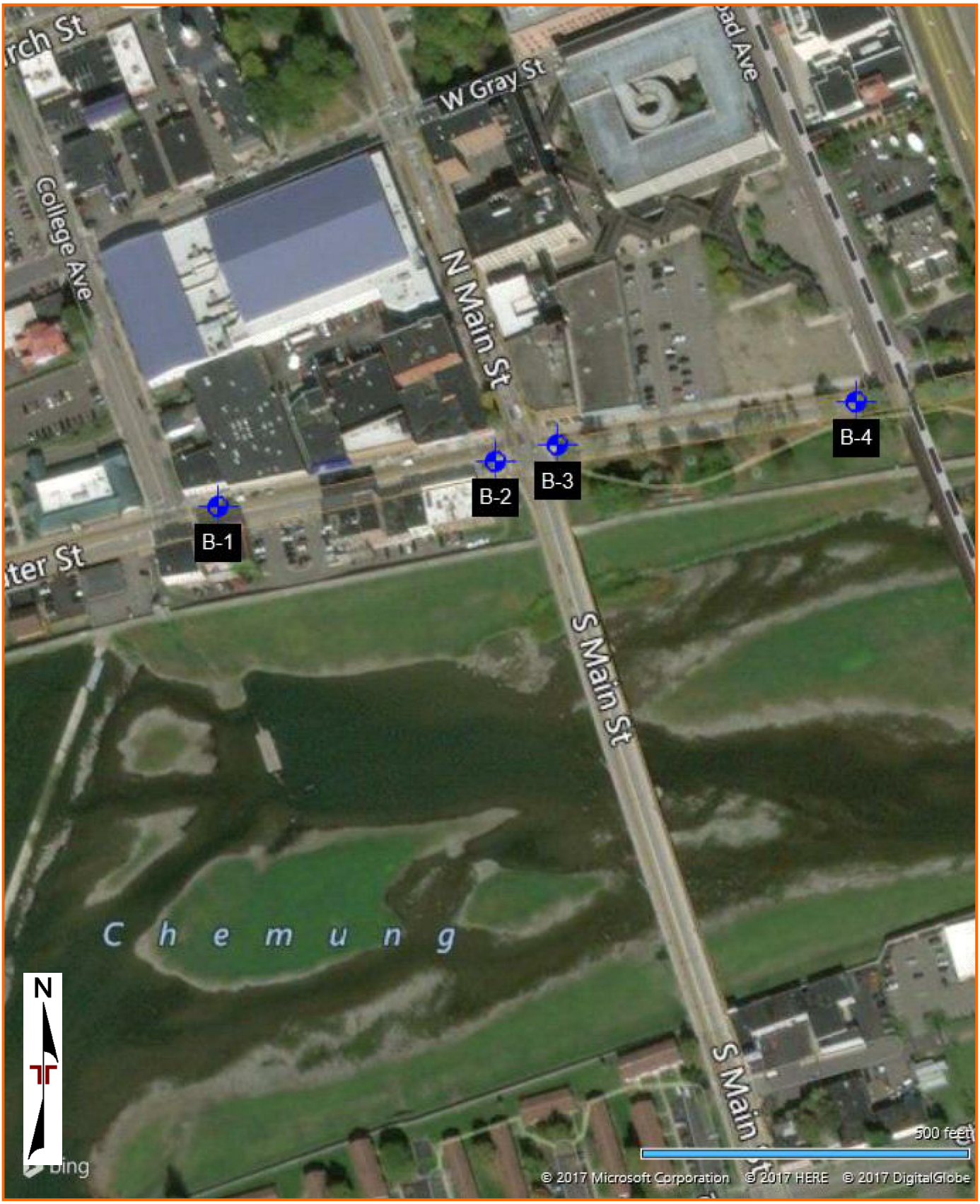


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

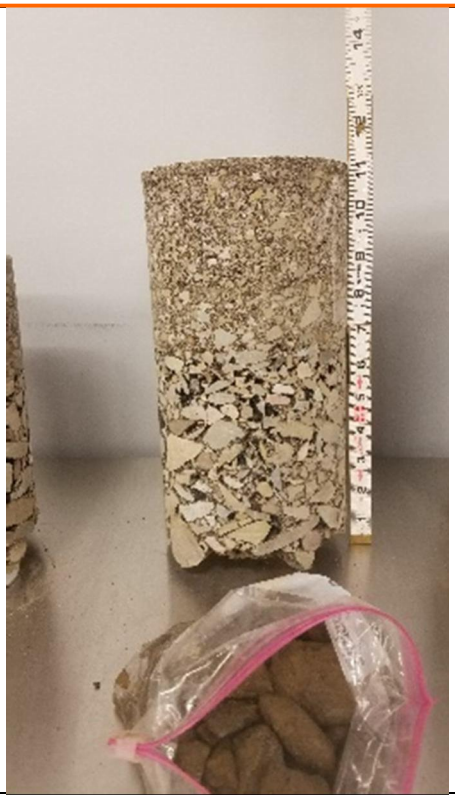
PAVEMENT PHOTO LOGS

Pavement core B-1

Course	Thickness (inches)	Conditions	Remarks
Top	3.0	Good	
Base	3.25	Fair	
Concrete	8.75	Good	Contained rebar mesh
Subbase	Undetermined Core terminated within subbase a depth of 24-inches	n/a	Crushed gravel

Pavement core B-2

Course	Thickness (inches)	Conditions	Remarks
Top	2.5	Good	
Base	8.0	Fair	
Subbase	Undetermined Core terminated within subbase a depth of 24-inches	n/a	Crushed gravel



Pavement core B-3

Course	Thickness (inches)	Conditions	Remarks
Top	2.75	Fair	
Top	1.75	Fair	
Base	6.0	Fair	
Subbase	Undetermined Core terminated within subbase a depth of 24-inches	n/a	Crushed gravel

Pavement core B-4

Course	Thickness (inches)	Conditions	Remarks
Top	3.5	Good	
Base	7.0	Fair	
Subbase	Undetermined Core terminated within subbase a depth of 24-inches	n/a	Crushed gravel

APPENDIX E
STAKEHOLDERS AND PUBLIC INPUT

PUBLIC INFORMATION MEETING / PROJECT CORRESPONDENCE

City of Elmira

WEST WATER STREET IMPROVEMENT PROJECT

May 2018 **PUBLIC INFORMATION MEETING**

Project Objectives

The project includes the following primary objectives:

- Improve pedestrian and bicycle accommodations and safety of pedestrian, bicycle and motor vehicle traffic.
- Improve landscape and aesthetics of the corridor to establish community identity.
- Provide a pavement surface that increases service life and rideability of West Water Street.
- Improve condition of traffic control devices including signs and pavement markings.

Proposed Improvements

Full Depth Reconstruction with Streetscape Improvements

The pavement of West Water Street would be full-depth reconstructed to significantly improve service life, ride quality, friction, and cross slope of the roadway.

- Streetscape improvements consisting of curbed bump-outs and median islands would be installed throughout the project limits. Curb bump-outs would increase safety by reducing crossing time for pedestrians and the median islands would encourage lower vehicle speeds and enhance the identity of the City.
- New sidewalks and curb ramps would be installed according to American Disabilities Act Accessibilities Guidelines (ADAAG).
- Parking on the south side of West Water Street would be restricted in order to develop necessary space for wider sidewalks, curb bump-outs and median islands. Overall parking spaces would not be reduced.
- Back-in angle parking would be provided on the south side of West Water Street across from the new 100 West Water Street development.
- Landscape elements including street trees and low-level plantings would be installed along the roadside. Pedestrian furnishings in the form of trash receptacles, benches, tables, bike racks and meter-free parking would also be installed.
- Bicyclists would be accommodated in an upgraded wide travel lane where motor vehicles and bicycles can safely share the roadway.
- Traffic signs would be upgraded to meet current MUTCD standards.

Anticipated Project Schedule:

Complete Detailed Design:

October 2018

Construction Start:

March 2019

Construction Complete:

December 2019

For Further Information Please Contact:

Elissa Manwaring

emanwaring@co.chemung.ny.us

City of Elmira
317 E. Church Street
Elmira, NY 14901

Phone: 607-739-3896

PLAN & VISUALIZATION

ERDMAN ANTHONY

ERDMAN ANTHONY

Public Information Meeting Minutes

Date:	May 21, 2018	**Time:**	2:30 PM
Project Name:	West Water Street	**Project No.:**	PIN 6754.68
Location:	Steele Memorial Library, City of Elmira	**Scribe:**	Paul Presutti
Subject:	Public Information Meeting		

Attendees:	**Representing:**	**Email:**
See list of Attendees		

Paul Presutti presented a Powerpoint slideshow describing the recommended alternative. At this point, we are in Preliminary Design and this public meeting is designed to get input from the community regarding your thoughts on the project. Previously, we met with the business owners along the corridor to get their feedback. The project as presented is a result of that discussion. The following items were discussed:

- The alternative includes one 14' wide shared use lane in each direction, sidewalk widening on both sides of the street to allow more space for pedestrians and seating for restaurants, a stamped concrete offset between the sidewalk and curb, pavement rehabilitation, new curb, pedestrian signal modifications, parallel parking on the north side of the road, back-in diagonal parking across from the 100 West Water Street development, street trees in the sidewalk, and sidewalk amenities (benches and trash receptacles).

- The alternative includes removal of parking on the south side of the road. The lack of parking on the south side of the road in the first option also allows for a median to be constructed between College Avenue and Main Street.

- The proposed changes will provide more sidewalk space for bistro seating, décor, as well as options to store fronts.

- The bump-outs and medians would serve as traffic calming and slow traffic down. This will help encourage motorists to see the downtown and not just pass through the corridor.

- The area would be much more pedestrian friendly, with sidewalks that meet ADA / PROWAG standards. This would create more foot traffic and potential customers.

- The thought behind the recommended alternative is to build for the future and what we want Elmira to look like in 10 years, as current trends are focused on mixed use, not just to move vehicles through quickly. There is also a thought to do something different than what has been done in previous city projects.

- All of the project elements are dependent on the available budget. There is limited funding and priorities for each item will be determined as the design moves forward.

- Paul Presutti mentioned there are areaways or sidewalk/basement vaults beneath the sidewalk. A member of the design team may stop by your business so we can assess the condition of the areaway.

- Based on the information provided, the following questions were asked by attendees:

  - There is a concern about the loss of parking in the 200 block between College Avenue and Main Street.

    Overall, there will not be a loss of parking, as the back-in diagonal parking will add 10 additional on-street parking spaces. The spaces closest to the intersection will be removed in order to provide curb bump-outs. The bump-outs will improve safety by shortening the distance required to cross the street and adding a buffer to improve sight distance for turning vehicles.

  - What is the purpose of the median?

    The proposed median is 6-7' wide and could potentially include plantings if desired. The median serves to narrow the roadway and create a traffic calming effect. near the diagonal parking would be flush to avoid conflict with a curb as vehicles try to back out of the parking spaces.

  - A City Councilman talked about how downtown is now a 5 minute downtown and the goal is to encourage people to stay longer.

    The proposed project intends to make the area more inviting for the community.

  - Can the park be converted to a parking lot?

    Based on actual parking needs and the number of parking spaces available nearby, this is not necessary. In addition, funding provided for the project would not allow that.

  - One business owner likes the idea of street trees, walkability and nearby park.

    Street trees and improved walkability are key components of the project.

  - The medians, bump-outs and removal of parking impact the loading zone and do not provide space for trucks to stop and unload.

    There is the possibility of using the back entrance as a loading zone.

Paul Presutti
Erdman Anthony

APPENDIX F
RIGHT-OF-WAY INFORMATION

TABLE OF RELEASES

TABLE OF RELEASES				
ADDRESS	**REPUTED OWNER**	**SHEET NO.**	**PURPOSE OF RELEASE**	**DATE OBTAINED**
130 West Water St	John Maio	PL-2	1	
134-142 West Water St	John Maio	PL-2	1	
100 Main Street	Mark Twain Properties LLC	PL-2	1	
200 West Water St	Envision Elmira LLC	PL-2	1	
201 West Water St	Lynn C. Williams	PL-2	1	
202 West Water St	James Capriotti	PL-2	1	
204 West Water St	Richard Hoskins	PL-2	1	
206 West Water St	Tinbid Properties, LLC & Gary A. Monroe	PL-2	1	
207-219 West Water St	Lynn C. Williams	PL-2	1	
208 West Water St	Alexander Charlanow & Margarete Charlanow	PL-2	1	
210 West Water St	Kiah Art & Entertainment LLC	PL-2	1	
212-220 West Water St	Tregazze Enterprises	PL-2	1	
221-223 West Water St	Constance Sides & Ahmad Masroor	PL-2	1	
222-224 West Water St	Paul I. Kingsbury III	PL-1	1	
225 West Water St	Southern Tier Health Care Credit	PL-2	1	
226-230 West Water St	Paul I. Kingsbury III	PL-1	1	
227-229 West Water St	Michael C. Mitchell & Regina M Mitchell	PL-2	1	
231-233 West Water St	Riverside Suites LLC	PL-1	1	
232-246 West Water St	Batl Management LLC	PL-1	1	
235 West Water St	Riverside Suites LLC	PL-1	1	
248-252 West Water St	Batl Management LLC	PL-1	1	
251 West Water St	Eights Holding Company LLC	PL-1	1	
253-257 West Water St	Eights Holding Company LLC	PL-1	1	
300 West Water St	Elmira Savings & Loan FA	PL-1	1	
301-305 West Water St	Daniel J Hartnett & Jill Dale	PL-1	1	

PURPOSE OF RELEASE:
1. RE-ESTABLISH APPROACHES TO PRIVATE LAND
2. PLANT TREES & SHRUBS
3. GRADE AND ESTABLISH TURF
4. REPLACE ELECTRICAL, GAS, TELEPHONE, WATER, OR SEWER CONNECTIONS TO PRIVATE PROPERTY
5. REMOVE UNSOUND OR HAZARDOUS TREES

APPENDIX G
PROGRAMMATIC SECTION 4(f)

EVALUATION
FHWA LETTER

West Water Street Downtown Reconstruction
Section 4 (f) Evaluation

De Minimis Evaluation

***De Minimis* Section 4(f) for the West Water Street Downtown Reconstruction Project, College Avenue to Railroad Avenue, Mark Twain River Front Park, City of Elmira, Chemung County, New York**
PIN 6754.68.

FHWA issued guidance on December 13, 2005 for simplifying the process and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). The guidance came from the amendment of existing 4(f) legislation through adoption of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This revision of Section 4(f) legislation provides that once the U.S. Department of Transportation (DOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. Consequently, although some impacts may be unavoidable (and would be minimized or mitigated), avoidance alternatives would not need to be developed if a *de minimis* determination is made.

Mark Twain River Front Park

Mark Twain River Front Park is a City of Elmira Park located in downtown Elmira. It is bound by Lake Street and North Main Street to the east and west, and West Water Street and the Chemung River to the north and south. The park consists of 4.12 acres. Overall, the park is generally linear with 1,620 feet of frontage along West Water Street.

Generally, the park contains a walking trail, benches, trash receptacles, landscaping, water features, lighting, and artwork. Picnic tables are also scattered throughout the park. Recreational activities provided at Mark Twain River Front Park are primarily pedestrian related activities.

Automobile parking is not provided at Mark Twain River Front Park thus pedestrian traffic is the primary means of public access.

1. Applicability

The Section 4(f) *De Minimis* Evaluation may be applied for this project since it involves the use of a portion of a Section 4(f) resource, Mark Twain River Front Park, for the reconstruction of West Water Street between College Avenue and Railroad Avenue. Mark Twain River Front Park is located along the eastern 600 feet of the proposed project between South Main Street and Railroad Avenue.

The Section 4(f) land is a publicly owned City of Elmira Park managed by the City of Elmira Department of Buildings & Grounds. The 4(f) lands are directly adjacent to the existing highway, West Water Street.

The project will reconstruct West Water Street from College Avenue to Railroad Avenue. The proposed project includes full depth reconstruction of West Water Street within the project limits. Curb bump outs are proposed to demarcate curb side parking. A center median and improvements to the pedestrian facilities are also proposed for the project.

The proposed West Water Street Improvement Project would have a minor impact to the Park in two locations. At the southwest corner of the Main Street / West Water Street intersection, the project will include improvements to the curb ramps that extend into the Park. The curb ramps will help make the sidewalk system accessible according to ADA and Public Right of Way Advisory Group (PROWAG) standards and provide adequate access to the crosswalks across Main and West Water Streets. At this location approximately 120 square feet of the proposed sidewalk improvements are proposed beyond the highway boundary within the park.

Further to the east, diagonal parking would be constructed generally within the highway boundary. Work within the park boundary is necessary to provide a continuous sidewalk throughout the park and along West Water Street. Approximately 1,380 square feet impact beyond the highway boundary is proposed at this location. The proposed impacts include asphalt for the diagonal parking and a combination of brick and concrete sidewalk. Any trees or hardscaping that are impacted by the construction will be replaced as part of the project. The additional parking will increase the number of parking spaces within this block and thus provide greater public access to the park.

The attached drawing shows the proposed features within the park, including the new/relocated sidewalk along West Water Street.

In total the proposed 4(f) impacts represent approximately 1,500 square feet (0.03 acres) or less than 1 percent of the park. Although the proposed project includes impacts to Section 4(f) land, there will be no acquisitions required because West Water Street and Mark Twain River Front Park are owned by the City of Elmira.

2. Alternatives

Several alternatives were evaluated prior to selecting the proposed alternative. The use of parallel parking along the entire block was considered, however it would not provide enough parking spaces expected to be needed. In addition, the parallel parking would have similar impacts to the proposed diagonal parking, as the sidewalk would need to be reconstructed adjacent to the parking and the grading would extend outside the highway boundary.

The null or no-build alternative was also analyzed. Parking is a key part of the project, as the City would like to provide parking adjacent to the park, as other spots on the north side of West Water Street will likely be full of vehicles wishing to access the development and businesses. Thus, the null alternative would not meet the objectives of the City and was dismissed. Other alternatives such as an off-site parking lot within the park were dismissed because it would be too much of an impact to the park.

The following alternatives avoid any use of the public park lands:

a). Do nothing or null.
b). Reconstruct the Road without using the adjacent public park, recreational land, or wildlife and waterfowl refuge.
c). Build an improved facility on new location without using the public park, recreation land, or wildlife or waterfowl refuge.

The Section 4(f) evaluation does not apply if a feasible and prudent alternative is identified that is not discussed in this document. In order for this Section 4 (f) evaluations to be applied to this project, each of the following findings is supported by the circumstances, studies, and consultations on the project:

- **Do Nothing Alternative**. The Do Nothing Alternative is not feasible and prudent because:
    a) It would not address the deteriorated nature of the roadway,
    b) It would not improve the parking in the vicinity of the park, and
    c) It would not improve the pedestrian facilities that provide access to the park.

- **Improvement without Using the Adjacent Section 4(f) Lands**. It is not feasible and prudent to avoid Section 4(f) lands by roadway design or transportation system management techniques because implementing such measures would result in:
    a) The inabilities to accommodate the necessary improvements to the cross walk at the intersection of West Water Street and South Main Street for compliance with ADA and PROWAG standards.
    b) The improvements would not address parking concerns along the south side of West Water Street adjacent to the Park

- **Alternative on New Locations**. It is not feasible and prudent to avoid Section 4(f) lands by construction on new alignment as shifting the alignment to the north would require property acquisitions and building demolitions that would make the project economically unfeasible.

3. Project impact avoidance, minimization and mitigation measures include the following:

The proposed disturbance to the Section 4(f) property of Mark Twain River Front Park has been minimized to the fullest extent possible. The disturbed area at the southeast corner of the intersection of South Main Street and West Water Street is limited to that which would be required to construct a the cross walk and to comply ADA and PROWAG standards. Currently the impact area is a portion of the sidewalk that meanders through the park. The area disturbed by the proposed project will be reconstructed as a sidewalk, thus the use of this portion of the park will not change.

The proposed disturbance associated with diagonal parking includes an open grass area and a portion of the brick paved walkway within the park. The disturbance associated with diagonal parking will be limited to what is necessary to install the parking area. A concrete sidewalk will be installed around the western portion of diagonal parking. A brick walkway will be installed around the eastern portion of the diagonal parking to replace the portion of brick walkway that will be removed for the proposed construction. Trees removed for this project will be replaced and incorporated into the existing park landscaping scheme.

4. Adverse effects on activities, features and attributes of the Section 4(f) resource:

Currently the area that will be impacted by the project is most frequently utilized by the public for walking. The minor impacts associated with this project will not prevent the continued utilization of the park for walking. The additional parking along West Water Street will provide an additional access point to the park for the public.

No adverse effects to the 4(f) resource are expected. This project's minor impact to Mark Twain Water Front Park would result in a *de minimis* impact. (See attached Project Photos).

5. Public Involvement Process

As part of the public involvement process, a Public Information Meeting was held on May 21, 2018. Representatives from the City of Elmira Public Works Department and the engineering consultant conducted the meeting, which was attended by local residents.

6. Written concurrence of officials with jurisdiction

Written project concurrence from the City of Elmira Manager has been obtained. This concurrence states that the City of Elmira supports this project, as the proposed Project is designed to improve public access to Mark Twain River Front Park. Additionally, the project will not adversely affect the activities, features or attributes that make the property eligible for Section 4 (f) protection.

7. *De Minimis* impact finding by FHWA

Pending a De *Minimis* impact finding by FHWA the Section 4(f) process will be complete and will be documented in the project's Design Approval Document.

Project Plan
Documenting Proposed Impacts to the Section 4(f) Lands

Project Plan
Documenting Proposed Impacts to the Section 4(f) Lands

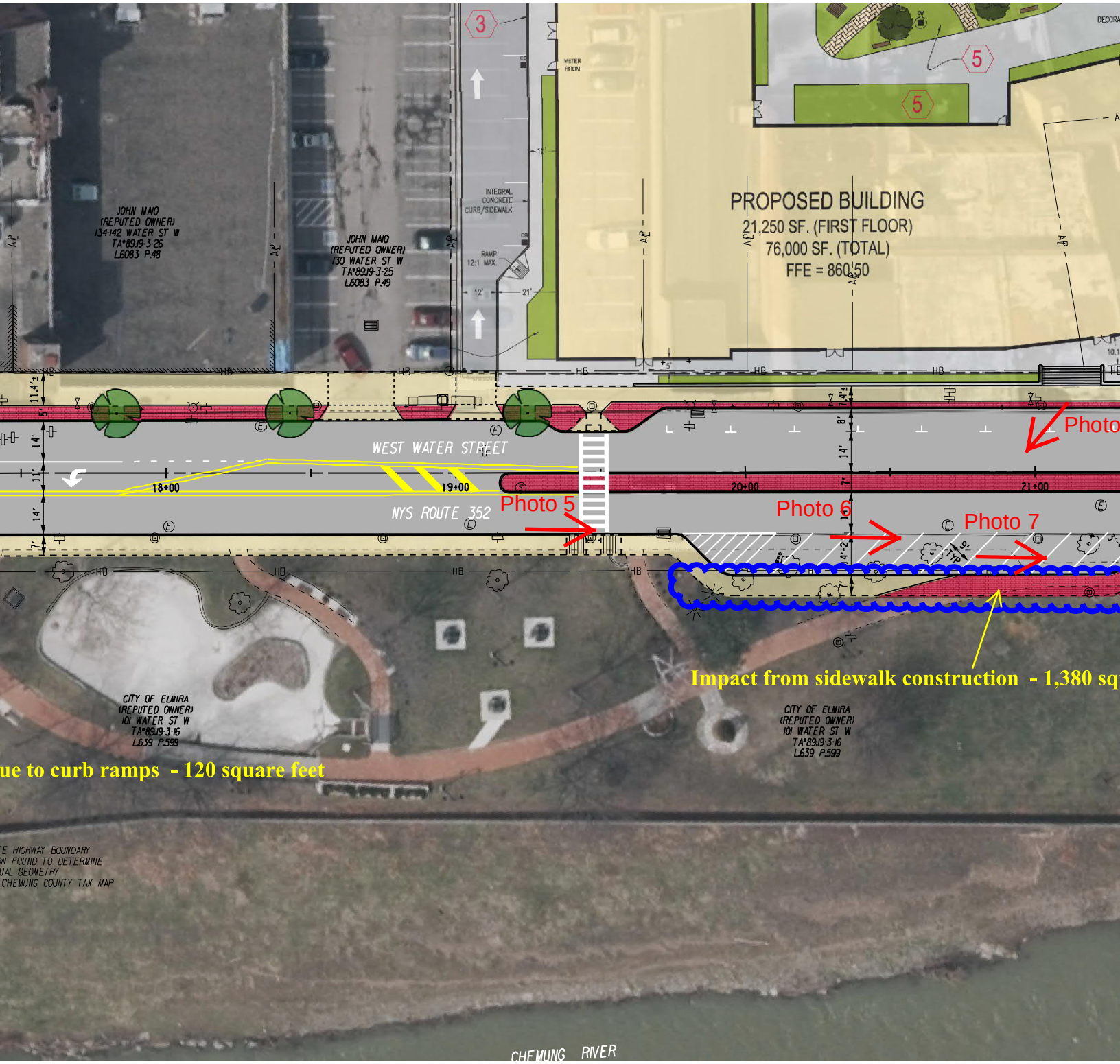


Photo Sheets

PHOTO 1 **NOTES:** **View looking southeast across the intersection of South Main Street and West Water Street at the northwest corner of Mark Twain River Front Park, the western impact area.** **Date: 8/30/2017**	
PHOTO 2 **NOTES:** **View south at the existing cross walk located at the northwest corner of Mark Twain River Park.** **Date: 8/30/2017**	

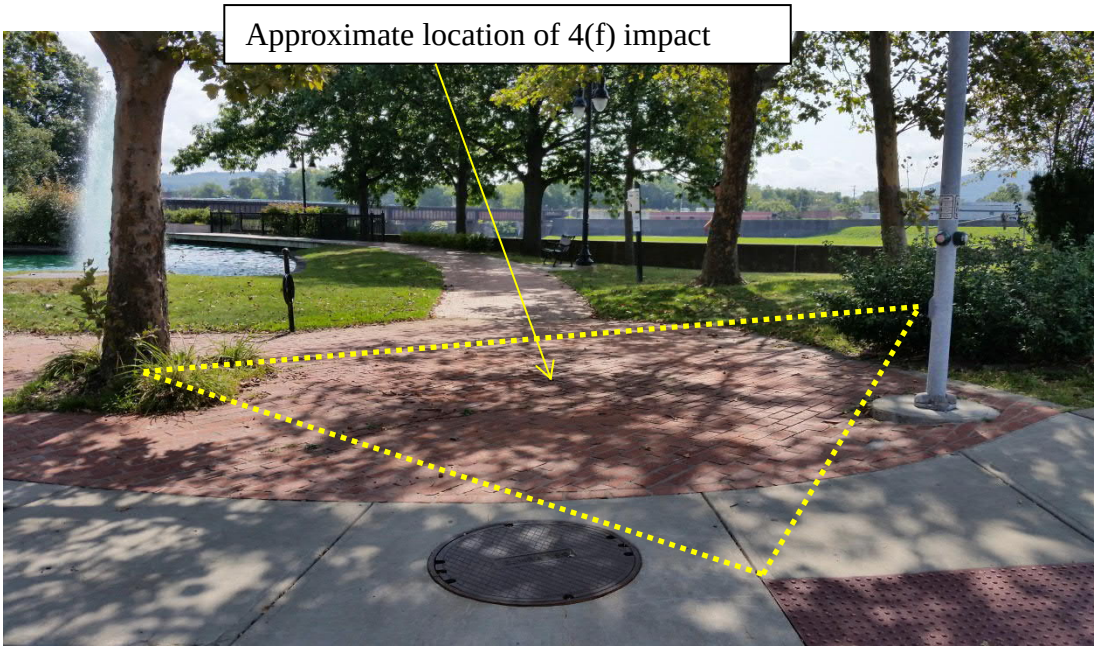
PHOTO 3 **NOTES:** **View southeast at the western area of proposed 4(f) impact,** **Date: 8/30/2017**	
PHOTO 4 **NOTES:** **View east at the northwest corner of the Mark Twain River Front Park.** **Date: 8/30/2017**	

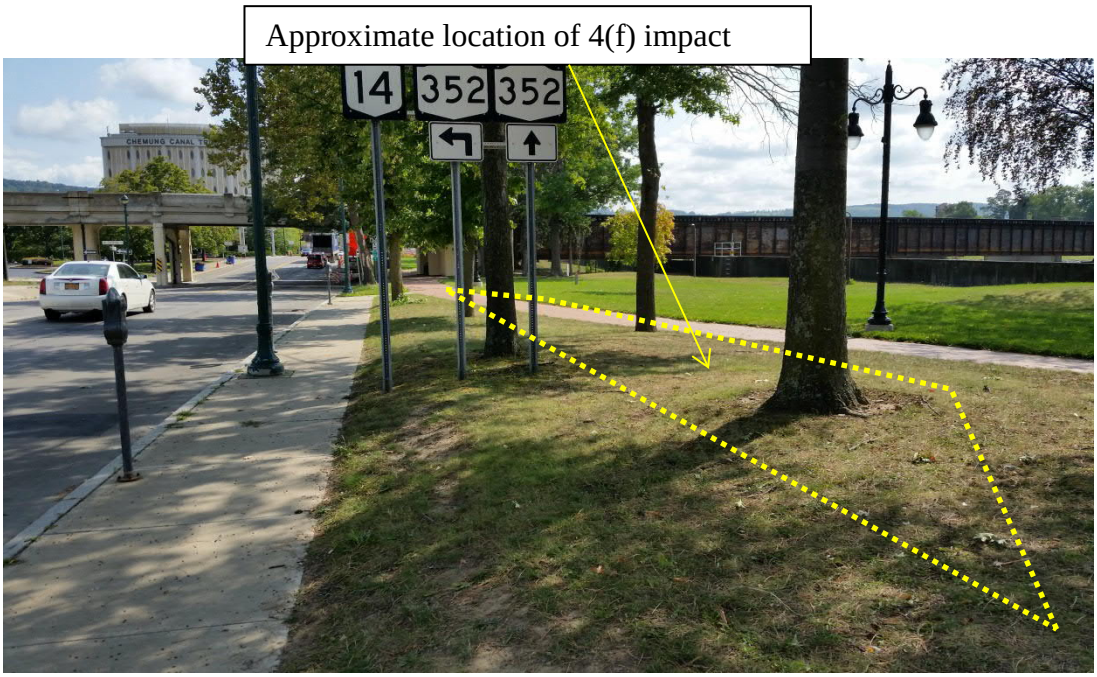
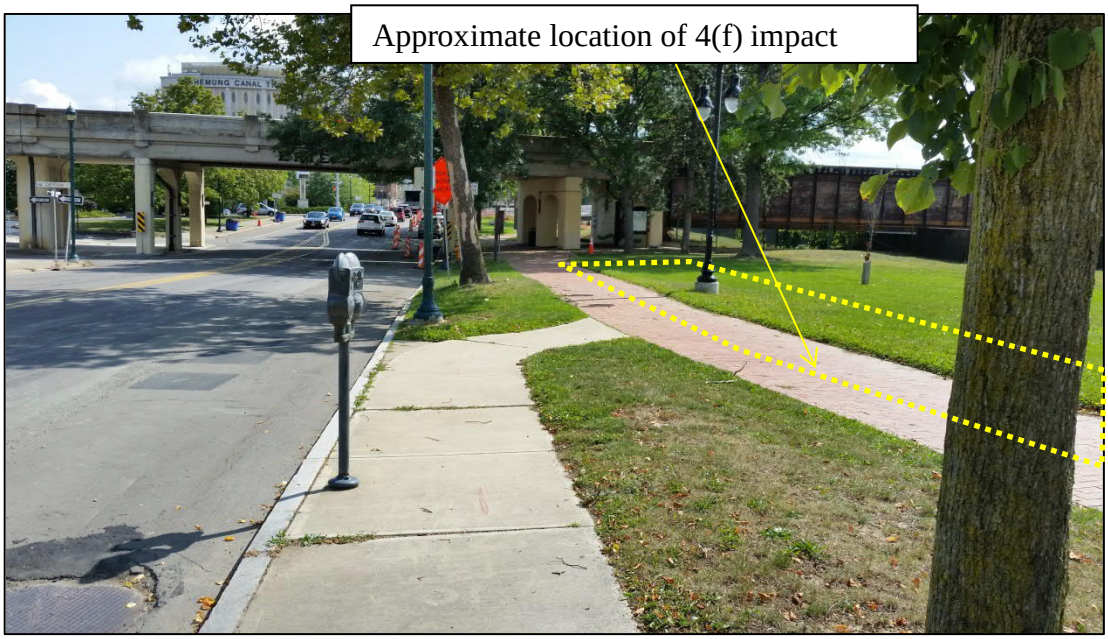
PHOTO 5 **NOTES:** **View east from the approximate western limits of the eastern 4(f) area of impact.** **Date: 8/30/2017**	
PHOTO 6 **NOTES:** **View east at the along the proposed 4(f) impact area from the approximate cent or the proposed area of impact the approximate western limits of the eastern 4(f) area of impact.** **Date: 0 8/30/2017**	

PHOTO 7

NOTES:

View east at the eastern limits of the 4(f) impacts.

Date: 8/30/2017

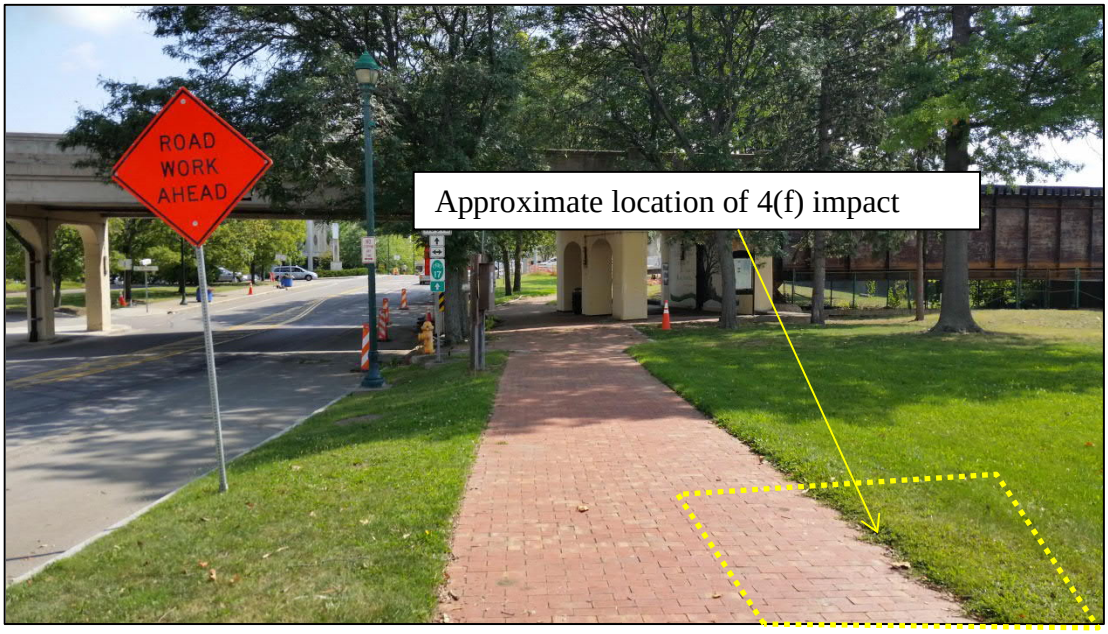


PHOTO 8

NOTES:

View to the west at proposed eastern 4(f) impact area of south side of bridge and abutment and wing wall

Date: 8/30/2017

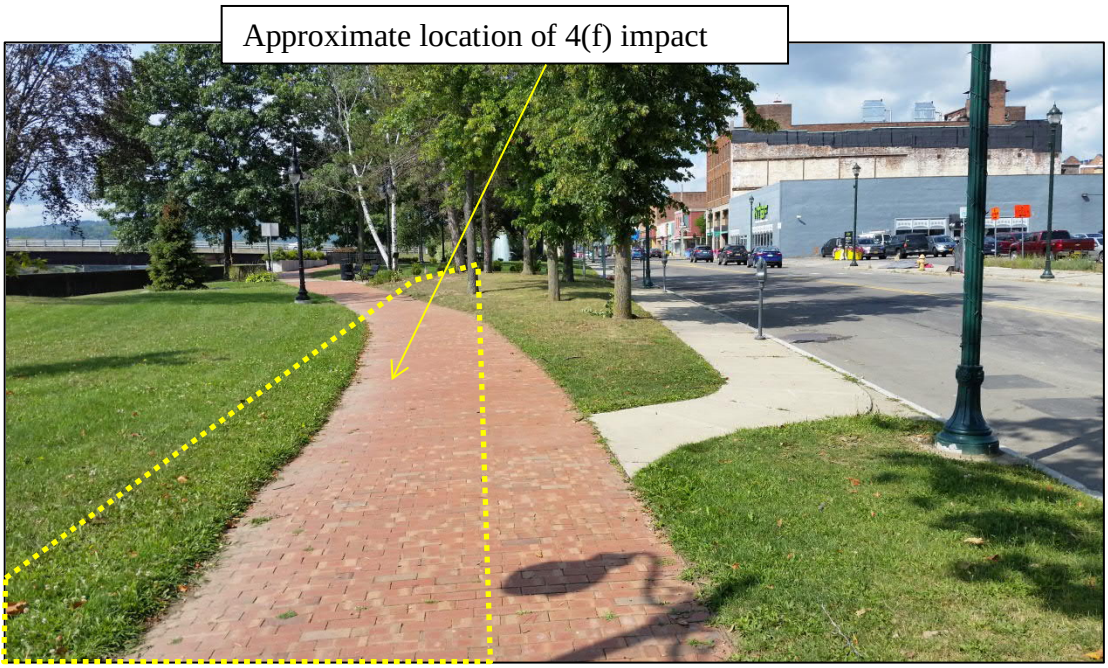


PHOTO 9 **NOTES:** **View to the southwest at Mark Twain River Front Park and the proposed eastern 4(f) impact area.** **Date: 10/13/2017**	

Concurrence from the City of Elmira Supporting the West Water Street Improvement Project

CITY OF ELMIRA NEW YORK

P. Michael Collins
City Manager

City Manager's Office
CITY HALL • 317 EAST CHURCH STREET • ELMIRA, NEW YORK 14901
www.cityofelmira.net • mikecollins@cityofelmira.net

Office: (607) 737-5644
Fax: (607) 737-5824

August 13, 2018

Ms. Lorin Willet
Federal Highway Administration, New York Division
Leo W. O'Brien Federal Building
11A Clinton Ave, Suite 719
Albany, NY 12208

RE: 6754.68 West Water Street Downtown Rehab 4(f) Determination

Dear Ms. Willet:

This letter is to confirm the City of Elmira supports the West Water Street Downtown Rehabilitation Project, and approves the proposed impacts to the adjacent City owned Mark Twain Riverfront Park. As part of the Downtown Project, approximately 1,500 square feet, or less than 1%, of Riverfront Park will be subject to minor impacts in order to add parking spaces, sidewalk improvements, and an ADA/PROWAG compliant curb ramp to make the park more accessible to pedestrians downtown. The City of Elmira, as owner of both West Water Street and the Riverfront Park, is in full support of this proposed improvement to both the City's downtown and park.

Sincerely,

P. Michael Collins
City Manager

U.S. Department
of Transportation
**Federal Highway
Administration**

New York Division

Leo W. O'Brien Federal Bldg.
Suite 719
Albany, NY 12207
518-431-4127
518-431-4121 (fax)
NewYork.fhwa@dot.gov

August 30, 2018

In Reply Refer To:
HED-NY

Mr. Todd Stauring
Planning and Program Management
New York State Department of Transportation, Region
107 Broadway
Hornell, NY 14843

Subject: PIN 6754.68 Section 4f Impact Determination
West Water Street Downtown Pavement Reconstruction
City of Elmira, Chemung County

Dear Mr. Stauring:

In response to your August 27 request, we have determined that the project will have a *De Minimis* impact on 4(f) resources. The public has been afforded an opportunity to comment on the project at a public meeting, effort has been taken to avoid/minimize impact, it will not impact the use or character of the resource, and the jurisdictional agency is advancing the project and has provided their concurrence. The requirements of 23 CFR Part 774 have been met for this project.

If you have any questions, please contact me at (518) 431-8859.

Sincerely,

Lorin Willett
Area Engineer