

Toms River Waterfront and Surrounding Area Local Concept Development Study

Township of Toms River, New Jersey



Prepared for: Ocean County Engineering
129 Hooper Avenue, 3rd floor
Toms River, NJ 08754



in partnership with:
Township of Toms River and
Federal Highway Administration



Prepared by: Urban Engineers
220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002



May 2021

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Executive Summary

Project Background and History

The Toms River Waterfront and Surrounding Area Concept Development (CD) study was initiated by Ocean County to develop conceptual infrastructure improvements that address existing safety and operational issues while providing capacity for planned redevelopment of the waterfront area in Toms River. In 2018, Toms River Township received a BUILD (Better Utilizing Investments to Leverage Development) Grant from the Federal Highway Administration for infrastructure improvements in the downtown area to support the planned redevelopment. Since the majority of the impacted roads were under the jurisdiction of Ocean County, the County agreed to lead the Concept Development phase of the project. The project area encompasses approximately 60 acres of land containing commercial land uses in the targeted redevelopment zone. There are three major County Routes (Herflicker Boulevard (CR 166), Lakehurst Road/Water Street (CR 527/549), Highland Parkway (CR 96) and one State Road (Main Street (NJ 166) in the project area, which is located in Toms River Township, Ocean County.

Purpose and Need

Project Purpose

The purpose of this project is to develop conceptual infrastructure improvements that address existing safety and operational issues while providing capacity for planned re-development of the waterfront area in Toms River.

Project Need

After an evaluation of existing conditions, the following needs have been identified:

- Improve Safety

There are a high number of crashes within the study boundary, particularly at signalized intersections and merge points along Water Street. Crash data from 2016 to 2018 shows that the study area experienced 208 total crashes, of which 18% resulted in some degree of injury and 1% in fatality [two (2) pedestrian fatalities]. Of the 208 total crashes 184 occurred along Water Street. With an overall crash rate of 18.12 (crashes/mvm), the segment of Water Street within the study boundary is well above the statewide average (4.44-7.62 crashes/mvm) for similar roadway types. Depending on the section, Water Street's crash rate is two (2) to four (4) times higher than the statewide average.

There is also an overrepresentation of Same Direction – Rear End and Sideswipe crashes within the study boundary. These crash types account for over 66% of all crashes. When compared to the statewide county road system average from 2016 to 2018 Same Direction – Rear End and Sideswipe crashes account for only 45% of all county road system crashes. Fatal crashes were also five (5) times higher than the statewide county road system average. The 2019 NJTPA Local Safety Program Network Screening identifies Water Street/Iron Street intersection as a high-priority location for bicycle and pedestrian safety improvements. The

identification of this location, the high crash rate, and overrepresentation of rear ends and sideswipes indicate congested traffic conditions and substandard facilities for pedestrians and bicycles which pose safety concerns and discourage the use of this area by other modes of traffic.

- Mitigate Congestion

Currently there are delays and queuing at several intersections within the project the project area with a number of locations nearing capacity. These conditions are expected to significantly deteriorate as traffic growth occurs with or without anticipated development.

Alternatives Analysis

The focus was to develop responsible alternatives that met the project purpose and need and advance a Preliminary Preferred Alternative (PPA) into the Preliminary Engineering phase of the project delivery process.

Initially, concepts were developed with the following focus:

- Build No Mitigation
- Signal Improvements
- Safety Improvements
- Traffic Flow

Alternative 1 (Build No Mitigation)

This alternative was provided for comparison. When considered for viability in relation to the project purpose and need, the alternative does not address the primary objective, which is to address existing safety and operational issues while providing capacity for planned re-development of the waterfront area.

Alternative 2 (Loop Road)

This alternative originated from the Toms River Downtown Neighborhood Circulation Study, dated June 21, 2016. The study recommended that a counterclockwise “One-Way Loop” be incorporated on the local network of roads (Water Street, Highland Parkway, Herflicker Boulevard, South Main Street, Route 166).

Alternative 3 (Intersection Improvements)

This alternative includes physical and operational improvements at six intersections within the Project Area. This alternative includes a modern hybrid roundabout that would replace the two closely-spaced intersections of Water Street/Lakehurst Road & Highlands Parkway and GSP on/off ramps and Highland Parkway.

Alternative 4 (Water Street Widening)

This alternative included widening Water Street by adding an additional Eastbound lane between Irons Street and RT 166. The key operational benefit of this alternative is providing Water Street Eastbound two through lanes at Irons Street.

Preliminary Preferred Alternative (PPA)

After consideration and discussion with Ocean County, Toms River, South Toms River and other project stakeholders, the decision was made to advance Alternative 3, a network-wide solution that incorporated modifications to the intersections of Water Street at Irons Street and Route 166 (Main Street), Herflicker Boulevard at Irons Street and S Main Street, and a hybrid roundabout at the intersection of Water Street/Lakehurst Road and Highland Parkway. The solution best addresses the established purpose and need, and was viewed favorably by the participating entities.

Specifically, the PPA consists of the following:

- Construction of a modern hybrid roundabout at the intersections of Water Street/Lakehurst Road and Highland Parkway and GSP On/Off Ramps and Highland Parkway.
- Channelizes the Southbound Irons Street right-turn movement the Water Street intersection and adds a Flashing Red Arrow (FRA) to the southbound approach.
- Removes the N. Main Street left-turn movement from the signal operations at the intersection with Water Street, effectively modifying the signal to two-phased operation.
- Signalization of the Herflicker Boulevard & Irons Street intersection and widening and addition of an eastbound thru-right lane at Herflicker Boulevard. This includes the channelization of the right-turn only lane at the northbound Irons Street approach.
- Restripes the eastbound Herflicker Boulevard approach to provide a thru-left, thru, and right-only lanes at the intersection with S. Main Street. Removes the westbound Herflicker Boulevard approach from this signal and provides an additional eastbound thru lane.

Safety

The PPA at the Water Street/Highland Pkwy/GSP NB Off-Ramp intersection removes the conflict points associated with the current intersection configurations and addresses operational challenges that lead to higher crashes. Additionally, the PPA provides greater flexibility for handling latent and future demand, incidents, changing travel patterns / traffic volumes. As an FHWA “Proven Safety Countermeasure”, historical data suggests the conversion of a signalized intersection to a roundabout produces a 78% reduction in severe crashes. A modern roundabout would significantly reduce the number of conflicting movements and eliminate the two closely spaced signalized and unsignalized intersections that exist today.

Environmental Permits

The following permits and approvals are anticipated to be required.

- NJDEP Coastal Area Facility Review Act (CAFRA) Permit
- Soil Erosion and Sediment Control Approval – Ocean County Soil Conservation District
- NJDEP Stormwater Construction General Permit 5G3
- Potential for NJDEP Flood Hazard Area Permit (including Stormwater Management review)
- Potential for NJDEP Freshwater Wetlands LOI
- Potential for NJDEP Freshwater Wetlands Permit with 401 Water Quality Certificate
- Potential for Green Acres Coordination

Based on the PPA, the project does not individually or cumulatively have significant environmental impacts. Therefore, the National Environmental Policy Act (NEPA) document classification is anticipated to be a Categorical Exclusion under 23 CFR 771.117(a)3, 26, 27.

Stormwater Management

It is anticipated that the project will result in new impervious area of greater than $\frac{1}{4}$ acre and over one acre of total land disturbance. Therefore, compliance with NJDEP Stormwater Management Rules (SWM) will be required. The potential locations for stormwater management facilities within the study limits are limited due to the developed condition of the surrounding area.

Utilities and Highway Lighting

The PPA will require significant utility relocation. The proposed roundabout at the Water Street/Highland Parkway intersection will necessitate the relocation of multiple utility poles. Several underground utilities; including gas, telecommunications, water and public sewer; exist within the footprint of the conceptual roundabout and may be subject to relocation despite not anticipating being in a cut section.

Lighting was not evaluated as part of this CD effort. However, existing lighting fixtures are located on the existing signal equipment and utility poles which means new lighting equipment will need to be installed in these areas. Lighting will be evaluated during PE/FD.

ROW and Access

Based on existing data sources, (GIS data, as-built plans, existing ROW plans), it is anticipated that the PPA will require partial right of way acquisitions from eight (8) parcels, which will also require temporary site mitigation work easements.

Based on the preliminary proposed improvements, this project will require access modifications to 3 properties. No relocations or revocations will occur.

Staging/Constructability

The proposed construction staging consists of three stages that maintains Water Street traffic and access to/from the Garden State Parkway. Construction staging will be further investigated in PE/FD.

Conceptual Cost Estimate

The estimated total construction cost of the PPA is approximately \$5.3 Million. Below is the CD Phase cost estimate:

Project Item	CD Phase Cost Estimate
Construction	\$3,490,000
Utility Relocation	\$200,000
Construction Engineering	\$1,243,000
Contingencies	\$187,000
Construction Total	\$5,120,000
Right-Of-Way	\$274,970

Project Item Design Cost	CD Phase Cost Estimate
Preliminary Engineering	\$510,000
Final Design	\$350,000

Project Funding

For this project, Toms River Township has been awarded a \$5,660,000.00 grant, from the U.S. Department of Transportation through the Better Utilizing Investments to Leverage Development (BUILD) Transportation Grants program. The balance of the project's right-of-way, engineering and construction costs will be funded by State, County and local sources.

Project Schedule

Preliminary Engineering is anticipated to start in June 2021 with Final Design and Construction to follow.

I. Introduction

A. Foreword and General Project Information

The Toms River Waterfront and Surrounding Area Concept Development (CD) study was initiated by Ocean County to develop conceptual infrastructure improvements that address existing safety and operational issues while providing capacity for planned redevelopment of the waterfront area in Toms River. In 2018, Toms River Township received a BUILD (Better Utilizing Investments to Leverage Development) Grant from the Federal Highway Administration for infrastructure improvements in the downtown area to support the planned redevelopment. Since the majority of the impacted roads were under the jurisdiction of Ocean County, the County agreed to lead the Concept Development

phase of the project. The project area encompasses approximately 60 acres of land containing commercial land uses in the targeted redevelopment zone. There are three major County Routes (Herflicker Boulevard (CR 166), Lakehurst Road/Water Street (CR 527/549), Highland Parkway (CR 96) and one State Road (Main Street (NJ 166) in the project area, which is located in Toms River Township, Ocean County (See **Figure 1 - Project Location Map**).

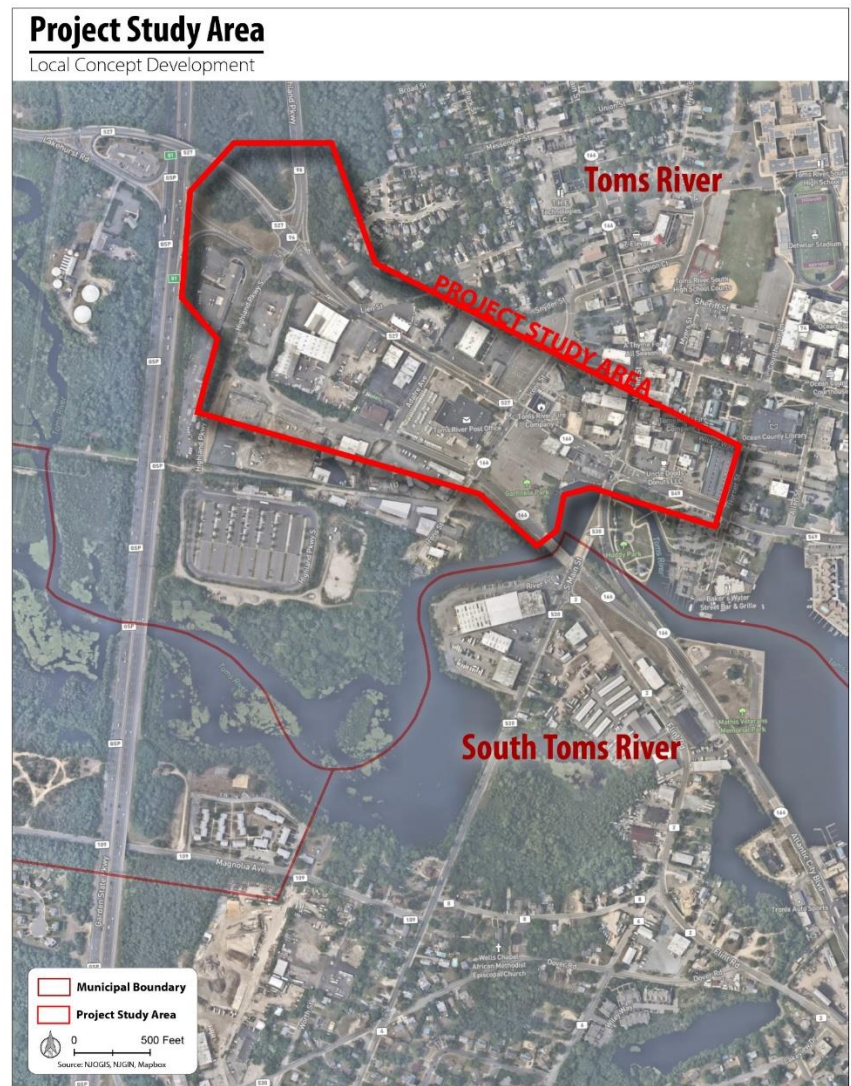


Figure 1 – Project Location Map

The project limits are bounded by Lakehurst Road/Water Street (CR 527/549) to the north, Highland Parkway (CR 96) to the west, Herflicker Boulevard (CR 113/166) to the south and Main Street (NJ 166) to the east. Garden State Parkway Interchange 81 abuts the project's western boundary. Lakehurst Road provides access to and from the Parkway. The traffic analysis area extends past these limits in order to capture larger corridor-level and origin-destination information.

B. Original and Successor Projects

In June of 2016, Toms River completed their Downtown Circulation Neighborhood Plan (Neighborhood Plan). The purpose of the Neighborhood Plan was to evaluate traffic and circulation issues affecting Downtown Toms River. From the analysis that was completed the plan identified a number of existing issues and identified potential improvements to mitigate the existing issues while also providing for redevelopment of the waterfront area.

Ocean County has completed several studies and projects in the area including operation analysis and re-timing of intersection along Water Street (2018) and a Road Safety Audit (2019) of Water Street between the Garden State Parkway and Washington Street.

C. Adjacent Projects

Ocean County is currently in the preliminary design phase of the Reconstruction of Herflicker Boulevard from Highland Parkway South to Adafre Avenue. This project meets the westerly limits of improvements detailed in this Concept Development Study along Herflicker Boulevard.

The New Jersey Department of Transportation (NJDOT) has selected Urban as their design consultant for the replacement of the Route 166 bridge over a branch of Toms River. The project is slated for construction in FY2022.

The New Jersey Turnpike Authority (NJTA) is currently in preliminary design for Operational Improvements from Milepost 80 to 83. This project includes improvements to Interchange 81, which is directly west of the project area and is a major origin and destination for vehicle trips within the project area.

D. Data Reviewed

During the data collection phase of this project, specific sources were consulted to obtain information on the existing conditions of the study area.

The following information was obtained and reviewed:

Ocean County Record Plans

- Plans – Reconstruction of Water Street (Horner Street to Hooper Avenue) (06/87)
- Plans – Construction of West Water Street Drainage (01/97)
- Plans – Reconstruction and Resurfacing of Portions of Certain County Roads – Contract 2014D (East Water Street, South Main Street, Highland Parkway) (07/14)

- Plans – Construction of Toms River Downtown Improvement Project (11/03)
- Plans – Toms River Bus Terminal / Park and Ride (04/09)
- Various ROW Plans
- Garden State Parkway Interchange 81 Jurisdictional Limit Map
- Route 166 – Section 1A Jurisdictional Limit Map
- Route 166 – Section 1B Jurisdictional Limit Map
- Electrical, Signal and Timing Plans

Crash Records

- Crash data within the study boundary from NJDOT's SafetyVoyager for the three-year period from January 2016 through December 2018.

Traffic Data

- Traffic data was obtained through travel time runs and manual turning movement counts, performed by Bright View Engineering, on Tuesday May 7th, Tuesday May 14th and Thursday May 16th, 2019.

Plans / Studies

- Downtown Circulation Neighborhood Plan; June 22, 2016 prepared by Maser Consulting, P.A.
- Toms River Stormwater Management Plan; revised January 2009 prepared by Township of Toms River Department of Engineering and Community Development
- Road Safety Audit: Water/Dock Street between Garden State Parkway and Washington Street, April 2019
- Toms River Pedestrian & Bicycle Mobility Summary Report, June 22, 2011 prepared by Maser Consulting, P.A. & CH Planning, Ltd.
- Township of Toms River Master Plan, adopted April 19, 2017
- Redevelopment Plan for Phase 1 Downtown Waterfront Redevelopment Area, revised November 16, 2017 prepared by Township of Toms River Division of Community Development
- Downtown Toms River Waterfront Redevelopment Plan, September 2009 prepared by Phillip Preiss Shapiro Associates, Inc.
- Ocean County Planning Board 2011 Comprehensive Master Plan
- Ocean County Transportation Model, 2017 Model Update prepared by Stantec

GIS Information

- NJ Geographic Information Network (njgin.state.nj.us)
- 2015 NJ High Resolution Orthoimagery

- Parcels of Ocean County

Other Information

- Straight-line diagrams
- Tax & Zoning Maps
- Environmental Screening Report
- NECS Soil Survey
- 2010 Ocean County Census Information
- 2015-2019 US Census American Community Survey; Ocean County and Toms River Township Data
- Google and Pictometry Images
- NJ Transit & Ocean Ride Bus Schedules

E. Design Standards

The following design standards were used to develop the project alternatives:

- AASHTO; A Policy on Geometric Design of Highways and Streets
- AASHTO; Guide for the Development of Bicycle Facilities, 4th Edition
- Manual of Uniform Traffic Control Devices for Streets and Highways
- NJDOT Design Exception Manual
- NJDOT Drainage Design Manual
- NJDOT Roadway Design Manual
- NJDOT Soil Erosion and Sediment Control Standards
- NJDOT State Highway Access Management Code

F. Characteristics of the Roadways and Surrounding Area

Lakehurst Road/Water Street (CR 527/549) runs west to east and is classified as an Urban Minor Arterial. The corridor is designated Lakehurst Road (CR 527) west of Lien Street, West Water Street (CR 527) east of Lien Street and East Water Street (CR 549) east of Main Street. The corridor varies from two to four travel lanes and has sidewalk on both sides of the roadway. Traffic to and from Garden State Parkway Interchange 81 utilize Lakehurst Road for access.

Highland Parkway (CR 96) runs south to north and is classified as an Urban Local Road. In the project area, the roadway has a posted speed of 40 MPH and varies from 30 to 48 feet in width. Highland Parkway's terminates at the Toms River Park & Ride to the south and at North Main Street to the north. Pedestrian sidewalks exist along the eastern side of the road and on the western side for the portion north of the signalized Lakehurst Road intersection.

Herflicker Boulevard (CR 166) runs west to east and is classified as an Urban Minor Arterial. Herflicker Boulevard's begins in the west at Highland Parkway and terminates at Main Street. From Highland Parkway to Adafre Avenue, Herflicker Boulevard is a variable width, paved, unstriped road. Metered on-street parking is provided on the two-way section from Adafre Avenue to Irons Street. The roadway is two-lane and one-way eastbound from Irons Street to Main Street. Pedestrian sidewalk exists intermittently along the north and south sides of the corridor. The pavement width varies from 24 to 45 feet.

Main Street (NJ 166) runs south to north, is under the jurisdiction of NJDOT and is classified as an Urban Minor Arterial. Speed limits within the project area vary from 25 to 35 MPH. Main Street is one-way northbound from Herflicker Boulevard to the signalized intersection with Water Street. The pavement width varies from 34 to 48 feet. Sidewalk exists on both sides, and on-street parking is metered north of Water Street.

Irons Street runs south to north from West Water Street to Herflicker Boulevard, allowing for two lanes of one-way southbound traffic under municipal jurisdiction. In conjunction with Herflicker Boulevard, the road acts as a defacto jughandle for Water Street traffic destined for Main Street or Atlantic City Boulevard. Irons Street has sidewalk on both sides of the roadway and is classified as an Urban Major Collector according to the NJDOT Straight Line Diagrams.

G. CD Public Involvement Action Plan (PIAP)

A scope of work for public involvement activities was developed in coordination with Ocean County.

This project incorporated numerous coordination elements including:

- Virtual Public Information Centers (PIC) - Virtual PICs involved pre-meeting preparation (development of a mailing list, preparation of data sheets, GoToWebinar set-up, creation of public notice materials, email blasts, and update of project website), as well as PIC follow up efforts (addressing public comments and documentation).
- Project Website - A public website account dedicated to informing and engaging with the public about the project was developed. The project website was used to provide notice of Public Information Centers (Virtual or Face to Face) and providing project updates.
- 3D Visualizations – A 3D Vissim Model using anticipated 2042 traffic volumes was created to communicate the benefits of the proposed roundabout improvement at the GSP off-ramp/Lakehurst Rd/Water St/Highland Pkwy intersection.
- Virtual Local Officials Meetings - Status updates with the governing body of Toms River Township, South Toms River Borough and Ocean County.

The current PIAP is in **Appendix O**.

II. Purpose and Need

A. Project Purpose

The purpose of this project is to develop conceptual infrastructure improvements that address existing safety and operational issues while providing capacity for planned re-development of the waterfront area in Toms River.

B. Project Need

After an evaluation of existing conditions, the following needs have been identified:

- Improve Safety

There are a high number of crashes within the study boundary, particularly at signalized intersections and merge points along Water Street. Crash data from 2016 to 2018 shows that the study area experienced 208 total crashes, of which 18% resulted in some degree of injury and 1% in fatality [two (2) pedestrian fatalities]. Of the 208 total crashes 184 occurred along Water Street. With an overall crash rate of 18.12 (crashes/mvm), the segment of Water Street within the study boundary is well above the statewide average (4.44-7.62 crashes/mvm) for similar roadway types. Depending on the section, Water Street's crash rate is two (2) to four (4) times higher than the statewide average.

There is also an overrepresentation of Same Direction – Rear End and Sideswipe crashes within the study boundary. These crash types account for over 66% of all crashes. When compared to the statewide county road system average from 2016 to 2018 Same Direction – Rear End and Sideswipe crashes account for only 45% of all county road system crashes. Fatal crashes were also five (5) times higher than the statewide county road system average. The 2019 NJTPA Local Safety Program Network Screening identifies Water Street/Iron Street intersection as a high-priority location for bicycle and pedestrian safety improvements. The identification of this location, the high crash rate, and overrepresentation of rear ends and sideswipes indicate congested traffic conditions and substandard facilities for pedestrians and bicycles which pose safety concerns and discourage the use of this area by other modes of traffic.

- Mitigate Congestion

Currently there are delays and queuing at several intersections within the project the project area with a number of locations nearing capacity. These conditions are expected to significantly deteriorate as traffic growth occurs with or without anticipated development.

For example, currently, the Water Street eastbound approach at Irons Street is operating at LOS D (average delay of 51 seconds per vehicle) during the AM peak period, and LOS E (average delay of 60 seconds per vehicle) during the PM peak period, indicating that the approach is near capacity. Existing Water Street eastbound queues frequently extend to Lien Street (900 feet). The volume to capacity (v/c) ratio for the eastbound movement is 0.98 during the AM peak period, meaning the approach is near capacity.

Currently there are delays and queuing at the intersection of Water Street and Highland Parkway/GSP NB Ramps. The GSP NB Ramps have queues that frequently extend from the intersection onto the exit ramp near the GSP mainline (600 feet).

Several approaches at intersections are expected to operate at LOS F, which represents a failing Level of Service, with anticipated background growth occurring over time. The 2045 future PM peak No Build condition has delays well over 100 seconds for the Highland Parkway northbound approach to Water Street with queues extending back onto the GSP mainline. Significant queuing occurs along EB Water St with queues extending from Irons through Adafre approaching Highland Parkway. The 2045 No Build PM peak travel time in the eastbound and westbound directions on Water Street increased by 35% and 24%, respectively, compared to the Existing conditions.

The number of approaches and the severity of the projected delays and travel time increases significantly with the planned redevelopment of the waterfront area. During the AM peak hour, the travel time along WB Water Street is projected to be over three (3) times existing conditions (11.4 min. vs 3.1 min). The PM peak hour travel time conditions are expected to increase significantly as well with the EB and WB travel time along Water Street increasing by 143% and 86%, respectively, compared to existing conditions.

C. Goals and Objectives

Alternatives developed to address the identified needs should be consistent with the following project goals and objectives:

- Improve Bicycle and ADA/Pedestrian accessibility
- Accommodate existing and future multimodal transportation networks
- Minimize environmental impacts
- Mitigate the impacts of future storm events
- Minimize ROW and utility impacts
- Promote redevelopment
- Create a sense of place and support the utilization of inactive areas of the Downtown Waterfront area
- Correct Controlling Substandard Design Elements to the maximum extent practicable

III. Existing Inventory and Condition

A. Maintenance Issues

There were no identified maintenance issues.

B. Existing Roadway Inventory and Condition

1. Cross-Section Elements

Lane Widths

The following tables summarizes the lane widths within the study limits. All lanes conform to the minimum width per Section 5.3 of the NJDOT Roadway Design Manual. However, the RDM also specifies that on land service highways without outside shoulders, the outside lane width shall be 15 feet to accommodate bicyclists. This standard is violated along East Water Street between Irons Street and Main Street where thru lanes are 12 feet wide adjacent to curb.

Location	Ex. Lane Width	Min. Lane Width	Des. Lane Width
Lakehurst Rd.	Varies 12'-13'	11	12'
Water Street	Varies 11'-13'	11'	12'
Highlands Pkwy.	Varies 12'-15'	11'	12'
Herflicker Blvd.	12'	11'	12'
Irons St.	15'	11'	12'
Main St.	Varies 12'-14'	11'	12'

Table 1- Lane Width

Shoulder Widths

The following tables summarizes shoulder widths within the study limits. As shown, several roadways within the study limits do not conform to the minimum width per Section 5.3 of the NJDOT Roadway Design Manual.

Location	Ex. Shoulder Width	Min. Shoulder Width	Des. Shoulder Width
Lakehurst Rd.	0'	8'	10'
Water Street	Varies 0'-8'	8'	10'
Highlands Pkwy.	0'	8'	10'
Herflicker Blvd.	8'	8'	10'
Irons St.	Varies 5'-6'	8'	10'
Main St.	Varies 0'-8'	8'	10'

Table 2- Shoulder Width

On-Street Parking

There is metered, on-street parking on both the south side of West Water Street between Lien Street and Adafre Avenue and on both sides of Herflicker Boulevard from Adafre Avenue to Irons Street. The following tables summarizes parallel parking widths at these two locations. As shown, the parking width on W. Water Street does not conform to the minimum width per Section 5.3 of the NJDOT Roadway Design Manual.

Location	Ex. Parking Width	Min. Parking Width	Des. Parking Width
Water Street	7'	8'	10'
Herflicker Blvd.	8'	8'	10'

Table 3- On-Street Parking

Cross-slope

The RDM (Sec. 5-02) indicates the roadway cross-slope pavement should be at a minimum 1.5 percent, and (Sec. 5-4-3) indicates that the shoulder cross-slope should be at a minimum 2 percent. Available record plans indicate that the minimum cross-slope for both the roadway and shoulder is met within the project limits with the exception of Irons Street, where the roadway cross-slope varies and dips below the minimum 1.5 percent.

2. Speed Limit

The posted or statutory speed limits for each road follow:

- Lakehurst Road/Water Street (CR 527/549) – 30 MPH
- Main Street (NJ 166) – 25 MPH
- Herflicker Boulevard (CR 113/166) – 35 MPH
- Highland Parkway (CR 96) – 40 MPH
- Irons Street – 25 MPH

3. Desirable Typical Section

The New Jersey State Highway Access Management Code assigns Main Street (Route 166) a DTS of 2C within the project limits; which is 2 lanes, with 14 feet two-way left-turn lane, without shoulders.

4. Access Level

Main Street (Route 166) access level is 5 within the project limits. This allows for left-turn movements where warranted by traffic volumes and design requirements. The County and local roads within the project area do not have specific access requirements.

5. Horizontal Alignment

The obtained record drawings and aerials revealed that two of the six existing horizontal curve radii do not meet minimum requirements (Table 4-5 (Sec. 4-03.3, Pg. 4-16) of the Roadway Design Manual) for the design speed (Table 2-1 (Sec. 2-3.3, Pg. 2-5)). However, these two reverse curves are located along Highland Parkway immediately adjacent to the signalized intersections with Lakehurst Road & the Garden State Parkway ramps, which are stop conditions. **Table 4** list horizontal curves and design criteria.

Road	Curve Location (milepost)	Posted Speed (mph)	Design Speed (mph)	Existing Radius (feet)	Minimum Required Radius (feet)	Min. SSD (feet)	Req. SE (%)	Exist. SE (%)
Lakehurst Rd (CR 527)	0.53	30	35	1,090	371	250	3	2.1
E Water St (CR 527)	0.31	30	35	1,100	371	250	3	3
Highland Pkwy (CR 96)	0.56	40	45	400	711	360	4	2
Highland Pkwy (CR 96)	0.66	40	45	565	711	360	4	N.C
S Main Street (NJ 166)	1.17	35	40	573	533	305	4	4
S Main Street (NJ 166)	1.12	25	30	500	250	200	3.4	N.C

Table 4- Horizontal Curves

Superelevation

The RDM (Figure 4-C) indicates superelevation would be required for the six horizontal curves in the project area. Using a smart level during a field view, it was ascertained that there is superelevation present along the four of the six existing curves. While the four of the six curves do not meet the required superelevation required in the RDM, a lesser superelevation rate is acceptable in these low-speed, urban areas as described in Section 4.3.2 of the RDM. The horizontal curves, their required superelevation, and their existing superelevation are described in **Table 4**.

6. Vertical Alignment

The obtained record drawings show five (5) vertical curves within the project limits. The available drawings only included Irons Street and Herflicker Boulevard within the project area. Table 2 summarizes the existing vertical curves within the study limits for these two roads. The record plans indicate that four of the five curves do not meet the minimum required length for their respective design speeds.

Road	PVI Location (milepost)	Design Speed (mph)	Curve Type	As-built K	Minimum Required Length (feet)	As-built Length (feet)
Irons St	0.23	30	sag	28.4	90	50
Irons St	0.25	30	sag	78.1	90	100
Irons St	0.27	30	crest	59.5	120	50
Herflicker Blvd	0.19	40	sag	23.4	125	50
Herflicker Blvd	0.22	40	crest	100.0	120	50

Table 5- Vertical Curves

The available record drawings for these two roads show all grades greater than or equal to 0.3% through the project limits. The RDM, Sec. 4.4.4, specifies the minimum grade for land service highways with a curbed section as 0.3 percent; therefore, the minimum criteria are met within the project limits.

7. Intersections

The signalized intersection of Water Street and Highland Parkway is a four-legged, four-phase signalized intersection. The Water Street approaches are two lanes in each direction with exclusive left-turn lanes. Westbound Water Street right turns are made via a free, channelized turn. Highland Parkway has two southbound thru lanes and one free, channelized right turn lane. The Highland Parkway southbound left most lane is a shared thru-left lane. Northbound Highland Parkway has an exclusive left-turn lane and a shared left/thru/right lane where all movements can be made. Phasing includes a Water Street lead left interval followed by Water Street right-of-way and split phasing on Highland Parkway.

The signalized intersection of Water Street and Irons Street is a four-legged, three-phase intersection. The Water Street eastbound approach has one thru-lane and exclusive left and right turn lanes. The Water Street westbound approach has one thru-right lane and exclusive dual left-turn lanes. The southbound Irons Street approach has one lane that allows right-turns only. Irons Street is one-way southbound south of the intersection and has two travel lanes. The signal operates in three phases, one for each Water Street approach, and one for Irons Street southbound.

The signalized intersection of Water Street and Main Street (Route 166) is a four-legged, three-phase intersection. Left turns are not permitted along Water Street. The eastbound Water Street offers one thru-lane; while the westbound approach has two thru-lanes and one exclusive right-turn lane. Main Street northbound is a one-way approach with a thru-lane, left-turn lane and a free, channelized right-turn lane. Southbound Main Street offers a left-turn lane and a channelized right-turn lane. The signal operates in three phases, one for Water Street, one for Main Street left turns, and the final phase is Main Street northbound.

Unsignalized, stop controlled intersections that will be studied include Highland Parkway and Garden State Parkway ramps, Lien Street and Water Street, Adafre Avenue and Water Street, Herflicker Boulevard and Highland Parkway, Herflicker Boulevard and Adafre Avenue, and Herflicker Boulevard and Irons Street.

8. Surface Type & Condition

The available record plans for Irons Street and Herflicker Boulevard between Irons Street and Main Street show a cross-section composed of 6" thick bituminous traveled way. The subbase consists of dense graded aggregate.

The pavement within the project limits appears to be in adequate condition with the exception of Highland Parkway, which is in poor condition and exhibits alligator cracking, rutting and failed patches and utility trenches. At the time of this Report a proposed reconstruction and realignment of Herflicker Boulevard, between Adafre Avenue and Highland Parkway, is planned by Ocean County.

9. Clear Zone

The minimum clear zone width (LC) (RDM (Figure 8-A), for roadway sections with respect to Average Daily Traffic (ADT) and design speed, is listed below. **Table 6** lists the minimum clear zone requirements within the project limits.

Road	Posted Speed (mph)	Design Speed (mph)	Clear Zone	
			Sections in Cut (ft.)	Sections in Fill (ft.)
Lakehurst Rd/ E Water St (CR 527)	30	35	16	16
Highland Pkwy (CR 96)	40	45	18	18
Herflicker Blvd (CR 166)	35	40	16	16
S Main Street (NJ 166)	35	40	16	16
S Main Street (NJ 166)	25	30	16	16

Table 6- Clear Zone

Obtained record plans and field observations revealed that the minimum clear zone is not met along select sections of Water Street within the project limits. The available clear zone is obstructed by building facades, which sit only 10 feet from the edge of traveled way on the southern side of Water Street.

10. Roadside or Border

The area between the roadway and the highway right of way is referred to as the roadside for freeways or border for land service highways. According to the RDM, the border width for a land service highway is desirably 5 feet greater than the clear zone width to accommodate for utilities within the (R.O.W.). The RDM (Sec. 5-05) specifies

a minimum border width of 10 feet and a desirable border width of 15 feet when it is not practical to meet the clear zone width.

The minimum border width (RDM (Sec. 5-5-2)), for roadway sections with respect to right-of-way and clear zone, is listed below. **Table 7** lists the minimum and desirable border width requirements within the project limits.

Road	Roadway width (ft.)	Clear Zone (ft.)	R.O.W. (ft.)	Req. Border (ft.)	Ex. Border (ft.)
Lakehurst Rd/ E Water St (CR 527)	46-48	16	49.5 min. & var.	10 min. 21 des.	3.5 & var.
Highland Pkwy (CR 96)	30	18	70	10 min. 23 des.	20
Herflicker Blvd (CR 166)	40	16	25-60	10 min. 21 des.	10 & var.
Main Street (NJ 166)	40-44	16	var.	10 min. 21 des.	var.

Table 7- Minimum Roadside Border Widths

The obtained GIS-based R.O.W. information indicates a R.O.W. width on Lakehurst Road/Water Street of approximately 49.5 feet minimum and variable. With a roadway width of about 46 to 48 feet; the border width is about 3.5 feet minimum. Therefore, the desirable border width is not met as the clear zone width exceeds the R.O.W. width.

11. Curbs

Field inspection revealed curbing along all project corridors. The curbs appear to range from fair to poor condition.

12. Guiderail

There is existing guiderail along Highland Parkway, Lakehurst Road, and at the southeast corner of Main Street and Water Street. Field observations revealed that the existing guide rail is not compliant with current standards with incorrect spacer blocks, improper terminal treatments and rail height less than the current required 31 inches.

13. Drainage

GIS-based data and aerial mapping shows that the project limits are all part of the Barnegat Bay Watershed Management Area (WMA), and associated with the Toms River subwatershed. There are wetlands within or adjacent to the project limits in the

northwest corner on either side of Highland Parkway approaching the intersection with Lakehurst Road. There are two outfalls within this portion of wetlands that discharge runoff from the northwest portion of the project area. Along Water Street, record plans indicate runoff is collected in drainage inlets and discharged south into Toms River through one of several outfall points. Special sand filter inlets are in place along Water Street as a water quality measure. Storm sewer in the project area is comprised of vitrified clay pipe (VCP), corrugated metal pipe (CMP) and reinforced concrete pipe (RCP).

14. Lighting

There is lighting within the project limits. Lighting is present on existing signal equipment, utility poles and individual light standards throughout the project area.

No lighting analysis was conducted during CD. A lighting warrant analysis and illumination analysis should be performed during Preliminary Engineering.

15. Signing

The project area does not contain sign structures. The existing signage is standard regulatory, warning and guide signage. The signs within the project limits generally appear to be in adequate condition. A sign inventory should be performed during Preliminary Engineering which will document the retroreflectivity, location and conformance to NJDOT and MUTCD standards.

16. Pavement Marking

The existing pavement markings within the project limits are generally in adequate condition due to recent resurfacing projects that have been completed. High-visibility crosswalks at intersections have been eroded and are in need of restriping. Portions of Highland Parkway and Herflicker Boulevard are without existing striping.

17. Access

There are several commercial lots with access to the roadways in the project area. There are no channelized driveways. There are a few lots that restrict left-turning vehicles along Water Street due to their proximity to the signalized intersections.

18. Jurisdiction

The Garden State Parkway Northbound on and off ramps and adjacent spur are under the jurisdiction of the New Jersey Turnpike Authority to the spur's intersection with Highland Parkway.

Roads under Ocean County jurisdiction include Herflicker Boulevard, Water Street/Lakehurst Road and Highland Parkway. Main Street (NJ 166) is under the jurisdiction of NJDOT. Irons Street and Adafre Avenue are under municipal jurisdiction.

19. Pedestrian and Bicycle Facilities

Pedestrian

Sidewalk is present along almost every portion of roadway within the project limits. A review of the NJDOT Pedestrian Compatible-Planning and Design Guidelines was conducted in the evaluation of this project. These guidelines indicate that as a designated regional center in the New Jersey State Plan (2001) Toms River Township should, at minimum, provide a 5' feet wide sidewalk along both sides of all roadways, except limited access highways, unless unique land use patterns assure that no pedestrians will walk on one side. All roadways within the project limits are generally pedestrian compatible.

Sidewalks are provided on both sides of all roadways within the project limits with the exception of Herflicker Boulevard and Highland Parkway. Herflicker Boulevard has sidewalk present along the northern side between Adafre Avenue and Irons Street then switches to the southern side of the roadway between Irons Street and South Main Street (CR 530) as the Herflicker Boulevard Bridge over Toms River intersects with CR 530. Herflicker Boulevard between Highland Parkway and Adafre Avenue is a substandard design with no sidewalks present on either side. This portion of Herflicker Boulevard is not pedestrian compatible as there is no sidewalk present to provide for safe and convenient pedestrian and handicapped travel. Currently, plans are underway by Ocean County to improve this section of Herflicker Boulevard. The addition or widening of sidewalks within the Waterfront Redevelopment Area will likely be included in developer agreements with the Township of Toms River pursuant the adopted Redevelopment Plan. Further details will be investigated during Preliminary Engineering phase. Due to ROW constraints and the presence of a 10' foot sidewalk along the Herflicker Boulevard Bridge, Herflicker Boulevard between Adafre Avenue and South Main Street (CR 530) is considered pedestrian compatible.

Highland Parkway has sidewalk present along the eastern side of the roadway. This sidewalk provides the only safe and convenient pedestrian connection between the Toms River Bus Terminal and Downtown Toms River. Highland Parkway is pedestrian compatible as it is exempt from providing sidewalk along the western side of the roadway as this would intersect with a limited access highway off-ramp.

Bicycle

A review of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines and the NJDOT Complete Streets Design Guide was conducted in the evaluation of the project. The project is located in an urbanized area within close proximity to the Toms River downtown central business district, waterfront area, and bus terminal. These guidelines indicate that facilities with an Average Annual Daily Traffic (AADT) over 10,000 or a truck percentage over 5%, a posted speed limit of 30 mph or more, located within an urban area would necessitate either an 8' foot shoulder or a 14' foot shared lane. The NJDOT Complete Streets Design Guide along

with current best practices recommend that shared-lane bicycle facility marking or “sharrow” only be used on streets with posted speed limits of 25 mph or less. The following roadways are bicycle compatible within the project limits pursuant the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines:

Road	Lane Width	Shoulder Width	Speed Limit	AADT
Irons Street	15'	5'-6'	25 mph	Over 10,000
Main Street (NJ 166)	Varies 12'-14'	Varies 0'-8'	25 mph	Over 10,000
Herflicker Blvd (CR 166)	12'	8'	35 mph	Over 10,000
Adafre Avenue	12'	8'	25 mph	Under 10,000

Table 8- Existing Roadway Bicycle Compatibility Characteristics

The following roadways within the project limits are not bicycle compatible due to a combination of insufficient lane or shoulder widths and incompatible posted speed limits:

- Water Street (CR 527) - Insufficient lane/shoulder width
- Highland Parkway (CR 96) - Insufficient lane/shoulder width and high speeds
- Herflicker Boulevard (CR 166) - from (Highland Parkway to Irons Street) Insufficient lane/shoulder width and lack of sidewalks on either side
- Lakehurst Road (CR 527) - Insufficient lane/shoulder width

Future plans have been made to connect the Toms River Bus Terminal to the Barnegat Branch Bicycle Trail. Construction of a 0.50 miles trail segment connecting the Toms River Bus Terminal to the 10' feet wide Herflicker Boulevard Bridge sidewalk with South Main Street is anticipated in early 2022 (see **Appendix B, Record Drawings for proposed Barnegat Branch Trail map**).

20. ITS

A search of the NJDOT Bureau of Mobility and Systems Engineering ITS Inventory database revealed no ITS facilities exist within the project limits. Additionally, neither Ocean County nor Toms River own or manage any ITS facilities within the project limits.

21. Landscaping

The landscaping is predominantly composed of roadside grass and large trees along the roadway within the project limits. Shrubs and landscaped areas with decorative fences are present along Main Street in the areas adjacent to Huddy Park and the downtown retail area.

C. Existing Utilities

A Utility Contact Letter was distributed to utility owners for location verification of existing and proposed facilities within the project limits. Record plans and field investigation revealed that there are existing underground and aerial utilities within the project area. Information pertaining to the Utility Companies with facilities in the project area are compiled in **Appendix F-Utility Information**. The following utilities are present within the study limits:

- Electric – Jersey Central Power & Light
- Water – Suez - UG
- Sewer – Toms River Municipal Utilities Authority (TRMUA) - UG
- Telephone - Verizon
- Cable – Comcast Cable - OH
- Gas – New Jersey Natural Gas - UG

D. Summary of Existing Deficiencies

1. Pedestrian and Bicycle Compatibility

Herflicker Boulevard between Highland Parkway and Adafre Avenue is substandard with no sidewalks present on either side.

Water Street (insufficient lane/shoulder width), Highland Parkway (insufficient lane/shoulder width, high speed), Herflicker Boulevard (insufficient lane/shoulder width) and Lakehurst Road (insufficient lane/shoulder width) are all not bicycle compatible.

2. Clear Zone

The minimum clear zone (16 feet) is not met along select sections of Water Street within the project limits. The available clear zone is obstructed by building facades, which sit only 10 feet from the edge of traveled way on the southern side of Water Street.

E. List of Substandard Design Elements

- Outside shoulder widths on portions of Water Street, Lakehurst Road, Highland Parkway, Irons Street and Main Street do not meet the minimum 8-foot width as specified in the NJDOT Roadway Design Manual (RDM).

- Two horizontal curves along Highland Parkway do not meet the minimum radii required by the RDM. The selected Preliminary Preferred Alternative will address the deficiency.
- Five vertical curves along Irons Street and Herflicker Boulevard do not meet the minimum length required by the RDM. Vertical curve information was analyzed through as-built plans. The selected Preliminary Preferred Alternative will address the deficiency.

F. Congestion Management Process

The project has developed an Preliminary Preferred Alternative (PPA) referred to as “Concept 3” building upon:

- Circulation and waterfront redevelopment needs identified in the Toms River Township Downtown Circulation Neighborhood Plan beginning in 2016
- A 2018 operational analysis and retiming of intersections along Water Street (CR 527) and
- A 2019 Road Safety Audit in 2019 of Water Street (CR 527)/Dock Street between the Garden State Parkway (GSP) and Washington Street
- Community outreach through this LCD effort begun in May of 2020 utilizing NJTPA recommended outreach practices

As presented, Concept 3 proposed strategies and improvements:

- Are intended to address specific operational and safety improvements to improve circulation and facilitate improved access within the redeveloping Toms River Waterfront Area
- Will contain multi-modal improvements through incorporation of a bike lane that will link up to the evolving regional trail system
- Incorporate the use of a loop circulation approach supported by an innovative roundabout design and
- Will **not** add roadway lane capacity capable of increasing vehicle volumes and furthering regional congestion

Based on a review of a project memo provided by the project team, the NJTPA finds that the project is consistent with the NJTPA CMP and should not increase roadway capacity. Although not required, the NJTPA recommends investigating the incorporation of a performance measurement program to assess the effectiveness of the completed improvements on an ongoing basis. A copy of the memo to NJTPA as well as documentation of their response is included in **Appendix I – Project Correspondence**.

G. As-Built Plans, Right of Way Maps and Jurisdiction Map

As-built plans were collected from Ocean County and Toms River and are listed in Table 1. Copies of these as-built plans can be found in Appendix B. Available jurisdictional maps are included in Appendix C.

IV. Traffic and Crash Summary

A. Field Observations

Site visits were conducted in May 2020 for this project, but from a traffic operations perspective, COVID-19 traffic impacts were still present; therefore, the existing traffic conditions were assumed to be similar to pre-COVID conditions (April/May 2019) when traffic data was collected for the project.

During the AM peak there is congestion where the Garden State Parkway (GSP) off-ramp meets Highland Parkway. This location has congestion and spillback issues between the two closely spaced intersections of Water Street/Highland Parkway and Highland Parkway/GSP Ramps, which presents as a significant safety issue. Also during the AM peak there is a heavy Water Street Eastbound movement at Irons Street which causes queuing that can spillback to the Lien Street area. The AM peak also had queuing on the South Main Street unsignalized approach to Route 166 that would occasionally spill back close to the signalized intersection of Herflicker Blvd/South Main Street.

During the PM peak there is a heavy Water Street Westbound movement towards Irons Street. Queuing on Water Street Westbound can extend from Irons Street through Route 166 during heavy rushes during the PM peak hour. During the PM peak there is also congestion on Herflicker Blvd Eastbound at the South Main Street signal that can extend almost to Irons Street at certain peak period times.

B. Existing Level of Service and Travel Time

Tables 9 and 10 show the Existing Calibrated AM and PM peak hour SimTraffic Level of Service (LOS) and delay results, and travel time results comparing field conditions and SimTraffic simulation. The traffic data collected for the Existing conditions results was completed in May 2019.

Intersection	NB	SB	EB	WB	ALL
	Existing AM Peak Hour				
Water Street & GSP SB Ramps	B (16)	-	A (6)	A (8)	A (9)
Water Street & Highland Pkwy	C (20)	B (14)	B (12)	B (12)	B (14)
Water Street & Irons Street	-	C (30)	D (51)	B (11)	C (27)
Water Street & RT 166 (Main Street)	A (8)	A (4)	B (13)	D (36)	B (16)
Water Street & Horner Street	C (20)	B (19)	A (8)	A (6)	A (7)
Water Street & Hooper Ave	-	A (4)	A (4)	C (34)	A (8)
RT 166 & Washington Street	A (4)	A (6)	-	C (21)	A (8)
Herflicker Blvd & South Main Street	D (53)	-	B (16)	E (69)	C (26)
Highland Pkwy & GSP NB Ramps*	E (40)	A (6)	D 929)	A (2)	C (25)
Water Street & Adafre Ave*	D (27)	-	D (27)	A (3)	C (18)
Herflicker Blvd & Irons Street*	C (22)	A (1)	B (11)	-	A (2)
South Main Street & Flint Road*	E (39)	A (1)	-	F (100)	C (21)
RT 166 & Highland Pkwy	A (8)	A (7)	B (13)	A (4)	A (8)
RT 166 & Lien Street*	A (1)	A (2)	A (9)	-	A (3)
Hooper Ave & Washington Street	B (11)	A (9)	C (21)	C (24)	B (16)
RT 166 & Irons Street/Legion Court*	A (2)	A (3)	B (11)	B (11)	A (4)
RT 166 & South Main Street*	A (2)	-	F (67)	-	B (11)
Travel Time					
Route & Direction	Field	SimTraffic	% Difference		
Water Street EB	3.45	3.68	6%		
Water Street WB	3.41	3.07	-11%		

Table 9- Existing AM Peak Hour Level of Service and Delay and Travel Time

* Unsignalized intersection

Table 9 results show that the AM peak hour has several approaches that operate at LOS E or LOS F. The Herflicker Blvd/South Main Street and South Main Street/Flint Road closely spaced intersections account for three of these five approaches at LOS E or worse. These capacity analysis results generally match the observed peak hour field conditions. Travel Time results comparing the field to SimTraffic simulation are within the 15%

recommendation from the FHWA Guidelines for Applying Traffic Microsimulation Modeling Software for calibration.

Intersection	NB	SB	EB	WB	ALL
	Existing PM Peak Hour				
Water Street & GSP SB Ramps	B (17)	-	E (68)	B (19)	D (42)
Water Street & Highland Pkwy	C (26)	B (15)	B (17)	C (23)	B (20)
Water Street & Irons Street	-	D (49)	E (60)	B (17)	C (30)
Water Street & RT 166 (Main Street)	B (11)	A (5)	A (4)	D (44)	C (23)
Water Street & Horner Street	C (27)	C (23)	A (8)	B (13)	B (11)
Water Street & Hooper Ave	-	A (7)	A (4)	C (33)	A (9)
RT 166 & Washington Street	A (7)	A (6)	-	C (29)	B (12)
Herflicker Blvd & South Main Street	D (38)	-	C (23)	E (64)	C (26)
Highland Pkwy & GSP NB Ramps*	B (11)	A (4)	B (12)	A (4)	A (8)
Water Street & Adafre Ave*	D (32)	-	C (17)	A (3)	B (11)
Herflicker Blvd & Irons Street*	F (53)	A (2)	F (85)	-	A (6)
South Main Street & Flint Road*	C (23)	A (1)	-	-	A (8)
RT 166 & Highland Pkwy	A (9)	A (7)	C (24)	A (5)	B (12)
RT 166 & Lien Street*	A (2)	A (1)	B (11)	-	A (2)
Hooper Ave & Washington Street	B (14)	B (14)	C (29)	C (30)	C (21)
RT 166 & Irons Street/Legion Court*	A (2)	A (2)	C (24)	C (18)	A (6)
RT 166 & South Main Street*	A (1)	-	D (30)	-	A (9)
Travel Time					
Route & Direction	Field	SimTraffic	% Difference		
Water Street EB	3.38	3.26	-4%		
Water Street WB	3.51	3.54	1%		

Table 10- Existing PM Peak Hour Level of Service and Delay

* Unsignalized intersection

Table 10 results show that the PM peak hour has several approaches that operate at LOS E or LOS F. The Stop controlled Northbound and Eastbound approaches at Herflicker Blvd/Irons Street account for the two LOS F approaches. These capacity analysis results

generally match the observed peak hour field conditions. Travel Time results comparing the field to SimTraffic simulation are within the 15% recommendation from the FHWA Guidelines for Applying Traffic Microsimulation Modeling Software for calibration. **Appendix D** contains the complete Existing conditions operations results, and Existing condition volume figures.

C. Existing Traffic Conditions Summary

Based on the field observations and the analysis results, the congestion and queuing occurs at three general locations including (1) Water Street/Highland Parkway/GSP NB Ramps, (2) Water Street/Irons Street, and (3) South Main Street at Route 166 and Herflicker Blvd. The capacity results and travel time results from the model generally agree with field conditions.

D. Future No Build Conditions

The background growth rate for the Future No Build Conditions was based on NJTPA population and employment data for Toms River and South Toms River townships, and was determined to be 0.5% annual growth rate. The No-Build models do not incorporate any proposed Waterfront Development trips, which are included in the Build-No-Mitigation analysis in the next section. **Tables 11 and 12** show the projected 2045 No-Build AM and PM peak hour SimTraffic simulation Level of Service (LOS) and delay results, and travel time results comparing Existing and No Build conditions.

Intersection	NB	SB	EB	WB	ALL
	2045 No Build AM Peak Hour				
Water Street & GSP SB Ramps	B (17)	-	A (8)	A (9)	B (10)
Water Street & Highland Pkwy	E (63)	B (17)	B (13)	B (15)	C (25)
Water Street & Adafre Ave*	D (33)	-	C (15)	A (4)	B (11)
Water Street & Irons Street	-	E (57)	C (35)	C (29)	C (32)
Water Street & RT 166 (Main Street)	B (15)	A (4)	B (17)	E (62)	C (26)
Water Street & Horner Street	D (35)	C (27)	B (15)	C (32)	C (22)
Water Street & Hooper Ave	-	A (10)	A (5)	C (33)	A (9)
Hooper Ave & Washington Street	B (14)	B (11)	B (18)	C (26)	B (17)
RT 166 & Lien Street*	A (2)	A (2)	B (15)	-	A (4)
RT 166 & Irons Street/Legion Court*	A (3)	A (4)	D (26)	C (17)	A (6)
RT 166 & Washington Street	A (5)	A (8)	-	C (26)	B (10)
RT 166 & South Main Street*	B (12)	-	E (50)	-	C (17)
Herflicker Blvd & Adafre Avenue*	-	A (4)	A (1)	A (1)	A (3)
Herflicker Blvd & Irons Street*	A (5)	A (2)	B (10)	-	A (2)
Herflicker Blvd & South Main Street	E (79)	-	B (15)	E (66)	C (30)
Travel Time					
Route & Direction	Existing		No Build		% Difference
Water Street EB	3.7		3.4		-9%
Water Street WB	3.1		4.8		56%

Table 11- 2045 No Build AM Peak Hour Level of Service and Delay and Travel Time

* Unsignalized intersection

Table 11 results show similar results as Existing AM conditions, but with increased delay with approaches that were near or exceeding capacity (LOS E). Travel time results show significant increase for the Water Street WB direction heading from the GSP and Lakehurst towards downtown Toms River.

Intersection	NB	SB	EB	WB	ALL
	2045 No Build PM Peak Hour				
Water Street & GSP SB Ramps	C (24)	-	F (87)	C (24)	D (52)
Water Street & Highland Pkwy	F (148)	C (22)	D (46)	C (28)	D (49)
Water Street & Adafre Ave*	F (110)	-	F (59)	A (4)	D (33)
Water Street & Irons Street	-	D (51)	E (69)	C (29)	D (41)
Water Street & RT 166 (Main Street)	B (17)	A (6)	A (4)	D (54)	C (28)
Water Street & Horner Street	C (33)	C (35)	A (9)	C (28)	C (21)
Water Street & Hooper Ave	-	B (14)	A (5)	C (33)	B (14)
Hooper Ave & Washington Street	B (16)	B (15)	C (30)	C (32)	C (22)
RT 166 & Lien Street*	A (2)	A (2)	B (12)	-	A (3)
RT 166 & Irons Street/Legion Court*	A (3)	A (3)	D (34)	D (28)	A (9)
RT 166 & Washington Street	B (11)	A (8)	-	D (35)	B (15)
RT 166 & South Main Street*	A (6)	-	F (51)	-	C (17)
Herflicker Blvd & Adafre Avenue*	-	A (9)	C (18)	A (1)	A (8)
Herflicker Blvd & Irons Street*	F (336)	A (6)	F (521)	-	C (24)
Herflicker Blvd & South Main Street	F (253)	-	D (50)	E (67)	E (79)
Travel Time					
Route & Direction	Existing		No Build		% Difference
Water Street EB	3.6		4.9		35%
Water Street WB	3.8		4.7		24%

Table 12- 2045 No Build PM Peak Hour Level of Service and Delay and Travel Time

* Unsignalized intersection

Table 12 results show 2045 No Build PM peak hour results are significantly worse compared to Existing PM peak hour results. The unsignalized Northbound and Eastbound approaches at Herflicker Blvd/Irons Street are significant LOS F with delays in excess of 335 seconds, with queuing impacting surrounding signals. Water Street Eastbound at Irons Street has queuing that spills back through the Water Street/Highland Parkway intersection causing excessive delays on multiple approaches at multiple intersections along Water Street. Travel time results show significant increase for both directions on Water Street in excess of 24%.

E. Future Build-No-Mitigation Conditions

The Build-No-Mitigation models including background growth rate and projected development trips, but no infrastructure or other signal timing, signal equipment or other changes. Having separate future No Build and Build-No-Mitigation models shows how the conditions in the project area would be impacted over time with and without the proposed development. The projected development includes 1529 residential units, 79,370 square feet of retail, and 30,990 square feet of restaurant. This development results in net trips generated of 711 and 1,088 for the AM and PM peak hours, respectively. **Appendix D** contains the trip generation tables and trip distribution figures for the proposed development, and future Build volume figures. **Tables 13 and 14** show the projected 2045 Build-No-Mitigation AM and PM peak hour SimTraffic simulation Level of Service (LOS) and delay results, and travel time results comparing the No Build and Build-No-Mitigation conditions.

Intersection	NB	SB	EB	WB	ALL
	2045 Build-No-Mitigation AM Peak Hour				
Water Street & GSP SB Ramps	B (19)	-	A (9)	B (10)	B (12)
Water Street & Highland Pkwy	F (90)	B (16)	C (29)	B (19)	D (36)
Water Street & Adafre Ave*	F (52)	-	F (64)	A (4)	E (39)
Water Street & Irons Street	-	F (92)	D (49)	D (37)	D (43)
Water Street & RT 166 (Main Street)	B (17)	A (6)	C (22)	F (112)	D (39)
Water Street & Horner Street	F (103)	E (59)	C (26)	F (142)	E (69)
Water Street & Hooper Ave	-	F (81)	A (7)	F (94)	D (37)
Hooper Ave & Washington Street	B (14)	F (104)	C (28)	F (198)	E (68)
RT 166 & Lien Street*	A (2)	A (2)	C (15)	-	A (4)
RT 166 & Irons Street/Legion Court*	A (4)	A (3)	F (70)	C (22)	B (14)
RT 166 & Washington Street	A (5)	A (7)	-	C (25)	A (9)
RT 166 & South Main Street*	B (14)	-	F (54)	-	C (19)
Herflicker Blvd & Adafre Avenue*	-	A (4)	A (1)	A (1)	A (3)
Herflicker Blvd & Irons Street*	A (1)	A (4)	E (36)	-	A (7)
Herflicker Blvd & South Main Street	F (97)	-	B (15)	F (96)	D (36)
Travel Time					
Route & Direction	No Build		Build-No-Mitigation		% Difference
Water Street EB	3.4		5.6		67%
Water Street WB	4.8		11.4		139%

Table 13- 2045 Build-No-Mitigation AM Peak Hour Level of Service and Delay and Travel Time

* Unsignalized intersection

Table 13 results show significantly deteriorated results compared to the 2045 No-Build AM results in **Table 11**, as the proposed development traffic has been added.

Intersection	NB	SB	EB	WB	ALL
	2045 Build-No-Mitigation PM Peak Hour				
Water Street & GSP SB Ramps	C (22)	-	F (83)	C (22)	D (51)
Water Street & Highland Pkwy	F (295)	D (39)	F (126)	D (44)	F (99)
Water Street & Adafre Ave*	F (313)	-	F (71)	A (6)	E (44)
Water Street & Irons Street	-	F (127)	E (66)	C (31)	E (47)
Water Street & RT 166 (Main Street)	C (24)	B (18)	A (5)	E (60)	C (33)
Water Street & Horner Street	E (75)	D (51)	B (18)	F (118)	E (69)
Water Street & Hooper Ave	-	E (58)	A (7)	E (56)	C (34)
Hooper Ave & Washington Street	C (20)	F (139)	C (33)	F (119)	F (86)
RT 166 & Lien Street*	A (2)	A (2)	C (16)	-	A (4)
RT 166 & Irons Street/Legion Court*	A (4)	A (2)	F (78)	E (36)	C (17)
RT 166 & Washington Street	B (12)	A (9)	-	D (39)	B (16)
RT 166 & South Main Street*	A (8)	-	E (37)	-	C (15)
Herflicker Blvd & Adafre Avenue*	-	A (3)	A (1)	A (1)	A (2)
Herflicker Blvd & Irons Street	A (1)	A (6)	E (62)	-	A (9)
Herflicker Blvd & South Main Street	F (129)	-	C (34)	F (83)	D (51)
Travel Time					
Route & Direction	No Build		Build-No-Mitigation	% Difference	
Water Street EB	4.9		8.2	68%	
Water Street WB	4.7		7.2	52%	

Table 14- 2045 Build-No-Mitigation PM Peak Hour Level of Service and Delay and Travel Time

* Unsignalized intersection

Table 14 results show significantly deteriorated results compared to the 2045 No-Build PM results in **Table 12**, as the proposed development traffic has been added. **Appendix D** contains the complete operations analysis results for the No Build and Build-No-Mitigation conditions.

F. Crash Data Analysis

Crash data within the study boundary was collected from NJDOT’s SafetyVoyager for the three-year period from January 2016 through December 2018. An analysis was conducted with the available crash data. As per FHWA network screening guidance all crashes within 125 feet of an intersection were considered as occurring at the intersection. Subsequent analysis observed that during this 3-year period approximately 92% of all crashes occurred at intersections, of which 76% occurred at signalized. There are a high number of crashes within the study boundary, particularly at signalized intersections and merge points along Water Street. Crash data from 2016 to 2018 shows that the study area experienced 208 total crashes, of which 18% resulted in some degree of injury and 1% in fatality [two (2) pedestrian fatalities]. Of the 208 total crashes 189 occurred along Water Street. With an overall crash rate of 18.12, the segment of Water Street within the study boundary is well above the statewide average (4.44-7.62 crashes/mvm) for similar roadway types. Depending on the section, Water Street’s crash rate is two (2) to four (4) times higher than the statewide average. A crash cluster map showing the study area and crash analysis can be found in **Figure 2**.

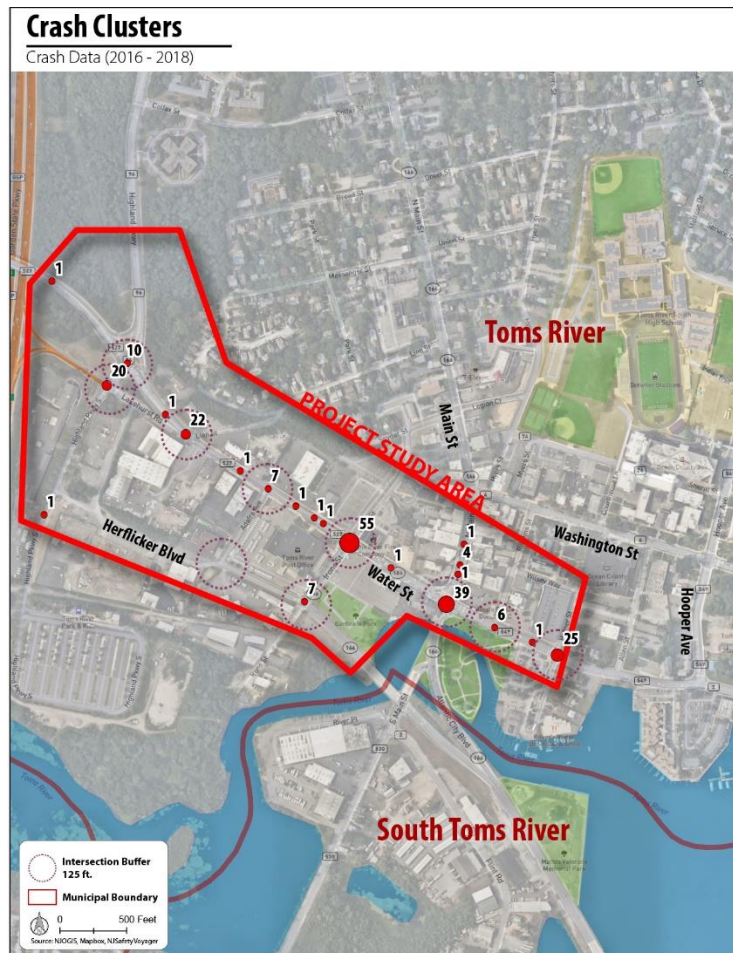


Figure 2– Crash Clusters

Top-5 Crash Locations (2016 - 2018)

Intersections

- (1)** Water St & Irons St = 55 Crashes
- (2)** Water St & Main St = 39 Crashes
- (3)** Lakehurst Rd/Water St & Highland Pkwy* = 30 Crashes
- (4)** Water St & Horner St = 25 Crashes
- (5)** Lakehurst Rd & Water St & Lein St = 22 Crashes

**two intersections within 125 feet of each other*

Crash types within the study area included same direction rear end and sideswipe, right angle, head-on, left turn/U-turn, non-fixed/fixed object, encroachment, backing, parked car, and pedestrian. **Figure 3** includes a graphical breakdown of the study area crash types and **Figure 4** shows crash severity by crash type.

As shown in **Figure 3**, there is an overrepresentation of Same Direction – Rear End and Sideswipe crashes within the study boundary. These crash types account for over 66% of all crashes. When compared to the statewide county road system average from 2016 to 2018 Same Direction – Rear End and Sideswipe crashes account for only 45% of all county road system crashes. Fatal crashes were also five (5) times higher than the statewide county road system average. The 2019 NJTPA Local Safety Program Network Screening identifies Water Street/Iron Street intersection as a high-priority location for bicycle and pedestrian safety improvements. The identification of this location, the high crash rate, and overrepresentation of rear ends and sideswipes indicate congested traffic conditions, merging conflicts, and substandard facilities for pedestrians and bicycles which pose safety concerns and discourage the use of this area by other modes of traffic. These findings are consistent with the 2019 Road Safety Audit of Water/Dock Street in Toms River, NJ and are specifically mentioned as contributing factors at the intersection of Water St/Lein St.

From 2016 to 2018 the study area experienced a total of 208 crashes, of which approximately 18% resulted in some degree of injury and 3 fatal/incapacitated. It is important to note that all pedestrian involved crashes during this time resulted in either injury or fatality. The number of crashes and their severity have contributed to multiple locations within the study area being identified on 2019 NJTPA Local Safety Program Network Screening lists as high-priority locations. Of note, the rankings of these locations are based on 2014-2016 vehicular and 2012-2016 pedestrian/bicycle crash data. The identification of these locations nonetheless indicate strong need for safety and operational improvements, most notably at the intersection of Water Street & Irons Street.

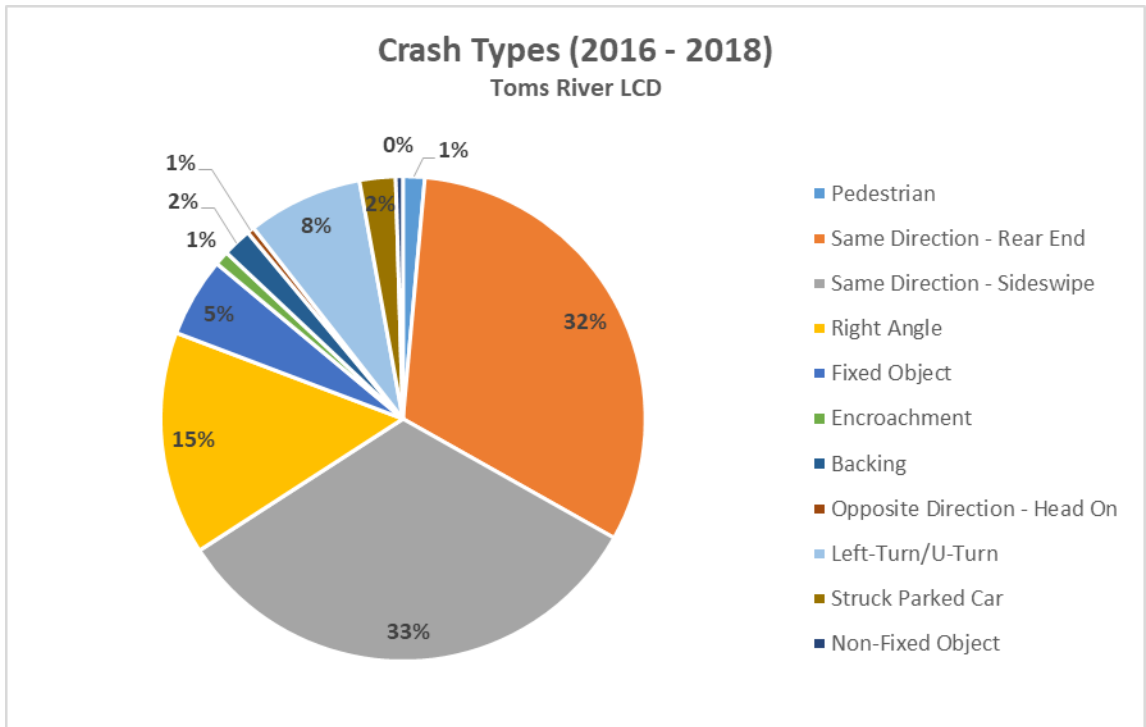


Figure 3- Crash Types

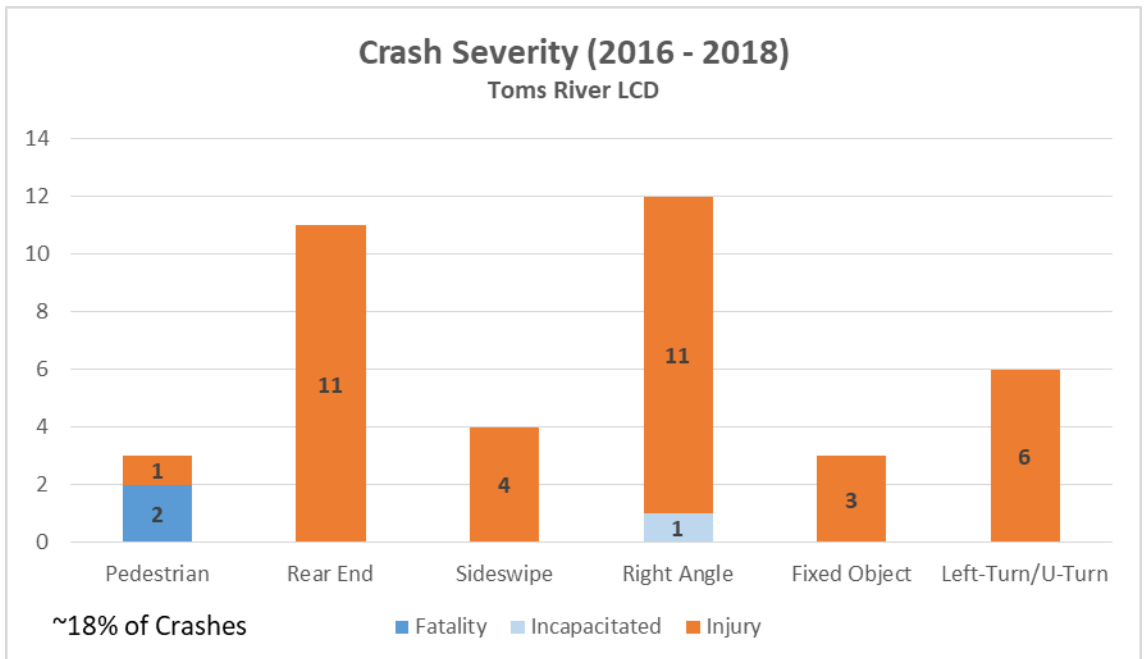


Figure 4- Crash Severity

V. Social, Economic and Environmental Screening

An Environmental Screening was performed for the project and the results of the initial screening and update efforts are documented below. The detailed information is provided in **Appendix G**.

A. Community Outreach

A scope of work for public involvement activities was developed in coordination with Ocean County and in compliance with the North Jersey Transportation Authority's Public Engagement Plan. Due to the threat of COVID-19 all in-person meetings were held virtually in conformance with local, federal, and state guidance, as well as, Governor Murphy's Executive Orders.

The project incorporated numerous coordination and outreach elements including:

- Public Information Sessions - The sessions were conducted virtually in compliance with local, federal, and state standards and guidelines. Sessions involved pre-meeting preparation (development of a mailing list, preparation of data sheets, presentation, and flyer/public notice), as well as session follow up efforts (addressing public comments and documentation). Sessions were held live at the date and time indicated in the public notice. Sessions were also recorded and uploaded to the project website to allow for additional comments during the allotted public comment period.
- Project website development - Urban Engineers developed a public website to inform and engage with the public on all pertinent project information. The project website was used to provide additional notice of Public Information Sessions (Virtual or Face to Face), as well as project updates.
- Stakeholder Coordination Meetings – Meetings involving local officials, regulatory agencies, utility providers, the New Jersey Turnpike Authority, and other agencies were held to communicate the project and address concerns.
- Resolutions of Support – Urban Engineers aided Ocean County in obtaining “resolutions of support” from local municipalities impacted by the purposed action. The current Resolutions of Support are in **Appendix K**.
- Local Officials Meetings - Status updates with the governing body of Toms River Township, Borough of South Toms River, and Ocean County were held throughout the course of the project.

The current PIAP is in **Appendix O, Public Involvement Action Plan**.

B. Noise and Air Quality

Noise sensitive sites are located within the study area. In particular, the study area includes residential units (apartments) and several commercial establishments. Ocean County is classified as a PM-2.5 maintenance area under the USEPA 2006 standard.

C. Socioeconomics

According to 2010 United States Census statistics, it was determined that the population within Toms River is comprised of 10% minorities (state average 43%) and that 6.2% of the population lives below the poverty line (state average 10.7%). 10.1% of the population are over the age of 65 (state average 13.5%).

NJ Transit (Routes 67, 137 & 319) and Ocean County Ocean Ride (Routes 2 & 10) buses both operate in the project area and have connections to the Toms River Park & Ride which is located along Highland Parkway south of the project. Coordination is recommended with NJ Transit during the next phases of the project to coordinate and mitigate any potential impacts as result of the project.

D. Cultural Resources

Archaeological Resources

Review of the Historic Archaeological Site Grid on NJ-GeoWeb revealed that the study area is located within two archaeological grid blocks indicating the presence of recorded archaeological sites that have been found within the identified area. These include archaeological sites that are included in the New Jersey or National Registers of Historic Places, have been determined eligible for inclusion through federal or state processes as administered by the New Jersey Historic Preservation Office (NJHPO), or have been identified through cultural resource survey or other documentation on file at the NJHPO. Grid Blocks EL194 and EL193 are located within the study area.

Historic Architectural Resources

Three previously identified historic properties are located within the study area as well as the GSP historic district. The boundary of the eligible historic district includes the entire right-of-way acquired and developed for the GSP within its period of significance (1945 to 1957). The built environment in the vicinity of the study area is characterized by a mixture of commercial and residential buildings. 71 Irons Street is a historic property identified as American Supply Co. in February 2001 through the Cultural Resources investigation for the Toms River Bridge Project. Two identified properties along West Water Street, 28 and 38 West Water Street, were identified as Downtown Dry Cleaners and Catholic Charities, respectively. The two properties were identified in February 2001 through the Cultural Resources investigation for the Toms River Bridge Project.

E. Section 4(f) Properties

A review of GIS mapped NJDEP database information, as well as information collected during the site reconnaissance, did not identify publicly owned wildlife/waterfowl refuges. The review did identify, however, municipal-owned open space (Township of Toms River) that is located at the southeast corner of the Main Street/Water Street intersection. In addition, the GSP Historic District intersects the project area at the on and off ramps for Exit 81.

F. Pinelands

According to available mapping from the Pinelands Commission, the western side of the Highland Parkway/Lakehurst Road intersection is within a Regional Growth Pinelands Management Area. In this area the Pinelands Commission has limited regulatory jurisdiction. Applications to the Commission are not required for development in this area.

G. Wetlands

According to available mapping from the New Jersey Department of Environmental Protection (NJDEP), there are mapped wetlands within or adjacent to the project limits in the northwest corner on either side of Highland Parkway approaching the intersection with Lakehurst Road.

H. Reforestation

The New Jersey No Net Loss Reforestation Act requires that for any state project or any project constructed on state land removing 0.5 acre or more of forest, the state agency must develop and execute a reforestation plan. Based on the location and nature of project activities, it is not anticipated that the project will result in more than 0.5 acre of contiguous deforestation.

The need for hazardous tree removal must be determined by a field visit during the Preliminary Engineering phase. A tree clearing timing restriction between April 1 and August 31 may be required to comply with the Migratory Bird Treaty Act.

I. Floodplain

According to available Federal Emergency Agency (FEMA) Flood Insurance Rate Map (FIRM) number 34029C0304F, the majority of the project area is located in Zone AE (within the 100-year floodplain).

J. Surface Water Characteristics

Toms River, which Main Street crosses over south of the intersection with Water Street, is classified as FW2-NT/SE1, non-trout stocking freshwater saline estuary. The dual classifications indicate that the waters change from freshwater to saline water as they drain into the estuary. No Wild and Scenic Rivers are located within the study area.

K. Sole Source Aquifer

According to data available through NJDEP, the study area is within the New Jersey Coastal Plain sole source aquifer.

L. Threatened/Endangered Species

A review of the New Jersey Landscape Project Version 3.3 was conducted in order to determine if any records of rare, threatened or endangered species or their habitat have been documented within the project limits. Based on this review, no records of

occurrence for state threatened, state endangered species, or their habitat were identified within or in the vicinity of the project area.

The USFWS Information, Planning, and Conservation (IPaC) system was reviewed to determine if any species protected by the Endangered Species Act are documented within the project limits. According to the IPaC resource list, the northern long-eared Bar (*Myotis septentrionalis*, federally threatened), swamp pink (*Helonias bullata*, federally threatened) and Knieskern's Beaked-rush (*Rhynchospora knieskernii*, federally threatened) could potentially be affected by proposed project activities.

M. Acid-Producing Soils

According to NJDEP GeoWeb, potential acid-producing soils exist at the southern and western edges of the study area. The Kirkwood sedimentary formation within the area have the potential to produce these soils upon air exposure through drainage or earth-moving operations.

N. Category 1 Waters

No Category 1 waters are located within or in the vicinity of the project area.

O. Vernal Pools

According to NJDEP Project Version 3.3 Vernal Habitat and Vernal Pool GIS data layers, the study area does not contain any vernal habitats, pools or potential vernal habitats.

P. Stormwater

It is anticipated that the project will result in over one acre of total land disturbance. Therefore, compliance with NJDEP Stormwater Management Rules (SWM) will be required. The potential locations for stormwater management facilities within the study limits are limited due to the developed condition of the surrounding area.

Q. Hazardous Waste

According to GIS mapping of NJDEP database information, a total of four NJDEP Known Contaminated Sites are located within or adjacent to the study area. Additionally, approximately half of the study area is within groundwater Contamination Exemption Areas (CEA). Additionally, the areas beneath the Lakehurst Road/Highland Parkway intersection and Main Street/Water Street intersection are mapped as historic fill material.

Since there are several sites with NJDEP enforcement cases and historical fill within the project area, there is the potential for involvement with regulated material or contaminated sites. Once more specific project plans are available then a reevaluation will be made during preliminary engineering to determine whether environmental investigation will be required.

R. Anticipated Environmental Permits or Approvals

The following permits and approvals are anticipated to be required.

- NJDEP Coastal Area Facility Review Act (CAFRA) Permit
- Soil Erosion and Sediment Control Approval – Ocean County Soil Conservation District
- NJDEP Stormwater Construction General Permit 5G3
- Potential for NJDEP Flood Hazard Area Permit (including Stormwater Management review)
- Potential for NJDEP Freshwater Wetlands LOI
- Potential for NJDEP Freshwater Wetlands Permit with 401 Water Quality Certificate
- Potential for Green Acres Coordination

S. Ecology

The project study area falls within the CAFRA Zone and the Waterfront Development area. Additionally, wetland and riparian zones are located within the 200 foot project study area. This project is likely regulated by FHA Control Act Rules and portions of the project may be in a floodplain and may be controlled by the Tidal Flood Elevation.

State claimed riparian tidelands are associated with the Toms River. The project is also located within the NJ Coastal Plains Sole Source Aquifer.

VI. Evaluation of Conceptual Alternatives

The focus of this phase was to develop alternatives that met the project purpose and need and based on community feedback advance a Preliminary Preferred Alternative (PPA) into the Preliminary Engineering phase of the project delivery process.

A. Conceptual Alternatives

Initially, concepts were developed with the following focus:

- Build No Mitigation
- Signal Improvements
- Safety Improvements
- Traffic Flow

Alternative 1 (Build No Mitigation)

This alternative was provided for comparison. When considered for viability in relation to the project purpose and need, the alternative does not address the primary objective, which is to address existing safety and operational issues while providing capacity for planned re-development of the waterfront area.

Alternative 2 (Loop Road)

This alternative originated from the Toms River Downtown Neighborhood Circulation Study, dated June 21, 2016. The study recommended that a counterclockwise “One-Way Loop” be incorporated on the local network of roads (Water Street, Highland Parkway, Herflicker Boulevard, South Main Street, Route 166). Assumptions and significant changes from the existing conditions are summarized below:

- Water Street is one-way only in the Westbound direction between RT 166 and Highland Pkwy;
- Highland Parkway and Herflicker Blvd are completed and connected south of the Water Street/Highland Parkway signalized intersection;
- Herflicker Blvd/Irons Street is a signalized intersection;
- RT 166/Water Street intersection has an additional Westbound through lane, and the Southbound lefts are removed;
- Water Street/Irons Street has an additional Westbound through lane;
- Water Street/Highland Pkwy intersection is one-way in the Westbound direction, therefore the Southbound left, Northbound right, and Eastbound through movements were removed, and

- New exit ramp provided for GSP Northbound to Highland Parkway (349 and 203 vehicles in the AM and PM peak, respectively), which provides access from the GSP Northbound to Lakehurst Road to the west of the GSP.



Figure 5- Alternative 2

Alternative 3 (Intersection Improvements)

This alternative includes physical and operational improvements at six intersections within the Project Area. Improvements to the specific intersections are listed below.

Water Street & S. Main Street (Route 166)

Route 166 Southbound lefts are removed and directed to Washington Street. The Southbound approach then becomes a right-turn only, eliminating a phase from the signal and allowing the signal to operate more efficiently. Combined with the improvements discussed in the next section for the Water Street & Irons Street intersection, the Water Street Westbound section between Route 166 and Irons Street will operate with less queuing. The improvement in this section will provide an easier movement for Route 166 Southbound right-turning traffic to get onto Water Street.

Water Street & Irons Street

Irons Street southbound rights are channelized with an overlap phase, reducing time needed for this phase. Water Street phasing is adjusted for more efficient green time usage.

Water Street/Lakehurst Road & Highland Parkway & GSP On/Off Ramps

A modern hybrid roundabout would replace the two closely-spaced intersections. The roundabout offers two through lanes for Water Street/Lakehurst Road and one circulating lane. The roundabout would offer safety and operational improvements at these challenging intersections. Also, it would serve as a gateway to the downtown area and help transition operating speeds from higher to lower as motorists approach the Waterfront.

Herflicker Boulevard & Irons Street

A new traffic signal will be installed to facilitate extra volume on Herflicker Boulevard. Northbound Irons Street is proposed as a channelized, yield controlled, right-turn only movement. Herflicker Boulevard eastbound is widened to provide two lanes approaching the proposed signal.

Herflicker Boulevard & S Main Street

As proposed, Eastbound Herflicker Boulevard through re-striping would add a right-turn lane. Westbound Herflicker Boulevard left-turns are eliminated. The removal of this low-volume turning maneuver allows for better Eastbound Herflicker Boulevard progression and reduces queueing.

Alternative 3 conceptual-level plans are included in ***Appendix J***.

Alternative 4 (Water Street Widening)

This alternative included widening Water Street by adding an additional Eastbound lane between Irons Street and RT 166. The key operational benefit of this alternative is providing Water Street Eastbound two through lanes at Irons Street. The main operational issue with this alternative is the 'free' lane from RT 166 Northbound at Water Street is converted to yield control or dual right-turn lane signal control. Initial operations analysis results using SimTraffic showed RT 166 Northbound delay during the 2045 AM peak in excess of 100 seconds (LOS F), and queuing extending to Crabbe Road (approximately 2500 feet from signal).

Widening Water Street Eastbound between Irons Street and RT 166 would also most likely require taking three buildings on the southern side of Water Street. These early identified issues caused this alternative to be dismissed from further analysis.

B. Traffic Analysis

Alternative 2 (Loop Road)

In order to analyze the change from Existing to One-Way Loop conditions, traffic volumes were redistributed to account for the roadway network changes.

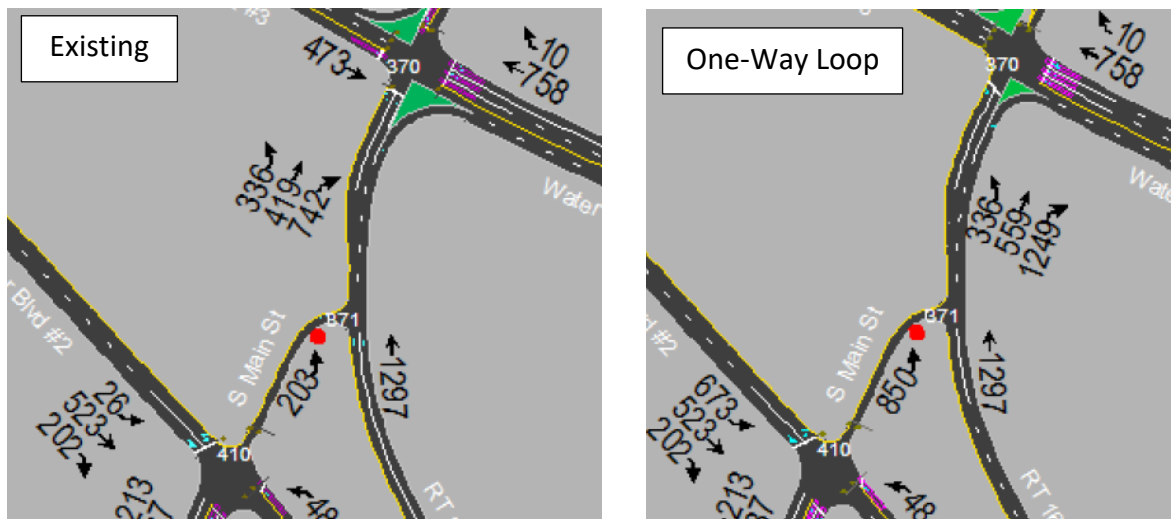


Figure 6- Traffic Volume Redistribution from Existing to One-Way Loop Conditions

As can be seen in **Figure 6**, the One-Way Loop conversion leads to a huge increase in the volume of traffic coming from South Main Street with the intersection of RT 166 and South Main Street becoming one of the key bottleneck locations in the study area.

The Synchro results for this location are as follows:

AM Peak

- EB V/C ratio = 3.0 [Approximately 1.0 is regarded as LOS F]
- EB Delay = 937 seconds (LOS F) [50 seconds is LOS F at unsignalized intersections]

PM Peak

- EB V/C ratio = 1.6
- EB Delay = 288 seconds (LOS F)

Volume to Capacity (v/c) ratios of 1.0 mean the approach or intersection is operating near or at capacity. A v/c ratio of 3.0 indicates that the existing roadway network would need to significantly change (e.g., additional lanes, new routing, etc.) to provide sufficient capacity to accommodate existing traffic volumes. Intersection Synchro reports for RT 166 and South Main Street are provided in **Appendix D**.

Analysis was completed at the intersection of RT 166 and South Main Street with the change to a signalized intersection for the future year 2045 AM volumes in an attempt to mitigate the traffic operations issues described in the above Existing conditions analysis. Note, AM peak was analyzed as the traffic volumes at this intersection are higher compared to the PM peak. The lane configurations analyzed included the following:

Scenario 1: Two lanes on RT 166 and One Lane on South Main Street

Scenario 2: Two lanes on RT 166 and Two Lanes on South Main Street (See **Figure 7** below)

The Synchro results for RT 166 and South Main Street are as follows:

Scenario 1

- EB V/C ratio = 2.02
- EB Delay = 486 seconds (LOS F)
- RT 166 NB queuing extends past Crabbe Road
- Network gridlock

Scenario 2

- EB V/C ratio = 1.04
- EB Delay = 83 seconds (LOS F)
- EB queuing extends onto Herflicker Blvd and back to Herflicker Blvd/Irons Street signal
- RT 166 NB queuing extends past Crabbe Road

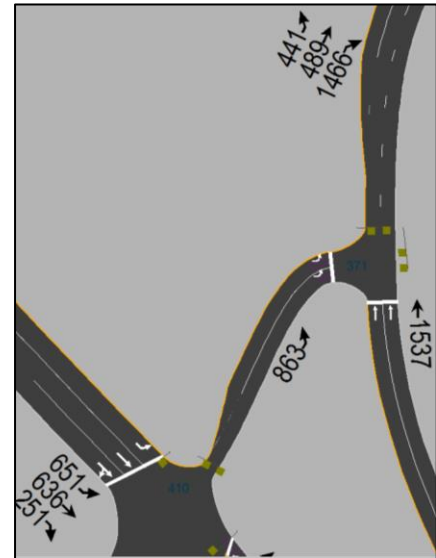


Figure 7- Scenario 2

The results above show that even with signaling the RT 166 and South Main Street intersection and two lanes on South Main Street approaching the signal, the intersection still operates above capacity with significant delay and queuing issues in the network. Intersection Synchro reports for RT 166 and South Main Street for the 2045 AM signalized conditions discussed above are provided in **Appendix D**.

The analysis results completed as described above show that under existing, unsignalized conditions the RT 166 and South Main Street intersection operates at well above capacity LOS F conditions with a South Main Street EB volume-to-capacity ratio of 3. Signalizing the RT 166 and South Main Street intersection and adding an additional lane to South Main Street approaching the signal, the intersection still operates above capacity with significant delay and queuing issues in the network. Key issues at the RT 166 and South Main Street intersection include:

- Inadequate signal spacing to RT 166 and Water Street (~300 feet)
- Herflicker Blvd to South Main Street tight right turn less than 90 degrees not ideal for trucks
- Challenging design of South Main Street two lane approach to RT 166
- Operations results show LOS F with extensive queuing upstream of RT 166 and South Main St

Based on the above analysis, the One-Way Loop concept as shown in the Downtown Neighborhood Circulation Study dated June 21, 2016, and even with improvements at the

key bottleneck intersection, is not operationally feasible and, in turn, does not address one of the key Project Needs which is to mitigate congestion.

Alternative 3 (Intersection Improvements)

Roundabout

The 2045 AM/PM Build volumes, which are based on anticipated background growth and the proposed Toms River Waterfront Development, were analyzed on the Water Street/Highland Parkway/GSP NB Ramps roundabout concept using the SIDRA program. This program provides results using two separate methodologies: (1) SIDRA Standard Delay Model, and (2) Highway Capacity Manual (HCM) model. In general, the HCM model is a more conservative approach to delay and queuing results. **Table 15** shows the 2045 HCM delay and LOS results for the roundabout at Water Street/Highland Parkway/GSP NB Ramps.

Peak Hour	2045 Alternative 3 Roundabout HCM Delay (LOS)					
	Highland Pkwy	Highland Pkwy	Water St	Water St	GSP Off-Ramps	ALL
	NB	SB	EB	WB	5 th Leg	
AM Peak Hour	15.4 (C)	7.4 (A)	7.0 (A)	10.9 (B)	29.5 (D)	16.5 (C)
PM Peak Hour	15.9 (C)	13.9 (B)	13.7 (B)	15.8 (C)	27.8 (D)	17.0 (C)

Table 15 - 2045 Alternative 3 Roundabout Hour Level of Service and Delay

The HCM model results show LOS D or better for all approaches. During the 2045 AM peak the GSP NB Ramps approach has delay of 29.5 seconds (LOS D) and 95% Back of Queue of 235 feet.

The proposed two-lane storage distance for the GSP NB Ramps approach to the roundabout is approximately 260 feet. The SIDRA model results for the 2045 AM peak on the GSP NB Ramps approach has a 95% Back of Queue at 112 feet.

Based on these operations results, the proposed roundabout concept should overall operate well during the 2045 Build condition. The GSP NB Ramps approach 95% Back of Queue should remain within the two-lane storage distance approach to the roundabout during the 2045 AM Build condition based on the conservative HCM model results. Complete SIDRA results for Alternative 3 roundabout traffic analysis is included in **Appendix D**.

Downtown Intersections

In addition to the roundabout at Water Street/Highland Parkway/GSP NB Ramps, Alternative 3 includes intersections improvements outlined in the previous section. **Tables 16 and 17** show the SimTraffic delay and LOS results for the 2045 AM and 2045 PM peak hours.

Intersection	2045 Alternative 3 AM Peak Hour				
	NB	SB	EB	WB	ALL
Water Street & Adafre Ave*	F (77)	-	C (18)	A (6)	B (13)
Water Street & Irons Street	-	A (2)	C (33)	C (23)	C (26)
Water Street & RT 166 (Main Street)	C (21)	A (1)	C (34)	C (23)	C (22)
Water Street & Horner Street	D (45)	C (26)	C (22)	B (18)	C (21)
Water Street & Hooper Ave	-	A (9)	B (11)	C (34)	B (13)
Hooper Ave & Washington Street	B (13)	B (10)	B (19)	C (24)	B (16)
RT 166 & Lien Street*	A (2)	A (2)	C (18)	-	A (5)
RT 166 & Irons Street/Legion Court*	A (4)	A (4)	F (103)	D (26)	C (20)
RT 166 & Washington Street	A (7)	A (8)	-	C (26)	B (11)
RT 166 & South Main Street*	B (15)	-	F (74)	-	C (23)
Herflicker Blvd & Adafre Avenue*	-	A (5)	A (1)	A (1)	A (2)
Herflicker Blvd & Irons Street	A (1)	A (4)	E (44)	-	C (14)
Herflicker Blvd & South Main Street	F (96)	-	A (8)	-	C (24)
Travel Time					
Route & Direction	Build-No-Mitigation		Build-Alternative 3		% Difference
Water Street EB	5.6		3.8		-32%
Water Street WB	11.4		3.8		-67%

Table 16 - 2045 Alternative 3 AM Peak Hour Level of Service and Delay and Travel Time

* Unsignalized intersection

Table 16 results show 2045 Alternative 3 AM Peak Hour results are LOS D or better with the following exceptions. Water Street & Adafre Ave is an unsignalized ‘tee’ intersection where the Adafre Ave Northbound left turns may have difficulty finding an adequate gap to get onto Water Street Westbound, depending on how much of the development volume utilizes Adafre Ave to access Water Street. RT 166 & Irons Street/Legion Court is an unsignalized intersection in close proximity to the RT 166 & Washington Street signalized intersection just 350 feet to the south that also has additional volume from the development looking to head north on RT 166. Herflicker Blvd & South Main Street operates at LOS F and the main cause of this is the RT 166 & South Main Street STOP controlled intersection that spills back into the Herflicker Blvd & South Main Street signal.

This Northbound delay is significant at 96 seconds of delay, but similar to the 2045 Build No Mitigation AM Peak Hour results which was 97 seconds of delay.

The travel time results in **Table 16** show a 32% and 67% improvement for Water Street Eastbound and Westbound, respectively, when comparing Alternative 3 to the Build-No-Mitigation condition.

Intersection	2045 Alternative 3 PM Peak Hour				
	NB	SB	EB	WB	ALL
Water Street & Adafre Ave*	F (102)	-	B (11)	A (8)	B (12)
Water Street & Irons Street	-	B (13)	D (49)	B (21)	C (27)
Water Street & RT 166 (Main Street)	C (29)	A (7)	D (37)	D (40)	C (30)
Water Street & Horner Street	E (78)	E (64)	D (42)	C (32)	D (39)
Water Street & Hooper Ave	-	C (27)	B (10)	C (33)	C (21)
Hooper Ave & Washington Street	C (22)	B (18)	C (31)	C (32)	C (25)
RT 166 & Lien Street*	A (2)	A (2)	C (17)	-	A (3)
RT 166 & Irons Street/Legion Court*	A (4)	A (3)	F (73)	F (108)	C (23)
RT 166 & Washington Street	B (15)	A (9)	-	D (38)	B (17)
RT 166 & South Main Street*	A (9)	-	E (39)	-	C (17)
Herflicker Blvd & Adafre Avenue*	-	A (4)	A (1)	A (1)	A (2)
Herflicker Blvd & Irons Street	A (1)	A (7)	D (49)	-	B (14)
Herflicker Blvd & South Main Street	F (125)	-	B (14)	-	C (32)
Travel Time					
Route & Direction	Build-No-Mitigation	Build-Alternative 3	% Difference		
Water Street EB	8.2	4.5	-45%		
Water Street WB	7.2	4.5	-38%		

Table 17 - 2045 Alternative 3 PM Peak Hour Level of Service and Delay and Travel Time

* Unsignalized intersection

Table 17 results show 2045 Alternative 3 PM Peak Hour results are LOS D or better at most locations with intersections at LOS F similar to the AM Peak Hour in **Table 15**. Some intersections with LOS E or F in addition to the explanations found above for the AM peak include the following locations. Water Street & Horner Street sidestreet approaches operate at LOS E mainly due to the new development on the south side of Water Street.

This Northbound delay for South Main Street at Herflicker Blvd is significant at 125 seconds of delay, but an improvement over the 2045 Build No Mitigation PM Peak Hour results which was 129 seconds of delay.

The travel time results in **Table 17** show a 45% and 38% improvement in travel time for Water St. EB and WB, respectively, when Alt. 3 is compared to the Build-No-Mitigation.

C. Hydrology & Hydraulics Analysis

The entire project is within the Watershed Management Area 13 – Barnegat Bay and falls within the Toms River Lower (below Rt. 166) (02040301080-090) Hydrologic Unit Code (HUC) 14 areas.

Within the immediate vicinity of the project area, the land use is categorized as developed and mainly commercial. The topography within the project area generally has level slopes along the roadway with the exception of Lakehurst Road between the GSP overpass and the Highland Parkway intersection, which has a moderate vertical grade. The majority of the project area is impervious surface with patches of vegetation towards the western portion of Water Street/Lakehurst Road.

Overall, the topography and characteristics of the watershed will remain unchanged in the proposed condition for each alternative. The adjacent Ocean County Herflicker Extension project will raise Herflicker Boulevard from Highland Parkway to Adafre Avenue, limiting flooding north of Herflicker while utilizing it as an evacuation route during flooding events.

There is an existing drainage system in place that captures surface drainage in several locations. Due to the anticipated reconstruction of the project location, much of the existing drainage system is anticipated to be replaced.

Stormwater Management Assessment

While Alternative 3 is anticipated to be classified as a Major Development and thus subject to the Stormwater Management Rules; Alternative 2 will not be classified a Major Development. The total disturbance for Alternative 3 will surpass the 1-acre threshold for major development status. However, there will be a net negative regulated motor vehicle surface. **Table 18** summarizes the added coverage elements for the most impactful alternative (Alternative 3).

Coverage Element	Acres	TSS Removal
Net Regulated Motor Vehicle Surface	-0.56	80%
Net Change Sidewalk	0.02	N/A
Total Added Regulated Impervious	-0.54	80%
Total Disturbance	3.74	

Table 18- Stormwater Coverage Assessment

Sidewalks are not subject to the water quality restrictions, but apply to impervious coverage totals, pre and post runoff peak analyses.

Future assessment will be required to assess soil suitability and recharge capacity. Alternative 2 would require a reconstruction of the current drainage infrastructure and would require compliance with the stormwater management rules.

A detailed drainage analysis for the study area was not performed as a part of this Concept Development study. A thorough drainage analysis will need to be performed during PE to ascertain the necessary modifications and/or additions to the existing drainage system for the implementation of the PPA.

D. Right of Way Impacts and Review

A preliminary assessment of the proposed alternatives anticipated impacts of varying magnitude throughout the project area. Initial impacts for Alternatives 2 and 3 were summarized in the Alternatives Matrix. (see **Appendix C- Right of Way-Jurisdiction-Property Data**).

E. Access Impacts and Review

Alternative 2

Properties abutting “The Loop” will maintain access to their intersecting street but will be restricted to the counterclockwise one-way flow within the loop.

Alternative 3

Based on the preliminary proposed improvements, this project will require access modifications to 3 properties.

Driveway No. 1 (322 West Water Street) is located on the Water Street spur which provides access to the Highland Parkway intersection to the west as well as eastbound Water Street. The property has alternative access along Herflicker Boulevard. The PPA will modify the Water Street access point to a right-in/right-out only condition as it will be located along the eastbound Water Street exiting leg of the roundabout.

Driveway No. 2 (320 West Water Street) is also located along on the Water Street spur. The driveway will be converted to a right-in/right-out condition. The parcel also has another access point along Water Street approximately 300 feet to the east, which will be unaffected.

Driveway No. 3 (325 West Water Street) is located along Westbound Water Street approaching the Highland Parkway intersection. This full-access driveway will be converted to a right-in/right-out condition. Further investigation, including Eastbound ingress, will be investigated in PE.

Table 19 below provides a summary of the affected properties for Alternative 3.

No	Block	Lot	Owner	Type of Access Impact
1	566.01	3	JCP&L @GPU SERVICE TAX DEPT	Modification
2	566.01	4	320 ASSOC LLC ETALS @ H DVORKIN	Modification
3	537	20	NAPLES FLP	Modification

Table 19- Access Impact Summary – Alternative 3

F. Constructability and Staging Plans and Detour Plan

A preliminary assessment of the alternatives was considered for their constructability to ensure the proposed improvements could be built in a reasonable sequence. Acknowledging that a construction scheme will work, the PPA’s sequence will be further refined in preliminary design.

Initial concepts for the PPA preliminary staging are provided in Subsection 6.14, Preliminary Preferred Alternative (PPA); Construction Staging/Constructability and conceptual staging plans are provided in **Appendix J, Preliminary Preferred Alternative**.

The alternatives staging are described below:

Alternative 1: No-Build: No staging would be required

Alternative 2: To construct “The One-Way Loop”, the modifications to the existing intersections and roadway network would require short-term closures with detours to implement the change in traffic flow and associated improvements.

Alternative 3: During Stage 1, access to and from the north side Highland Parkway above Water Street will be detoured. The southern portion of Highland Parkway will remain open. One thru-lane on Water Street will remain open as well as a left-turn lane on Westbound Water Street. Portions of the final pavement box, drainage, curbing and sidewalk will be constructed. Stage 1a & 1b will be different in that Water Street traffic will be shifted from the northern part of the existing cartway to the southern part in order to construct the full width of Water Street. A temporary traffic signal will be in place at the Water Street and Highland Parkway intersection during Stage 1.

During Stage 2, traffic will circulate as a temporary roundabout. The central island will be constructed. All legs and movements will be open.

Stage 3 will construct the splitter islands of the roundabout while maintaining the temporary traffic condition.

The other intersection improvements included in Alternative 2 can be constructed using standard NJDOT flagging or traffic control figures.

G. Substandard Design Elements and Reasonable Assurance

The PPA will not correct a few existing substandard design elements set forth in the NJDOT-RDM at the following locations.

- Outside shoulder width on Water Street,
- Outside shoulder width on Lakehurst Road and
- Outside shoulder width on Irons Street

Improvements to these existing substandard elements were investigated but ultimately it was determined the standards cannot be fully realized without compromising either the pedestrian access routes, building frontage areas or impeding traffic flow.

It is anticipated that the proposed roundabout will meet all design criteria set forth in NCHRP 672, Roundabouts: An Informational Guide, Second Edition. The proposed alternatives were developed to incorporate the current minimum design criteria and not adversely change the current elements. The PPA addresses several of the identified existing substandard design elements including horizontal curvature on Highland Parkway and vertical curve length on Irons Street and Herflicker Boulevard.

H. Complete Streets

A Complete Streets Policy was adopted by the Township of Toms River in July, 2012 to recognize the need to accommodate all modes of travel on Township owned streets, including pedestrians, cyclists, motorists, and transit. Whenever feasible to do so all public street projects, both new construction and reconstruction, excluding maintenance, undertaken by the Township shall be designed and constructed as “Complete Streets”. Whereas this project proposes improvements to Township streets we anticipate further evaluation of proposed improvement in accordance with the Township’s Complete Streets Policy as part of Preliminary Engineering (PE) phase.

The Complete Streets Policy is included in **Appendix Q-Complete Streets**.

I. Construction Cost Estimate

A preliminary order of magnitude cost assessment was developed for both Alternatives 2 and 3 for comparison. Costs are captured in the Alternatives Matrix provided in **Appendix H** and more detailed cost estimates for each Alternative are provided in **Appendix P**.

Table 20 summarizes the costs for all the alternatives studied. (Costs in Millions)

Alternative	2	3
Const. Cost	\$4.6	\$5.0
ROW	\$0.1	\$0.3
Total Cost	\$4.7	\$5.3

Table 20- Order of Magnitude Construction Costs

J. Alternatives Matrix

The Alternatives Matrix is provided in **Appendix H- Alternatives Analysis/Matrix**.

K. Risk Analysis Summary

The risk management efforts conducted during CD included performing risk analysis to determine the probability and impacts of potential risk events and populating the risk register with the associated risks for the PPA.

A copy of the risk register can be found in **Appendix L**.

L. Preliminary Preferred Alternative (PPA)

After consideration and discussion with Ocean County, Toms River, South Toms River and other project stakeholders, the decision was made to advance Alternative 3, a network-wide solution that incorporated modifications to the intersections of Water Street at Irons Street and Route 166 (Main Street), Herflicker Boulevard at Irons Street and S Main Street, and a hybrid roundabout at the intersection of Water Street/Lakehurst Road and Highland Parkway. The solution best addresses the established purpose and need, and was viewed favorably by the participating entities.

Specifically, the PPA consists of the following:

- Construction of a modern hybrid roundabout at the intersections of Water Street/Lakehurst Road and Highland Parkway.
- Channelizes the Southbound Irons Street right-turn movement the Water Street intersection and adds a Flashing Red Arrow (FRA) to the southbound approach.
- Removes the N. Main Street left-turn movement from the signal operations at the intersection with Water Street, effectively modifying the signal to two-phased operation.
- Signalization of the Herflicker Boulevard & Irons Street intersection and widening and addition of an eastbound thru-right lane at Herflicker Boulevard. This includes the channelization of the right-turn only lane at the northbound Irons Street approach.
- Restripes the eastbound Herflicker Boulevard approach to provide a thru-left, thru, and right-only lanes at the intersection with S. Main Street. Removes the westbound Herflicker Boulevard approach from this signal and provides an additional eastbound thru lane.

When the PPA advances into Preliminary Engineering, coordination between several parties and projects will be required to ensure a cohesive overall design between individual projects. These projects include NJDOT's Replacement of Route 166 bridge over Branch of Toms River, NJTA's Garden State Parkway Operational Improvements to Interchange 81 and Ocean County's Herflicker Boulevard Extension.

Traffic Operations

Tables 21 and 22 show a comparison of delay at key intersections and travel time along Water Street between Build-No-Mitigation and PPA conditions. These tables show significant reduction in Level of Service (LOS) at intersections identified in the project Purpose and Need, such as the Water Street/Irons Street intersection and the Water Street/Highland Parkway/GSP NB Off-Ramps intersection. These tables also show that the project goal of accommodating future transportation network needs was met as the traffic operations analysis included trips generated by the waterfront development.

	2045 AM Peak									
	Build-No-Mitigation					Build Alternative 3 (PPA)				
Intersection	NB	SB	EB	WB	ALL	NB	SB	EB	WB	ALL
Water Street & Highland Pkwy	F (90)	B	C	B	D	C	A	A	B	C
Water Street & Irons Street	-	F (93)	D	D	D	-	A	C	C	C
Water Street & RT 166	B	A	C	F (112)	D	C	A	C	C	C
Water Street & Horner Street	F (103)	E	C	F (142)	E	D	C	C	B	C
RT 166 & Washington Street	A	A	-	C	A	A	A	-	C	B
RT 166 & South Main Street*	B	-	F (54)	-	C	B	-	F (74)	-	C
Herflicker Blvd & Irons Street	A	A	E	-	A	A	A	E	-	B
Herflicker Blvd & South Main Street	F (97)	-	B	F (96)	D	F (96)	-	A	-	C
Travel Time										
Route & Direction	Build-No-Mitigation					Build Alternative 3 (PPA)				
Water Street EB	5.6 minutes					3.8 minutes				
Water Street WB	11.4 minutes					3.8 minutes				

Table 21 - 2045 AM Peak Hour Comparison of Build-No-Mitigation and Alternative 3

* Unsignalized intersection

	2045 PM Peak									
	Build-No-Mitigation					Build Alternative 3 (PPA)				
Intersection	NB	SB	EB	WB	ALL	NB	SB	EB	WB	ALL
Water Street & Highland Pkwy	F (295)	D	F (126)	D	F (99)	C	B	B	C	C
Water Street & Irons Street	-	F (127)	E	C	E	-	B	D	C	C
Water Street & RT 166	C	B	A	E	C	C	A	D	D	C
Water Street & Horner Street	E	D	B	F (118)	E	E	E	D	C	D
RT 166 & Washington Street	B	A	-	D	B	B	A	-	D	B
RT 166 & South Main Street*	A	-	E	-	C	A	-	E	-	C
Herflicker Blvd & Irons Street	A	A	E	-	A	A	A	D	-	B
Herflicker Blvd & South Main Street	F (129)	-	c	F (83)	D	F (125)	-	B	-	C
Travel Time										
Route & Direction	Build-No-Mitigation					Build Alternative 3 (PPA)				
Water Street EB	8.2 minutes					4.5 minutes				
Water Street WB	7.2 minutes					4.5 minutes				

Table 22 - 2045 PM Peak Hour Comparison of Build-No-Mitigation and Alternative 3

* Unsignalized intersection

Safety

The PPA at the Water Street/Highland Pkwy/GSP NB Off-Ramp intersection removes the conflict points associated with the current intersection configurations and addresses operational challenges that lead to higher crashes. Additionally, the PPA provides greater flexibility for handling latent and future demand, incidents, changing travel patterns / traffic volumes. As an FHWA “Proven Safety Countermeasure”, historical data suggests the conversion of a signalized intersection to a roundabout produces a 78% reduction in severe crashes. A modern roundabout would significantly reduce the number of conflicting movements and eliminate the two closely spaced signalized and unsignalized intersections that exist today.

The PPA also proposes replacing traffic signal equipment at several downtown intersections to meet current standards. Improvements to signal equipment, phasing adjustments, and optimized offsets for progression in the PPA will reduced queuing along

Water Street in the Irons Street and Route 166 area, which should reduce rear-end collisions and improve safety. Additionally, pedestrian safety will be improved with sidewalk connections, curb ramps at all corners of the intersection, and pedestrian push buttons and countdown signal heads at all signalized crossings. High visibility crosswalks will be used at all pedestrian crossings. As part of PE, the use of Leading Pedestrian Intervals (LPIs) should be evaluated at key pedestrian crossing locations. Substandard guide rail along Lakehurst Road and Highland Parkway will be upgraded to MASH standards at the proposed roundabout.

Geometrics

Intersection Improvements

The PPA maintains existing roadway geometrics and width except at the Herflicker Boulevard & Irons Street intersection, where a 150' auxiliary eastbound lane will be added by widening. For the rest of the PPA's intersection improvements, using the existing curblines and roadway geometry eliminates the need to reconstruct the roadway, avoids relocating and redesigning the existing drainage system, and reduces the added impervious quantity thus avoiding stormwater management rules compliance. Additionally, maintaining the current roadway geometry avoids potential fill in a Flood Hazard Area as well as in a potential Wetland Transition area.

The vertical alignment will be maintained along the project corridors, excluding at the proposed roundabout.

Roundabout

The PPA roundabout was designed to have an inscribed central diameter (ICD) of 244 feet. This falls outside of the normal suggested range for two lane roundabouts which have an upper value of 220 feet. However, with more than four legs, it is often necessary to design a large ICD to accommodate adequate spacing between each of the approaches to the roundabout. The location of the center of the roundabout was determined by looking for a location that would maximize the leg spacing and deflection, while trying to minimize the vertical impacts that would make the grading of the roundabout more difficult.

There is a grading difference of approximately 8-10 feet from the point of which an Eastbound traveling vehicle would enter the roundabout from the bridge over the GSP and the circulating roadway. The farther east the roundabout is moved the less the grading difference becomes, but that also results in a closer spacing of the western approach legs (GSP and EB Water Street). These two design aspects were balanced to provide adequate spacing while trying to reduce/minimize the vertical grade change.

The orientation of each approach entering the roundabout was designed to provide appropriate sight lines for entering vehicles. As a vehicle approaches the roundabout it is desirable to have good sight lines to see the circulating traffic to the drivers' immediate left as well as the entering vehicles from the approach to the left of the entering vehicle. It is also desirable to have the entering vehicles be appropriately aligned with the

receiving lane so a driver does not have worry about aligning their vehicle while entering the roundabout.

Those stated reasons are why the northbound movement is shifted away from the exiting southbound move on the same leg. The northbound driver needs to be properly aligned with the circulating lane and be able to see two lanes of entering and circulation traffic. The greater separation provides time for the driver to make their decision on when to enter.

Both the southbound and eastbound approaches have separate right turn only lanes. This was done to provide the right turning vehicles room to make the turn as well as to provide adequate sight angles. Both turns were modeled with WB-62 trucks and the trucks are able to make right turns without encroaching on any curbs or islands.

Utilities

The PPA will require significant utility relocation. The proposed roundabout at the Water Street/Highland Parkway intersection will necessitate the relocation of multiple utility poles. Several underground utilities; including gas, telecommunications, water and public sewer; exist within the footprint of the conceptual roundabout and may be subject to relocation despite not anticipating being in a cut section.

Lighting was not evaluated as part of this CD effort. However, existing lighting fixtures are located on the existing signal equipment and utility poles which means new lighting equipment will need to be installed in these areas. Lighting will be evaluated during PE/FD.

Right of Way

Impacts to existing Right of Way were refined and calculated for the PPA. This project anticipates right of way acquisitions from eight (8) parcels, which will also require temporary site mitigation work easements.

A ROW cost estimate is provided in ***Appendix M–ROW Impact Plan and Cost Estimate***.

Anticipated Environmental Document/Stormwater Management

The anticipated NEPA environmental document required for implementation of the project is a Class II Action-- Categorical Exclusion, per 23 CFR 771.117 (d) (1) and (2). The PPA is anticipated to be classified as a Major Development and subject to the Stormwater Management Rules.

Bicycle and Pedestrian Compatibility

The proposed improvements associated with this project are anticipated to be in accordance with AASHTO; Guide for the Development of Bicycle Facilities, 4th Edition design standards considering the following:

- The proposed project provides safe and accessible accommodations for existing and future pedestrian, bicycle, and transit facilities.

- The transportation facilities are long-term investments that shall anticipate likely induced future demand for bicycling and walking facilities and do not preclude the provision of future improvements.
- The project will provide full ADA compliance.

Further analysis of additional pedestrian and bicycle accommodations is anticipated as part of Preliminary Engineering (PE) phase. This analysis should consider evaluating the following:

- Proposed high visibility crosswalk locations at the intersection of Water Street/Lakehurst Road/Highland Pkwy/GSP ramps.
- Installation of RRFBs and other pedestrian crossing treatments at the GSP ramp crossings.
- Bike lane connections between Main Street (RT 166) and the future Barnegat Beach Bike Trail which will extend to the Toms River Bus Terminal
- Northbound and southbound bike lanes on Irons Street, including a contra-flow bike lane within the one-way section of Irons Street
- Further bike lane protection and separation when feasible.
- Additional pedestrian accommodations (e.g. crosswalks, leading pedestrian intervals, RRFBs) where appropriate.

Public Input

Based upon input provided by local officials and the public during the Local Concept Development phase, local stakeholders support the PPA. A summary of Public Meeting Q&A sessions and Meeting Minutes of local officials and coordination meetings is provided in ***Appendix I – Project Correspondence***.

Jurisdiction

Based on the location of the proposed roundabout, the PPA could require changes to the existing jurisdictional limit maps and/or agreements that will need to be further investigated during Preliminary Engineering.

Preliminary Cost Estimate

The estimated total construction cost of the PPA is approximately \$5.3 Million based on Classification No. 6 – Intersection Improvements of the current NJDOT AASHTOWare Project Estimation dated November 2019. Below is the CD Phase cost estimates:

Project Item	CD Phase Cost Estimate
Construction	\$3,490,000
Utility Relocation	\$200,000
Construction Engineering	\$1,243,000
Contingencies	\$187,000
Construction Total	\$5,120,000
Right-Of-Way	\$274,970

Project Item Design Cost	CD Phase Cost Estimate
Preliminary Engineering	\$510,000
Final Design	\$350,000

Table 23- Project Costs

It should be noted that the Herflicker Extension project, currently in design, is not included in this cost estimate. Detailed cost estimates can be found in **Appendix P**.

Funding and Schedule

For this project, Toms River Township has been awarded a \$5,660,000.00 grant, from the U.S. Department of Transportation through the Better Utilizing Investments to Leverage Development (BUILD) Transportation Grants program. The balance of the project's right-of-way, engineering and construction costs will be funded by State, County and local sources.

Preliminary Engineering is anticipated to start in June 2021 with Final Design, ROW and Construction to follow.

M. Preliminary Engineering Next Steps/Tasks

Once the CD Study is formally recommended, the Preliminary Engineering (PE) phase may begin. This phase will include engineering tasks and technical environmental studies. The PPA will be further developed and refined during Preliminary Engineering (PE) with the detail required to secure the approval of the Categorical Exclusion Document. The major tasks associated with the PE Phase for this project are summarized below:

- Survey and Base Plans
- Utility Coordination
- ROW Impact Plans
- Construction Cost Estimate
- NJDEP Pre-Application Meeting
- Preliminary Design
 - Roadway Design
 - Drainage Design
 - Traffic Design
 - Pavement Design
 - Erosion & Sediment Control
- Preparation of the Categorical Exclusion Document
- Final Design Public Involvement Action Plan
- PE Plans
- PE Report

VII. Concept Development Recommendation

A. Federal Highway Administration (FHWA) Approval of Report

Pending.

Appendix A – Purpose and Need Statement

PURPOSE AND NEED STATEMENT

Local Concept Development Study Toms River Waterfront Redevelopment and Surrounding Area Township of Toms River, Ocean County

Project Purpose

The purpose of this project is to develop conceptual infrastructure improvements that address existing safety and operational issues while providing capacity for planned re-development of the waterfront area in Toms River.

Project Need

After an evaluation of existing conditions and planned development, the following needs have been identified:

1. Improve Safety

There are a high number of crashes within the study boundary, particularly at signalized intersections and merge points along Water Street. Crash data from 2016 to 2018 shows that the study area experienced 208 total crashes, of which 18% resulted in some degree of injury and 1% in fatality [two (2) pedestrian fatalities]. Of the 208 total crashes 184 occurred along Water Street. With an overall crash rate of 18.12 (crashes/mvm), the segment of Water Street within the study boundary is well above the statewide average (4.44-7.62 crashes/mvm) for similar roadway types. Depending on the section, Water Street's crash rate is two (2) to four (4) times higher than the statewide average.

There is also an overrepresentation of Same Direction – Rear End and Sideswipe crashes within the study boundary. These crash types account for over 66% of all crashes. When compared to the statewide county road system average from 2016 to 2018 Same Direction – Rear End and Sideswipe crashes account for only 45% of all county road system crashes. Fatal crashes were also five (5) times higher than the statewide county road system average. The 2019 NJTPA Local Safety Program Network Screening identifies Water Street/Iron Street intersection as a high-priority location for bicycle and pedestrian safety improvements. The identification of this location, the high crash rate, and overrepresentation of rear ends and sideswipes indicate congested traffic conditions and substandard facilities for pedestrians and bicycles which pose safety concerns and discourage the use of this area by other modes of traffic.

2. Mitigate Congestion

Currently there are delays and queuing at several intersections within the project the project area with a number of locations nearing capacity. These conditions are expected

to significantly deteriorate as traffic growth occurs with or without anticipated development.

For example, currently, the Water Street eastbound approach at Irons Street is operating at LOS D (average delay of 51 seconds per vehicle) during the AM peak period, and LOS E (average delay of 60 seconds per vehicle) during the PM peak period, indicating that the approach is near capacity. Existing Water Street eastbound queues frequently extend to Lien Street (900 feet). The volume to capacity (v/c) ratio for the eastbound movement is 0.98 during the AM peak period, meaning the approach is near capacity.

Currently there are delays and queuing at the intersection of Water Street and Highland Parkway/GSP NB Ramps. The GSP NB Ramps have queues that frequently extend from the intersection onto the exit ramp near the GSP mainline (600 feet).

Several approaches at intersections are expected to operate at LOS F, which represents a failing Level of Service, with anticipated background growth occurring over time. The 2045 future PM peak No Build condition has delays well over 100 seconds for the Highland Parkway northbound approach to Water Street with queues extending back onto the GSP mainline. Significant queuing occurs along EB Water St with queues extending from Irons through Adafre approaching Highland Parkway. The 2045 No Build PM peak travel time in the eastbound and westbound directions on Water Street increased by 35% and 24%, respectively, compared to the Existing conditions.

The number of approaches and the severity of the projected delays and travel time increases significantly with the planned redevelopment of the waterfront area. During the AM peak hour the travel time along WB Water Street is projected to be over three (3) times existing conditions (11.4 min. vs 3.1 min). The PM peak hour travel time conditions are expected to increase significantly as well with the EB and WB travel time along Water Street increasing by 143% and 86%, respectively, compared to existing conditions.

Goals and Objectives:

In addressing the Project's Purpose and Need, alternatives will be developed to address the identified needs and should be consistent with the following goals and objectives:

- Improve Bicycle and ADA/Pedestrian accessibility
- Accommodate existing and future multimodal transportation networks
- Minimize environmental impacts
- Mitigate the impacts of future storm events
- Minimize ROW and utility impacts
- Promote redevelopment

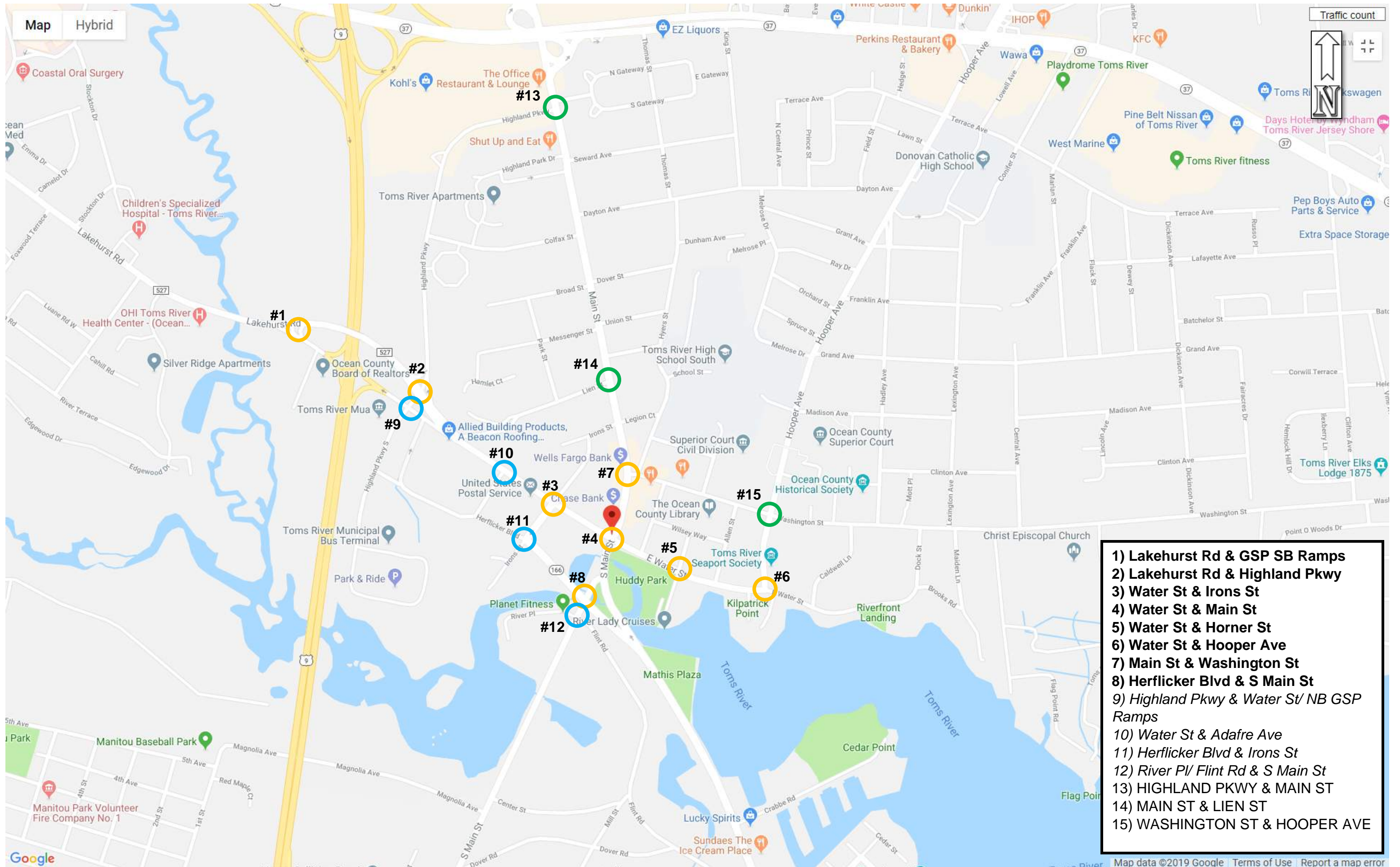
- Create a sense of place and support the utilization of inactive areas of the Downtown Waterfront area
- Correct Controlling Substandard Design Elements to the maximum extent practicable

Appendix B – SLD and Record Drawings

Appendix C - Right of Way Jurisdictional Property Data

Appendix D – Traffic Data and Analysis

Traffic Data Collection
Turning Movement Counts



- 1) Lakehurst Rd & GSP SB Ramps
- 2) Lakehurst Rd & Highland Pkwy
- 3) Water St & Irons St
- 4) Water St & Main St
- 5) Water St & Horner St
- 6) Water St & Hooper Ave
- 7) Main St & Washington St
- 8) Herflicker Blvd & S Main St
- 9) Highland Pkwy & Water St/ NB GSP Ramps
- 10) Water St & Adafre Ave
- 11) Herflicker Blvd & Irons St
- 12) River Pl/ Flint Rd & S Main St
- 13) HIGHLAND PKWY & MAIN ST
- 14) MAIN ST & LIEN ST
- 15) WASHINGTON ST & HOOPER AVE

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #5 - AM MTMC			1869	
	Location			% Bank 1	% Bank 2
	Water St & Horner St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	KT			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 7, 2019	0				

Peak Hour Data

Time Period	EB - Water St							WB - Water St							NB - Horner St							SB - Horner St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:45 AM	0	6	261	1	0	0	268	0	1	438	6	0	0	445	0	0	0	0	0	0	0	0	1	0	0	0	0	1	714	0
8:00 AM	0	17	240	1	0	0	258	0	0	145	10	0	0	155	0	3	1	2	0	0	6	0	0	1	1	0	0	2	421	0
8:15 AM	0	24	206	1	0	0	231	0	2	77	17	0	0	96	0	3	0	1	0	0	4	0	0	1	1	0	0	2	333	0
8:30AM	0	26	233	2	0	0	261	0	1	121	6	0	0	128	0	1	1	3	0	0	5	0	1	1	5	0	0	7	401	0

Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							NB - Horner St							SB - Horner St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	73	940	5	0	0	1018	0	4	781	39	0	0	824	0	7	2	6	0	0	15	0	2	3	7	0	0	12	1869	0
PHF	-	0.70	0.90	0.63	-	-	0.95	-	0.50	0.45	0.57	-	-	0.46	-	0.58	0.50	0.50	-	-	0.63	-	0.50	0.75	0.35	-	-	0.43	0.65	-
% Bank 1	0.0%	100.0%	100.0%	100.0%					0.0%	100.0%	100.0%	100.0%					0.0%	####	####	####					0.0%	####	100.0%	100.0%		
% Bank 2	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 3	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 4	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		

Combined																								
Time Period	EB - Water St						WB - Water St						NB - Horner St						SB - Horner St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	4	190	0	0	0	0	0	101	2	0	0	0	1	0	0	0	0	0	1	0	0	0	0
7:15 AM	0	2	175	0	0	0	0	0	104	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30AM	0	7	215	0	0	0	0	0	149	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	6	261	1	0	0	0	1	438	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0
8:00 AM	0	17	240	1	0	0	0	0	145	10	0	0	0	3	1	2	0	0	0	0	1	1	0	0
8:15 AM	0	24	206	1	0	0	0	2	77	17	0	0	0	3	0	1	0	0	0	0	1	1	0	0
8:30AM	0	26	233	2	0	0	0	1	121	6	0	0	0	1	1	3	0	0	0	1	1	5	0	0
8:45 AM	0	19	255	1	0	0	0	5	117	9	0	0	0	3	1	0	0	0	0	1	0	1	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name										Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach										Peak Hour Volume	
	Location #5 - PM MTMC																					2004	
	Location																					% Bank 1	% Bank 2
	Water St & Horner St, Toms River Twp, Ocean County, NJ																					100.0%	0.0%
	Performed By																					% Bank 3	% Bank 4
	KT																					0.0%	0.0%
	Date																					Pedestrians Volume	
Tuesday, May 7, 2019										0													

Peak Hour Data

Time Period	EB - Water St							WB - Water St							NB - Horner St							SB - Horner St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:15 PM	0	3	226	5	0	0	234	0	3	269	5	0	0	277	0	5	0	0	0	0	5	0	2	0	13	0	0	15	531	0
4:30 PM	0	2	212	9	0	0	223	0	3	228	3	0	0	234	0	3	1	4	0	0	8	0	1	0	7	0	0	8	473	0
4:45 PM	0	5	200	5	0	0	210	0	10	236	1	0	0	247	0	5	2	4	0	0	11	0	1	3	29	0	0	33	501	0
5:00 PM	0	1	228	8	0	0	237	0	8	231	0	0	0	239	0	3	0	2	0	0	5	0	1	1	16	0	0	18	499	0

Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							NB - Horner St							SB - Horner St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	11	866	27	0	0	904	0	24	964	9	0	0	997	0	16	3	10	0	0	29	0	5	4	65	0	0	74	2004	0
PHF	-	0.55	0.95	0.75	-	-	0.95	-	0.60	0.90	0.45	-	-	0.90	-	0.80	0.38	0.63	-	-	0.66	-	0.63	0.33	0.56	-	-	0.56	0.94	-
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	###	100.0%				0.0%	###	100.0%	100.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Water St						WB - Water St						NB - Horner St						SB - Horner St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	9	201	4	0	0	0	2	261	0	0	0	0	2	1	3	0	0	0	3	0	10	0	0
4:15 PM	0	3	226	5	0	0	0	3	269	5	0	0	0	5	0	0	0	0	0	2	0	13	0	0
4:30 PM	0	2	212	9	0	0	0	3	228	3	0	0	0	3	1	4	0	0	0	1	0	7	0	0
4:45 PM	0	5	200	5	0	0	0	10	236	1	0	0	0	5	2	4	0	0	0	1	3	29	0	0
5:00 PM	0	1	228	8	0	0	0	8	231	0	0	0	0	3	0	2	0	0	0	1	1	16	0	0
5:15 PM	0	3	197	2	0	0	0	7	234	2	0	0	0	0	1	2	0	0	0	4	0	24	0	0
5:30 PM	0	1	184	6	0	0	0	4	240	2	0	0	0	2	0	2	0	0	0	0	1	7	0	0
5:45 PM	0	0	168	3	0	0	0	4	218	0	0	0	0	1	0	1	0	0	0	1	0	4	0	0

Turning Movement Count Report

BRIGHT VIEW ENGINEERING, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #6 - AM MTMC			1592	
	Location			% Bank 1	% Bank 2
	Water St & Hooper Ave, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	JDR			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 7, 2019	0				

Peak Hour Data

Time Period	EB - Water St							WB - Water St							-							SB - Hooper Ave							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:45 AM	0	162	122	0	0	0	284	0	0	44	0	0	0	44	0	0	0	0	0	0	0	0	0	0	88	0	0	88	416	0
8:00 AM	0	164	110	0	0	0	274	0	0	40	1	0	0	41	0	0	0	0	0	0	0	0	0	0	98	0	0	98	413	0
8:15 AM	0	160	88	0	0	0	248	0	0	33	0	0	0	33	0	0	0	0	0	0	0	0	0	0	77	0	0	77	358	0
8:30AM	0	173	109	0	0	0	282	0	0	37	0	0	0	37	0	0	0	0	0	0	0	0	0	0	86	0	0	86	405	0

Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							-							SB - Hooper Ave							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	659	429	0	0	0	1088	0	0	154	1	0	0	155	0	0	0	0	0	0	0	0	0	0	349	0	0	349	1592	0
PHF	-	0.95	0.88	-	-	-	0.96	-	-	0.88	0.25	-	-	0.88	-	-	-	-	-	-	-	-	-	-	0.89	-	-	0.89	0.96	-
% Bank 1	0.0%	100.0%	100.0%	0.0%				0.0%	0.0%	100.0%	100.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	100.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Water St						WB - Water St						-						SB - Hooper Ave					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	115	40	0	0	0	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	95	0	0
7:15 AM	0	112	62	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	75	0	0
7:30AM	0	145	98	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	103	0	0
7:45 AM	0	162	122	0	0	0	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	88	0	0
8:00 AM	0	164	110	0	0	0	0	0	40	1	0	0	0	0	0	0	0	0	0	0	0	98	0	0
8:15 AM	0	160	88	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0	0	0	0	77	0	0
8:30AM	0	173	109	0	0	0	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	86	0	0
8:45 AM	0	111	106	0	0	0	0	0	42	1	0	0	0	0	0	0	0	0	0	0	0	77	0	0

Turning Movement Count Report

Bright View Engineer, LLC

Study Information

Study Summary	Count Name											Notes											Peak Hour Volume	
	Location #6 - PM MTMC																						2113	
	Location																						% Bank 1	% Bank 2
	Water St & Hooper Ave, Toms River Twp, Ocean County, NJ																						100.0%	0.0%
	Performed By																						% Bank 3	% Bank 4
	JDR																						0.0%	0.0%
	Date																						Pedestrians Volume	
Tuesday, May 7, 2019											0													

Peak Hour Data

Time Period	EB - Water St						WB - Water St						NB						SB - Hooper Ave						Total Vehicles	Total Pedestrians				
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T			R	P1	P2	Veh
4:00 PM	0	103	141	0	0	0	244	0	0	101	0	0	0	101	0	0	0	0	0	0	0	0	1	0	216	0	0	217	562	0
4:15 PM	0	112	123	0	0	0	235	0	0	88	0	0	0	88	0	0	0	0	0	0	0	0	2	0	202	0	0	204	527	0
4:30 PM	0	115	136	0	0	0	251	0	0	92	0	0	0	92	0	0	0	0	0	0	0	0	1	0	223	0	0	224	567	0
4:45 PM	0	87	110	0	0	0	197	0	0	74	0	0	0	74	0	0	0	0	0	0	0	0	4	0	182	0	0	186	457	0

Vehicle Movement Summary

Movement / Details	EB - Water St						WB - Water St						NB						SB - Hooper Ave						Entire Intersection					
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	417	510	0	0	0	927	0	0	355	0	0	0	355	0	0	0	0	0	0	0	0	8	0	823	0	0	831	2113	0
PHF	-	0.91	0.90	-	-	-	0.92	-	-	0.88	-	-	-	0.88	-	-	-	-	-	-	-	-	0.50	-	0.92	-	-	0.93	0.93	-
% Bank 1	0.0%	100.0%	100.0%	0.0%				0.0%	0.0%	100.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	100.0%	0.0%	100.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Water St						WB - Water St						NB						SB - Hooper Ave					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	103	141	0	0	0	0	0	101	0	0	0	0	0	0	0	0	0	0	1	0	216	0	0
4:15 PM	0	112	123	0	0	0	0	0	88	0	0	0	0	0	0	0	0	0	0	2	0	202	0	0
4:30 PM	0	115	136	0	0	0	0	0	92	0	0	0	0	0	0	0	0	0	0	1	0	223	0	0
4:45 PM	0	87	110	0	0	0	0	0	74	0	0	0	0	0	0	0	0	0	0	4	0	182	0	0
5:00 PM	0	98	140	0	0	0	0	0	97	0	0	0	0	0	0	0	0	0	0	1	0	186	0	0
5:15 PM	0	94	149	0	0	0	0	0	89	0	0	0	0	0	0	0	0	0	0	3	0	175	0	0
5:30 PM	0	83	110	0	0	0	0	0	88	0	0	0	0	0	0	0	0	0	0	0	0	156	0	0
5:45 PM	0	96	88	0	0	0	0	0	79	0	0	0	0	0	0	0	0	0	0	2	0	132	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #7 - AM MTMC			818	
	Location			% Bank 1	% Bank 2
	Main St & Washington St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	JDR			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	12				

Peak Hour Data

Time Period	-						WB - Washington ST						NB - Main St						SB - Main St						Total Vehicles	Total Pedestrians				
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T			R	P1	P2	Veh
7:45 AM	0	0	0	0	0	0	0	0	7	0	22	0	0	29	0	0	74	8	0	0	82	0	52	47	0	1	2	99	210	3
8:00 AM	0	0	0	0	0	0	0	0	3	0	7	0	0	10	0	0	82	17	0	0	99	0	56	36	0	1	2	92	201	3
8:15 AM	0	0	0	0	0	0	0	0	19	0	16	0	0	35	0	0	71	8	0	0	79	0	49	46	0	1	2	95	209	3
8:30AM	0	0	0	0	0	0	0	0	8	0	17	0	0	25	0	0	78	11	0	0	89	0	53	31	0	1	2	84	198	3

Vehicle Movement Summary

Movement / Details	-						WB - Washington ST						NB - Main St						SB - Main St						Entire Intersection					
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	0	0	0	0	0	0	37	0	62	0	0	99	0	0	305	44	0	0	349	0	210	160	0	4	8	370	818	12
PHF	-	-	-	-	-	-	-	0.49	-	0.70	-	-	0.71	-	-	0.93	0.65	-	-	0.88	-	0.94	0.85	-	1.00	1.00	0.93	0.97	1.00	
% Bank 1	0.0%	0.0%	0.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	100.0%	100.0%				0.0%	100.0%	100.0%	0.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	-						WB - Washington ST						NB - Main St						SB - Main St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	0	0	0	0	0	0	4	0	5	0	0	0	0	101	14	0	0	0	17	56	0	1	2
7:15 AM	0	0	0	0	0	0	0	6	0	4	0	0	0	0	62	8	0	0	0	19	40	0	1	2
7:30AM	0	0	0	0	0	0	0	5	0	3	0	0	0	0	68	11	0	0	0	34	25	0	1	2
7:45 AM	0	0	0	0	0	0	0	7	0	22	0	0	0	0	74	8	0	0	0	52	47	0	1	2
8:00 AM	0	0	0	0	0	0	0	3	0	7	0	0	0	0	82	17	0	0	0	56	36	0	1	2
8:15 AM	0	0	0	0	0	0	0	19	0	16	0	0	0	0	71	8	0	0	0	49	46	0	1	2
8:30AM	0	0	0	0	0	0	0	8	0	17	0	0	0	0	78	11	0	0	0	53	31	0	1	2
8:45 AM	0	0	0	0	0	0	0	10	0	19	0	0	0	0	66	14	0	0	0	47	42	0	1	2

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #7 - PM MTMC			1265	
	Location			% Bank 1	% Bank 2
	Main St & Washington St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	JDR			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	29				

Peak Hour Data

Time Period	-							WB - Washington ST							NB - Main St							SB - Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
5:00 PM	0	0	0	0	0	0	0	0	43	0	41	0	0	84	0	0	88	6	0	3	94	0	41	96	0	0	0	137	315	3
5:15 PM	0	0	0	0	0	0	0	0	46	0	36	0	0	82	0	0	117	29	2	3	146	0	38	127	0	1	0	165	393	6
5:30 PM	0	0	0	0	0	0	0	0	36	0	26	4	0	62	0	0	97	13	2	5	110	0	34	93	0	2	0	127	299	13
5:45 PM	0	0	0	0	0	0	0	0	29	0	21	0	1	50	0	0	75	19	2	3	94	0	26	88	0	1	0	114	258	7

Vehicle Movement Summary

Movement / Details	-							WB - Washington ST							NB - Main St							SB - Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	0	0	0	0	0	0	154	0	124	4	1	278	0	0	377	67	6	14	444	0	139	404	0	4	0	543	1265	29
PHF	-	-	-	-	-	-	-	-	0.84	-	0.76	0.25	0.25	0.83	-	-	0.81	0.58	0.75	0.70	0.76	-	0.85	0.80	-	0.50	-	0.82	0.80	0.56
% Bank 1	0.0%	0.0%	0.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	100.0%	100.0%				0.0%	100.0%	100.0%	0.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	-						WB - Washington ST						NB - Main St						SB - Main St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	0	0	0	0	0	0	25	0	43	0	1	0	0	76	11	0	3	0	39	100	0	2	2
4:15 PM	0	0	0	0	0	0	0	27	0	34	0	0	0	0	54	4	4	1	0	31	75	0	1	0
4:30 PM	0	0	0	0	0	0	0	44	0	53	0	1	0	0	77	7	1	4	0	42	100	0	1	0
4:45 PM	0	0	0	0	0	0	0	29	0	25	0	0	0	0	65	12	3	0	0	28	74	0	1	1
5:00 PM	0	0	0	0	0	0	0	43	0	41	0	0	0	0	88	6	0	3	0	41	96	0	0	0
5:15 PM	0	0	0	0	0	0	0	46	0	36	0	0	0	0	117	29	2	3	0	38	127	0	1	0
5:30 PM	0	0	0	0	0	0	0	36	0	26	4	0	0	0	97	13	2	5	0	34	93	0	2	0
5:45 PM	0	0	0	0	0	0	0	29	0	21	0	1	0	0	75	19	2	3	0	26	88	0	1	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #8 - AM MTMC			839	
	Location			% Bank 1	% Bank 2
	S. Main St & Herflicker Blvd, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	JDR			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	2				

Peak Hour Data

Time Period	EB - Herflicker Blvd							WB - Herflicker Blvd							NB - S. Main St							-							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:00 AM	0	3	127	52	0	2	182	0	3	0	1	0	0	4	0	0	34	4	0	0	38	0	0	0	0	0	0	0	224	2
7:15 AM	0	13	120	48	0	0	181	0	0	0	0	0	0	0	0	0	32	5	0	0	37	0	0	0	0	0	0	0	218	0
7:30AM	0	6	96	38	0	0	140	0	1	0	0	0	0	1	0	0	34	0	0	0	34	0	0	0	0	0	0	0	175	0
7:45 AM	0	4	110	34	0	0	148	0	4	0	0	0	0	4	0	0	65	5	0	0	70	0	0	0	0	0	0	0	222	0

Vehicle Movement Summary

Movement / Details	EB - Herflicker Blvd							WB - Herflicker Blvd							NB - S. Main St							-							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	26	453	172	0	2	651	0	8	0	1	0	0	9	0	0	165	14	0	0	179	0	0	0	0	0	0	0	839	2
PHF	-	0.50	0.89	0.83	-	0.25	0.89	-	0.50	-	0.25	-	-	0.56	-	-	0.63	0.70	-	-	0.64	-	-	-	-	-	-	-	0.94	0.25
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	100.0%	100.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #8 - PM MTMC			2039	
	Location			% Bank 1	% Bank 2
	S. Main St & Herflicker Blvd, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	JDR			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	8				

Peak Hour Data

Time Period	EB - Herflicker Blvd						WB - Herflicker Blvd						NB - S. Main St						-						Total Vehicles	Total Pedestrians				
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T			R	P1	P2	Veh
4:30 PM	0	26	284	144	0	0	454	0	7	0	0	0	0	7	0	0	62	7	0	0	69	0	0	0	0	0	0	0	530	0
4:45 PM	0	13	262	125	0	0	400	0	12	0	1	0	0	13	0	0	102	8	1	1	110	0	0	0	0	0	0	0	523	2
5:00 PM	0	17	277	116	0	0	410	0	5	0	0	0	0	5	0	0	40	10	0	0	50	0	0	0	0	0	0	0	465	0
5:15 PM	0	14	287	159	0	0	460	0	9	0	0	5	0	9	0	0	48	4	1	0	52	0	0	0	0	0	0	0	521	6

Vehicle Movement Summary

Movement / Details	EB - Herflicker Blvd						WB - Herflicker Blvd						NB - S. Main St						-						Entire Intersection					
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	70	1110	544	0	0	1724	0	33	0	1	5	0	34	0	0	252	29	2	1	281	0	0	0	0	0	0	0	2039	8
PHF	-	0.67	0.97	0.86	-	-	0.94	-	0.69	-	0.25	0.25	-	0.65	-	-	0.62	0.73	0.50	0.25	0.64	-	-	-	-	-	-	-	0.96	0.33
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	0.0%	0.0%				0.0%	0.0%	100.0%	100.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #9 - AM MTMC			1135	
	Location			% Bank 1	% Bank 2
	Highland Pkwy & GSP NB Ramp, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	JDR			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 14, 2019	1				

Peak Hour Data

Time Period	EB - GSP NB Ramp							WB - Water St							NB - Highland Pkwy							SB - Highland Pkwy							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:30AM	0	62	92	15	0	0	169	0	0	3	0	0	0	3	0	8	10	2	0	0	20	0	0	25	46	0	0	71	263	0
7:45 AM	0	115	145	9	0	0	269	0	0	6	0	0	0	6	0	4	7	3	0	0	14	0	0	8	34	0	0	42	331	0
8:00 AM	0	86	95	8	0	0	189	0	0	2	0	0	0	2	0	6	8	2	0	0	16	0	0	17	41	0	0	58	265	0
8:15 AM	0	86	126	4	1	0	216	0	0	1	1	0	0	2	0	3	3	2	0	0	8	0	0	14	36	0	0	50	276	1

Vehicle Movement Summary

Movement / Details	EB - GSP NB Ramp							WB - Water St							NB - Highland Pkwy							SB - Highland Pkwy							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	349	458	36	1	0	843	0	0	12	1	0	0	13	0	21	28	9	0	0	58	0	0	64	157	0	0	221	1135	1
PHF	-	0.76	0.79	0.60	0.25	-	0.78	-	-	0.50	0.25	-	-	0.54	-	0.66	0.70	0.75	-	-	0.73	-	-	0.64	0.85	-	-	0.78	0.86	0.25
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	0.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	0.0%	100.0%	100.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - GSP NB Ramp						WB - Water St						NB - Highland Pkwy						SB - Highland Pkwy					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	62	57	9	0	0	0	0	0	0	0	0	0	6	2	3	0	0	0	0	21	39	0	0
7:15 AM	0	74	65	9	0	0	0	0	2	0	0	0	0	3	7	7	0	0	0	0	17	51	0	0
7:30AM	0	62	92	15	0	0	0	0	3	0	0	0	0	8	10	2	0	0	0	0	25	46	0	0
7:45 AM	0	115	145	9	0	0	0	0	6	0	0	0	0	4	7	3	0	0	0	0	8	34	0	0
8:00 AM	0	86	95	8	0	0	0	0	2	0	0	0	0	6	8	2	0	0	0	0	17	41	0	0
8:15 AM	0	86	126	4	1	0	0	0	1	1	0	0	0	3	3	2	0	0	0	0	14	36	0	0
8:30AM	0	69	87	8	0	0	0	0	0	0	0	0	0	3	4	4	0	0	0	0	21	31	0	0
8:45 AM	0	92	106	6	0	0	0	0	0	0	1	0	0	3	15	8	0	0	0	0	16	50	1	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name											Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach											Peak Hour Volume	
	Location #9 - PM MTMC																							917	
	Location																							% Bank 1	% Bank 2
	Highland Pkwy & GSP NB Ramp, Toms River Twp, Ocean County, NJ																							100.0%	0.0%
	Performed By																							% Bank 3	% Bank 4
	JDR																							0.0%	0.0%
	Date																							Pedestrians Volume	
Tuesday, May 14, 2019											2														

Peak Hour Data

Time Period	EB - GSP NB Ramp							WB - Water St					NB - Highland Pkwy						SB - Highland Pkwy						Total Vehicles	Total Pedestrians				
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T			R	P1	P2	Veh
4:30 PM	0	41	48	3	1	0	92	0	0	12	10	0	0	22	0	8	7	6	0	0	21	0	1	6	103	0	1	110	245	2
4:45 PM	0	59	51	6	0	0	116	0	0	0	2	0	0	2	0	3	6	3	0	0	12	0	0	8	72	0	0	80	210	0
5:00 PM	0	49	48	0	0	0	97	0	0	6	0	0	0	6	0	9	23	7	0	0	39	0	0	10	94	0	0	104	246	0
5:15 PM	0	54	65	2	0	0	121	0	0	2	1	0	0	3	0	4	6	2	0	0	12	0	1	12	67	0	0	80	216	0

Vehicle Movement Summary

Movement / Details	EB - GSP NB Ramp							WB - Water St					NB - Highland Pkwy						SB - Highland Pkwy						Entire Intersection					
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	203	212	11	1	0	426	0	0	20	13	0	0	33	0	24	42	18	0	0	84	0	2	36	336	0	1	374	917	2
PHF	-	0.86	0.82	0.46	##	-	0.88	-	-	0.42	0.33	-	-	0.38	-	0.67	0.46	0.64	-	-	0.54	-	0.50	0.75	0.82	-	##	0.85	0.93	0.25
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	0.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	###	100.0%	100.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name										Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach										Peak Hour Volume	
	Location #10 - AM MTMC																					1074	
	Location																					% Bank 1	% Bank 2
	Water St & Adafre Ave, Toms River Twp, Ocean County, NJ																					100.0%	0.0%
	Performed By																					% Bank 3	% Bank 4
	JDR																					0.0%	0.0%
	Date																					Pedestrians Volume	
Tuesday, May 7, 2019										4													

Peak Hour Data

Time Period	EB - Water St							WB - Water St							NB - Adafre Ave							SB							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
8:00 AM	0	0	122	20	0	0	142	0	5	86	0	1	0	91	0	1	0	3	0	0	4	0	0	0	0	0	0	0	237	1
8:15 AM	0	0	158	7	1	0	165	0	3	109	0	1	0	112	0	1	0	2	0	0	3	0	0	0	0	0	0	0	280	2
8:30AM	0	0	155	9	0	0	164	0	2	94	0	1	0	96	0	6	0	4	0	0	10	0	0	0	0	0	0	0	270	1
8:45 AM	0	0	163	8	0	0	171	0	6	102	0	0	0	108	0	4	0	4	0	0	8	0	0	0	0	0	0	0	287	0

Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							NB - Adafre Ave							SB							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	598	44	1	0	642	0	16	391	0	3	0	407	0	12	0	13	0	0	25	0	0	0	0	0	0	0	1074	4
PHF	-	-	0.92	0.55	0.25	-	0.94	-	0.67	0.90	-	##	-	0.91	-	0.50	-	0.81	-	-	0.63	-	-	-	-	-	-	-	0.94	0.50
% Bank 1	0.0%	0.0%	100.0%	100.0%				0.0%	###	100.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Water St						WB - Water St						NB - Adafre Ave						SB					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	0	73	4	1	0	0	4	84	0	1	0	0	6	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	91	10	1	0	0	4	95	0	0	0	0	2	0	4	0	0	0	0	0	0	0	0
7:30AM	0	0	110	14	0	0	0	3	116	0	0	0	0	3	0	2	0	0	0	0	0	0	0	0
7:45 AM	0	0	122	25	3	0	0	8	80	0	0	0	0	3	0	5	0	0	0	0	0	0	0	0
8:00 AM	0	0	122	20	0	0	0	5	86	0	1	0	0	1	0	3	0	0	0	0	0	0	0	0
8:15 AM	0	0	158	7	1	0	0	3	109	0	1	0	0	1	0	2	0	0	0	0	0	0	0	0
8:30AM	0	0	155	9	0	0	0	2	94	0	1	0	0	6	0	4	0	0	0	0	0	0	0	0
8:45 AM	0	0	163	8	0	0	0	6	102	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #10 - PM MTMC			1476	
	Location			% Bank 1	% Bank 2
	Water St & Adafre Ave, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	JDR			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 7, 2019	8				

Peak Hour Data

Time Period	EB - Water St							WB - Water St							NB - Adafre Ave							SB							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:30 PM	0	0	179	19	1	0	198	0	5	181	0	1	0	186	0	6	0	5	0	0	11	0	0	0	0	0	0	0	395	2
4:45 PM	0	0	184	18	1	0	202	0	5	130	0	0	0	135	0	6	0	1	0	0	7	0	0	0	0	0	0	0	344	1
5:00 PM	0	0	184	13	1	0	197	0	12	179	0	1	0	191	0	9	0	3	0	0	12	0	0	0	0	0	0	0	400	2
5:15 PM	0	0	168	16	1	0	184	0	8	132	0	2	0	140	0	6	0	7	0	0	13	0	0	0	0	0	0	0	337	3

Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							NB - Adafre Ave							SB							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	715	66	4	0	781	0	30	622	0	4	0	652	0	27	0	16	0	0	43	0	0	0	0	0	0	0	1476	8
PHF	-	-	0.97	0.87	1.00	-	0.97	-	0.63	0.86	-	0.50	-	0.85	-	0.75	-	0.57	-	-	0.83	-	-	-	-	-	-	-	0.92	0.67
% Bank 1	0.0%	0.0%	100.0%	100.0%				0.0%	100.0%	100.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Water St						WB - Water St						NB - Adafre Ave						SB					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	0	191	27	2	0	0	6	140	0	0	0	0	4	0	3	0	0	0	0	0	0	0	0
4:15 PM	0	0	158	20	1	1	0	9	122	0	0	0	0	12	0	10	0	0	0	0	0	0	0	0
4:30 PM	0	0	179	19	1	0	0	5	181	0	1	0	0	6	0	5	0	0	0	0	0	0	0	0
4:45 PM	0	0	184	18	1	0	0	5	130	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0
5:00 PM	0	0	184	13	1	0	0	12	179	0	1	0	0	9	0	3	0	0	0	0	0	0	0	0
5:15 PM	0	0	168	16	1	0	0	8	132	0	2	0	0	6	0	7	0	0	0	0	0	0	0	0
5:30 PM	0	0	174	22	3	0	0	5	139	0	0	0	0	6	0	3	1	0	0	0	0	0	0	0
5:45 PM	0	0	165	6	1	0	0	6	112	0	0	1	0	7	0	2	1	0	0	0	0	0	0	0

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #11 - AM MTMC			589	
	Location			% Bank 1	% Bank 2
	Herflicker Blvd & Iron St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, April 23, 2019	20				

Peak Hour Data

Time Period	EB - Herflicker Blvd							WB - Herflicker Blvd							NB - Irons St							SB - Irons St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:45 AM	0	0	12	7	4	7	19	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	143	8	7	0	0	158	177	18
8:00 AM	0	0	3	1	1	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	120	0	3	0	0	123	127	2
8:15 AM	0	0	9	1	0	0	10	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	101	0	4	0	0	105	116	0
8:30AM	0	0	17	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	148	1	3	0	0	152	169	0

Vehicle Movement Summary

Movement / Details	EB - Herflicker Blvd							WB - Herflicker Blvd							NB - Irons St							SB - Irons St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	41	9	5	8	50	0	0	0	0	0	0	0	0	1	0	0	4	3	1	0	512	9	17	0	0	538	589	20
PHF	-	-	0.60	0.32	0.31	0.29	0.66	-	-	-	-	-	-	-	-	0.25	-	-	0.25	0.25	0.25	-	0.86	0.28	0.61	-	-	0.85	0.83	0.28
% Bank 1	0.0%	0.0%	100.0%	100.0%					0.0%	0.0%	0.0%	0.0%					0.0%	100.0%	0.0%	0.0%					Need a custom report? Contact: support@portablestudies.com					
% Bank 2	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%										
% Bank 3	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%										
% Bank 4	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%										

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #11 - PM MTMC			1548	
	Location			% Bank 1	% Bank 2
	Herflicker Blvd & Iron St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, April 23, 2019	20				

Peak Hour Data

Time Period	EB - Herflicker Blvd							WB - Herflicker Blvd							NB - Irons St							SB - Irons St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:30 PM	0	0	11	0	1	0	11	0	0	0	0	0	0	0	0	5	0	9	1	0	14	0	381	1	19	8	5	401	426	15
4:45 PM	0	0	16	1	0	0	17	0	0	0	0	0	0	0	0	1	0	2	1	0	3	0	310	0	5	0	2	315	335	3
5:00 PM	0	0	22	0	0	0	22	0	0	0	0	0	0	0	0	2	0	1	0	0	3	0	381	1	12	1	0	394	419	1
5:15 PM	0	0	13	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	349	0	6	1	0	355	368	1

Vehicle Movement Summary

Movement / Details	EB - Herflicker Blvd							WB - Herflicker Blvd							NB - Irons St							SB - Irons St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	62	1	1	0	63	0	0	0	0	0	0	0	0	8	0	12	2	0	20	0	1421	2	42	10	7	1465	1548	20
PHF	-	-	0.70	0.25	0.25	-	0.72	-	-	-	-	-	-	-	-	0.40	-	0.33	0.50	-	0.36	-	0.93	0.50	0.55	0.31	0.35	0.91	0.91	0.33
% Bank 1	0.0%	0.0%	100.0%	100.0%								0.0%	0.0%	0.0%	0.0%								0.0%	100.0%	100.0%	100.0%	Need a custom report? Contact: support@portablestudies.com			
% Bank 2	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				
% Bank 3	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				
% Bank 4	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				

Combined																								
Time Period	EB - Herflicker Blvd						WB - Herflicker Blvd						NB - Irons St						SB - Irons St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	0	19	2	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	324	4	24	3	0
4:15 PM	0	0	18	2	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	314	0	9	2	2
4:30 PM	0	0	11	0	1	0	0	0	0	0	0	0	0	5	0	9	1	0	0	381	1	19	8	5
4:45 PM	0	0	16	1	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	310	0	5	0	2
5:00 PM	0	0	22	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	381	1	12	1	0
5:15 PM	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	349	0	6	1	0
5:30 PM	0	0	12	1	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	271	0	3	1	1
5:45 PM	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	270	1	2	0	0

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #12 - AM MTMC			382	
	Location			% Bank 1	% Bank 2
	S Main St & River Pl/Flint Rd, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	1				

Peak Hour Data

Time Period	EB - River Pl							WB - Flint Rd							NB - S Main St							SB - S Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:00 AM	0	2	1	7	0	0	10	0	2	0	4	0	0	6	0	3	24	2	0	0	29	0	11	27	12	0	0	50	95	0
7:15 AM	0	0	2	3	0	0	5	0	5	0	1	0	0	6	0	2	27	0	0	0	29	0	8	28	12	0	0	48	88	0
7:30AM	0	2	2	3	0	0	7	0	5	0	2	0	0	7	0	2	30	0	0	0	32	0	8	32	3	1	0	43	89	1
7:45 AM	0	1	0	6	0	0	7	0	3	0	1	0	0	4	0	3	57	0	0	0	60	0	10	24	5	0	0	39	110	0

Vehicle Movement Summary

Movement / Details	EB - River Pl							WB - Flint Rd							NB - S Main St							SB - S Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	5	5	19	0	0	29	0	15	0	8	0	0	23	0	10	138	2	0	0	150	0	37	111	32	1	0	180	382	1
PHF	-	0.63	0.63	0.68	-	-	0.73	-	0.75	-	0.50	-	-	0.82	-	0.83	0.61	0.25	-	-	0.63	-	0.84	0.87	0.67	0.25	-	0.90	0.87	0.25
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	0.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				Need a custom report? Contact: support@portablestudies.com	
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #12- PM MTMC			754	
	Location			% Bank 1	% Bank 2
	S Main St & River Pl/Flint Rd, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	0				

Peak Hour Data

Time Period	EB - River Pl							WB - Flint Rd							NB - S Main St							SB - S Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
5:00 PM	0	1	2	3	0	0	6	0	7	2	3	0	0	12	0	0	37	1	0	0	38	0	56	58	6	0	0	120	176	0
5:15 PM	0	1	2	9	0	0	12	0	4	5	4	0	0	13	0	0	40	2	0	0	42	0	59	98	12	0	0	169	236	0
5:30 PM	0	0	0	2	0	0	2	0	5	2	3	0	0	10	0	1	52	2	0	0	55	0	39	58	20	0	0	117	184	0
5:45 PM	0	0	3	4	0	0	7	0	2	3	2	0	0	7	0	2	45	1	0	0	48	0	25	58	13	0	0	96	158	0

Vehicle Movement Summary

Movement / Details	EB - River Pl							WB - Flint Rd							NB - S Main St							SB - S Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	2	7	18	0	0	27	0	18	12	12	0	0	42	0	3	174	6	0	0	183	0	179	272	51	0	0	502	754	0
PHF	-	0.50	0.58	0.50	-	-	0.56	-	0.64	0.60	0.75	-	-	0.81	-	0.38	0.84	0.75	-	-	0.83	-	0.76	0.69	0.64	-	-	0.74	0.80	-
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				Need a custom report? Contact: support@portablestudies.com	
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - River Pl						WB - Flint Rd						NB - S Main St						SB - S Main St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	3	2	4	0	0	0	6	1	1	0	0	0	2	39	3	0	0	0	24	55	7	0	0
4:15 PM	0	1	1	5	0	0	0	5	1	2	0	0	0	1	36	1	0	0	0	42	63	9	0	0
4:30 PM	0	1	0	4	0	0	0	8	3	2	0	0	0	3	53	2	0	0	0	62	74	9	0	0
4:45 PM	0	2	0	3	0	0	0	3	2	1	0	0	0	4	26	0	0	0	0	24	30	3	0	0
5:00 PM	0	1	2	3	0	0	0	7	2	3	0	0	0	0	37	1	0	0	0	56	58	6	0	0
5:15 PM	0	1	2	9	0	0	0	4	5	4	0	0	0	0	40	2	0	0	0	59	98	12	0	0
5:30 PM	0	0	0	2	0	0	0	5	2	3	0	0	0	1	52	2	0	0	0	39	58	20	0	0
5:45 PM	0	0	3	4	0	0	0	2	3	2	0	0	0	2	45	1	0	0	0	25	58	13	0	0

Turning Movement Count Report

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Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #13 - AM MTMC			1083	
	Location			% Bank 1	% Bank 2
	Highland Pkwy/West Gateway & Main St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, April 23, 2019	2				

Peak Hour Data

Time Period	EB - Highland Pkwy							WB - West Gateway							NB - Main St							SB - Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
8:00 AM	0	21	0	7	1	0	28	0	0	0	9	0	0	9	0	4	116	0	0	0	120	0	0	79	14	0	0	93	250	1
8:15 AM	0	18	0	2	0	0	20	0	0	0	2	0	0	2	0	3	88	0	0	0	91	0	0	112	12	0	0	124	237	0
8:30AM	0	25	0	10	1	0	35	0	0	0	12	0	0	12	0	5	133	0	0	0	138	0	0	106	27	0	0	133	318	1
8:45 AM	0	36	0	13	0	0	49	0	0	0	6	0	0	6	0	4	102	0	0	0	106	0	0	110	7	0	0	117	278	0

Vehicle Movement Summary

Movement / Details	EB - Highland Pkwy							WB - West Gateway							NB - Main St							SB - Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	100	0	32	2	0	132	0	0	0	29	0	0	29	0	16	439	0	0	0	455	0	0	407	60	0	0	467	1083	2
PHF	-	0.69	-	0.62	0.50	-	0.67	-	-	-	0.60	-	-	0.60	-	0.80	0.83	-	-	-	0.82	-	-	0.91	0.56	-	-	0.88	0.85	0.50
% Bank 1	0.0%	100.0%	0.0%	100.0%					0.0%	0.0%	0.0%	100.0%					0.0%	100.0%	100.0%	0.0%					0.0%	0.0%	100.0%	100.0%	Need a custom report? Contact: support@portablestudies.com	
% Bank 2	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 3	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 4	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		

Combined																								
Time Period	EB - Highland Pkwy						WB - West Gateway						NB - Main St						SB - Main St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	12	0	3	0	0	0	0	0	9	0	0	0	4	93	0	0	0	0	0	40	4	0	0
7:15 AM	0	14	0	3	2	0	0	0	0	3	0	0	0	2	90	0	0	0	0	0	53	10	0	0
7:30AM	0	20	0	3	1	0	0	0	0	7	0	0	0	4	121	0	0	0	0	0	62	7	0	0
7:45 AM	0	23	0	7	0	1	0	0	0	8	0	0	0	7	112	0	0	0	0	0	81	12	0	0
8:00 AM	0	21	0	7	1	0	0	0	0	9	0	0	0	4	116	0	0	0	0	0	79	14	0	0
8:15 AM	0	18	0	2	0	0	0	0	0	2	0	0	0	3	88	0	0	0	0	0	112	12	0	0
8:30AM	0	25	0	10	1	0	0	0	0	12	0	0	0	5	133	0	0	0	0	0	106	27	0	0
8:45 AM	0	36	0	13	0	0	0	0	0	6	0	0	0	4	102	0	0	0	0	0	110	7	0	0

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Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #13 - PM MTMC			1470	
	Location			% Bank 1	% Bank 2
	Highland Pkwy/West Gateway & Main St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, April 23, 2019	19				

Peak Hour Data

Time Period	EB - Highland Pkwy							WB - West Gateway							NB - Main St							SB - Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:30 PM	0	63	0	11	2	0	74	0	0	0	11	0	0	11	0	15	147	0	0	0	162	0	1	109	21	0	0	131	378	2
4:45 PM	0	53	0	13	0	1	66	0	0	0	3	0	0	3	0	14	116	0	0	0	130	0	0	113	19	0	0	132	331	1
5:00 PM	0	60	0	12	3	3	72	0	0	0	9	0	0	9	0	25	167	0	0	1	192	0	1	82	25	0	1	108	381	8
5:15 PM	0	60	0	12	3	3	72	0	0	0	8	0	0	8	0	25	167	0	0	1	192	0	1	82	25	0	1	108	380	8

Vehicle Movement Summary

Movement / Details	EB - Highland Pkwy							WB - West Gateway							NB - Main St							SB - Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	236	0	48	8	7	284	0	0	0	31	0	0	31	0	79	597	0	0	2	676	0	3	386	90	0	2	479	1470	19
PHF	-	0.94	-	0.92	0.67	0.58	0.96	-	-	-	0.70	-	-	0.70	-	0.79	0.89	-	-	0.50	0.88	-	0.75	0.85	0.90	-	0.50	0.91	0.96	0.59
% Bank 1	0.0%	100.0%	0.0%	100.0%								0.0%	0.0%	0.0%	100.0%								0.0%	100.0%	100.0%	100.0%				
% Bank 2	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				
% Bank 3	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				
% Bank 4	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				

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Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #14 - AM MTMC			823	
	Location			% Bank 1	% Bank 2
	Lien St & Main St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	3				

Peak Hour Data

Time Period	EB - Lien St							WB - Lien St							NB - Main St							SB - Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
8:00 AM	0	10	0	42	0	0	52	0	0	0	0	0	0	0	0	3	75	0	1	0	78	0	0	55	7	0	0	62	192	1
8:15 AM	0	8	0	40	0	0	48	0	0	0	0	0	0	0	0	7	77	0	0	0	84	0	0	76	4	0	0	80	212	0
8:30AM	0	13	0	21	0	0	34	0	0	0	0	0	0	0	0	1	73	0	0	0	74	0	0	69	6	0	0	75	183	0
8:45 AM	0	11	0	37	2	0	48	0	0	0	0	0	0	0	0	7	81	0	0	0	88	0	0	88	12	0	0	100	236	2

Vehicle Movement Summary

Movement / Details	EB - Lien St							WB - Lien St							NB - Main St							SB - Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	42	0	140	2	0	182	0	0	0	0	0	0	0	0	18	306	0	1	0	324	0	0	288	29	0	0	317	823	3
PHF	-	0.81	-	0.83	0.25	-	0.88	-	-	-	-	-	-	-	-	0.64	0.94	-	0.25	-	0.92	-	-	0.82	0.60	-	-	0.79	0.87	0.38
% Bank 1	0.0%	100.0%	0.0%	100.0%					0.0%	0.0%	0.0%	0.0%					0.0%	100.0%	100.0%	0.0%					0.0%	0.0%	100.0%	100.0%	Need a custom report? Contact: support@portablestudies.com	
% Bank 2	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 3	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 4	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		

Combined																								
Time Period	EB - Lien St						WB - Lien St						NB - Main St						SB - Main St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	11	0	17	0	0	0	0	0	0	0	0	0	5	60	0	0	0	0	0	37	2	0	0
7:15 AM	0	9	0	16	0	0	0	0	0	0	0	0	0	6	58	0	0	0	0	0	40	1	0	0
7:30AM	0	13	0	21	1	0	0	0	0	0	0	0	0	4	82	0	0	0	0	0	46	3	0	0
7:45 AM	0	21	0	45	1	0	0	0	0	0	0	0	0	8	75	0	0	0	0	0	63	5	0	0
8:00 AM	0	10	0	42	0	0	0	0	0	0	0	0	0	3	75	0	1	0	0	0	55	7	0	0
8:15 AM	0	8	0	40	0	0	0	0	0	0	0	0	0	7	77	0	0	0	0	0	76	4	0	0
8:30AM	0	13	0	21	0	0	0	0	0	0	0	0	0	1	73	0	0	0	0	0	69	6	0	0
8:45 AM	0	11	0	37	2	0	0	0	0	0	0	0	0	7	81	0	0	0	0	0	88	12	0	0

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Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #14 - PM MTMC			909	
	Location			% Bank 1	% Bank 2
	Lien St & Main St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	0				

Peak Hour Data

Time Period	EB - Lien St							WB - Lien St							NB - Main St							SB - Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:30 PM	0	12	0	16	0	0	28	0	0	0	0	0	0	0	0	17	98	0	0	0	115	0	0	82	8	0	0	90	233	0
4:45 PM	0	12	0	12	0	0	24	0	0	0	0	0	0	0	0	19	97	0	0	0	116	0	0	84	5	0	0	89	229	0
5:00 PM	0	14	0	16	0	0	30	0	0	0	0	0	0	0	0	20	94	0	0	0	114	0	0	85	6	0	0	91	235	0
5:15 PM	0	14	0	12	0	0	26	0	0	0	0	0	0	0	0	0	95	0	0	0	95	0	0	86	5	0	0	91	212	0

Vehicle Movement Summary

Movement / Details	EB - Lien St							WB - Lien St							NB - Main St							SB - Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	52	0	56	0	0	108	0	0	0	0	0	0	0	0	56	384	0	0	0	440	0	0	337	24	0	0	361	909	0
PHF	-	0.93	-	0.88	-	-	0.90	-	-	-	-	-	-	-	-	0.70	0.98	-	-	-	0.95	-	-	0.98	0.75	-	-	0.99	0.97	-
% Bank 1	0.0%	0.0%	100.0%	100.0%				0.0%	0.0%	0.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	100.0%	100.0%	100.0%				Need a custom report? Contact: support@portablestudies.com	
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Lien St						WB - Lien St						NB - Main St						SB - Main St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	11	1	15	0	0	0	0	0	0	0	0	0	16	103	0	0	0	0	0	84	9	0	0
4:15 PM	0	3	7	10	0	0	0	0	0	0	0	0	0	33	55	0	0	0	0	2	51	4	0	0
4:30 PM	0	12	0	16	0	0	0	0	0	0	0	0	0	17	98	0	0	0	0	0	82	8	0	0
4:45 PM	0	12	0	12	0	0	0	0	0	0	0	0	0	19	97	0	0	0	0	0	84	5	0	0
5:00 PM	0	14	0	16	0	0	0	0	0	0	0	0	0	20	94	0	0	0	0	0	85	6	0	0
5:15 PM	0	14	0	12	0	0	0	0	0	0	0	0	0	0	95	0	0	0	0	0	86	5	0	0
5:30 PM	0	17	0	10	0	0	0	0	0	0	0	0	0	21	99	0	0	0	0	0	77	8	0	0
5:45 PM	0	15	0	13	0	0	0	0	0	0	0	0	0	7	99	0	0	0	0	0	81	11	0	0

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #15- AM MTMC			1396	
	Location			% Bank 1	% Bank 2
	Washington St & Hooper Ave, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, April 23, 2019	75				

Peak Hour Data

Time Period	EB - Washington St							WB - Washington St							NB - Hooper Ave							SB - Hooper Ave							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:45 AM	0	31	27	5	0	0	63	0	52	42	7	8	7	101	0	2	141	15	4	3	158	0	2	48	15	0	2	65	387	24
8:00 AM	0	18	24	3	2	0	45	0	48	33	3	2	2	84	0	2	124	14	1	0	140	0	5	47	14	1	4	66	335	12
8:15 AM	0	33	21	12	0	0	66	0	43	32	7	1	4	82	0	4	104	18	4	8	126	0	5	51	12	2	0	68	342	19
8:30AM	0	15	26	7	4	0	48	0	33	39	7	3	2	79	0	0	120	10	2	1	130	0	6	42	27	6	2	75	332	20

Vehicle Movement Summary

Movement / Details	EB - Washington St							WB - Washington St							NB - Hooper Ave							SB - Hooper Ave							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	97	98	27	6	0	222	0	176	146	24	14	15	346	0	8	489	57	11	12	554	0	18	188	68	9	8	274	1396	75
PHF	-	0.73	0.91	0.56	0.38	-	0.84	-	0.85	0.87	0.86	0.44	0.54	0.86	-	0.50	0.87	0.79	0.69	0.38	0.88	-	0.75	0.92	0.63	0.38	0.50	0.91	0.90	0.78
% Bank 1	0.0%	100.0%	100.0%	100.0%								0.0%	100.0%	100.0%	100.0%								0.0%	100.0%	100.0%	100.0%	Need a custom report? Contact: support@portablestudies.com			
% Bank 2	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				
% Bank 3	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				
% Bank 4	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				

Combined																								
Time Period	EB - Washington St						WB - Washington St						NB - Hooper Ave						SB - Hooper Ave					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	11	19	0	0	0	0	30	39	8	0	1	0	1	107	9	0	0	0	9	58	13	0	0
7:15 AM	0	15	13	3	2	0	0	43	15	3	1	2	0	0	94	14	0	0	0	2	40	4	0	0
7:30AM	0	15	19	2	1	0	0	46	15	2	2	0	0	1	117	14	0	0	0	0	47	10	0	0
7:45 AM	0	31	27	5	0	0	0	52	42	7	8	7	0	2	141	15	4	3	0	2	48	15	0	2
8:00 AM	0	18	24	3	2	0	0	48	33	3	2	2	0	2	124	14	1	0	0	5	47	14	1	4
8:15 AM	0	33	21	12	0	0	0	43	32	7	1	4	0	4	104	18	4	8	0	5	51	12	2	0
8:30AM	0	15	26	7	4	0	0	33	39	7	3	2	0	0	120	10	2	1	0	6	42	27	6	2
8:45 AM	0	15	30	7	3	0	0	32	43	4	4	4	0	5	125	10	3	0	0	4	55	23	6	6

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #15 - PM MTMC			1658	
	Location			% Bank 1	% Bank 2
	Washington St & Hooper Ave, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, April 23, 2019	69				

Peak Hour Data

Time Period	EB - Washington St							WB - Washington St							NB - Hooper Ave							SB - Hooper Ave							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:15 PM	0	18	32	7	8	3	57	0	64	36	11	3	0	111	0	4	99	9	0	2	112	0	2	98	20	1	2	120	400	19
4:30 PM	0	20	43	9	11	7	72	0	74	90	7	2	2	171	0	10	89	19	0	0	118	0	2	93	38	1	1	133	494	24
4:45 PM	0	16	35	5	2	0	56	0	52	51	8	0	0	111	0	3	69	15	0	1	87	0	3	89	17	5	2	109	363	10
5:00 PM	0	22	42	9	10	6	73	0	68	38	11	0	0	117	0	1	94	10	0	0	105	0	2	89	15	0	0	106	401	16

Vehicle Movement Summary

Movement / Details	EB - Washington St							WB - Washington St							NB - Hooper Ave							SB - Hooper Ave							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	76	152	30	31	16	258	0	258	215	37	5	2	510	0	18	351	53	0	3	422	0	9	369	90	7	5	468	1658	69
PHF	-	0.86	0.88	0.83	0.70	0.57	0.88	-	0.87	0.60	0.84	0.42	0.25	0.75	-	0.45	0.89	0.70	-	0.38	0.89	-	0.75	0.94	0.59	0.35	0.63	0.88	0.84	0.72
% Bank 1	0.0%	100.0%	100.0%	100.0%								0.0%	100.0%	100.0%	100.0%								0.0%	100.0%	100.0%	100.0%	Need a custom report? Contact: support@portablestudies.com			
% Bank 2	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				
% Bank 3	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				
% Bank 4	0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%								0.0%	0.0%	0.0%	0.0%				

Combined																								
Time Period	EB - Washington St						WB - Washington St						NB - Hooper Ave						SB - Hooper Ave					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	18	38	7	3	3	0	80	53	8	0	6	0	4	71	8	1	0	0	3	89	21	0	4
4:15 PM	0	18	32	7	8	3	0	64	36	11	3	0	0	4	99	9	0	2	0	2	98	20	1	2
4:30 PM	0	20	43	9	11	7	0	74	90	7	2	2	0	10	89	19	0	0	0	2	93	38	1	1
4:45 PM	0	16	35	5	2	0	0	52	51	8	0	0	0	3	69	15	0	1	0	3	89	17	5	2
5:00 PM	0	22	42	9	10	6	0	68	38	11	0	0	0	1	94	10	0	0	0	2	89	15	0	0
5:15 PM	0	27	29	7	2	4	0	45	31	12	1	1	0	4	68	4	1	1	0	2	95	13	0	0
5:30 PM	0	17	25	1	0	0	0	41	28	4	1	0	0	3	78	5	1	1	0	2	78	10	1	1
5:45 PM	0	17	33	7	2	0	0	51	46	9	0	0	0	2	85	10	2	1	0	2	75	16	0	3

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Irons/Legion Street and Main Street
 Toms River, Ocean County, New Jersey
 MTMC-AM
 Project No.: 191451

File Name : Iron-Legion-Main-AM
 Site Code : 00000111
 Start Date : 5/9/2019
 Page No : 1

Groups Printed- Unshifted

Start Time	Main Street Northbound					Main Street Southbound					Irons Street Eastbound					Legion Court Westbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
07:00 AM	1	62	0	0	63	5	40	8	2	55	6	0	6	0	12	11	1	2	0	14	144
07:15 AM	7	90	4	0	101	5	90	18	0	113	9	1	9	0	19	6	1	4	0	11	244
07:30 AM	6	72	4	1	83	8	85	9	3	105	8	5	7	0	20	6	3	5	1	15	223
07:45 AM	4	86	3	0	93	8	88	20	1	117	14	4	6	0	24	5	1	1	0	7	241
Total	18	310	11	1	340	26	303	55	6	390	37	10	28	0	75	28	6	12	1	47	852
08:00 AM	4	73	6	3	86	14	80	15	5	114	4	3	9	3	19	5	3	2	0	10	229
08:15 AM	7	67	10	2	86	25	81	24	4	134	9	4	14	2	29	11	2	2	0	15	264
08:30 AM	5	81	7	1	94	12	81	8	1	102	9	5	14	0	28	5	3	1	2	11	235
08:45 AM	8	71	4	3	86	14	65	7	1	87	4	3	12	5	24	8	6	2	0	16	213
Total	24	292	27	9	352	65	307	54	11	437	26	15	49	10	100	29	14	7	2	52	941

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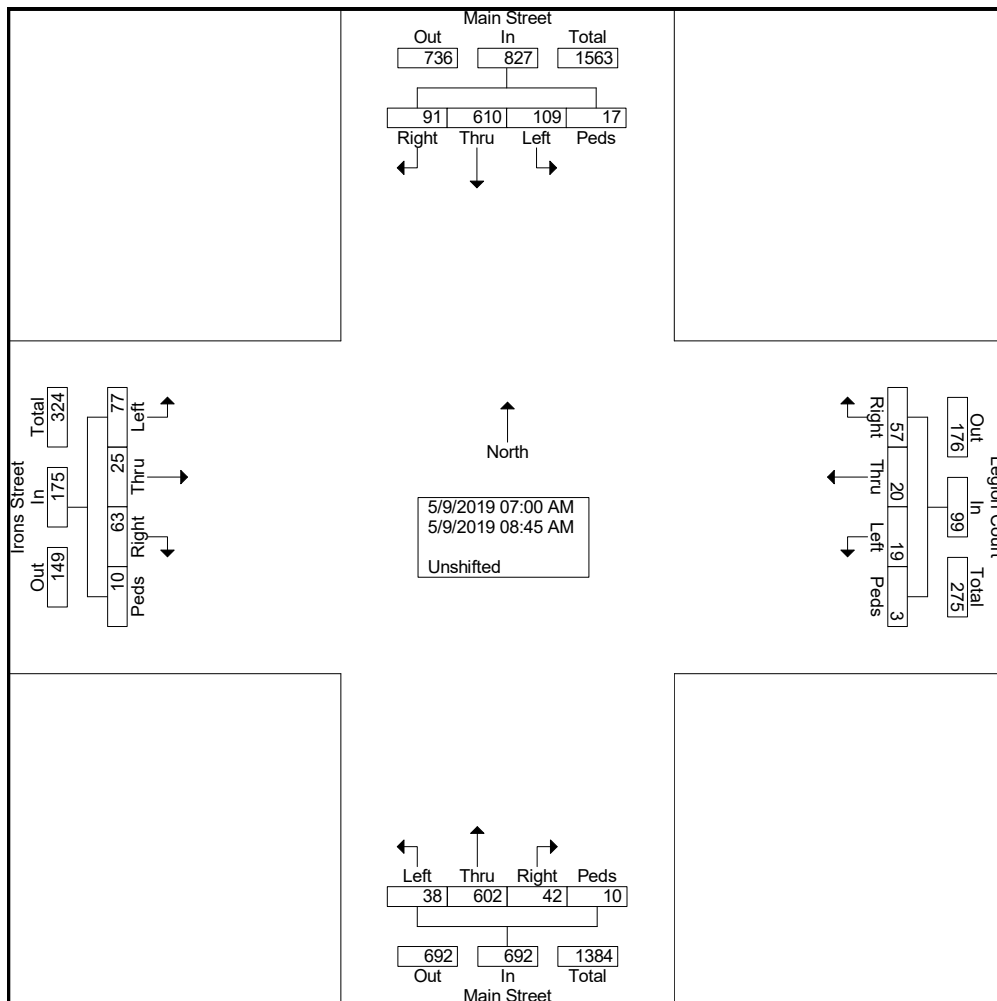
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File Name : Iron-Legion-Main-AM
 Site Code : 0000111
 Start Date : 5/9/2019
 Page No : 2

Groups Printed- Unshifted

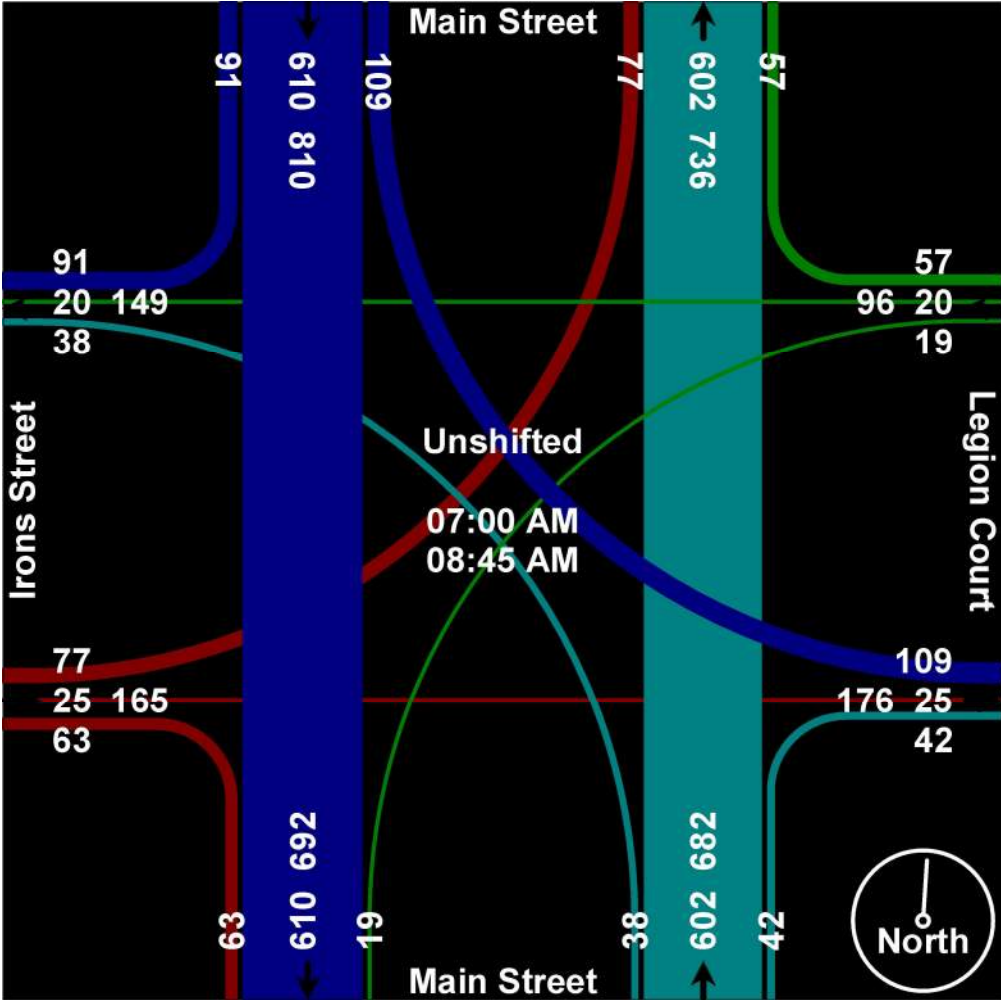
	Main Street Northbound					Main Street Southbound					Irons Street Eastbound					Legion Court Westbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Grand Total	42	602	38	10	692	91	610	109	17	827	63	25	77	10	175	57	20	19	3	99	1793
Apprch %	6.1	87	5.5	1.4		11	73.8	13.2	2.1		36	14.3	44	5.7		57.6	20.2	19.2	3		
Total %	2.3	33.6	2.1	0.6	38.6	5.1	34	6.1	0.9	46.1	3.5	1.4	4.3	0.6	9.8	3.2	1.1	1.1	0.2	5.5	



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File Name : Iron-Legion-Main-AM
Site Code : 00000111
Start Date : 5/9/2019
Page No : 3



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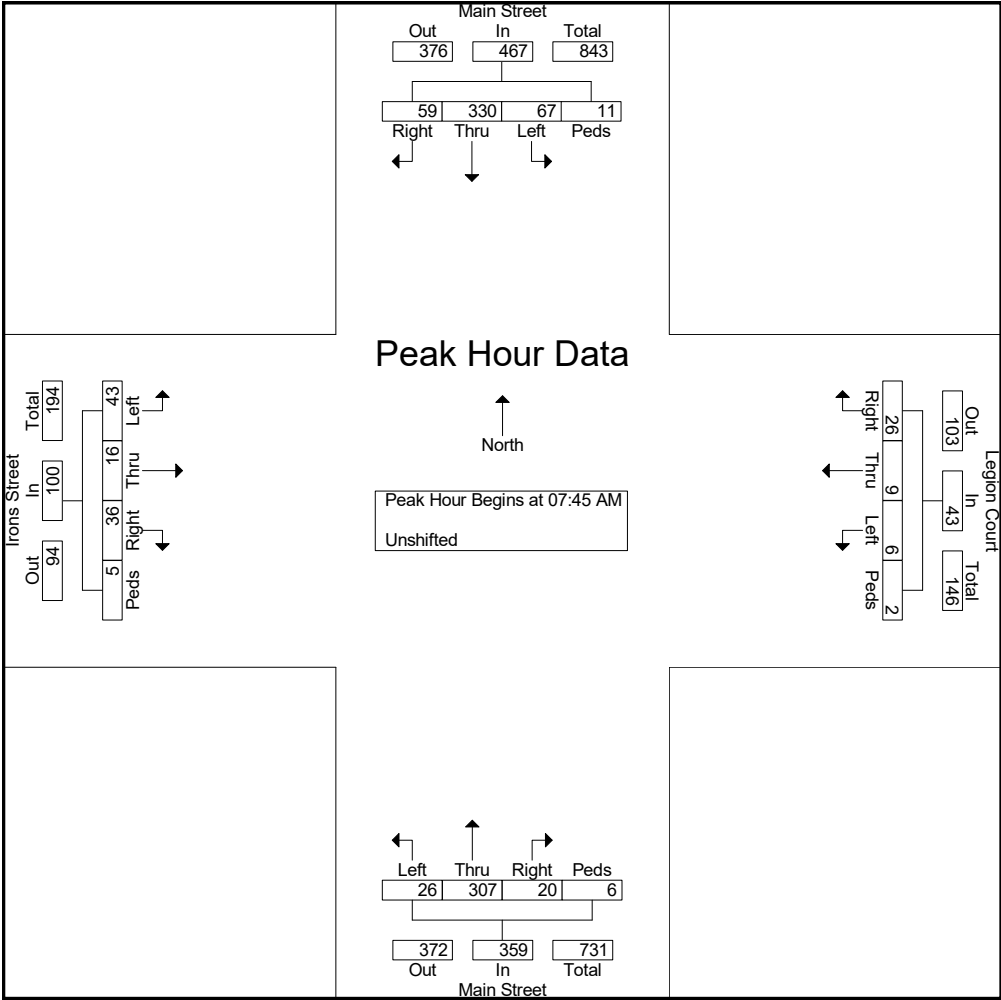
File Name : Iron-Legion-Main-AM
 Site Code : 00000111
 Start Date : 5/9/2019
 Page No : 4

Start Time	Main Street Northbound					Main Street Southbound					Irons Street Eastbound					Legion Court Westbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	4	86	3	0	93	8	88	20	1	117	14	4	6	0	24	5	1	1	0	7	241
08:00 AM	4	73	6	3	86	14	80	15	5	114	4	3	9	3	19	5	3	2	0	10	229
08:15 AM	7	67	10	2	86	25	81	24	4	134	9	4	14	2	29	11	2	2	0	15	264
08:30 AM	5	81	7	1	94	12	81	8	1	102	9	5	14	0	28	5	3	1	2	11	235
Total Volume	20	307	26	6	359	59	330	67	11	467	36	16	43	5	100	26	9	6	2	43	969
% App. Total	5.6	85.5	7.2	1.7		12.6	70.7	14.3	2.4		36	16	43	5		60.5	20.9	14	4.7		
PHF	.714	.892	.650	.500	.955	.590	.938	.698	.550	.871	.643	.800	.768	.417	.862	.591	.750	.750	.250	.717	.918

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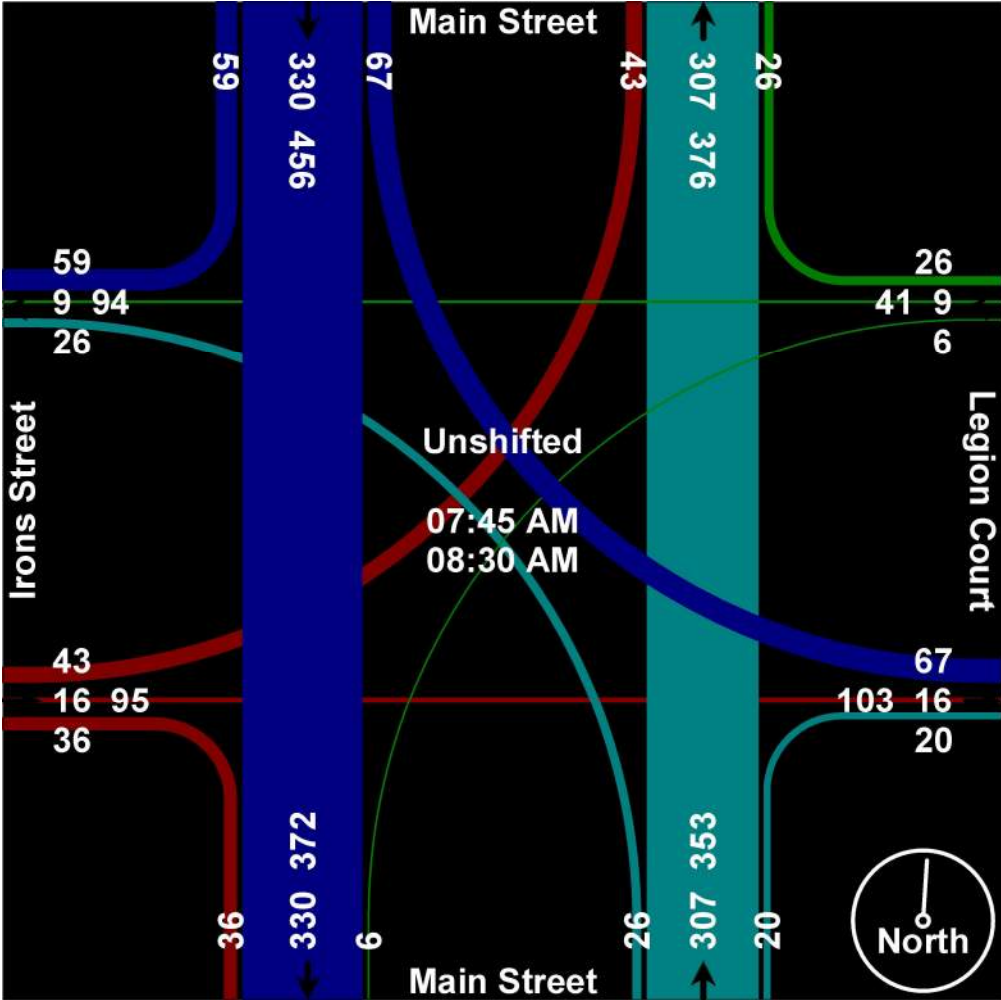
File Name : Iron-Legion-Main-AM
 Site Code : 0000111
 Start Date : 5/9/2019
 Page No : 5



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File Name : Iron-Legion-Main-AM
Site Code : 00000111
Start Date : 5/9/2019
Page No : 6



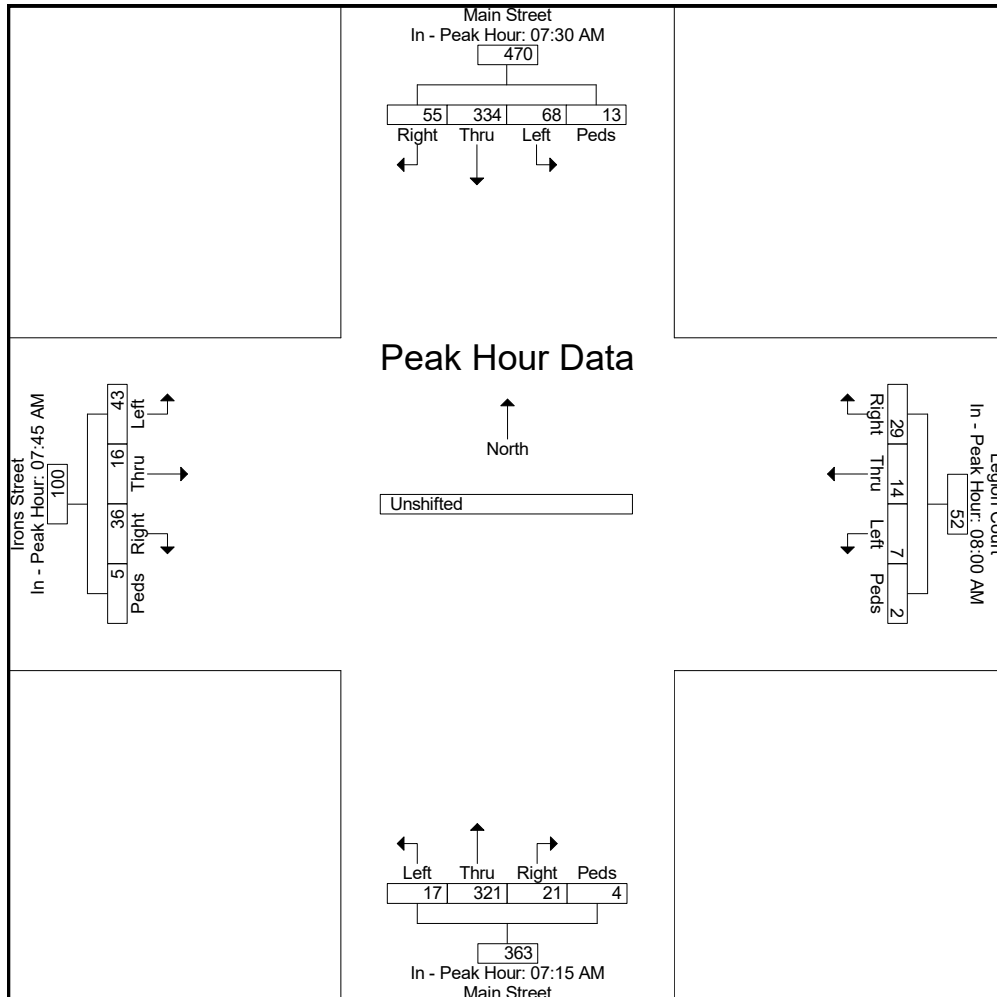
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File Name : Iron-Legion-Main-AM
 Site Code : 0000111
 Start Date : 5/9/2019
 Page No : 7

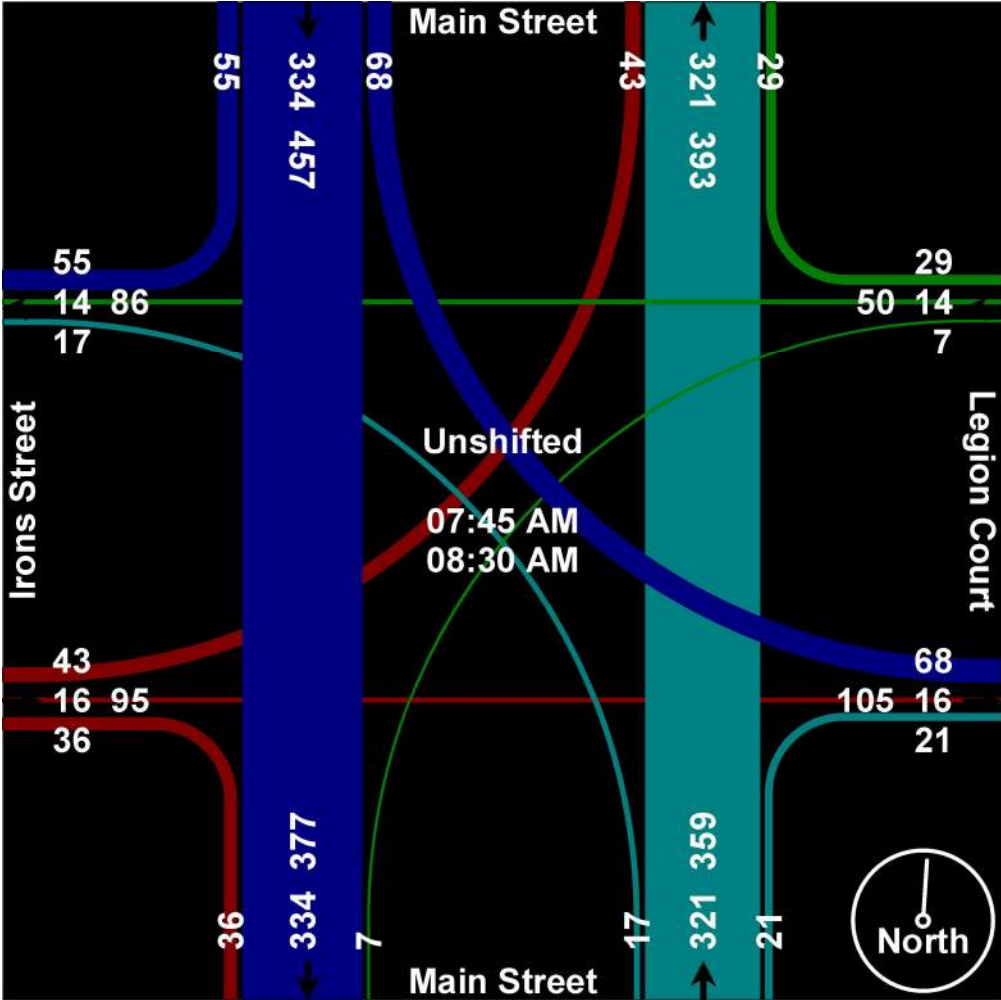
Start Time	Main Street Northbound					Main Street Southbound					Irons Street Eastbound					Legion Court Westbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					07:30 AM					07:45 AM					08:00 AM					
+0 mins.	7	90	4	0	101	8	85	9	3	105	14	4	6	0	24	5	3	2	0	10	
+15 mins.	6	72	4	1	83	8	88	20	1	117	4	3	9	3	19	11	2	2	0	15	
+30 mins.	4	86	3	0	93	14	80	15	5	114	9	4	14	2	29	5	3	1	2	11	
+45 mins.	4	73	6	3	86	25	81	24	4	134	9	5	14	0	28	8	6	2	0	16	
Total Volume	21	321	17	4	363	55	334	68	13	470	36	16	43	5	100	29	14	7	2	52	
% App. Total	5.8	88.4	4.7	1.1		11.7	71.1	14.5	2.8		36	16	43	5		55.8	26.9	13.5	3.8		
PHF	.750	.892	.708	.333	.899	.550	.949	.708	.650	.877	.643	.800	.768	.417	.862	.659	.583	.875	.250	.813	



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File Name : Iron-Legion-Main-AM
Site Code : 00000111
Start Date : 5/9/2019
Page No : 8



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Legion/Irons Street and Main Street
 Toms River, Ocean County, New Jersey
 MTMC-PM
 Project No.: 191451

File Name : Iron-Legion-Main-PM
 Site Code : 00006666
 Start Date : 5/9/2019
 Page No : 1

Groups Printed- Unshifted

Start Time	Main Street Northbound					Main Street Southbound					Irons Street Eastbound					Legion Court Westbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
03:30 PM	5	75	4	3	87	10	88	5	1	104	13	1	12	0	26	8	2	5	0	15	232
03:45 PM	13	102	5	0	120	12	88	9	1	110	11	1	26	0	38	9	3	4	0	16	284
Total	18	177	9	3	207	22	176	14	2	214	24	2	38	0	64	17	5	9	0	31	516
04:00 PM	10	87	8	1	106	5	93	7	0	105	13	4	17	1	35	21	3	12	0	36	282
04:15 PM	10	75	3	2	90	7	92	9	0	108	11	1	18	0	30	24	1	5	0	30	258
04:30 PM	5	120	10	3	138	9	115	11	3	138	15	2	14	0	31	38	6	9	0	53	360
04:45 PM	7	81	5	3	96	10	101	8	1	120	14	1	14	1	30	17	6	5	0	28	274
Total	32	363	26	9	430	31	401	35	4	471	53	8	63	2	126	100	16	31	0	147	1174
05:00 PM	6	100	9	5	120	5	84	1	1	91	23	6	16	1	46	31	5	9	0	45	302
05:15 PM	10	80	4	1	95	9	106	12	1	128	12	4	17	0	33	9	2	7	1	19	275
05:30 PM	11	64	3	2	80	8	87	7	1	103	21	8	22	0	51	14	4	3	0	21	255
05:45 PM	8	68	5	1	82	11	96	6	2	115	15	3	17	0	35	10	1	6	0	17	249
Total	35	312	21	9	377	33	373	26	5	437	71	21	72	1	165	64	12	25	1	102	1081
06:00 PM	6	56	3	2	67	8	84	8	3	103	16	2	14	1	33	13	5	6	0	24	227
06:15 PM	7	93	1	6	107	5	79	6	3	93	9	2	13	0	24	9	2	4	0	15	239

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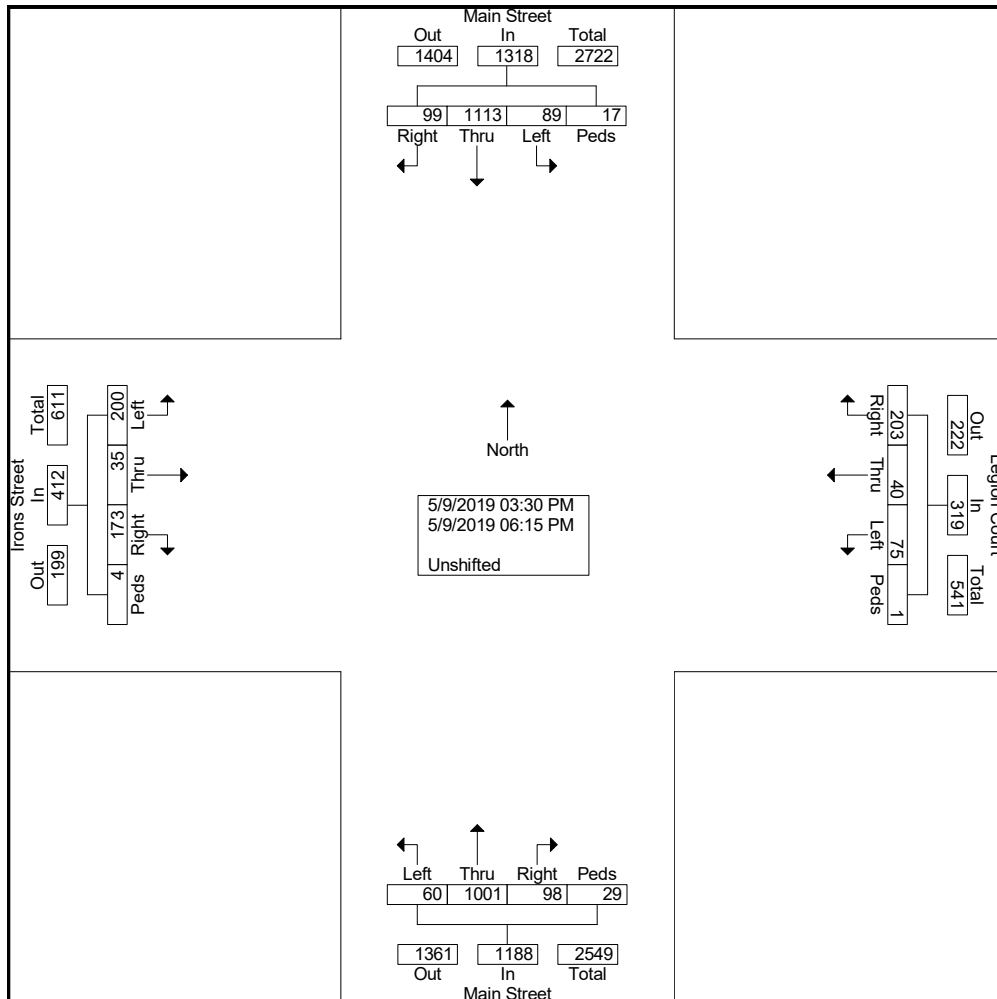
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File Name : Iron-Legion-Main-PM
 Site Code : 00006666
 Start Date : 5/9/2019
 Page No : 2

Groups Printed- Unshifted

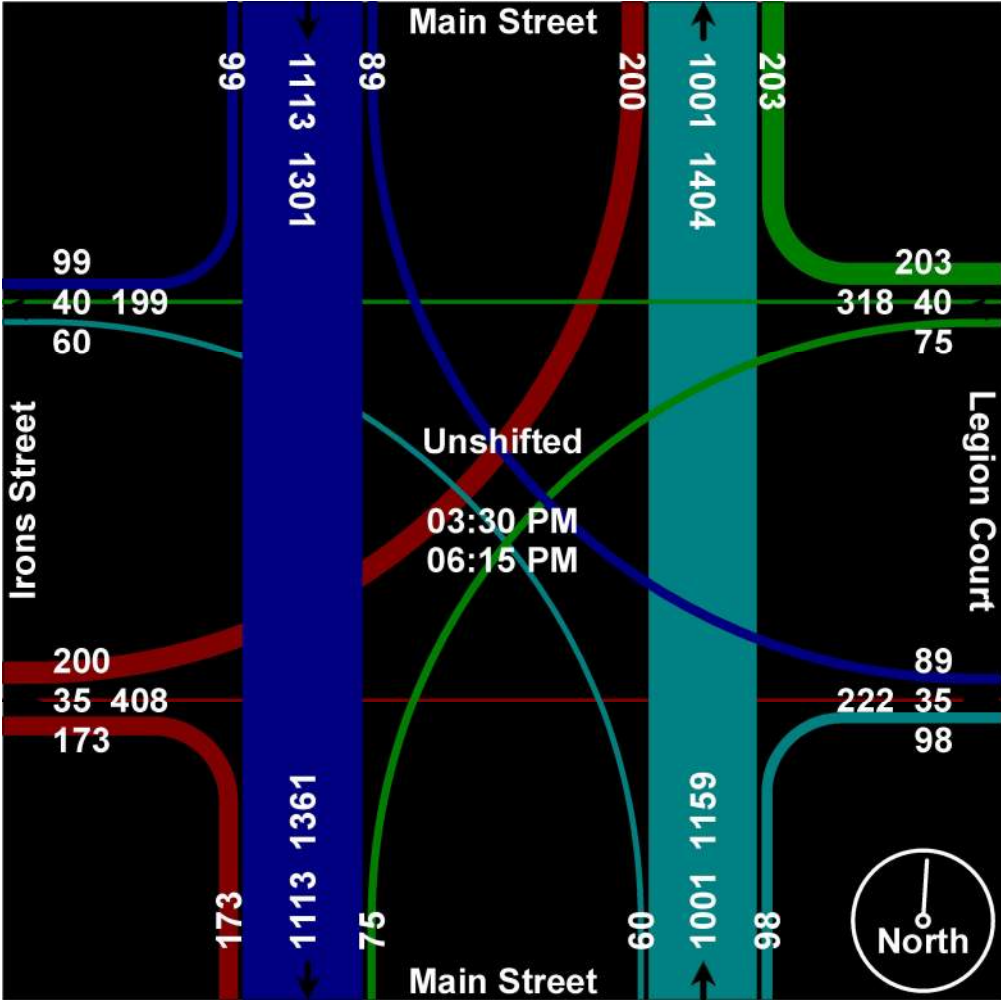
	Main Street Northbound					Main Street Southbound					Irons Street Eastbound					Legion Court Westbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Grand Total	98	1001	60	29	1188	99	1113	89	17	1318	173	35	200	4	412	203	40	75	1	319	3237
Apprch %	8.2	84.3	5.1	2.4		7.5	84.4	6.8	1.3		42	8.5	48.5	1		63.6	12.5	23.5	0.3		
Total %	3	30.9	1.9	0.9	36.7	3.1	34.4	2.7	0.5	40.7	5.3	1.1	6.2	0.1	12.7	6.3	1.2	2.3	0	9.9	



BRIGHT VIEW ENGINEERING

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File Name : Iron-Legion-Main-PM
Site Code : 00006666
Start Date : 5/9/2019
Page No : 3



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File Name : Iron-Legion-Main-PM
 Site Code : 00006666
 Start Date : 5/9/2019
 Page No : 4

Start Time	Main Street Northbound					Main Street Southbound					Irons Street Eastbound					Legion Court Westbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	
Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	5	120	10	3	138	9	115	11	3	138	15	2	14	0	31	38	6	9	0	53	360
04:45 PM	7	81	5	3	96	10	101	8	1	120	14	1	14	1	30	17	6	5	0	28	274
05:00 PM	6	100	9	5	120	5	84	1	1	91	23	6	16	1	46	31	5	9	0	45	302
05:15 PM	10	80	4	1	95	9	106	12	1	128	12	4	17	0	33	9	2	7	1	19	275
Total Volume	28	381	28	12	449	33	406	32	6	477	64	13	61	2	140	95	19	30	1	145	1211
% App. Total	6.2	84.9	6.2	2.7		6.9	85.1	6.7	1.3		45.7	9.3	43.6	1.4		65.5	13.1	20.7	0.7		
PHF	.700	.794	.700	.600	.813	.825	.883	.667	.500	.864	.696	.542	.897	.500	.761	.625	.792	.833	.250	.684	.841

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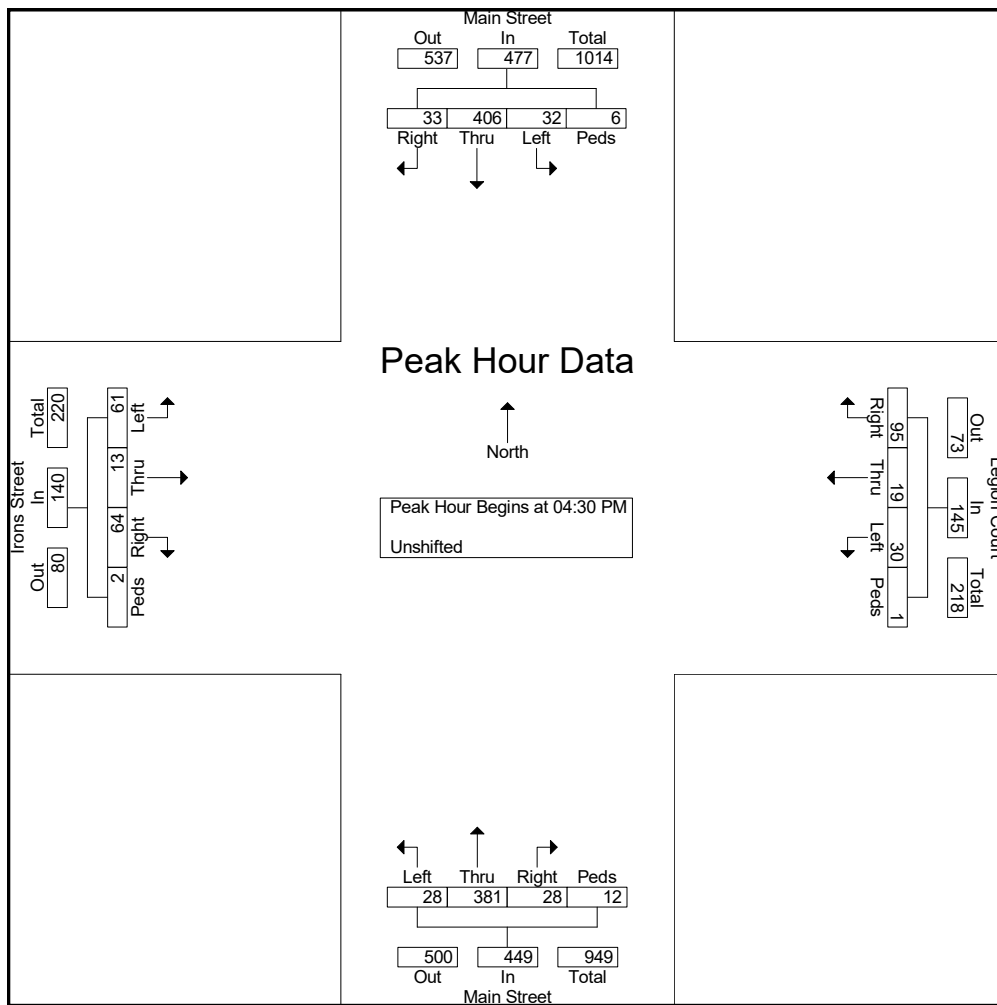
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File Name : Iron-Legion-Main-PM

Site Code : 00006666

Start Date : 5/9/2019

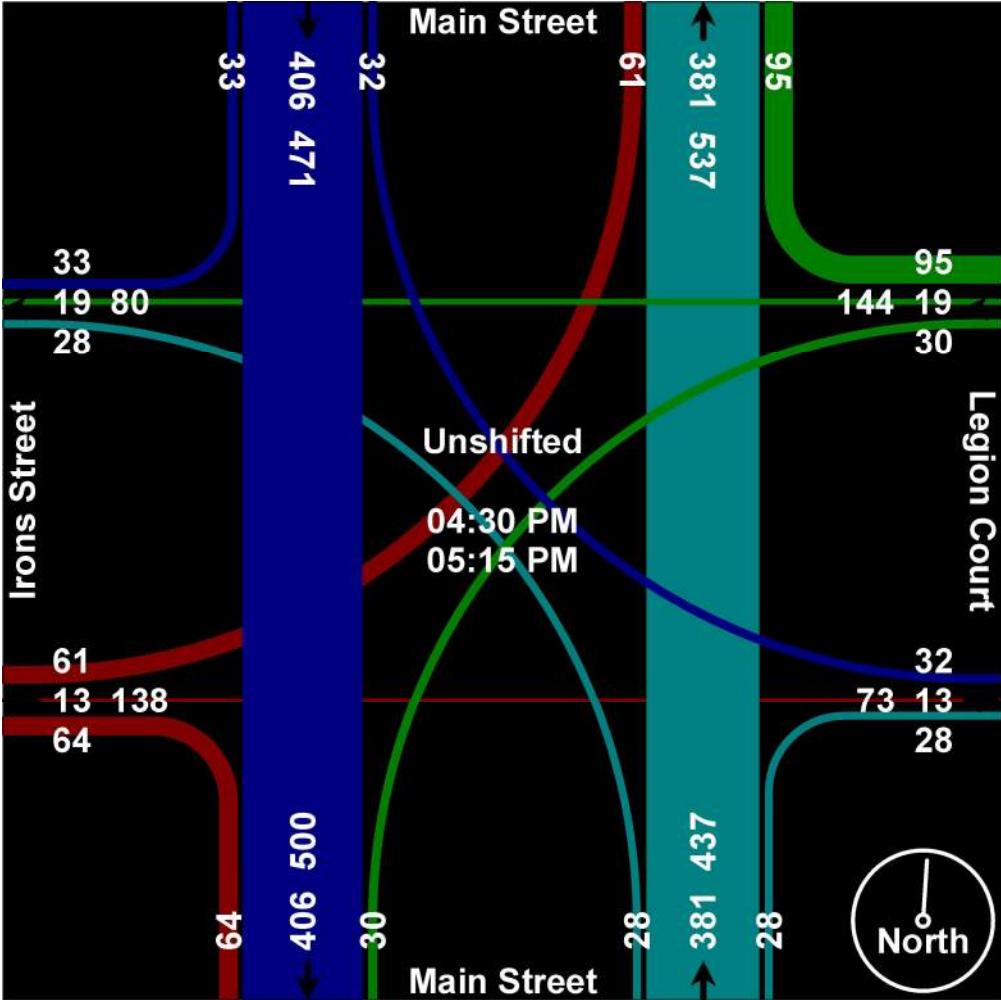
Page No : 5



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File Name : Iron-Legion-Main-PM
Site Code : 00006666
Start Date : 5/9/2019
Page No : 6



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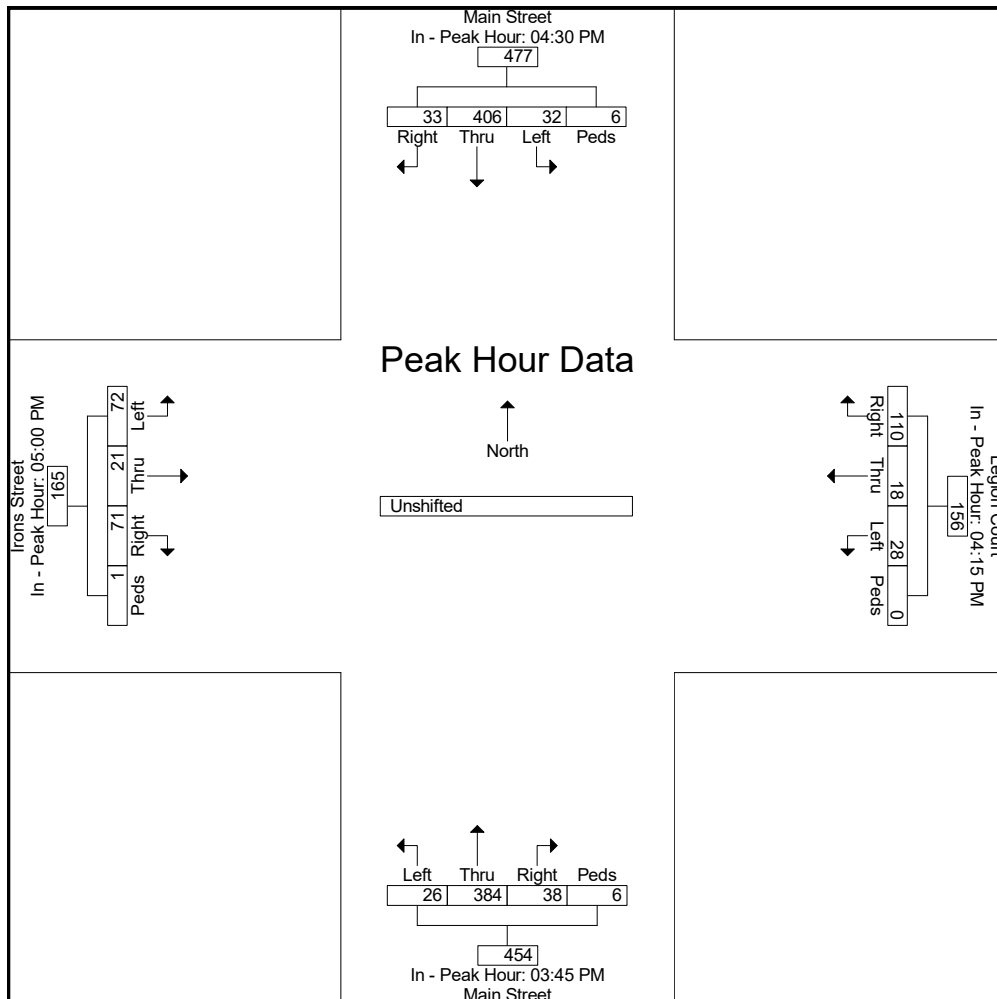
File Name : Iron-Legion-Main-PM
 Site Code : 00006666
 Start Date : 5/9/2019
 Page No : 7

Start Time	Main Street Northbound					Main Street Southbound					Irons Street Eastbound					Legion Court Westbound					Int. Total
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	

Peak Hour Analysis From 03:30 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

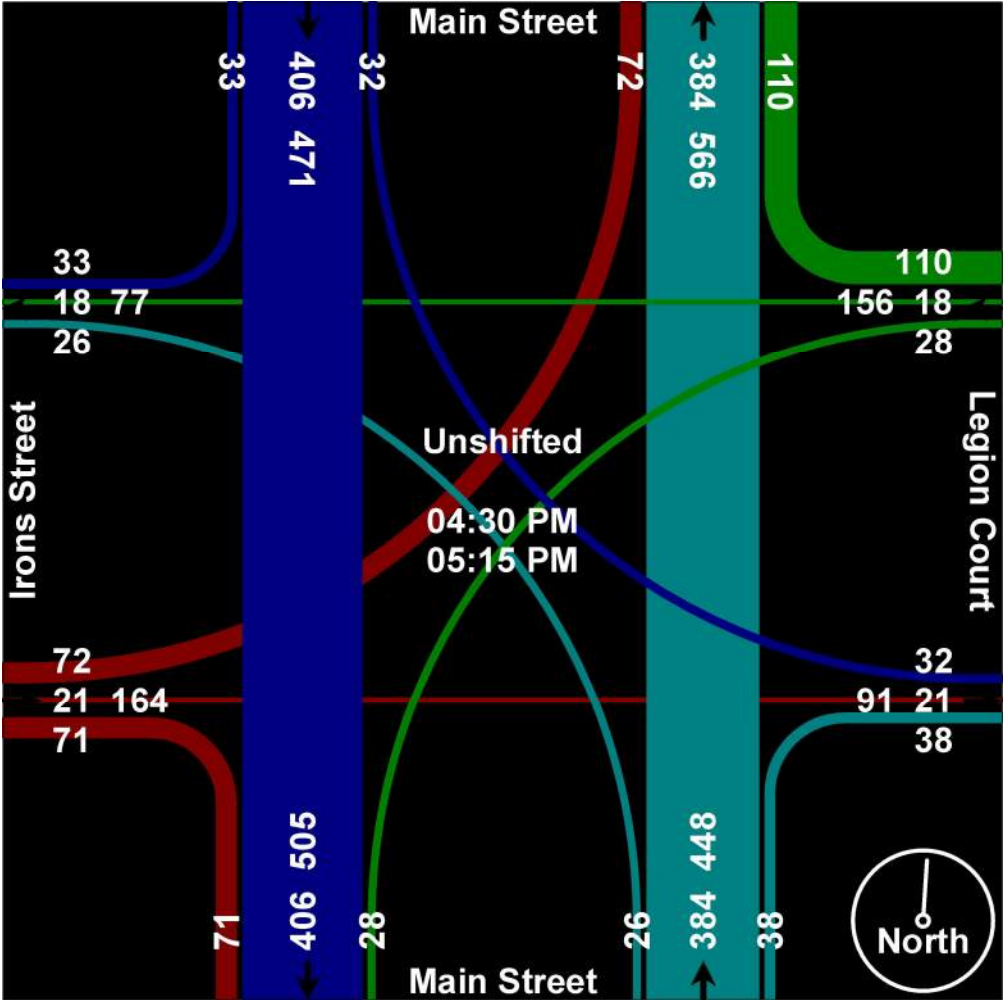
	03:45 PM					04:30 PM					05:00 PM					04:15 PM				
+0 mins.	13	102	5	0	120	9	115	11	3	138	23	6	16	1	46	24	1	5	0	30
+15 mins.	10	87	8	1	106	10	101	8	1	120	12	4	17	0	33	38	6	9	0	53
+30 mins.	10	75	3	2	90	5	84	1	1	91	21	8	22	0	51	17	6	5	0	28
+45 mins.	5	120	10	3	138	9	106	12	1	128	15	3	17	0	35	31	5	9	0	45
Total Volume	38	384	26	6	454	33	406	32	6	477	71	21	72	1	165	110	18	28	0	156
% App. Total	8.4	84.6	5.7	1.3		6.9	85.1	6.7	1.3		43	12.7	43.6	0.6		70.5	11.5	17.9	0	
PHF	.731	.800	.650	.500	.822	.825	.883	.667	.500	.864	.772	.656	.818	.250	.809	.724	.750	.778	.000	.736



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File Name : Iron-Legion-Main-PM
Site Code : 00006666
Start Date : 5/9/2019
Page No : 8



Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #17 - AM MTMC			1500	
	Location			% Bank 1	% Bank 2
	South Main St & Route 166, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	0				

Peak Hour Data

Time Period	EB - S Main St							WB					NB - Route 166					SB					Total Vehicles	Total Pedestrians						
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U			L	T	R	P1	P2	Veh
7:30AM	0	40	0	0	0	0	40	0	0	0	0	0	0	0	0	0	334	0	0	0	334	0	0	0	0	0	0	0	374	0
7:45 AM	0	69	0	0	0	0	69	0	0	0	0	0	0	0	0	0	376	0	0	0	376	0	0	0	0	0	0	0	445	0
8:00 AM	0	39	0	0	0	0	39	0	0	0	0	0	0	0	0	0	280	0	0	0	280	0	0	0	0	0	0	0	319	0
8:15 AM	0	55	0	0	0	0	55	0	0	0	0	0	0	0	0	0	307	0	0	0	307	0	0	0	0	0	0	0	362	0

Vehicle Movement Summary

Movement / Details	EB - S Main St							WB					NB - Route 166					SB					Entire Intersection							
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	203	0	0	0	0	203	0	0	0	0	0	0	0	0	0	1297	0	0	0	1297	0	0	0	0	0	0	0	1500	0
PHF	-	0.74	-	-	-	-	0.74	-	-	-	-	-	-	-	-	-	0.86	-	-	-	0.86	-	-	-	-	-	-	-	0.84	-
% Bank 1	0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	0.0%	0.0%				0.0%	100.0%	100.0%	0.0%				0.0%	0.0%	100.0%	100.0%				Need a custom report? Contact: support@portablestudies.com	
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - S Main St						WB						NB - Route 166						SB					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	38	0	0	0	0	0	0	0	0	0	0	0	0	294	0	0	0	0	0	0	0	0	0
7:15 AM	0	45	0	0	0	0	0	0	0	0	0	0	0	0	280	0	0	0	0	0	0	0	0	0
7:30AM	0	40	0	0	0	0	0	0	0	0	0	0	0	0	334	0	0	0	0	0	0	0	0	0
7:45 AM	0	69	0	0	0	0	0	0	0	0	0	0	0	0	376	0	0	0	0	0	0	0	0	0
8:00 AM	0	39	0	0	0	0	0	0	0	0	0	0	0	0	280	0	0	0	0	0	0	0	0	0
8:15 AM	0	55	0	0	0	0	0	0	0	0	0	0	0	0	307	0	0	0	0	0	0	0	0	0
8:30AM	0	45	0	0	0	0	0	0	0	0	0	0	0	0	312	0	0	0	0	0	0	0	0	0
8:45 AM	0	62	0	0	0	0	0	0	0	0	0	0	0	0	374	0	0	0	0	0	0	0	0	0

Turning Movement Count Report

Report Generated Using Turning Movement Count for Android by PortableStudies.com

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #17 - PM MTMC			1505	
	Location			% Bank 1	% Bank 2
	South Main St & Route 166, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Thursday, May 9, 2019	0				

Peak Hour Data

Time Period	EB - S Main St							WB					NB - Route 166					SB					Total Vehicles	Total Pedestrians						
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U			L	T	R	P1	P2	Veh
4:15 PM	0	57	0	0	0	0	57	0	0	0	0	0	0	0	0	0	304	0	0	0	304	0	0	0	0	0	0	0	361	0
4:30 PM	0	88	0	0	0	0	88	0	0	0	0	0	0	0	0	0	285	0	0	0	285	0	0	0	0	0	0	0	373	0
4:45 PM	0	116	0	0	0	0	116	0	0	0	0	0	0	0	0	0	306	0	0	0	306	0	0	0	0	0	0	0	422	0
5:00 PM	0	57	0	0	0	0	57	0	0	0	0	0	0	0	0	0	292	0	0	0	292	0	0	0	0	0	0	0	349	0

Vehicle Movement Summary

Movement / Details	EB - S Main St							WB					NB - Route 166					SB					Entire Intersection							
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	318	0	0	0	0	318	0	0	0	0	0	0	0	0	0	1187	0	0	0	1187	0	0	0	0	0	0	0	1505	0
PHF	-	0.69	-	-	-	-	0.69	-	-	-	-	-	-	-	-	-	0.97	-	-	-	0.97	-	-	-	-	-	-	-	0.89	-
% Bank 1	0.0%	0.0%	100.0%	100.0%				0.0%	0.0%	0.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	100.0%	100.0%	100.0%				Need a custom report? Contact: support@portablestudies.com	
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - S Main St						WB						NB - Route 166						SB					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	67	0	0	0	0	0	0	0	0	0	0	0	0	241	0	0	0	0	0	0	0	0	0
4:15 PM	0	57	0	0	0	0	0	0	0	0	0	0	0	0	304	0	0	0	0	0	0	0	0	0
4:30 PM	0	88	0	0	0	0	0	0	0	0	0	0	0	0	285	0	0	0	0	0	0	0	0	0
4:45 PM	0	116	0	0	0	0	0	0	0	0	0	0	0	0	306	0	0	0	0	0	0	0	0	0
5:00 PM	0	57	0	0	0	0	0	0	0	0	0	0	0	0	292	0	0	0	0	0	0	0	0	0
5:15 PM	0	62	0	0	0	0	0	0	0	0	0	0	0	0	273	0	0	0	0	0	0	0	0	0
5:30 PM	0	52	0	0	0	0	0	0	0	0	0	0	0	0	275	0	0	0	0	0	0	0	0	0
5:45 PM	0	49	0	0	0	0	0	0	0	0	0	0	0	0	273	0	0	0	0	0	0	0	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name													U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach						Peak Hour Volume	
	Location #1 - AM MTMC																			559	
	Location																			% Bank 1	% Bank 2
	Lakehurst Rd & GSP Ramp, Toms River Twp, Ocean County, NJ																			100.0%	0.0%
	Performed By																			% Bank 3	% Bank 4
	DF																			0.0%	0.0%
	Date																			Pedestrians Volume	
Thursday, May 16, 2019													0								

Peak Hour Data

Time Period	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - GSP Ramp						SB						Total Vehicles	Total Pedestrians				
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T			R	P1	P2	Veh
7:45 AM	0	0	0	42	0	0	42	0	25	0	0	0	0	25	0	30	0	49	0	0	79	0	0	0	0	0	0	0	146	0
8:00 AM	0	0	0	43	0	0	43	0	22	0	0	0	0	22	0	12	0	45	0	0	57	0	0	0	0	0	0	0	122	0
8:15 AM	0	0	0	44	0	0	44	0	26	0	0	0	0	26	0	31	0	46	0	0	77	0	0	0	0	0	0	0	147	0
8:30AM	0	0	0	42	0	0	42	0	23	0	0	0	0	23	0	26	0	53	0	0	79	0	0	0	0	0	0	0	144	0

Vehicle Movement Summary

Movement / Details	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - GSP Ramp						SB						Entire Intersection					
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	0	171	0	0	171	0	96	0	0	0	0	96	0	99	0	193	0	0	292	0	0	0	0	0	0	0	559	0
PHF	-	-	-	0.97	-	-	0.97	-	0.92	-	-	-	-	0.92	-	0.80	-	0.91	-	-	0.92	-	-	-	-	-	-	-	0.95	-
% Bank 1	0.0%	0.0%	0.0%	100.0%				0.0%	100.0%	0.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - GSP Ramp						SB					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	0	0	42	0	0	0	18	0	0	0	0	0	11	0	33	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	41	0	0	0	22	0	0	0	0	0	19	0	29	0	0	0	0	0	0	0	0
7:30AM	0	0	0	50	0	0	0	33	0	0	0	0	0	19	0	38	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	42	0	0	0	25	0	0	0	0	0	30	0	49	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	43	0	0	0	22	0	0	0	0	0	12	0	45	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	44	0	0	0	26	0	0	0	0	0	31	0	46	0	0	0	0	0	0	0	0
8:30AM	0	0	0	42	0	0	0	23	0	0	0	0	0	26	0	53	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	45	0	0	0	21	0	0	0	0	0	28	0	28	0	0	0	0	0	0	0	0

Counter Information

to be completed during all manual counts



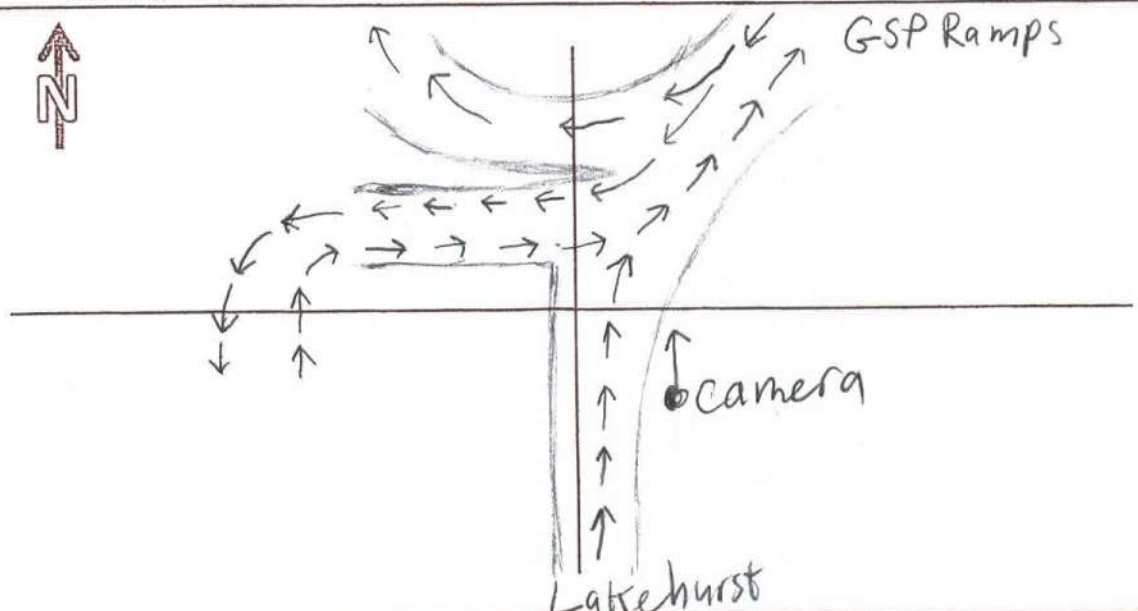
Intersection Lakehurst + GSP SB Ramps
 Municipality Toms River
 County Ocean
 Job No. 191451

Site Conditions <small>(Check all that apply)</small>		Counter Information <small>(for billing purposes)</small>	
Weather Conditions	Roadway Conditions	Technician:	Catherine Marcheno
Day: <input checked="" type="checkbox"/>	Dry: <input checked="" type="checkbox"/>	Time / Date:	May 16th - May 18th
Night: <input type="checkbox"/>	Wet: <input type="checkbox"/>	Chargeable Hours:	
Clear: <input type="checkbox"/>	Snowy: <input type="checkbox"/>	Mileage:	
Overcast: <input type="checkbox"/>	Icy: <input type="checkbox"/>		
Rain: <input type="checkbox"/>			
Snow/Sleet: <input type="checkbox"/>			

Notes
Traffic Incidents, Construction, Unusual site circumstances, etc.

Park and ride located right before ramps

Intersection Sketch
Show North as used for count board, counted movements, & roadway names, as shown on sign posts



Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name												Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach												Peak Hour Volume	
	Location #1 - PM MTMC																									1190	
	Location																									% Bank 1	% Bank 2
	Lakehurst Rd & GSP Ramp, Toms River Twp, Ocean County, NJ																									100.0%	0.0%
	Performed By																									% Bank 3	% Bank 4
	DF																									0.0%	0.0%
	Date																									Pedestrians Volume	
Thursday, May 16, 2019												0															

Peak Hour Data

Time Period	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - GSP Ramp						SB						Total Vehicles	Total Pedestrians				
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T			R	P1	P2	Veh
4:30 PM	0	0	0	110	0	0	110	0	131	0	0	0	0	131	0	17	0	41	0	0	58	0	0	0	0	0	0	0	299	0
4:45 PM	0	0	0	116	0	0	116	0	82	0	0	0	0	82	0	21	0	54	0	0	75	0	0	0	0	0	0	0	273	0
5:00 PM	0	0	0	151	0	0	151	0	126	0	0	0	0	126	0	20	0	32	0	0	52	0	0	0	0	0	0	0	329	0
5:15 PM	0	0	0	127	0	0	127	0	79	0	0	0	0	79	0	32	0	51	0	0	83	0	0	0	0	0	0	0	289	0

Vehicle Movement Summary

Movement / Details	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - GSP Ramp						SB						Entire Intersection					
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	0	504	0	0	504	0	418	0	0	0	0	418	0	90	0	178	0	0	268	0	0	0	0	0	0	0	1190	0
PHF	-	-	-	0.83	-	-	0.83	-	0.80	-	-	-	-	0.80	-	0.70	-	0.82	-	-	0.81	-	-	-	-	-	-	-	0.90	-
% Bank 1	0.0%	0.0%	0.0%	100.0%				0.0%	100.0%	0.0%	0.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - GSP Ramp						SB					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	0	0	112	0	0	0	67	0	0	0	0	0	18	0	56	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	124	0	0	0	70	0	0	0	0	0	19	0	52	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	110	0	0	0	131	0	0	0	0	0	17	0	41	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	116	0	0	0	82	0	0	0	0	0	21	0	54	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	151	0	0	0	126	0	0	0	0	0	20	0	32	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	127	0	0	0	79	0	0	0	0	0	32	0	51	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	97	0	0	0	56	0	0	0	0	0	17	0	52	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	97	0	0	0	56	0	0	0	0	0	19	0	45	0	0	0	0	0	0	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name												Notes U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach												Peak Hour Volume	
	Location #2 - AM MTMC																								1328	
	Location																								% Bank 1	% Bank 2
	Lakehurst Rd & Highland Pkwy, Toms River Twp, Ocean County, NJ																								100.0%	0.0%
	Performed By																								% Bank 3	% Bank 4
	DF																								0.0%	0.0%
	Date																								Pedestrians Volume	
Tuesday, May 7, 2019												0														

Peak Hour Data

Time Period	EB - Lakehurst Rd							WB - Lakehurst Rd							NB - Highland Pkwy							SB - Highland Pkwy							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:30AM	0	7	73	13	0	0	93	0	39	88	0	0	0	127	0	50	37	2	0	0	89	0	5	1	11	0	0	17	326	0
7:45 AM	0	15	100	27	0	0	142	0	21	63	1	0	0	85	0	68	22	7	0	0	97	0	3	5	18	0	0	26	350	0
8:00 AM	0	18	89	20	0	0	127	0	23	64	4	0	0	91	0	57	19	5	0	0	81	0	2	5	18	0	0	25	324	0
8:15 AM	0	2	83	12	0	0	97	0	15	86	5	0	0	106	0	64	26	8	0	0	98	0	4	3	20	0	0	27	328	0

Vehicle Movement Summary

Movement / Details	EB - Lakehurst Rd							WB - Lakehurst Rd							NB - Highland Pkwy							SB - Highland Pkwy							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	42	345	72	0	0	459	0	98	301	10	0	0	409	0	239	104	22	0	0	365	0	14	14	67	0	0	95	1328	0
PHF	-	0.58	0.86	0.67	-	-	0.81	-	0.63	0.86	0.50	-	-	0.81	-	0.88	0.70	0.69	-	-	0.93	-	0.70	0.70	0.84	-	-	0.88	0.95	-
% Bank 1	0.0%	100.0%	100.0%	100.0%					0.0%	100.0%	100.0%	100.0%					0.0%	100.0%	100.0%	100.0%					0.0%	100.0%	100.0%	100.0%		
% Bank 2	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 3	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 4	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		

Combined																								
Time Period	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - Highland Pkwy						SB - Highland Pkwy					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	1	50	9	0	0	0	20	85	7	0	0	0	34	40	0	0	0	0	5	2	13	0	0
7:15 AM	0	4	69	6	0	0	0	21	81	4	0	0	0	47	33	1	0	0	0	5	3	22	0	0
7:30AM	0	7	73	13	0	0	0	39	88	0	0	0	0	50	37	2	0	0	0	5	1	11	0	0
7:45 AM	0	15	100	27	0	0	0	21	63	1	0	0	0	68	22	7	0	0	0	3	5	18	0	0
8:00 AM	0	18	89	20	0	0	0	23	64	4	0	0	0	57	19	5	0	0	0	2	5	18	0	0
8:15 AM	0	2	83	12	0	0	0	15	86	5	0	0	0	64	26	8	0	0	0	4	3	20	0	0
8:30AM	0	4	82	9	0	0	0	22	85	4	0	0	0	65	24	0	0	0	0	7	2	21	0	0
8:45 AM	0	1	86	19	0	0	0	16	78	3	0	0	0	56	23	1	0	0	0	3	4	19	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #2 - AM MTMC			2215	
	Location			% Bank 1	% Bank 2
	Lakehurst Rd & Highland Pkwy, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	DF			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 7, 2019	0				

Peak Hour Data

Time Period	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - Highland Pkwy						SB - Highland Pkwy						Total Vehicles	Total Pedestrians				
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T			R	P1	P2	Veh
4:30 PM	0	31	137	35	0	0	203	0	57	191	12	0	0	260	0	47	19	1	0	0	67	0	12	8	33	0	0	53	583	0
4:45 PM	0	30	140	26	0	0	196	0	35	127	9	0	0	171	0	42	15	2	0	0	59	0	10	5	44	0	0	59	485	0
5:00 PM	0	32	144	43	0	0	219	0	76	158	9	0	0	243	0	58	23	0	0	0	81	0	18	8	58	0	0	84	627	0
5:15 PM	0	25	151	21	0	0	197	0	47	147	4	0	0	198	0	56	15	1	0	0	72	0	10	6	37	0	0	53	520	0

Vehicle Movement Summary

Movement / Details	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - Highland Pkwy						SB - Highland Pkwy						Entire Intersection					
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	118	572	125	0	0	815	0	215	623	34	0	0	872	0	203	72	4	0	0	279	0	50	27	172	0	0	249	2215	0
PHF	-	0.92	0.95	0.73	-	-	0.93	-	0.71	0.82	0.71	-	-	0.84	-	0.88	0.78	0.50	-	-	0.86	-	0.69	0.84	0.74	-	-	0.74	0.88	-
% Bank 1	0.0%	####	####	100.0%				0.0%	100.0%	####	####				0.0%	100.0%	####	100.0%				0.0%	####	####	####					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Lakehurst Rd						WB - Lakehurst Rd						NB - Highland Pkwy						SB - Highland Pkwy					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	29	154	32	0	0	0	33	133	8	0	0	0	53	16	2	0	0	0	20	5	31	0	0
4:15 PM	0	35	132	28	0	0	0	31	113	11	0	0	0	74	11	0	0	0	0	20	4	35	0	0
4:30 PM	0	31	137	35	0	0	0	57	191	12	0	0	0	47	19	1	0	0	0	12	8	33	0	0
4:45 PM	0	30	140	26	0	0	0	35	127	9	0	0	0	42	15	2	0	0	0	10	5	44	0	0
5:00 PM	0	32	144	43	0	0	0	76	158	9	0	0	0	58	23	0	0	0	0	18	8	58	0	0
5:15 PM	0	25	151	21	0	0	0	47	147	4	0	0	0	56	15	1	0	0	0	10	6	37	0	0
5:30 PM	0	28	137	26	0	0	0	34	108	10	0	0	0	48	17	0	0	0	0	14	6	34	0	0
5:45 PM	0	30	139	16	0	0	0	30	112	4	3	0	0	71	6	1	0	0	0	9	5	28	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #3 - AM MTMC			1565	
	Location			% Bank 1	% Bank 2
	Water St & Irons St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	AT			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 7, 2019	0				

Peak Hour Data

Time Period	EB - Water St							WB - Water St							NB							SB - Irons St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
8:00 AM	0	20	80	30	0	0	130	0	134	94	4	0	0	232	0	0	0	0	0	0	0	0	0	0	3	0	0	3	365	0
8:15 AM	0	31	102	50	0	0	183	0	91	100	6	0	0	197	0	0	0	0	0	0	0	0	0	0	5	0	0	5	385	0
8:30AM	0	18	91	47	0	0	156	0	105	112	8	0	0	225	0	0	0	0	0	0	0	0	0	0	5	0	0	5	386	0
8:45 AM	0	41	114	54	0	0	209	0	92	106	14	0	0	212	0	0	0	0	0	0	0	0	0	1	7	0	0	8	429	0

Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							NB							SB - Irons St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	110	387	181	0	0	678	0	422	412	32	0	0	866	0	0	0	0	0	0	0	0	0	1	20	0	0	21	1565	0
PHF	-	0.67	0.85	0.84	-	-	0.81	-	0.79	0.92	0.57	-	-	0.93	-	-	-	-	-	-	-	-	-	0.25	0.71	-	-	0.66	0.91	-
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	100.0%	100.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Water St						WB - Water St						NB						SB - Irons St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	3	36	29	0	0	0	115	89	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
7:15 AM	0	5	50	47	0	0	0	119	98	5	0	0	0	0	0	0	0	0	0	0	0	3	0	0
7:30AM	0	10	57	50	0	0	0	122	128	5	0	0	0	0	0	0	0	0	0	0	0	7	0	0
7:45 AM	0	19	79	48	0	0	0	111	88	4	0	0	0	0	0	0	0	0	0	0	0	4	0	0
8:00 AM	0	20	80	30	0	0	0	134	94	4	0	0	0	0	0	0	0	0	0	0	0	3	0	0
8:15 AM	0	31	102	50	0	0	0	91	100	6	0	0	0	0	0	0	0	0	0	0	0	5	0	0
8:30AM	0	18	91	47	0	0	0	105	112	8	0	0	0	0	0	0	0	0	0	0	0	5	0	0
8:45 AM	0	41	114	54	0	0	0	92	106	14	0	0	0	0	0	0	0	0	0	0	1	7	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #3 - PM MTMC			2996	
	Location			% Bank 1	% Bank 2
	Water St & Irons St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	AT			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 7, 2019	0				

Peak Hour Data

Time Period	EB - Water St							WB - Water St							NB							SB - Irons St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:30 PM	0	18	73	128	0	0	219	0	354	173	3	0	0	530	0	17	0	41	0	0	58	0	0	1	28	0	0	29	836	0
4:45 PM	0	16	66	99	0	0	181	0	277	147	4	0	0	428	0	21	0	54	0	0	75	0	0	1	31	0	0	32	716	0
5:00 PM	0	13	50	118	0	0	181	0	312	134	16	0	0	462	0	20	0	32	0	0	52	0	0	0	53	0	0	53	748	0
5:15 PM	0	14	60	85	0	0	159	0	308	113	5	0	0	426	0	32	0	51	0	0	83	0	0	0	28	0	0	28	696	0

Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							NB							SB - Irons St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	61	249	430	0	0	740	0	1251	567	28	0	0	1846	0	90	0	178	0	0	268	0	0	2	140	0	0	142	2996	0
PHF	-	0.85	0.85	0.84	-	-	0.84	-	0.88	0.82	0.44	-	-	0.87	-	0.70	-	0.82	-	-	0.81	-	-	0.50	0.66	-	-	0.67	0.90	-
% Bank 1	0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	100.0%	100.0%				0.0%	100.0%	0.0%	100.0%				0.0%	0.0%	100.0%	100.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Water St						WB - Water St						NB						SB - Irons St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	24	71	90	0	0	0	305	120	9	0	0	0	18	0	56	0	0	0	0	0	29	0	0
4:15 PM	0	12	60	90	0	0	0	300	119	4	0	0	0	19	0	52	0	0	0	0	0	21	0	0
4:30 PM	0	18	73	128	0	0	0	354	173	3	0	0	0	17	0	41	0	0	0	0	1	28	0	0
4:45 PM	0	16	66	99	0	0	0	277	147	4	0	0	0	21	0	54	0	0	0	0	1	31	0	0
5:00 PM	0	13	50	118	0	0	0	312	134	16	0	0	0	20	0	32	0	0	0	0	0	53	0	0
5:15 PM	0	14	60	85	0	0	0	308	113	5	0	0	0	32	0	51	0	0	0	0	0	28	0	0
5:30 PM	0	20	71	101	0	0	0	256	118	12	0	0	0	17	0	52	0	0	0	0	0	23	0	0
5:45 PM	0	19	82	82	0	0	0	227	94	13	0	0	0	19	0	45	0	0	0	0	0	26	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #4 - AM MTMC			2181	
	Location			% Bank 1	% Bank 2
	Water St & Main St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	AT			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 7, 2019	0				

Peak Hour Data

Time Period	EB - Water St							WB - Water St							NB - Main St							SB - Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
7:30AM	0	0	56	0	0	0	56	0	0	115	3	0	0	118	0	95	76	163	0	0	334	0	1	0	43	0	0	44	552	0
7:45 AM	0	0	64	0	0	0	64	0	0	104	1	0	0	105	0	77	110	189	0	0	376	0	4	0	32	0	0	36	581	0
8:00 AM	0	0	61	0	0	0	61	0	0	135	1	0	0	136	0	60	81	139	0	0	280	0	1	0	32	0	0	33	510	0
8:15 AM	0	0	92	0	0	0	92	0	0	107	1	0	0	108	0	64	92	151	0	0	307	0	5	0	26	0	0	31	538	0

Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							NB - Main St							SB - Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	273	0	0	0	273	0	0	461	6	0	0	467	0	296	359	642	0	0	###	0	11	0	133	0	0	144	2181	0
PHF	-	-	0.74	-	-	-	0.74	-	-	0.85	0.50	-	-	0.86	-	0.78	0.82	0.85	-	-	0.86	-	0.55	-	0.77	-	-	0.82	0.94	-
% Bank 1	0.0%	0.0%	100.0%	0.0%					0.0%	0.0%	100.0%	100.0%					0.0%	###	###	###					0.0%	###	0.0%	100.0%		
% Bank 2	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 3	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		
% Bank 4	0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%					0.0%	0.0%	0.0%	0.0%		

Combined																								
Time Period	EB - Water St						WB - Water St						NB - Main St						SB - Main St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
7:00 AM	0	0	29	0	0	0	0	0	108	2	0	0	0	55	108	131	0	0	0	1	0	44	0	0
7:15 AM	0	0	43	0	0	0	0	0	123	1	0	0	0	65	80	135	0	0	0	3	0	39	0	0
7:30AM	0	0	56	0	0	0	0	0	115	3	0	0	0	95	76	163	0	0	0	1	0	43	0	0
7:45 AM	0	0	64	0	0	0	0	0	104	1	0	0	0	77	110	189	0	0	0	4	0	32	0	0
8:00 AM	0	0	61	0	0	0	0	0	135	1	0	0	0	60	81	139	0	0	0	1	0	32	0	0
8:15 AM	0	0	92	0	0	0	0	0	107	1	0	0	0	64	92	151	0	0	0	5	0	26	0	0
8:30AM	0	0	83	0	0	0	0	0	103	6	0	0	0	72	87	153	0	0	0	2	0	29	0	0
8:45 AM	0	0	80	0	0	0	0	0	93	4	0	0	0	89	106	179	0	0	0	5	0	22	0	0

Turning Movement Count Report

Bright View Engineering, LLC

Study Information

Study Summary	Count Name	Notes	U = U Turn L = Left Turn T = Thru R = Right Turn P1 = Pedestrian Direction 1 P2 = Pedestrian Direction 2 Veh = Total Vehicles for Approach	Peak Hour Volume	
	Location #4 - PM MTMC			2881	
	Location			% Bank 1	% Bank 2
	Water St & Main St, Toms River Twp, Ocean County, NJ			100.0%	0.0%
	Performed By			% Bank 3	% Bank 4
	AT			0.0%	0.0%
	Date			Pedestrians Volume	
Tuesday, May 7, 2019	0				

Peak Hour Data

Time Period	EB - Water St							WB - Water St							NB - Main St							SB - Main St							Total Vehicles	Total Pedestrians
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh		
4:15 PM	0	0	59	0	0	0	59	0	0	267	8	0	0	275	0	59	80	165	0	0	304	0	2	0	106	0	0	108	746	0
4:30 PM	0	0	64	0	0	0	64	0	0	247	11	0	0	258	0	48	82	155	0	0	285	0	7	0	110	0	0	117	724	0
4:45 PM	0	0	64	0	0	0	64	0	0	194	9	0	0	203	0	59	90	157	0	0	306	0	7	0	86	0	0	93	666	0
5:00 PM	0	0	62	0	0	0	62	0	0	246	8	0	0	254	0	57	70	165	0	0	292	0	11	0	126	0	0	137	745	0

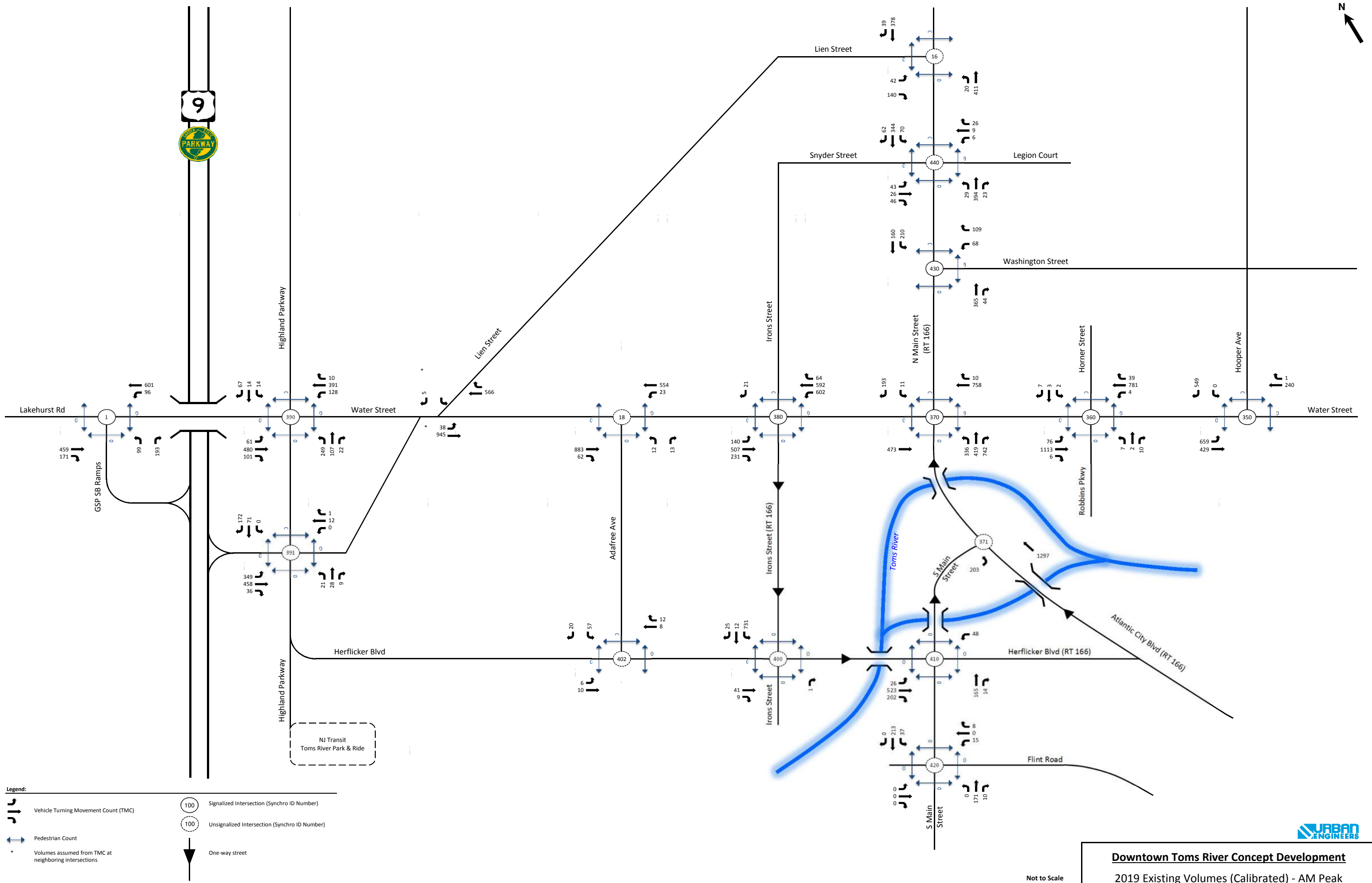
Vehicle Movement Summary

Movement / Details	EB - Water St							WB - Water St							NB - Main St							SB - Main St							Entire Intersection	
	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	U	L	T	R	P1	P2	Veh	Vehicles	Pedestrians
Movement Volume	0	0	249	0	0	0	249	0	0	954	36	0	0	990	0	223	322	642	0	0	1187	0	27	0	428	0	0	455	2881	0
PHF	-	-	0.97	-	-	-	0.97	-	-	0.89	0.82	-	-	0.90	-	0.94	0.89	0.97	-	-	0.97	-	0.61	-	0.85	-	-	0.83	0.97	-
% Bank 1	0.0%	0.0%	100.0%	0.0%				0.0%	0.0%	100.0%	100.0%				0.0%	100.0%	####	100.0%				0.0%	####	0.0%	100.0%					
% Bank 2	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 3	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					
% Bank 4	0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%				0.0%	0.0%	0.0%	0.0%					

Combined																								
Time Period	EB - Water St						WB - Water St						NB - Main St						SB - Main St					
	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2	U	L	T	R	P1	P2
4:00 PM	0	0	65	0	0	0	0	0	253	13	0	0	0	45	72	124	0	0	0	5	0	88	0	0
4:15 PM	0	0	59	0	0	0	0	0	267	8	0	0	0	59	80	165	0	0	0	2	0	106	0	0
4:30 PM	0	0	64	0	0	0	0	0	247	11	0	0	0	48	82	155	0	0	0	7	0	110	0	0
4:45 PM	0	0	64	0	0	0	0	0	194	9	0	0	0	59	90	157	0	0	0	7	0	86	0	0
5:00 PM	0	0	62	0	0	0	0	0	246	8	0	0	0	57	70	165	0	0	0	11	0	126	0	0
5:15 PM	0	0	63	0	0	0	0	0	261	15	0	0	0	42	71	160	0	0	0	6	0	117	0	0
5:30 PM	0	0	78	0	0	0	0	0	233	7	0	0	0	56	58	161	0	0	0	3	0	96	0	0
5:45 PM	0	0	74	0	0	0	0	0	190	7	0	0	0	55	63	155	0	0	0	10	0	93	0	0

Traffic Data Collection

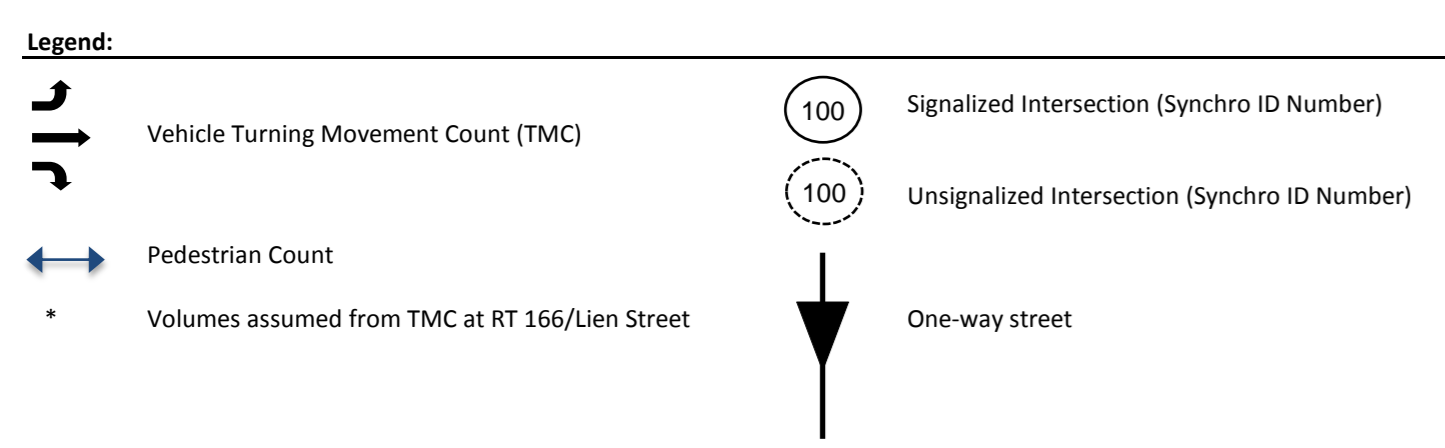
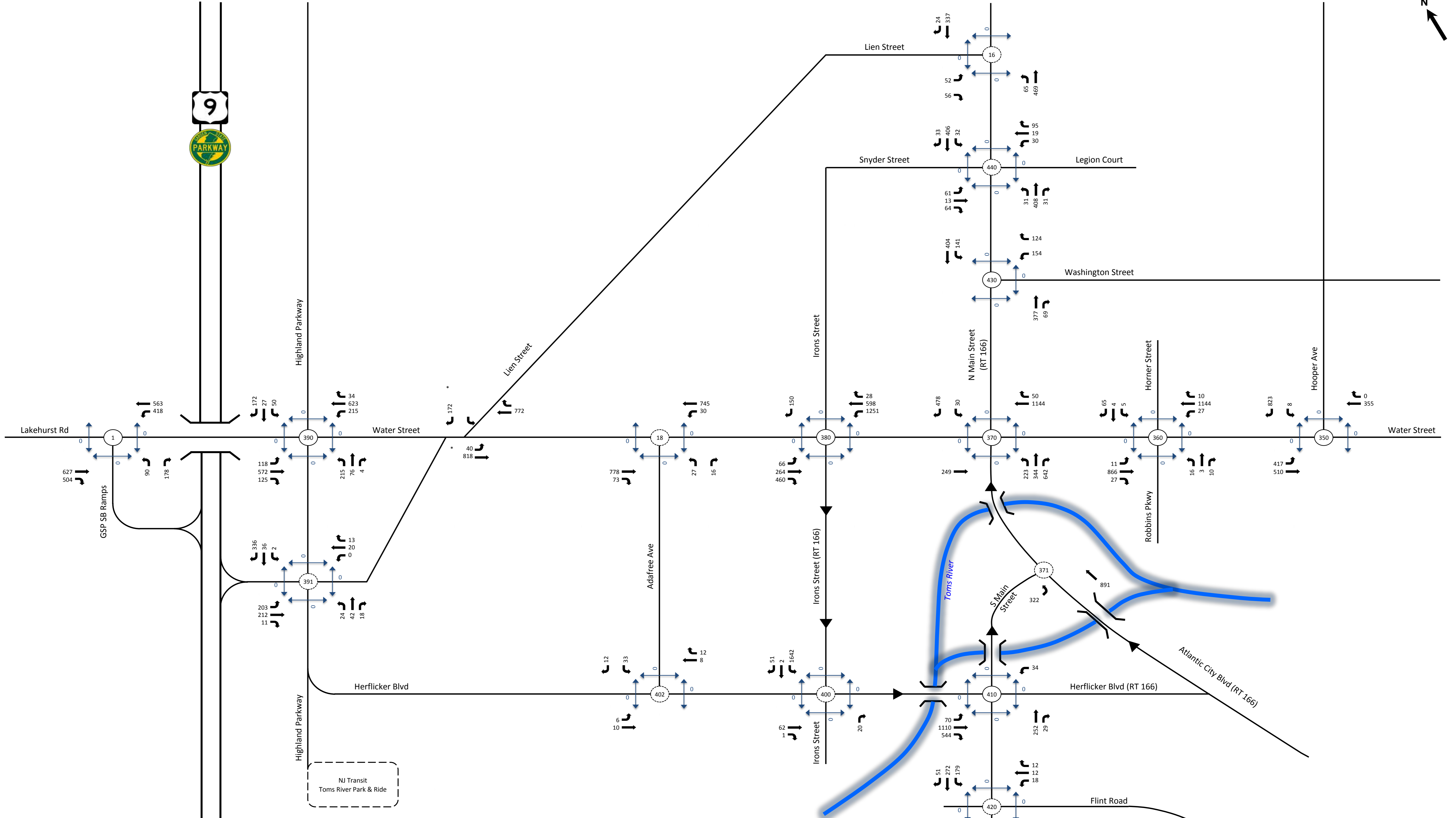
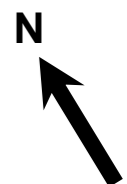
Volume Figures



Not to Scale

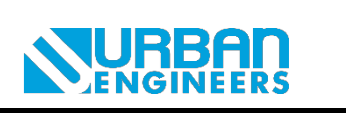
Downtown Toms River Concept Development
 2019 Existing Volumes (Calibrated) - AM Peak





Not to Scale

Downtown Toms River Concept Development
 2019 Existing Volumes (Calibrated) - PM Peak



Traffic Data Collection

Travel Time Data

Direction	Route	AM AVG.	PM AVG.	Difference (Δ)
South - North	Crabbe - Highland	02:30.1 min	02:46.6 min	00:16.5 min
North - South	Highland - Crabbe	03:26.8 min	05:15.6 min	01:49.0 min
East - West	Hooper - Edgewood	03:34.1min	03:50.8min	00:16.7 min
West - East	Edgewood - Hooper	03:15.3 min	03:50.4 min	00:35.1 min

South - North	Crabbe - Highland	RUN #1	RUN #2	RUN #3	RUN #4	RUN #5	AVG.
Checkpoint	Label	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)
1	Atlantic & Crabbe	0	0	0	0	0	0.0
2	Atlantic & Herflicker	43.2	45	30.2	34.7	35	37.6
3	Main & Water	65.3	75	50.2	74.3	68.9	66.7
4	Main & Washington	81.1	90	73.9	89.8	92.7	85.5
5	Main & Highland	150.5	151.5	138.6	149.7	160.1	150.1
	1.2 miles	02:30.5 min	02:31.5 min	02:18.6 min	02:29.7 min	03:00.1 min	02:30.1 min

North - South	Highland - Crabbe	RUN #1	RUN #2	RUN #3	RUN #4	RUN #5	AVG.
Checkpoint	Label	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)
1	Main & Highland	0	0	0	0	0	0.0
2	Main & Washington	125	61	60	84.1	92.2	84.5
3	Main & Water	135	71	73.9	100.9	109	98.0
4	Main & Irons	150	86	90	171.7	123.3	124.2
5	Herflicker & S.Main	190	116	120	196.2	172.6	159.0
6	Herflicker & Atlantic	225	146	130.4	205.1	186.4	178.6
7	Crabbe & Atlantic	255	173	160	235.1	210.8	206.8
	1.4 miles	04:15.0 min	02:53.0 min	03:00.0 min	03:55.1 min	03:30.8 min	03:26.8 min

East - West	Hooper - Edgewood	RUN #1	RUN #2	RUN #3	RUN #4	AVG.
Checkpoint	Label	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)
1	Hooper & Main	0	0	0	0	0.0
2	Horner & Main	48.1	30.1	25	12.4	28.9
3	Water & Main	63.1	45.1	35	29.2	43.1
4	Irons & Main	93.1	140.1	89	70.3	98.1
5	Lakehurst & Highland	128.1	185.1	154	121.1	147.1
6	Lakehurst & GSP Ramp	188.1	210.1	179	184	190.3
7	Lakehurst & Edgewood	224.5	229.8	214	187.9	214.1
	1.1 miles	03:44.5 min	03:49.8 min	03:34.0 min	03:07.9 min	03:34.1min

West - East	Edgewood - Hooper	RUN #1	RUN #2	RUN #3	RUN #4	AVG.
Checkpoint	Label	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)
1	Lakehurst & Edgewood	0	0	0	0	0.0
2	Lakehurst & GSP Ramp	46.3	34.3	26.5	59.5	41.7
3	Lakehurst & Highland	96.3	69.3	56.5	125.9	87.0
4	Irons & Main	176.3	111.3	146.5	167.6	150.4
5	Water & Main	191.3	126.3	163.8	191.5	168.2
6	Horner & Main	204.6	139.3	177.5	210	182.9
7	Hooper & Main	220.7	155.5	192.5	212.6	195.3
	1.1 miles	03:40.7 min	02:35.5 min	03:12.5 min	03:32.6 min	03:15.3 min

South - North	Crabbe - Highland	RUN #1	RUN #2	RUN #3	RUN #4	AVG.
Checkpoint	Label	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)
1	Atlantic & Crabbe	0	0	0	0	0.0
2	Atlantic & Herflicker	34.1	27.7	31.7	32.9	31.6
3	Main & Water	53.3	105.2	78.8	51.7	72.3
4	Main & Washington	67.3	132.5	97.6	66.7	91.0
5	Main & Highland	133.7	214	184.6	133.9	166.6
	1.2 miles	02:13.7 min	03:34.0 min	03:04.6 min	02:13.9 min	02:46.6 min

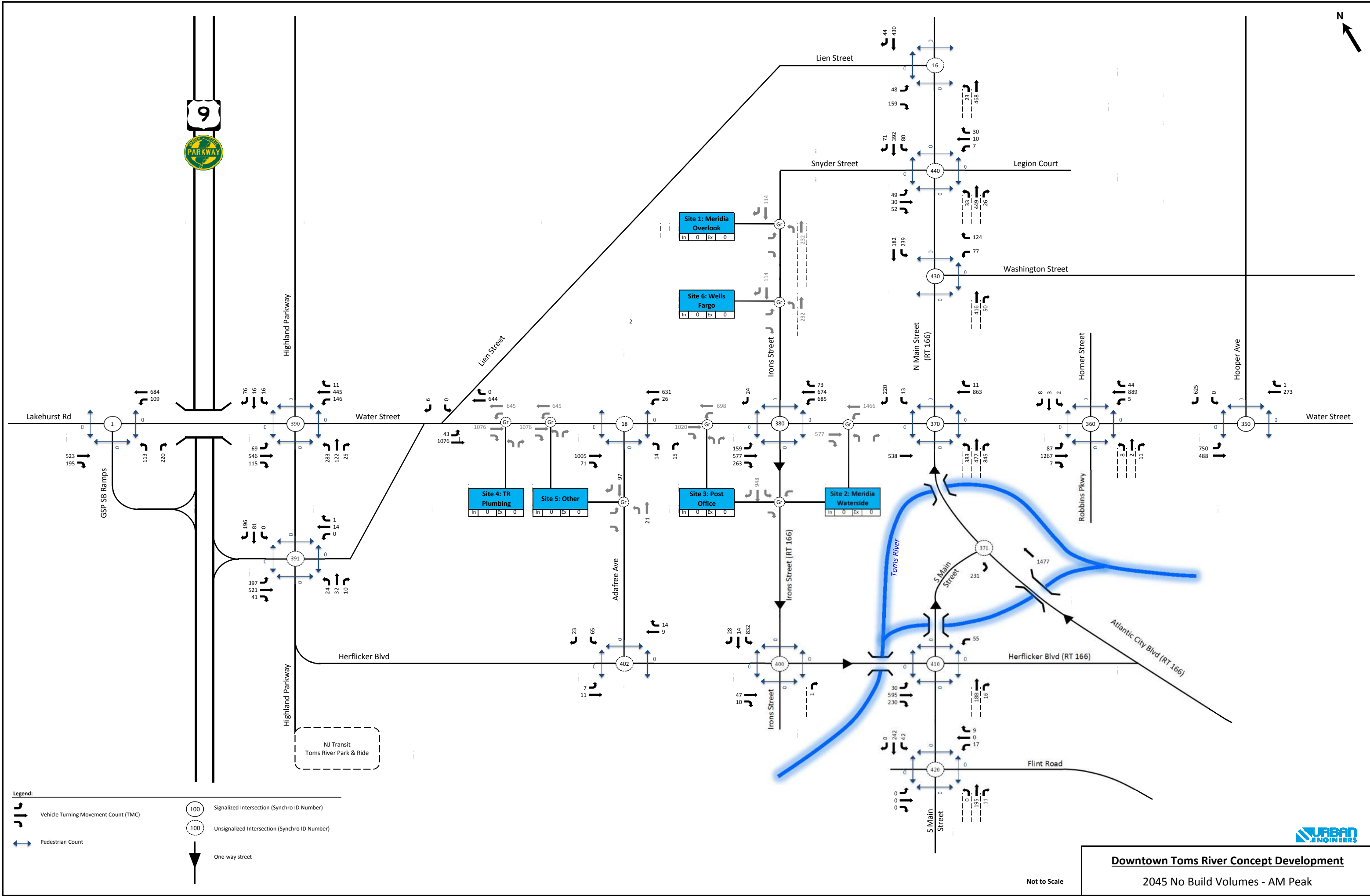
North - South	Highland - Crabbe	RUN #1	RUN #2	RUN #3	RUN #4	AVG.
Checkpoint	Label	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)
1	Main & Highland	0	0	0	0	0.0
2	Main & Washington	96.9	98.1	74.3	113.4	95.7
3	Main & Water	156.9	113.1	94.3	133.4	124.4
4	Main & Irons	171.9	173.1	174.3	178.4	174.4
5	Herflicker & S.Main	211.9	230.2	259.3	218.4	230.0
6	Herflicker & Atlantic	226.9	243.1	284.3	278.4	258.2
7	Crabbe & Atlantic	266.9	280.5	364.3	350.6	315.6
	1.4 miles	04:26.9 min	04:40.5 min	06:04.3 min	05:50.6 min	05:15.6 min

East - West	Hooper - Edgewood	RUN #1	RUN #2	RUN #3	RUN #4	AVG.
Checkpoint	Label	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)
1	Hooper & Main	0	0	0	0	0.0
2	Horner & Main	63.3	97.9	38.9	30	57.5
3	Water & Main	98.3	142.9	63.9	70	93.8
4	Irons & Main	133.3	162.9	78.9	145	130.0
5	Lakehurst & Highland	173.3	202.9	113.9	180	167.5
6	Lakehurst & GSP Ramp	213.3	232.9	168.9	205	205.0
7	Lakehurst & Edgewood	232.7	265.6	200.9	223.9	230.8
	1.1 miles	03:52.7 min	04:25.6 min	03:20.9 min	03:43.9 min	03:50.8min

West - East	Edgewood - Hooper	RUN #1	RUN #2	RUN #3	RUN #4	AVG.
Checkpoint	Label	Time(sec)	Time(sec)	Time(sec)	Time(sec)	Time(sec)
1	Lakehurst & Edgewood	0	0	0	0	0.0
2	Lakehurst & GSP Ramp	55	29	46	34.1	41.0
3	Lakehurst & Highland	80	57.8	96	71.3	76.3
4	Irons & Main	160	151.6	191	185.9	172.1
5	Water & Main	185	171.2	206	205.9	192.0
6	Horner & Main	195	215.7	219.5	220.9	212.8
7	Hooper & Main	212.8	231.4	236	241.2	230.4
	1.1 miles	03:32.8 min	03:51.4 min	03:56.0 min	04:01.2 min	03:50.4 min

Trip Generation


AM Peak

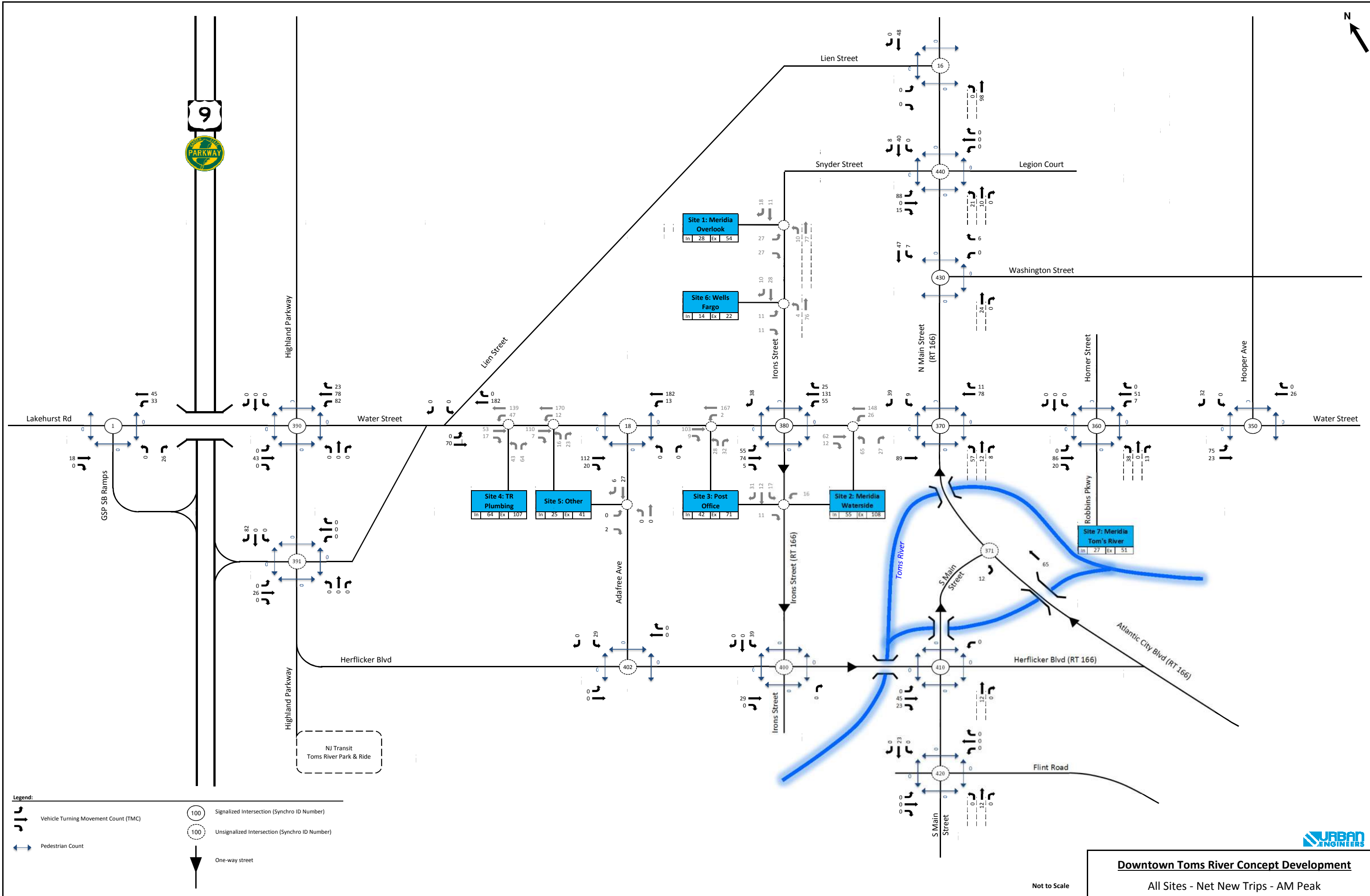


Legend:

	Vehicle Turning Movement Count (TMC)		Signalized Intersection (Synchro ID Number)
	Pedestrian Count		Unsignalized Intersection (Synchro ID Number)
	One-way street		

Not to Scale


Downtown Toms River Concept Development
 2045 No Build Volumes - AM Peak



Legend:

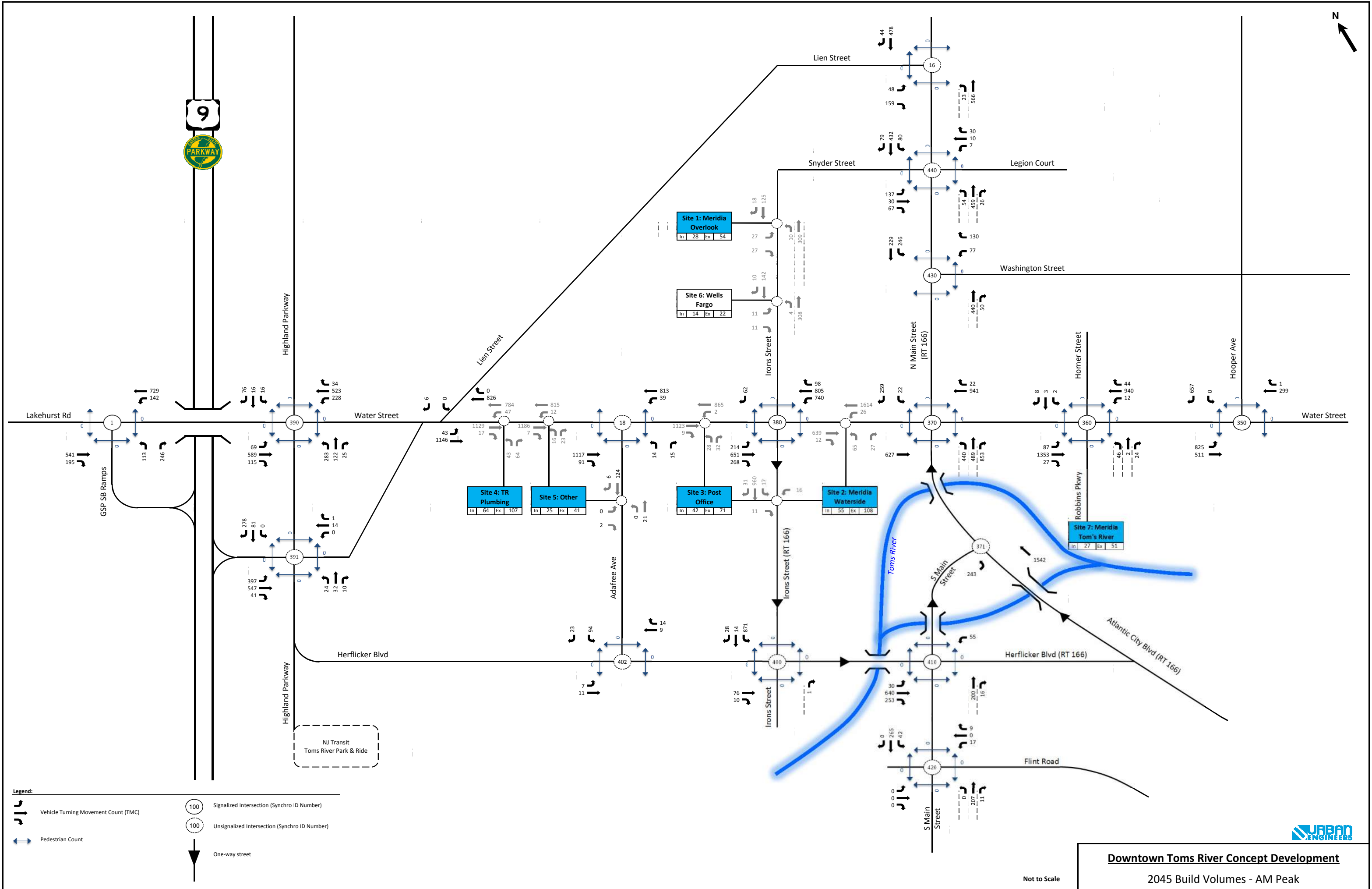
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Not to Scale

Downtown Toms River Concept Development

All Sites - Net New Trips - AM Peak





Legend:

- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Not to Scale

Downtown Toms River Concept Development
2045 Build Volumes - AM Peak



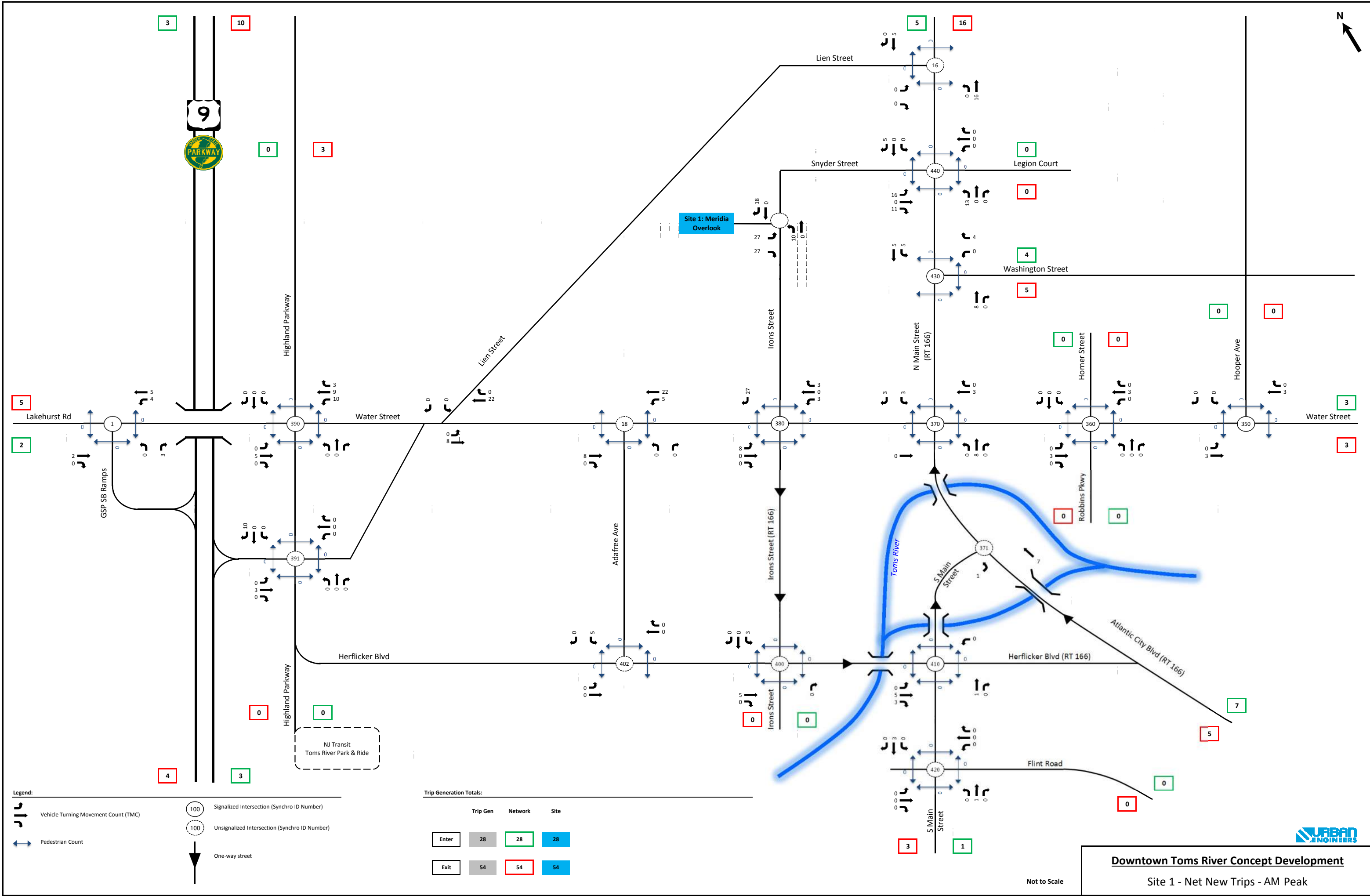
Toms River Concept Development
Trip Generation

Proposed Development	Size	Units	Land Use Code	Equation/Rate						% Enter	% Internal		% Pass By	Weekday Afternoon Peak				
				Ln(T)	=	0.98	Ln(X)	-	0.98		26%	Origin		Dest	Enter	Exit	Total	
Site 1: Meridia Overlook	Residential	191	Dwelling Units	221	Ln(T)	=	0.98	Ln(X)	-	0.98	26%	14%	17%	0%	Gross	17	48	65
														0%	Internal	0	0	0
														0%	Pass By	0	0	0
	Retail	6.95	1000 SF	820							62%	1%	2%	0%	Net	17	48	65
														0%	Gross	11	6	17
														0%	Internal	0	0	0
														0%	Pass By	0	0	0
	Combined	--	--	--										0%	Net	11	6	17
														0%	Gross	28	54	82
														0%	Internal	0	0	0
														0%	Pass By	0	0	0
														0%	Net	28	54	82
Site 2: Meridia Waterside	Residential	399	Dwelling Units	221	Ln(T)	=	0.98	Ln(X)	-	0.98	26%	14%	17%	0%	Gross	35	98	133
														0%	Internal	1	1	2
														0%	Pass By	0	0	0
	Retail	14.50	1000 SF	820							62%	1%	2%	0%	Net	34	97	131
														0%	Gross	22	13	35
														0%	Internal	1	1	2
														0%	Pass By	0	0	0
	Combined	--	--	--										0%	Net	21	12	33
														0%	Gross	57	111	168
														0%	Internal	2	2	4
														0%	Pass By	0	0	0
														0%	Net	55	109	164
Site 3: Post Office	Residential	235	Dwelling Units	221	Ln(T)	=	0.98	Ln(X)	-	0.98	26%	14%	17%	0%	Gross	21	58	79
														0%	Internal	0	1	1
														0%	Pass By	0	0	0
	Retail	15.21	1000 SF	820							62%	1%	2%	0%	Net	21	57	78
														0%	Gross	23	14	37
														0%	Internal	1	0	1
														0%	Pass By	0	0	0
	Combined	--	--	--										0%	Net	22	14	36
														0%	Gross	44	72	116
														0%	Internal	1	1	2
														0%	Pass By	0	0	0
														0%	Net	43	71	114
Site 4: TR Plumbing	Residential	358	Dwelling Units	221	Ln(T)	=	0.98	Ln(X)	-	0.98	26%	14%	17%	0%	Gross	31	88	119
														0%	Internal	1	1	2
														0%	Pass By	0	0	0
	Retail	23.24	1000 SF	820							62%	1%	2%	0%	Net	30	87	117
														0%	Gross	35	21	56
														0%	Internal	1	1	2
														0%	Pass By	0	0	0
	Combined	--	--	--										0%	Net	34	20	54
														0%	Gross	66	109	175
														0%	Internal	2	2	4
														0%	Pass By	0	0	0
														0%	Net	64	107	171
Site 5: Other	Residential	133	Dwelling Units	221	Ln(T)	=	0.98	Ln(X)	-	0.98	26%	14%	17%	0%	Gross	12	33	45
														0%	Internal	0	0	0
														0%	Pass By	0	0	0
	Retail	8.63	1000 SF	820							62%	1%	2%	0%	Net	12	33	45
														0%	Gross	13	8	21
														0%	Internal	0	0	0
														0%	Pass By	0	0	0
	Combined	--	--	--										0%	Net	13	8	21
														0%	Gross	25	41	66
														0%	Internal	0	0	0
														0%	Pass By	0	0	0
														0%	Net	25	41	66

Toms River Concept Development
Trip Generation

Proposed Development	Size	Units	Land Use Code	Equation/Rate						% Enter	% Internal		% Pass By	Weekday Afternoon Peak				
				Ln(T)	=	0.98	Ln(X)	-	0.98		Origin	Dest		Enter	Exit	Total		
Site 6: Wells Fargo Lot	Residential	73	Dwelling Units	221	Ln(T)	=	0.98	Ln(X)	-	0.98	26%	14%	17%	0%	Gross	7	18	25
														Internal	0	0	0	
														Pass By	0	0	0	
														Net	7	18	25	
	Retail	4.72	1000 SF	820							62%	1%	2%	0%	Gross	7	4	11
														Internal	0	0	0	
														Pass By	0	0	0	
														Net	7	4	11	
	Combined	--	--	--										Gross	14	22	36	
														Internal	0	0	0	
														Pass By	0	0	0	
														Net	14	22	36	
Site 7: Robbins Pkwy Development	Residential	140	Dwelling Units	221	Ln(T)	=	0.98	Ln(X)	-	0.98	26%	0%	0%	0%	Gross	12	36	48
														Internal	0	2	2	
														Pass By	0	0	0	
														Net	12	34	46	
	Restaurant	30.99	1000 SF	931	T	=	0.73	X	+	0.00	50%	0%	0%	0%	Gross	12	11	23
														Internal	3	1	4	
														Pass By	0	0	0	
														Net	9	10	19	
	Retail	6.12	1000 SF	820							48%	0%	0%	0%	Gross	7	8	15
														Internal	1	1	2	
														Pass By	0	0	0	
														Net	6	7	13	
	Combined	--	--	--										Gross	31	55	86	
														Internal	4	4	8	
														Pass By	0	0	0	
														Net	27	51	78	

TOTAL			
Gross	265	464	729
Internal	9	9	18
Pass By	0	0	0
Net	256	455	711



Legend:

- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

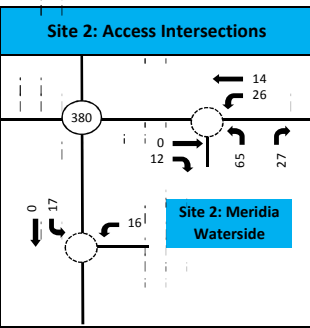
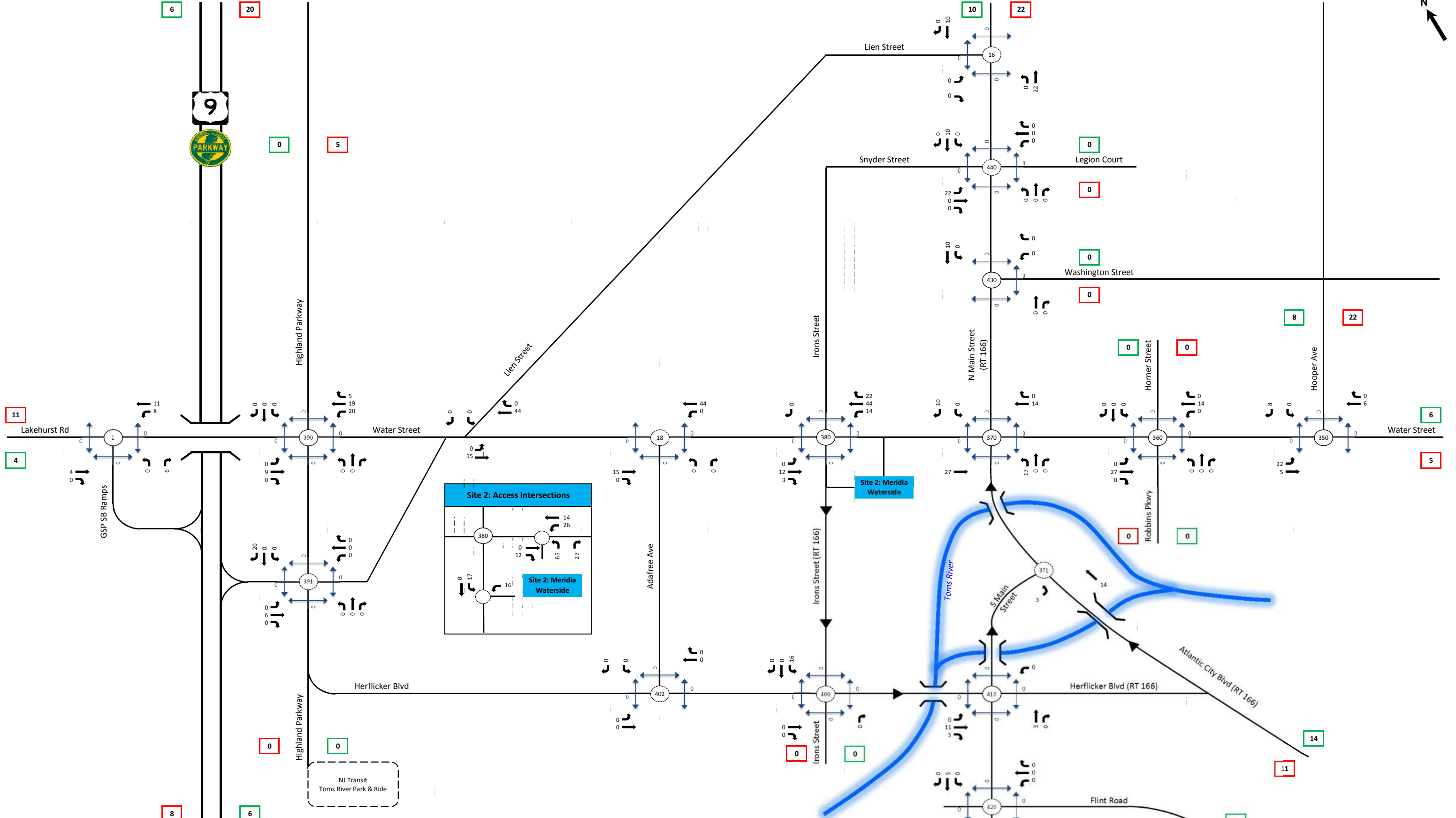
Trip Generation Totals:

	Trip Gen	Network	Site
Enter	28	28	28
Exit	54	54	54

Not to Scale

Downtown Toms River Concept Development
Site 1 - Net New Trips - AM Peak





Legend:

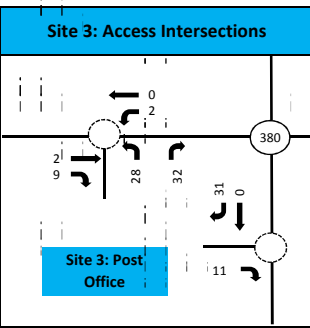
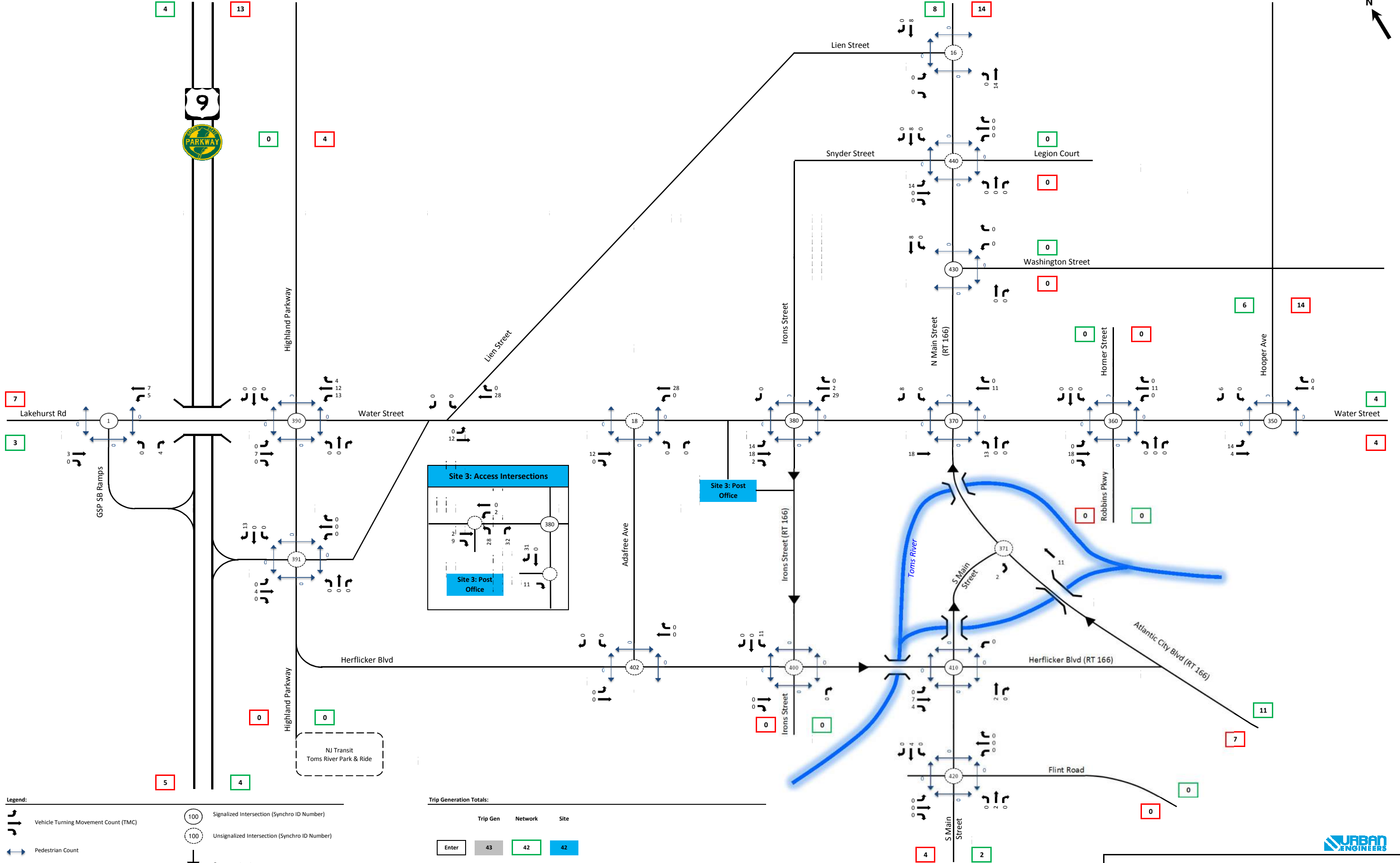
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Trip Generation Totals:

	Trip Gen	Network	Site
Enter	55	57	55
Exit	109	109	108

Not to Scale

Downtown Toms River Concept Development
 Site 2 - Net New Trips - AM Peak



Legend:

- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

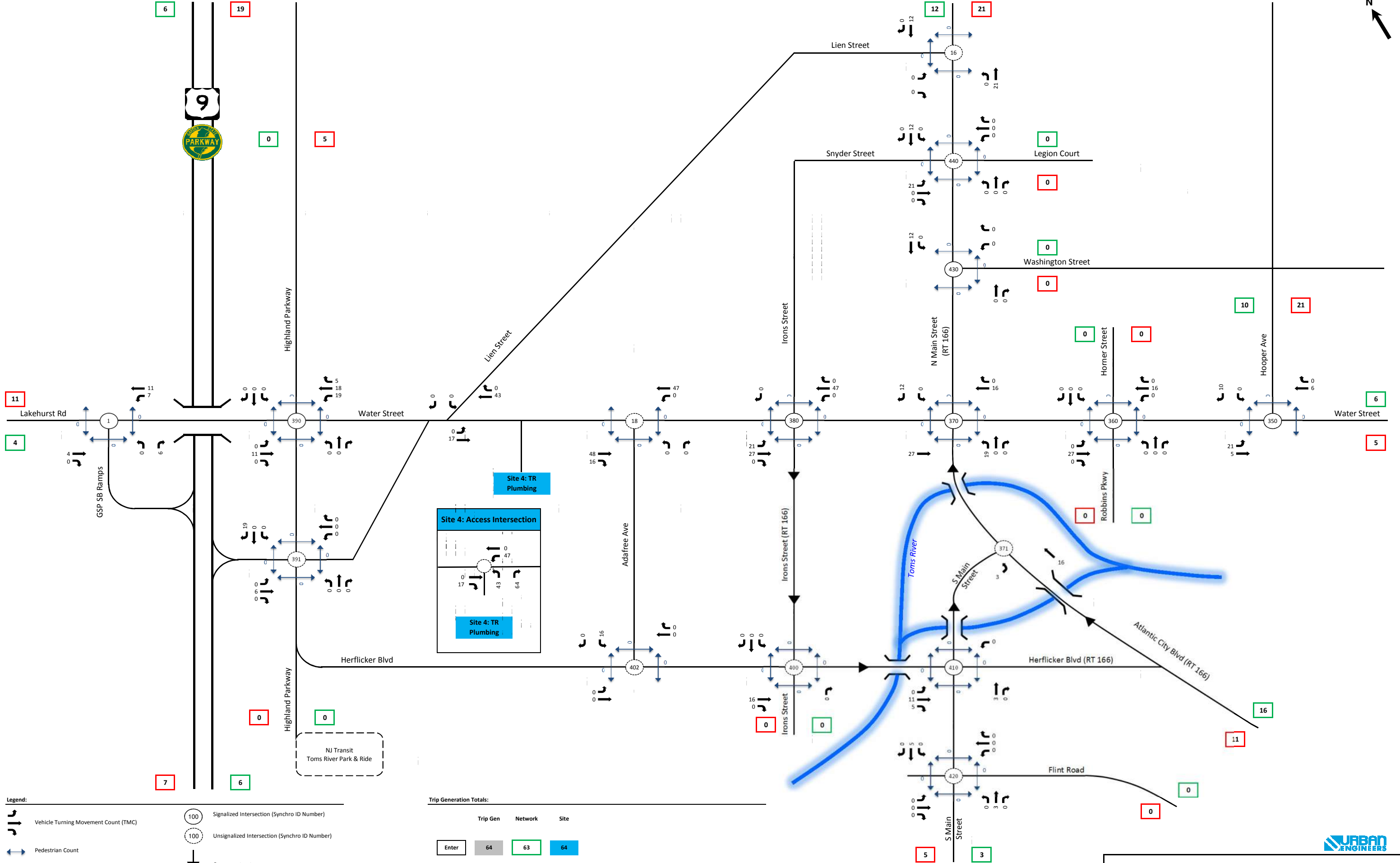
Trip Generation Totals:

	Trip Gen	Network	Site
Enter	43	42	42
Exit	71	72	71

Not to Scale

Downtown Toms River Concept Development
Site 3 - Net New Trips - AM Peak





Legend:

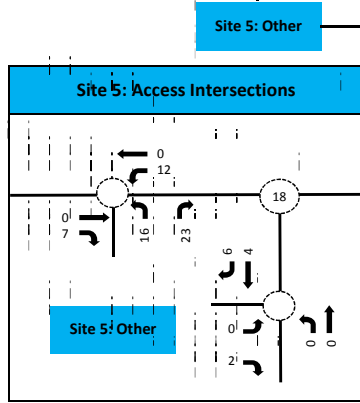
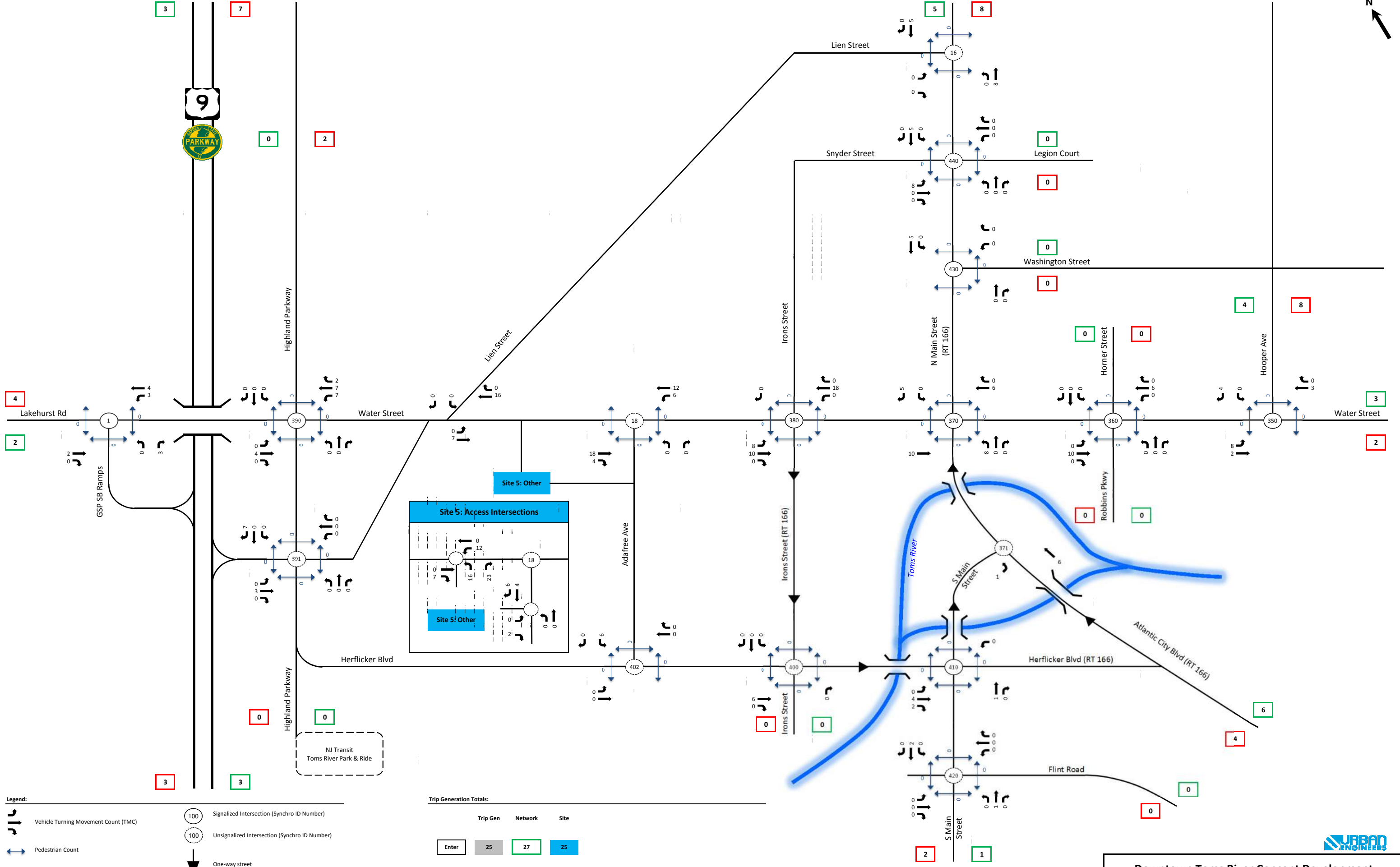
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Trip Generation Totals:

	Trip Gen	Network	Site
Enter	64	63	64
Exit	107	105	107

Not to Scale

Downtown Toms River Concept Development
 Site 4 - Net New Trips - AM Peak



Legend:

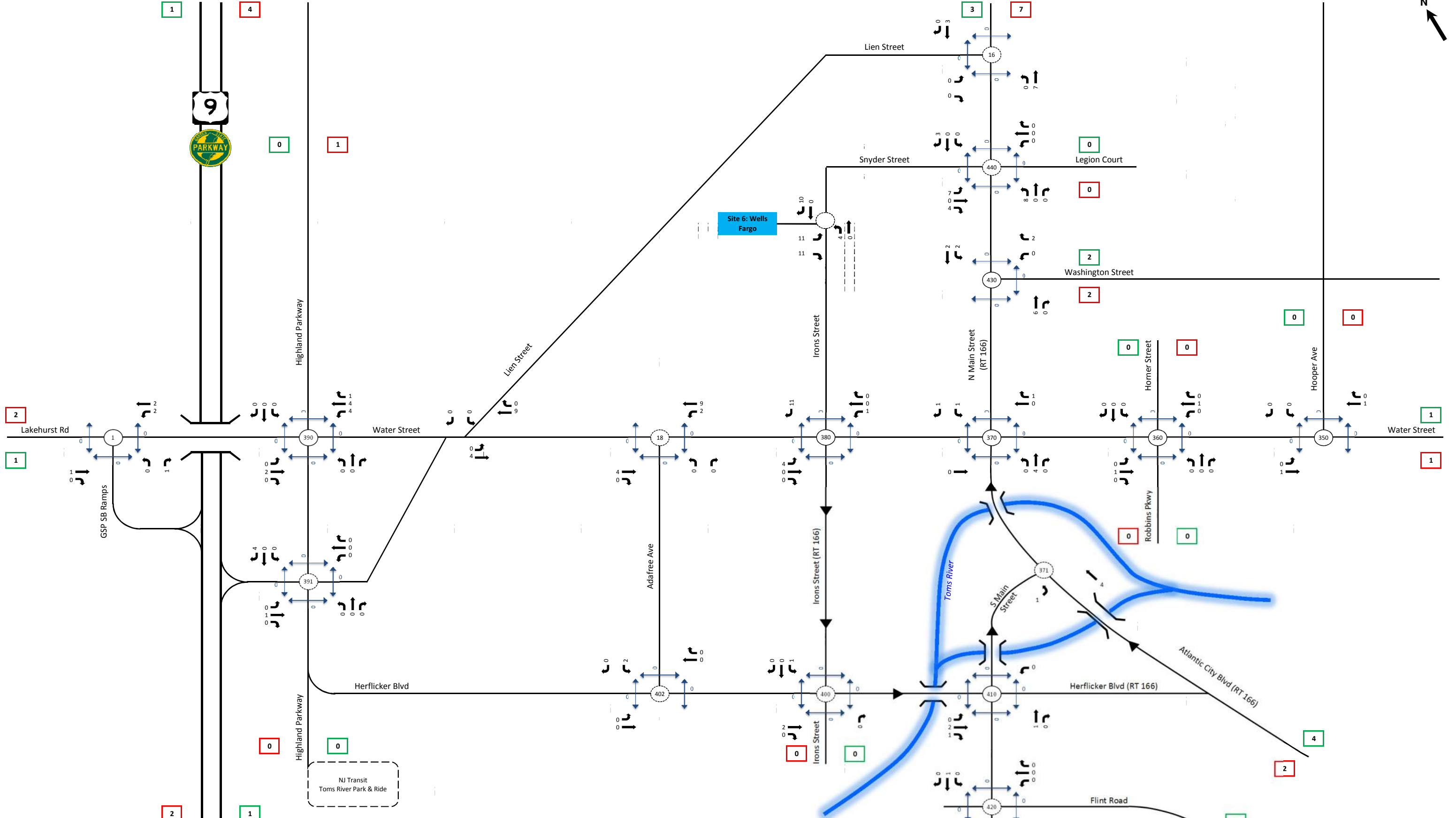
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Trip Generation Totals:

	Trip Gen	Network	Site
Enter	25	27	25
Exit	41	40	41

Not to Scale

Downtown Toms River Concept Development
 Site 5 - Net New Trips - AM Peak




Legend:

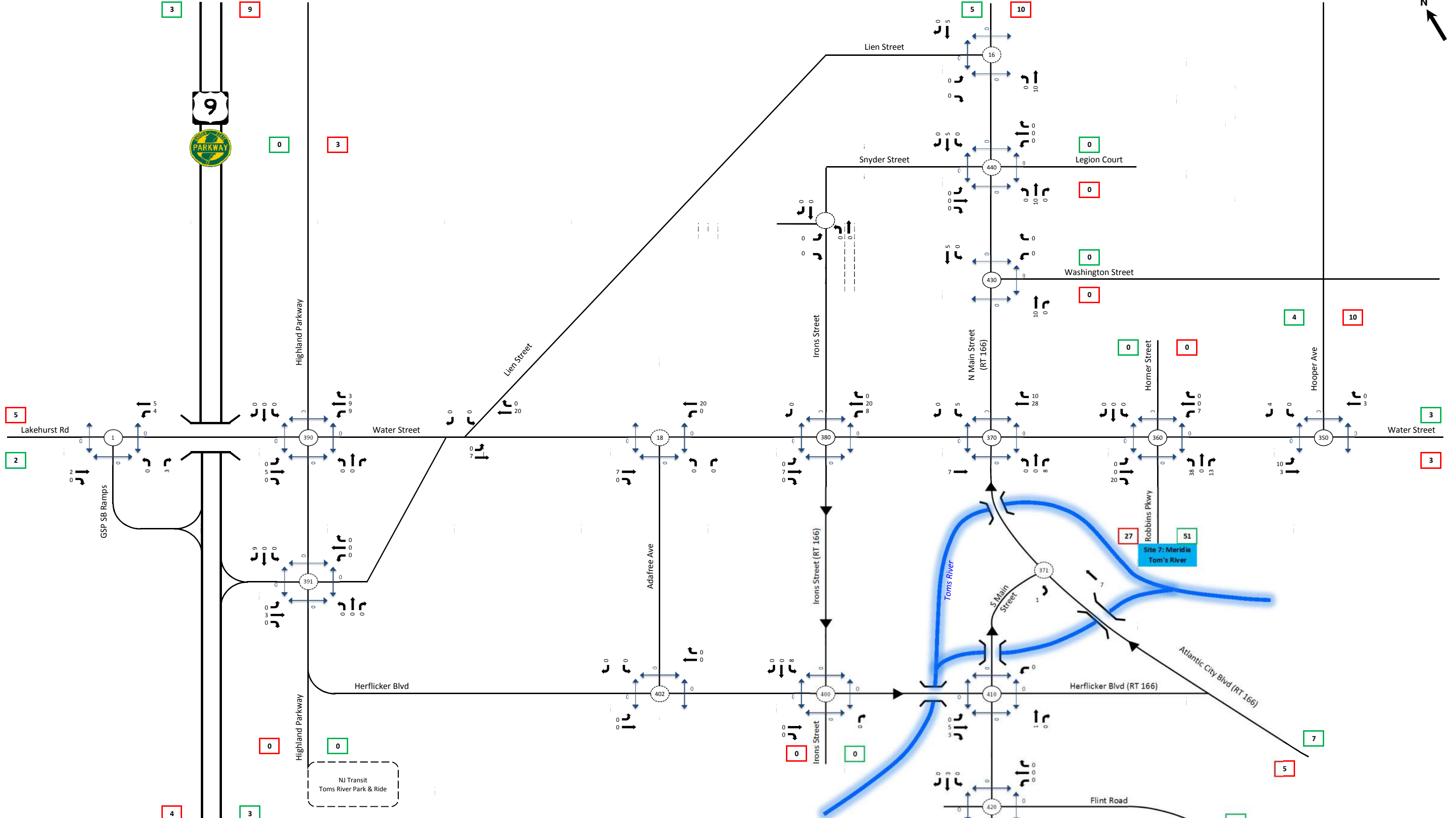
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Trip Generation Totals:

	Trip Gen	Network	Site
Enter	14	14	14
Exit	22	22	22

Not to Scale


Downtown Toms River Concept Development
 Site 6 - Net New Trips - AM Peak



Legend:

- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Trip Generation Totals:

	Trip Gen	Network	Site
Enter	27	28	27
Exit	51	52	51

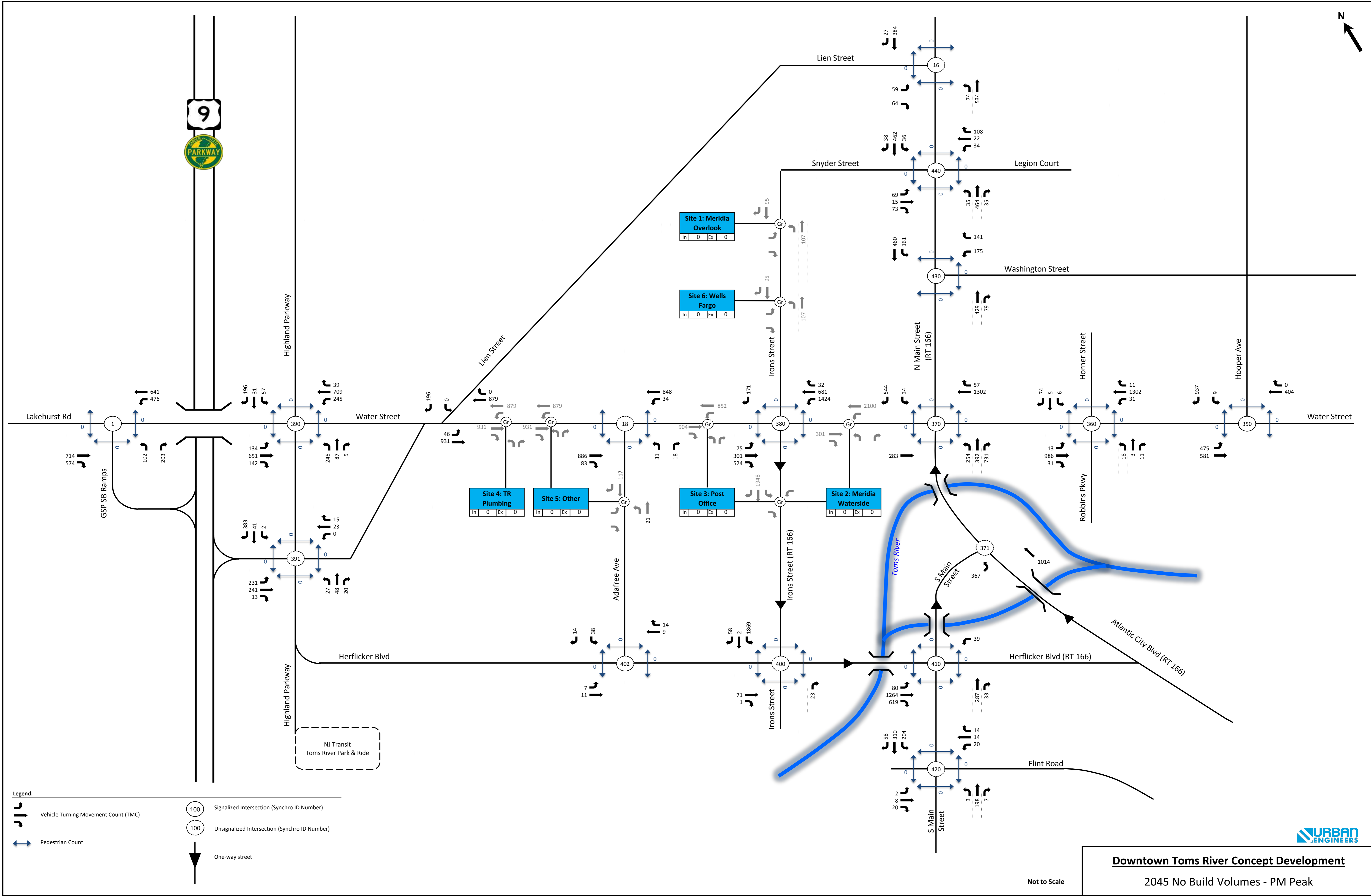
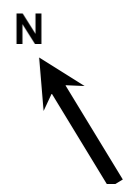
Not to Scale

Downtown Toms River Concept Development
 Site 7 - Net New Trips - AM Peak



Trip Generation

PM Peak

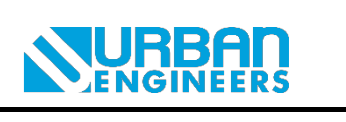


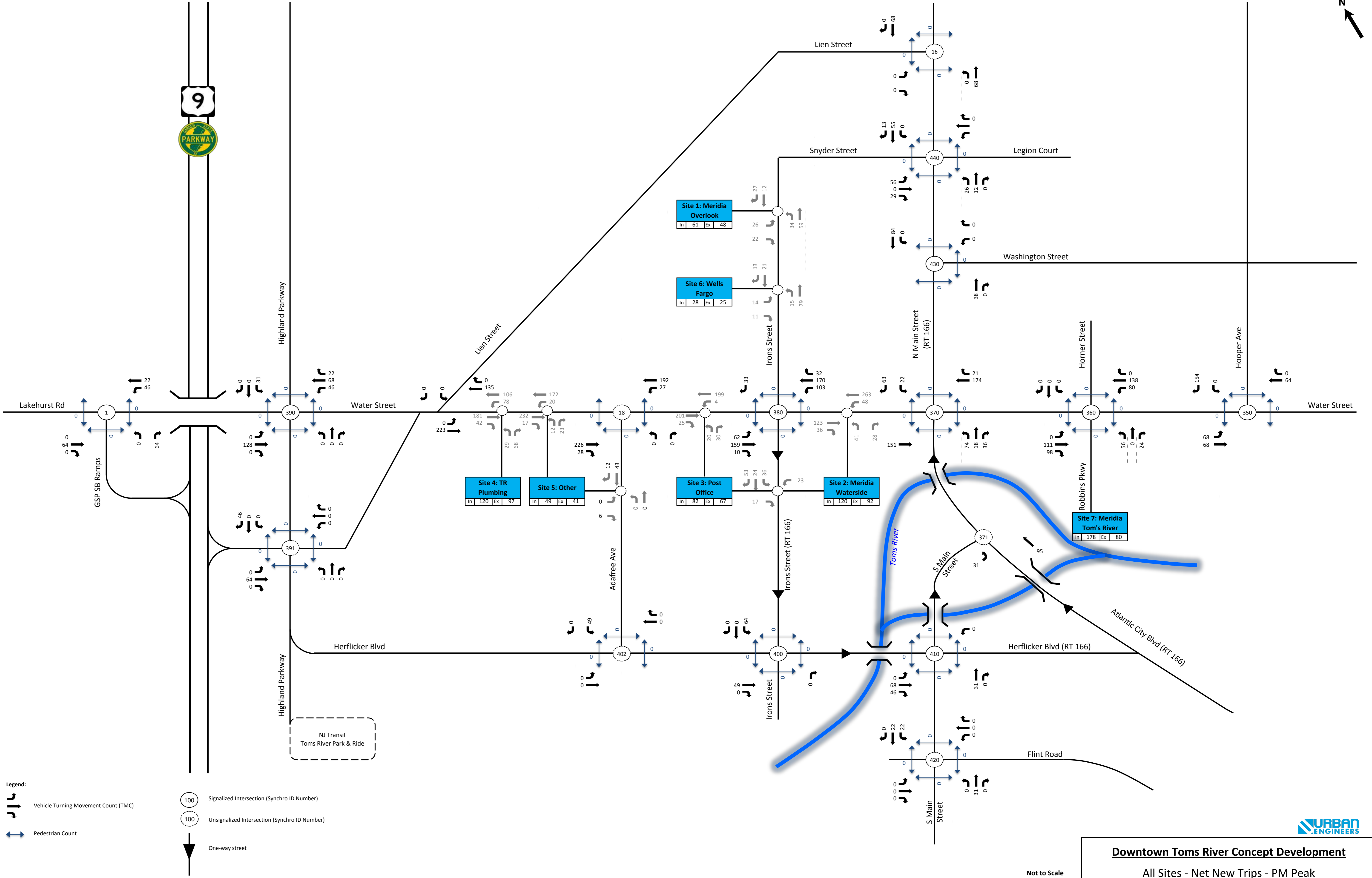
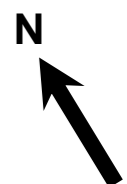
Legend:

- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

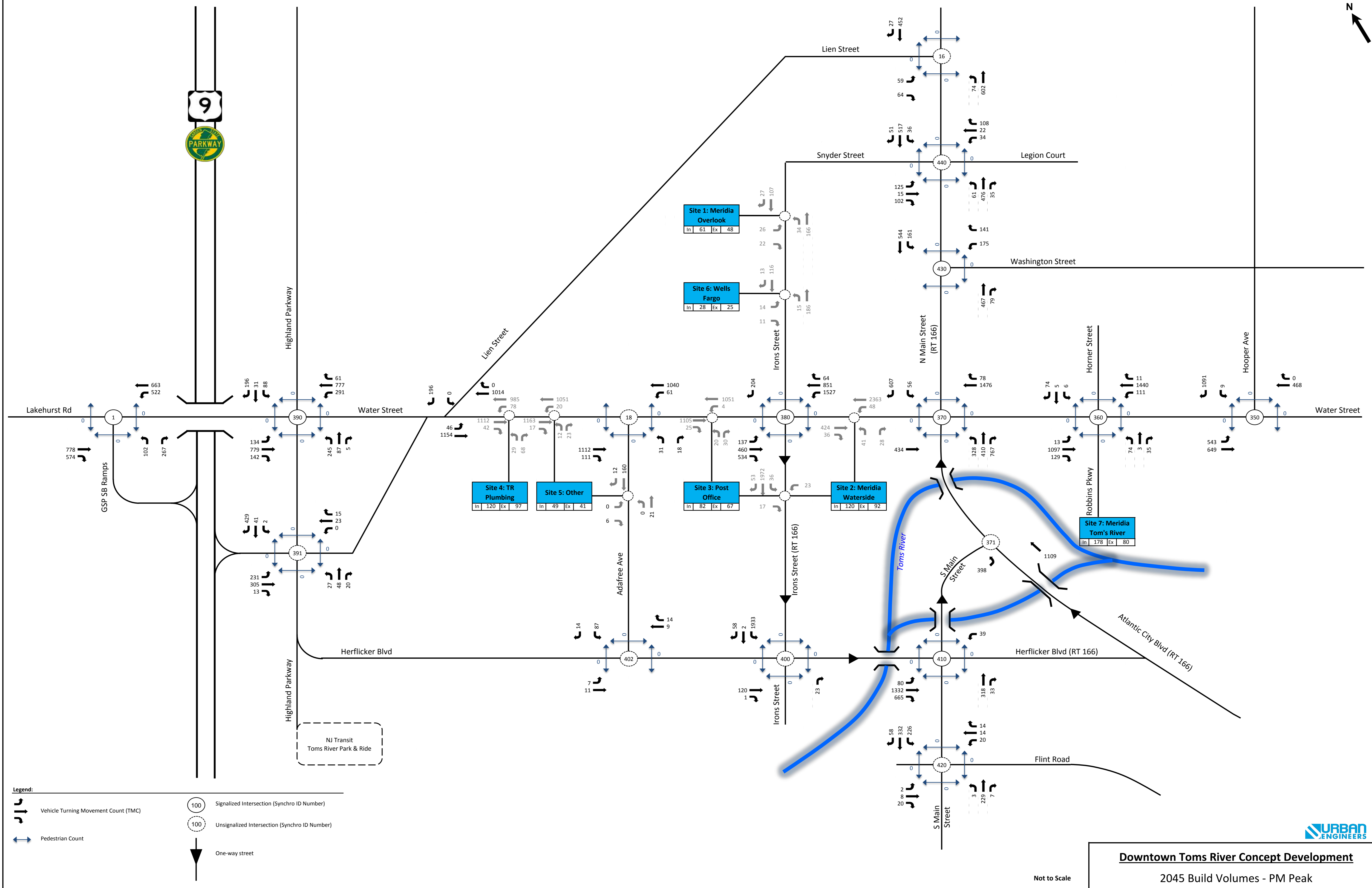
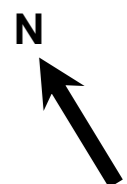
Not to Scale

Downtown Toms River Concept Development
2045 No Build Volumes - PM Peak





Not to Scale

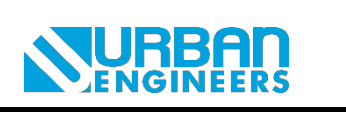


Legend:

- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Not to Scale

Downtown Toms River Concept Development
 2045 Build Volumes - PM Peak

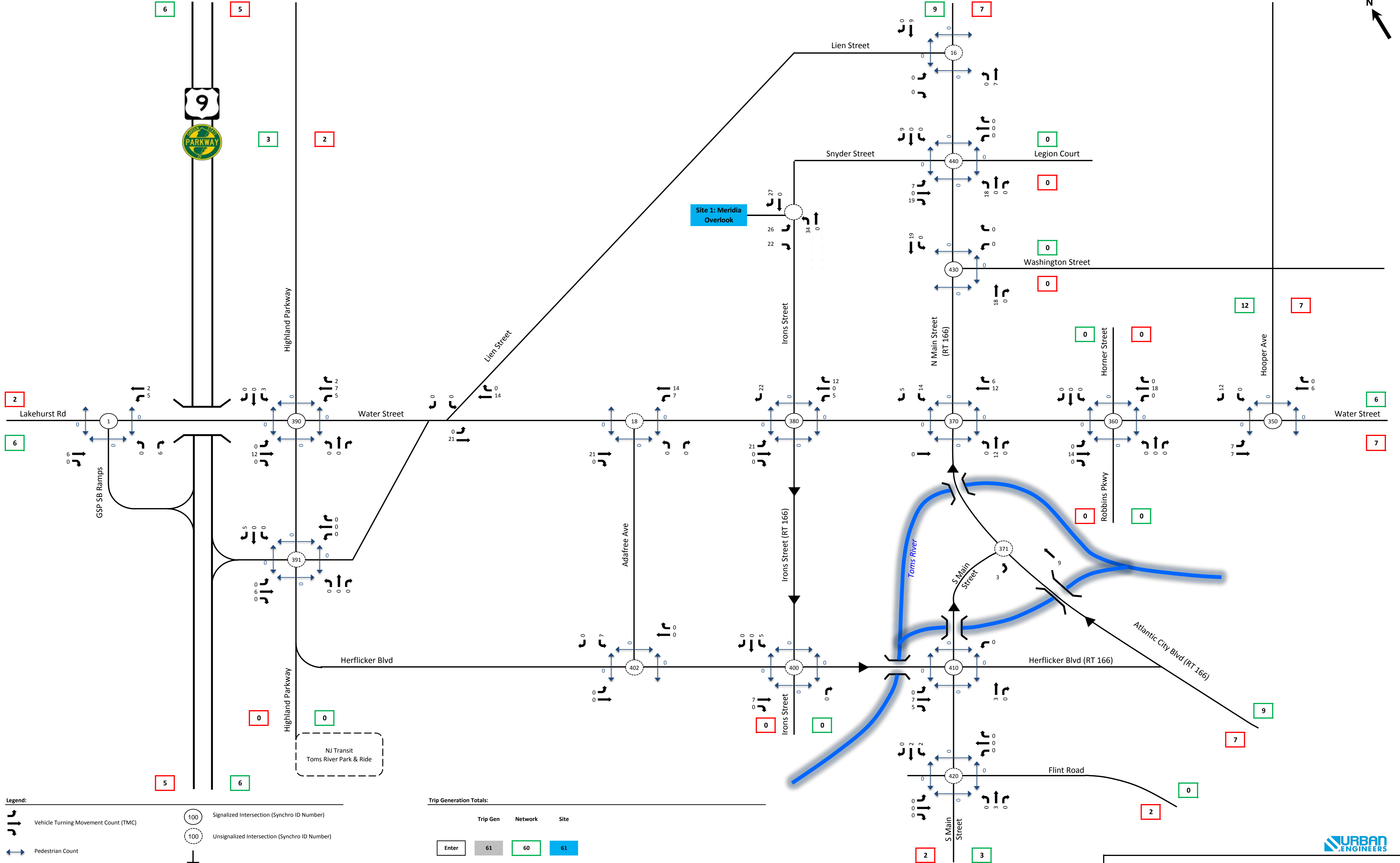
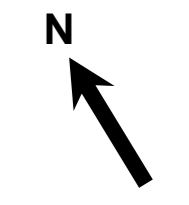


Toms River Concept Development

Trip Generation

Proposed Development	Size	Units	Land Use Code	Equation/Rate							% Enter	% Internal		% Pass By	Weekday Afternoon Peak			
				Ln(T)	=	0.96	Ln(X)	-	0.63	61%		Origin	Dest		Enter	Exit	Total	
Site 6:																		
Wells Fargo Lot	Residential	73	Dwelling Units	221	Ln(T)	=	0.96	Ln(X)	-	0.63	61%	26%	10%	0%	Gross	20	13	33
															Internal	8	3	11
															Pass By	0	0	0
															Net	12	10	22
	Retail	4.72	1000 SF	820	Ln(T)	=	0.74	Ln(X)	+	2.89	48%	42%	46%	34%	Gross	27	30	57
															Internal	3	8	11
															Pass By	8	7	15
															Net	16	15	31
	Combined	--	--	--											Gross	47	43	90
															Internal	11	11	22
															Pass By	8	7	15
															Net	28	25	53
Site 7:																		
Robbins Pkwy Development	Residential	140	Dwelling Units	221	Ln(T)	=	0.96	Ln(X)	-	0.63	61%	26%	10%	0%	Gross	37	24	61
															Internal	15	8	23
															Pass By	0	0	0
															Net	22	16	38
		Retail	30.99	1000 SF	931	T	=	7.80	X	+	0.00	67%	18%	14%	0%	Gross	162	80
															Internal	15	23	38
															Pass By	0	0	0
															Net	147	57	204
	Retail	6.12	1000 SF	820	Ln(T)	=	0.74	Ln(X)	+	2.89	48%	21%	16%	34%	Gross	33	36	69
															Internal	20	26	46
															Pass By	4	3	7
															Net	9	7	16
	Combined	--	--	--											Gross	232	140	372
															Internal	50	57	107
															Pass By	4	3	7
															Net	178	80	258

TOTAL			
Gross	915	721	1636
Internal	174	181	355
Pass By	102	91	193
Net	639	449	1088



Legend:

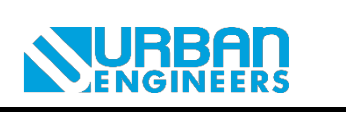
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

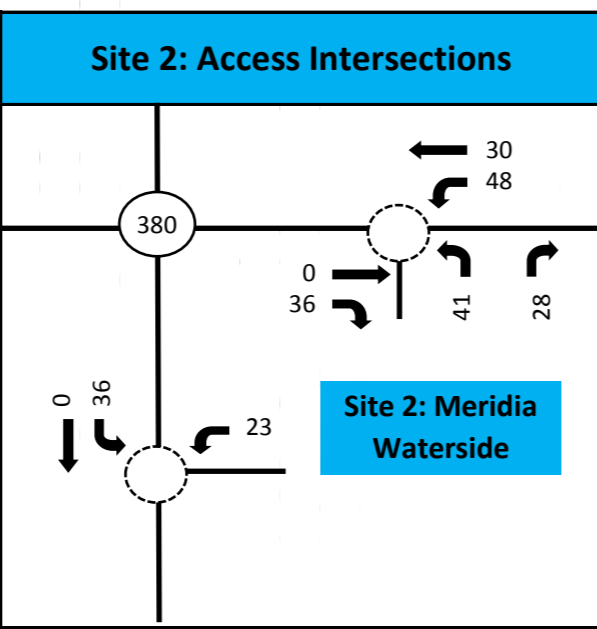
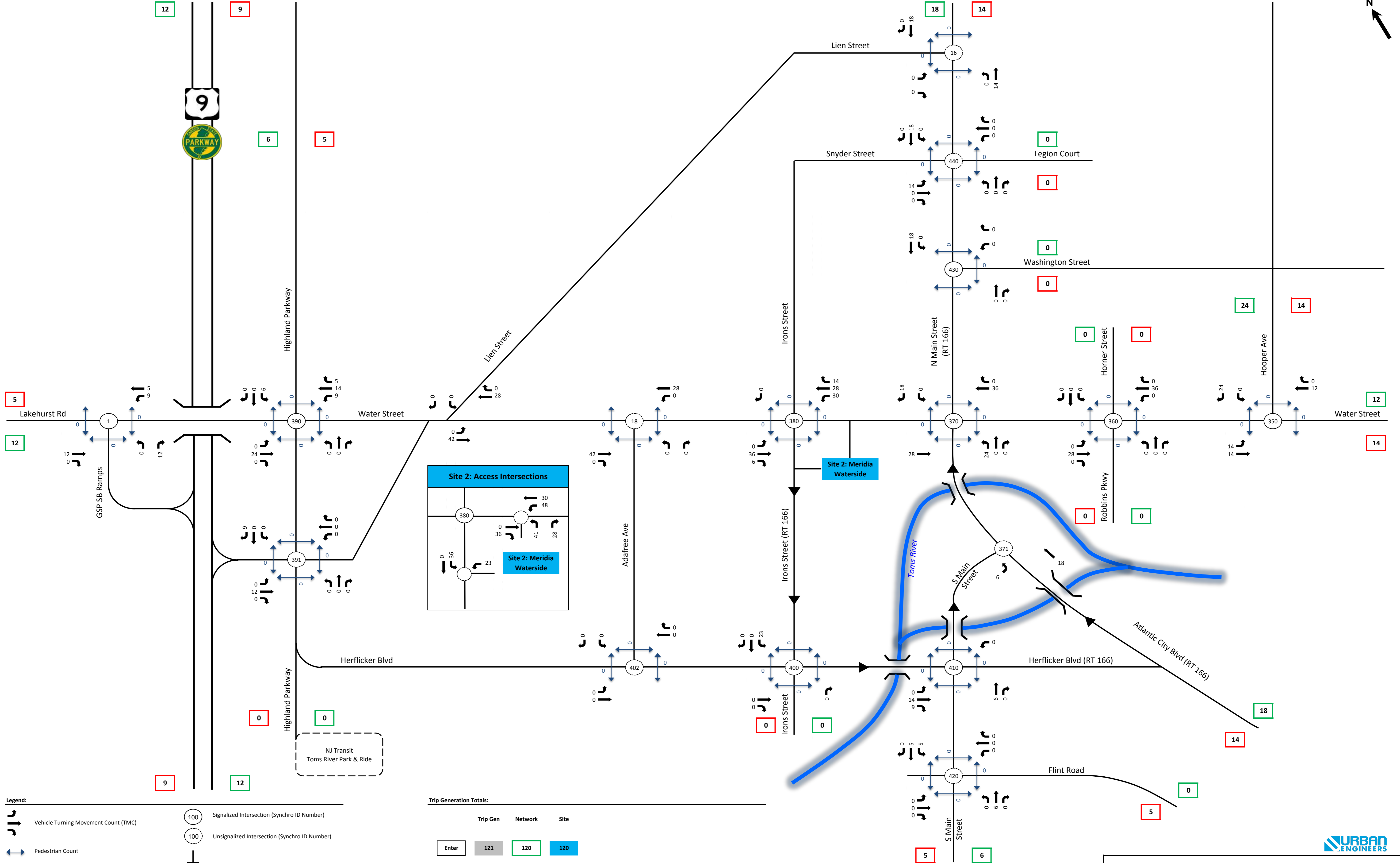
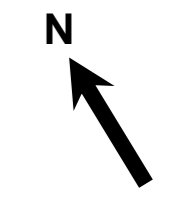
Trip Generation Totals:

	Trip Gen	Network	Site
Enter	61	60	61
Exit	48	46	48

Not to Scale

Downtown Toms River Concept Development
Site 1 - Net New Trips - PM Peak





Legend:

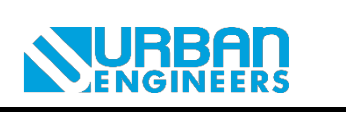
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

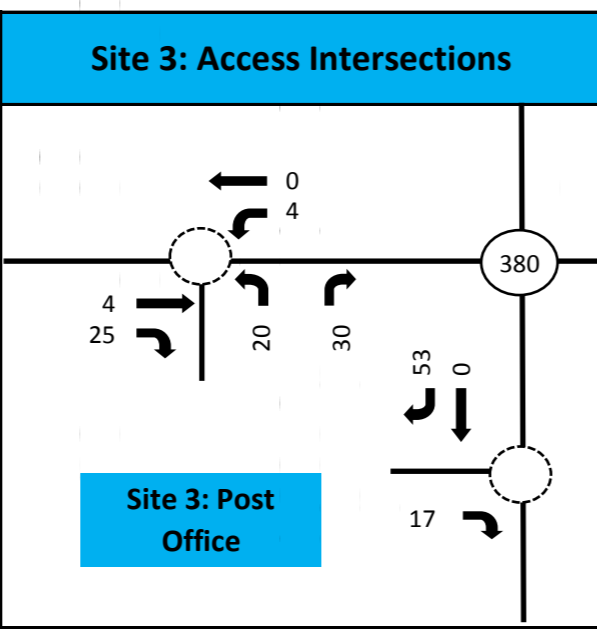
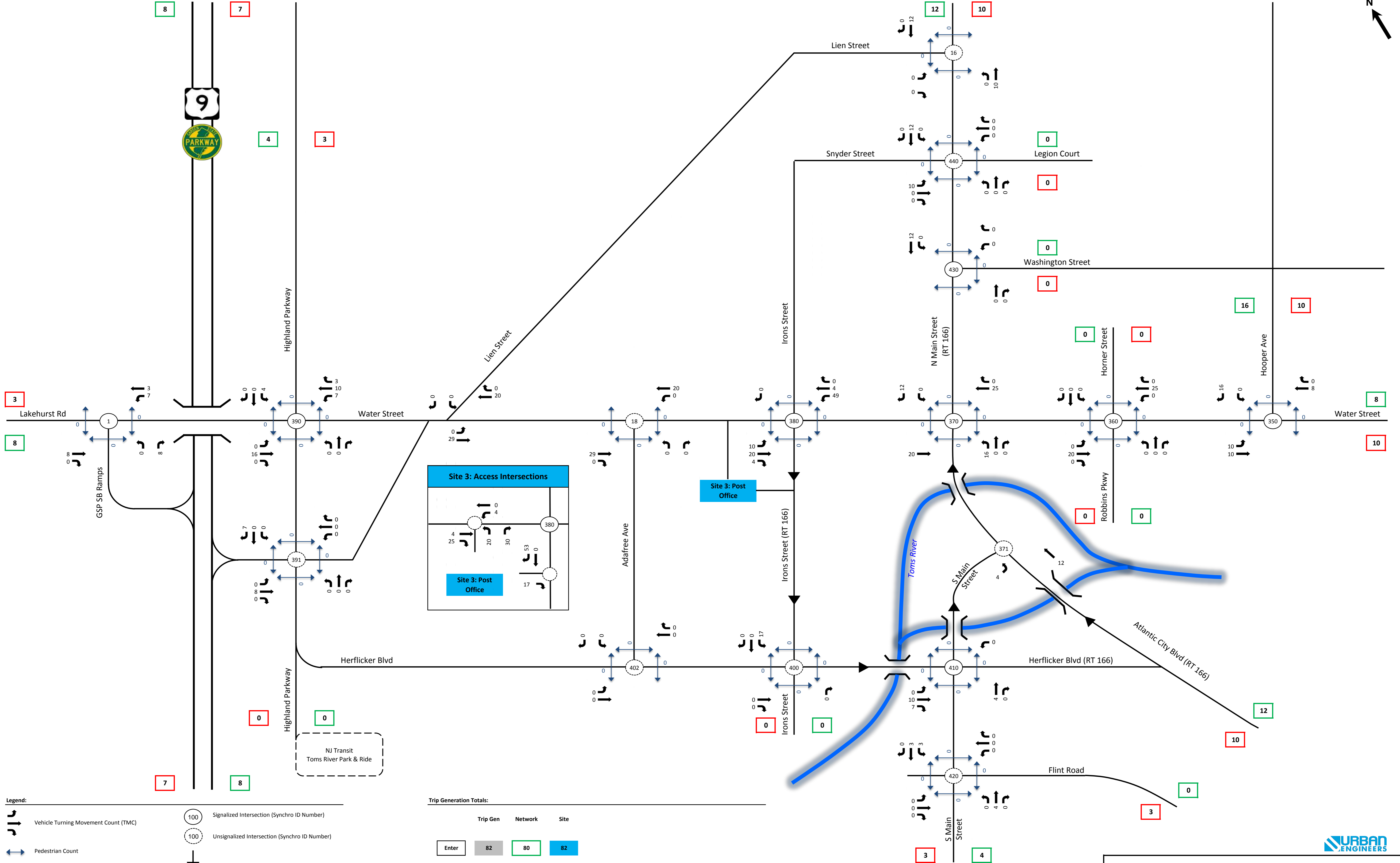
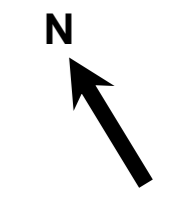
Trip Generation Totals:

	Trip Gen	Network	Site
Enter	121	120	120
Exit	92	94	92

Not to Scale

Downtown Toms River Concept Development
Site 2 - Net New Trips - PM Peak





Legend:

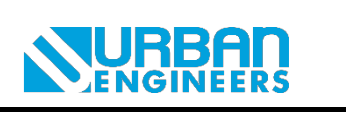
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

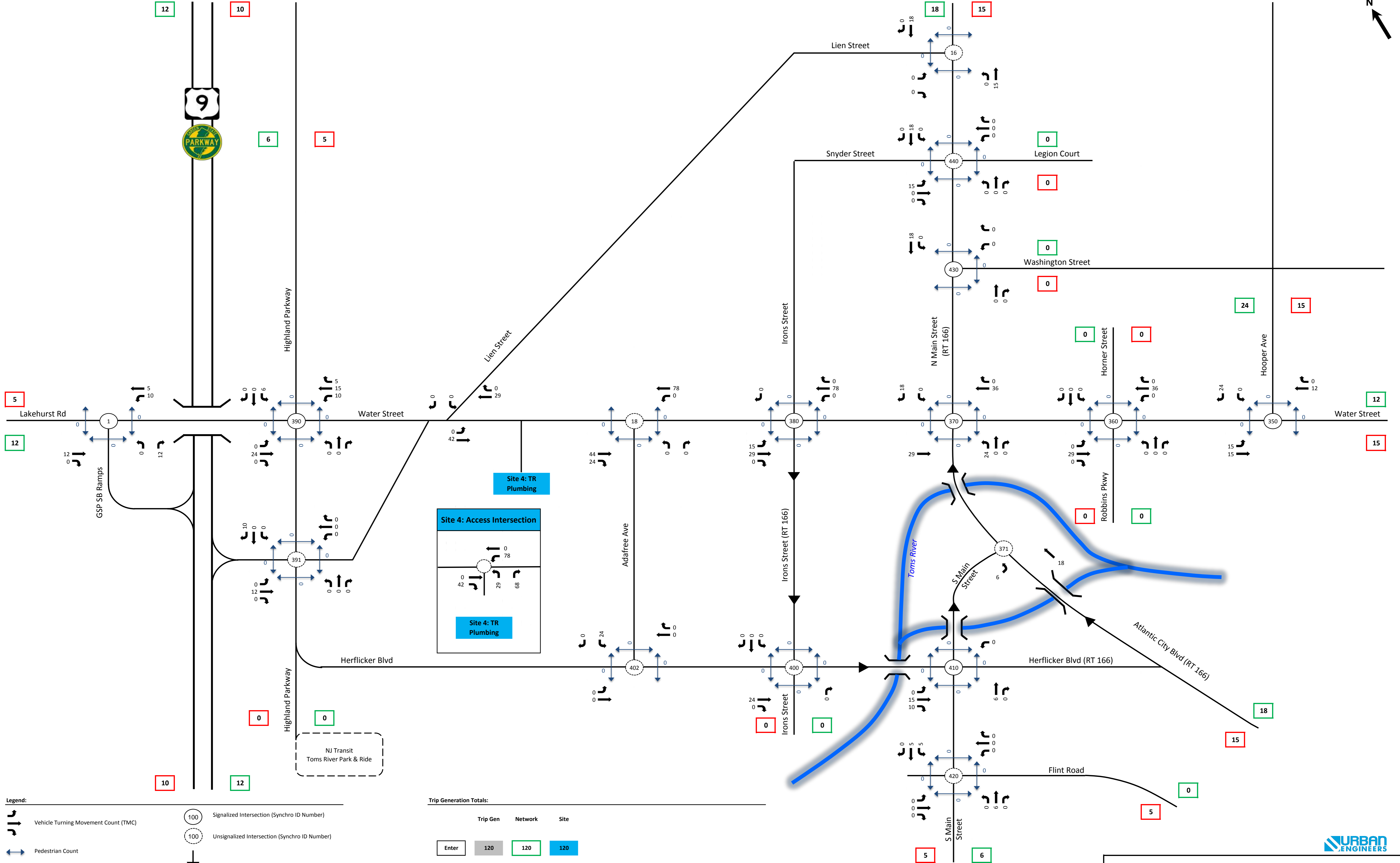
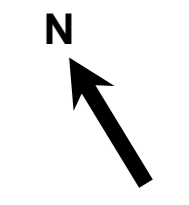
Trip Generation Totals:

	Trip Gen	Network	Site
Enter	82	80	82
Exit	66	66	67

Not to Scale

Downtown Toms River Concept Development
Site 3 - Net New Trips - PM Peak





Legend:

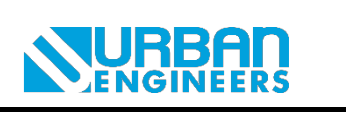
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

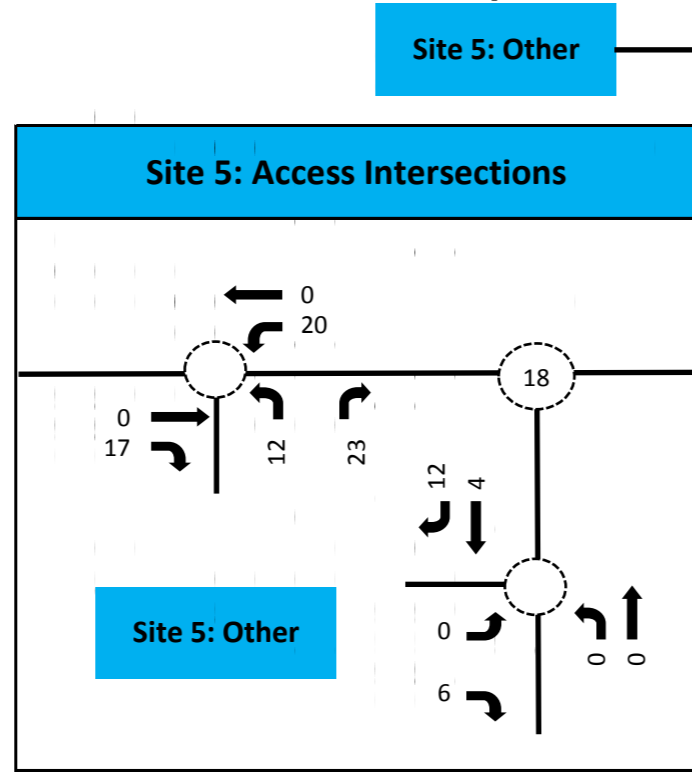
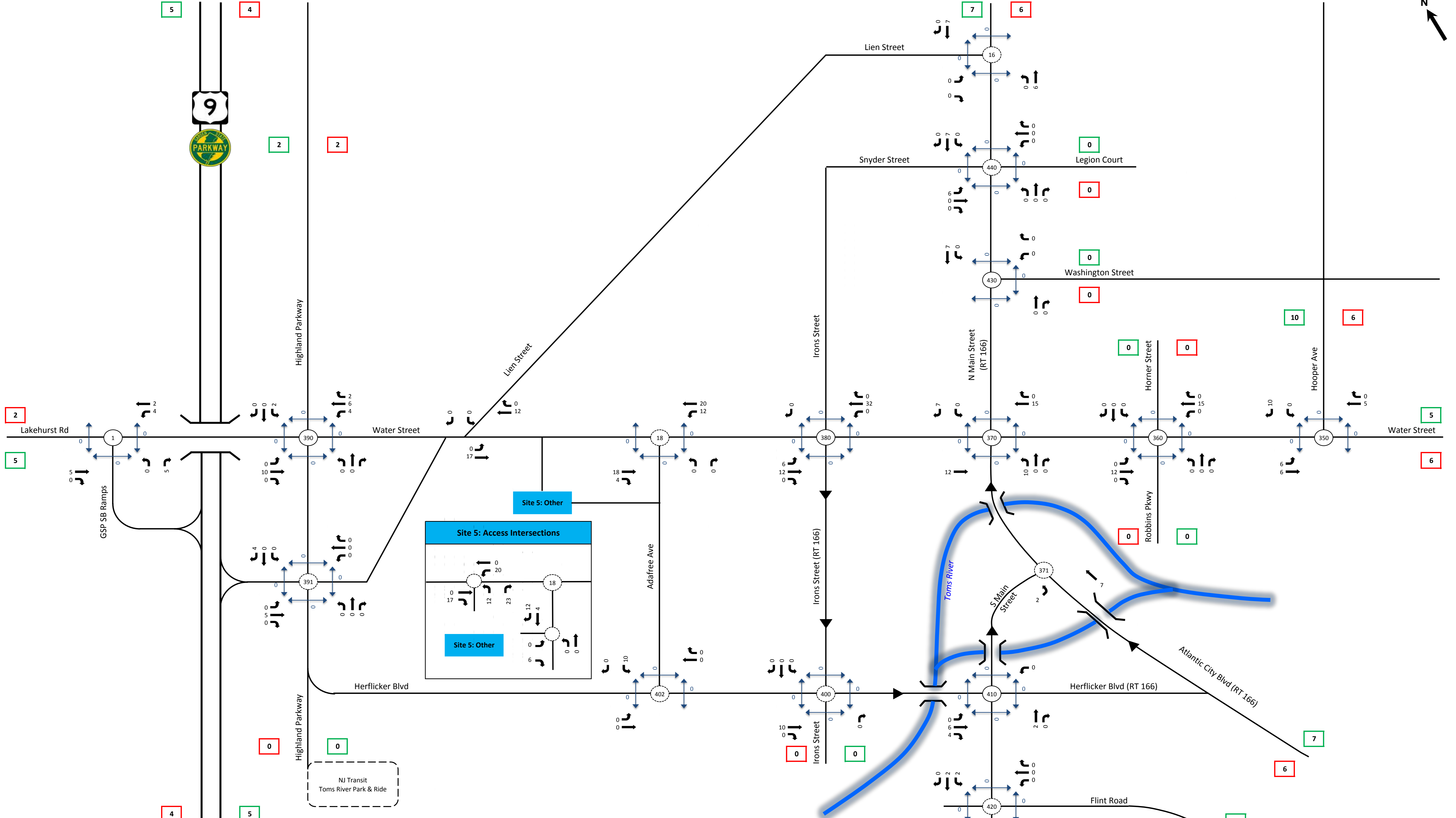
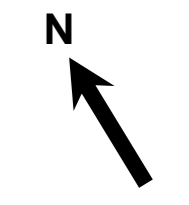
Trip Generation Totals:

	Trip Gen	Network	Site
Enter	120	120	120
Exit	97	100	97

Not to Scale

Downtown Toms River Concept Development
Site 4 - Net New Trips - PM Peak





Legend:

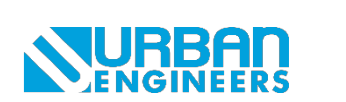
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

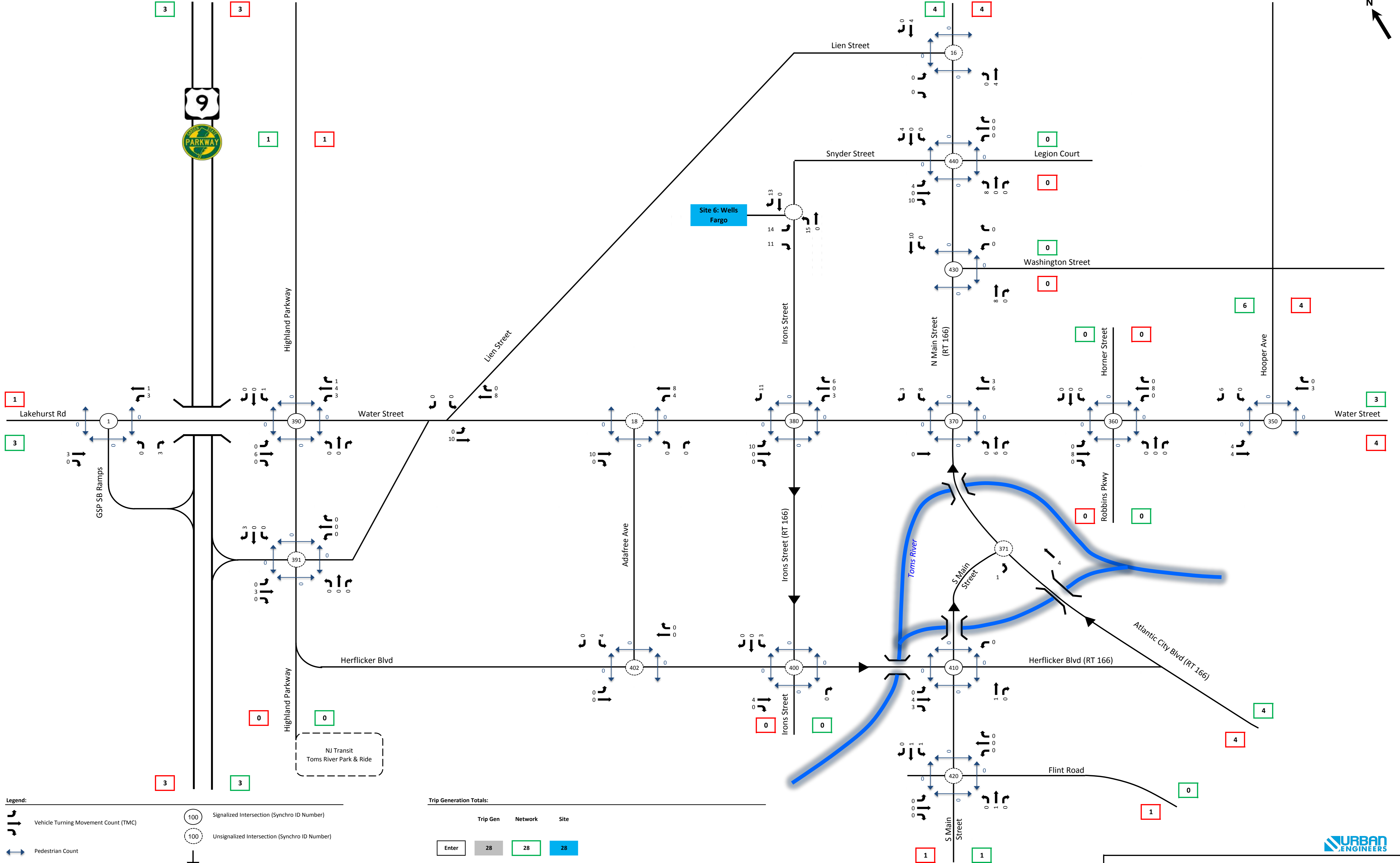
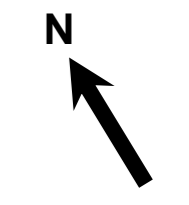
Trip Generation Totals:

	Trip Gen	Network	Site
Enter	49	48	49
Exit	41	40	41

Not to Scale

Downtown Toms River Concept Development
Site 5 - Net New Trips - PM Peak





Legend:

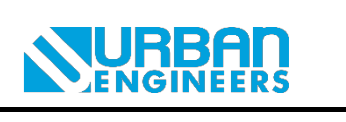
- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

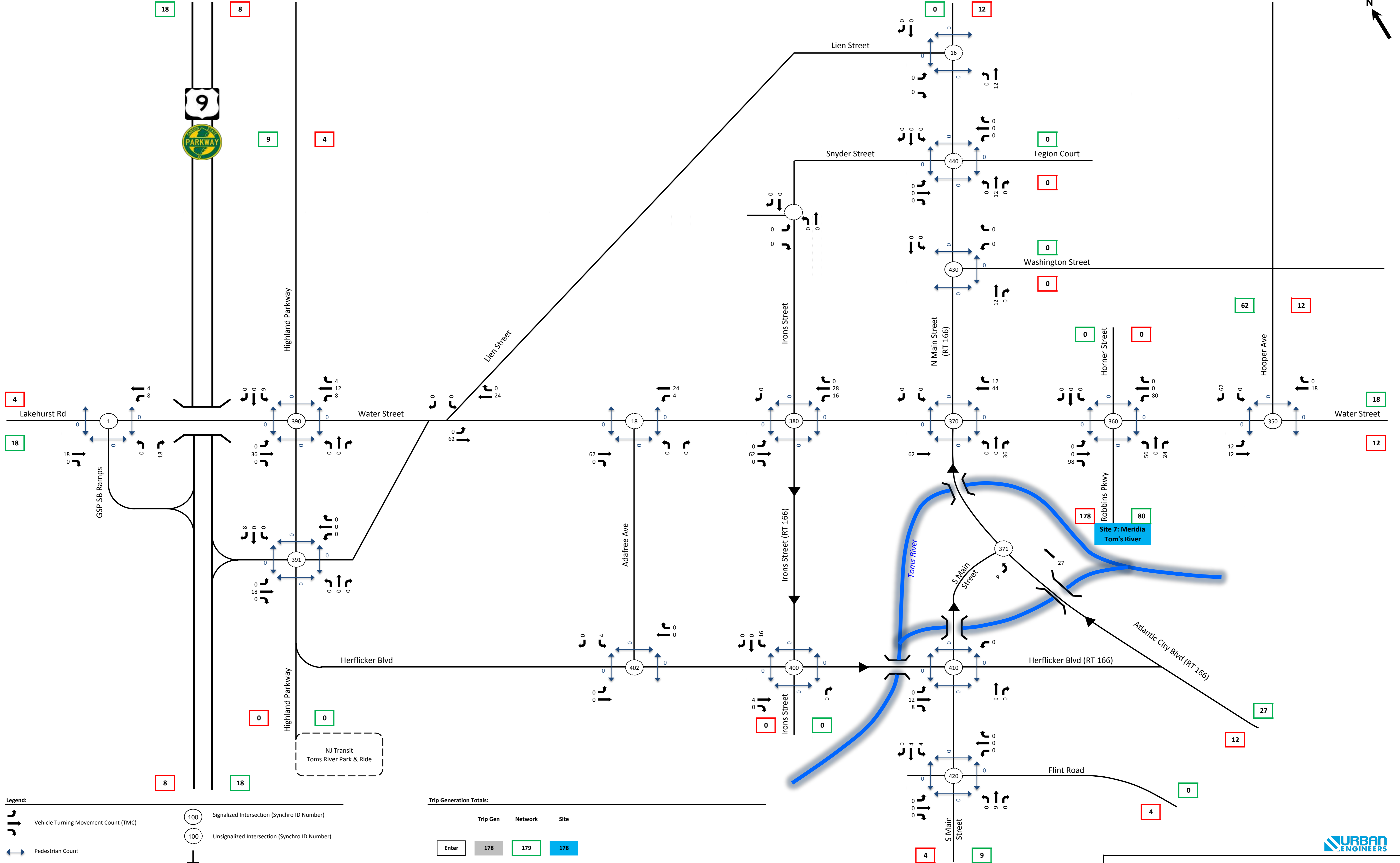
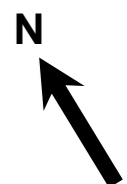
Trip Generation Totals:

	Trip Gen	Network	Site
Enter	28	28	28
Exit	25	26	25

Not to Scale

Downtown Toms River Concept Development
Site 6 - Net New Trips - PM Peak





Legend:

- Vehicle Turning Movement Count (TMC)
- Pedestrian Count
- Signalized Intersection (Synchro ID Number)
- Unsignalized Intersection (Synchro ID Number)
- One-way street

Trip Generation Totals:

	Trip Gen	Network	Site
Enter	178	179	178
Exit	80	80	80

Downtown Toms River Concept Development
 Site 7 - Net New Trips - PM Peak



Not to Scale

Existing, No-Build & Build-No-Mitigation

PM Peak

TOMS RIVER DOWNTOWN WATERFRONT REDEVELOPMENT

2019 Existing AM PEAK SimTraffic Results

INTERSECTION (NODE #)	NB		SB		EB		WB		ALL	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
	1) Lakehurst Rd & GSP SB Ramps (1)	16.4	B			6.2	A	7.5	A	8.5
2) Lakehurst Rd & Highland Pkwy (390)	20.3	C	14.1	B	11.6	B	12.2	B	13.9	B
3) Water St & Irons St (380)			30.3	C	50.9	D	10.7	B	27.2	C
4) Water St & Main St (370)	7.5	A	3.9	A	13.4	B	35.7	D	15.6	B
5) Water St & Horner St (360)	20.4	C	18.7	B	8.2	A	5.7	A	7.4	A
6) Water St & Hooper Ave (350)			4.2	A	3.7	A	34.4	C	7.6	A
7) Main St & Washington St (430)	3.9	A	5.9	A			20.6	C	8.2	A
8) Herflicker Blvd & S Main St (410)	53.3	D			16.3	B	69.0	E	25.9	C
9) Highland Pkwy & Water St/ NB GSP Ramps (391)	40.0	E	6.4	A	29.3	D	1.9	A	24.7	C
10) Water St & Adafre Ave (18)	26.5	D			26.6	D	2.7	A	17.6	C
11) Herflicker Blvd & Irons St (400)	21.8	C	1.2	A	10.6	B			2.0	A
12) River Pk/ Flint Rd & S Main St (420)	38.9	E	0.9	A			99.7	F	21.0	C
13) Highland Pkwy & Main St (9)	7.8	A	7.3	A	12.5	B	3.9	A	8.2	A
14) Main St & Lien St (16)	1.2	A	1.5	A	8.7	A			2.6	A
15) Washington St & Hooper Ave (340)	10.8	B	9.9	A	21.4	C	24.3	C	15.8	B
16) Irons St/ Legion Ct & Main St (440)	1.9	A	2.6	A	11.0	B	11.0	B	3.7	A
17) S Main St & Rt 166 (371)	1.8	A			66.9	F			10.8	B

Note: Hatched cells indicate approach does not exist or zero volume

Intersections in "BLUE" are governed by a STOP Sign.

TRAVEL TIME COMPARISONS

Travel Time Road & Direction	Segment	Distance (mi)	Travel Times (min)		% Diff.
			Field	SimTraffic	Synchro
Water St (EB)	Total (min)	0.7	3.45	3.68	6%
Water St (WB)	Total (min)	0.7	3.41	3.07	-11%
Main St/ Rt. 166 (NB)	Total (min)	0.8	2.03	2.08	2%
Main St/ Rt. 166 (SB)	Total (min)	1.0	3.86	4.18	8%

TOMS RIVER DOWNTOWN WATERFRONT REDEVELOPMENT

2019 Existing PM PEAK SimTraffic Results

INTERSECTION (NODE #)	NB		SB		EB		WB		ALL	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
	1) Lakehurst Rd & GSP SB Ramps (1)	16.5	B			68.2	E	18.8	B	41.6
2) Lakehurst Rd & Highland Pkwy (390)	25.6	C	14.6	B	16.6	B	22.9	C	20.0	B
3) Water St & Irons St (380)			49.1	D	60.2	E	16.6	B	30.4	C
4) Water St & Main St (370)	11.3	B	5.1	A	4.1	A	44.7	D	22.6	C
5) Water St & Horner St (360)	26.7	C	22.7	C	7.5	A	12.8	B	11.1	B
6) Water St & Hooper Ave (350)			6.9	A	4.2	A	32.9	C	9.9	A
7) Main St & Washington St (430)	6.5	A	6.3	A			29.2	C	12.1	B
8) Herflicker Blvd & S Main St (410)	37.7	D			22.7	C	63.7	E	25.5	C
9) Highland Pkwy & Water St/ NB GSP Ramps (391)	10.8	B	4.1	A	12.0	B	4.0	A	8.4	A
10) Water St & Adafre Ave (18)	31.6	D			16.5	C	2.9	A	10.5	B
11) Herflicker Blvd & Irons St (400)	52.9	F	2.3	A	85.2	F			5.8	A
12) River Pk/ Flint Rd & S Main St (420)	22.6	C	0.7	A			-	-	7.5	A
13) Highland Pkwy & Main St (9)	9.6	A	7.1	A	24.1	C	5.2	A	11.5	B
14) Main St & Lien St (16)	1.7	A	1.0	A	10.8	B			2.3	A
15) Washington St & Hooper Ave (340)	14.2	B	14.1	B	28.6	C	29.6	C	21.0	C
16) Irons St/ Legion Ct & Main St (440)	2.1	A	1.7	A	23.7	C	17.6	C	6.2	A
17) S Main St & Rt 166 (371)	1.4	A			30.3	D			9.2	A

Note: Hatched cells indicate approach does not exist or zero volume

Intersections in "BLUE" are governed by a STOP Sign.

TRAVEL TIME COMPARISONS

Travel Time Road & Direction	Segment	Distance (mi)	Travel Times (min)		% Diff.
			Field	SimTraffic	Synchro
Water St (EB)	Total (min)	0.7	3.38	3.26	-4%
Water St (WB)	Total (min)	0.7	3.51	3.54	1%
Main St/ Rt. 166 (NB)	Total (min)	0.8	2.19	2.31	5%
Main St/ Rt. 166 (SB)	Total (min)	1.1	3.79	3.93	4%

Downtown Toms River Concept Development

2045 No Build AM Peak SimTraffic Results

Intersection	RT 166				Water Street				ALL	
	NB		SB		EB		WB		Delay (sec/veh)	LOS
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
001. Lakehurst Road & GSP SB Ramps	16.7	B		-	8.0	A	9.8	A	10.3	B
390. Water Street & Highland Parkway	62.5	E	16.9	B	13.1	B	14.6	B	24.7	C
018. Water Street & Adafree Avenue	32.7	D		-	15.3	C	3.8	A	11.1	B
380. Water Street & Irons Street		-	56.8	E	34.8	C	29.1	C	31.7	C
370. Water Street & RT 166 (Main Street)	14.6	B	4.3	A	17.0	B	62.2	E	26.4	C
360. Water Street & Horner Street/Robbins Pkwy	35.3	D	27.0	C	15.2	B	31.9	C	21.9	C
350. Water Street & Hooper Avenue		-	10.0	A	5.0	A	33.1	C	9.9	A
340. Hooper Avenue & Washington Street	13.7	B	11.1	B	18.4	B	25.6	C	16.7	B
016. RT 166 & Lien Street	1.8	A	2.4	A	14.5	B		-	4.2	A
440. RT 166 & Irons Street/Legion Court	2.7	A	3.5	A	25.5	D	17.4	C	5.9	A
430. RT 166 & Washington Street	5.2	A	7.5	A		-	26.4	C	10.2	B
371. RT 166 & S Main Street	11.6	B		-	49.6	E		-	16.8	C
402. Herflicker Blvd & Adafre Avenue		-	3.8	A	0.7	A	0.2	A	2.7	A
400. Herflicker Blvd & Irons Street	5.1	A	1.5	A	10.4	B		-	2.2	A
410. Herflicker Blvd & S Main Street	79.1	E		-	14.9	B	66.1	E	29.9	C

Note: Hatched cells indicate approach does not exist or zero volume

TRAVEL TIME COMPARISONS

Travel Time Road	Direction	Segment	Distance	Travel Times (minutes)		% Diff.
				Existing	No Build	SimTraffic
Water Street	Eastbound	Total (minutes)	3.0	3.7	3.4	-9%
	Westbound	Total (minutes)	3.0	3.1	4.8	56%

Downtown Toms River Concept Development

2045 No Build PM Peak SimTraffic Results

Intersection	RT 166				Water Street				ALL	
	NB		SB		EB		WB		Delay (sec/veh)	LOS
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
001. Lakehurst Road & GSP SB Ramps	24.2	C		-	87.1	F	24.0	C	51.8	D
390. Water Street & Highland Parkway	148.1	F	22.2	C	46.4	D	27.8	C	49.2	D
018. Water Street & Adafree Avenue	109.7	F		-	58.5	F	3.6	A	33.2	D
380. Water Street & Irons Street		-	51.2	D	69.3	E	28.7	C	40.8	D
370. Water Street & RT 166 (Main Street)	16.7	B	6.1	A	3.5	A	53.5	D	28.1	C
360. Water Street & Horner Street/Robbins Pkwy	33.4	C	34.5	C	9.6	A	27.7	C	20.6	C
350. Water Street & Hooper Avenue		-	14.4	B	4.7	A	32.9	C	13.5	B
340. Hooper Avenue & Washington Street	16.0	B	15.1	B	29.9	C	31.9	C	22.4	C
016. RT 166 & Lien Street	1.9	A	1.8	A	12.2	B		-	2.9	A
440. RT 166 & Irons Street/Legion Court	2.6	A	2.6	A	34.5	D	28.1	D	9.2	A
430. RT 166 & Washington Street	10.7	B	7.6	A		-	35.3	D	15.0	B
371. RT 166 & S Main Street	5.5	A		-	50.7	F		-	16.8	C
402. Herflicker Blvd & Adafre Avenue		-	9.6	A	17.8	C	0.5	A	7.5	A
400. Herflicker Blvd & Irons Street	335.8	F	5.6	A	521.4	F		-	23.8	C
410. Herflicker Blvd & S Main Street	253.4	F		-	49.8	D	67.1	E	79.1	E

Note: Hatched cells indicate approach does not exist or zero volume

TRAVEL TIME COMPARISONS

Travel Time Road	Direction	Segment	Distance	Travel Times (minutes)		% Diff.
				Existing	No Build	SimTraffic
Water Street	Eastbound	Total (minutes)	3.0	3.6	4.9	35%
	Westbound	Total (minutes)	3.0	3.8	4.7	24%

Downtown Toms River Concept Development

2045 Build No-Mit AM Peak SimTraffic Results

Intersection	RT 166				Water Street				ALL	
	NB		SB		EB		WB		Delay (sec/veh)	LOS
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
001. Lakehurst Road & GSP SB Ramps	19.5	B		-	9.5	A	10.3	B	11.7	B
390. Water Street & Highland Parkway	90.4	F	16.1	B	29.3	C	19.7	B	35.6	D
018. Water Street & Adafree Avenue	52.2	F		-	63.9	F	4.0	A	38.6	E
380. Water Street & Irons Street		-	92.4	F	48.5	D	37.3	D	43.2	D
370. Water Street & RT 166 (Main Street)	16.9	B	6.3	A	21.5	C	112.3	F	39.0	D
360. Water Street & Horner Street/Robbins Pkwy	103.0	F	59.4	E	26.5	C	142.1	F	69.2	E
350. Water Street & Hooper Avenue		-	80.6	F	7.3	A	94.4	F	37.0	D
340. Hooper Avenue & Washington Street	13.8	B	104.5	F	28.3	C	198.4	F	68.1	E
016. RT 166 & Lien Street	1.5	A	2.3	A	15.3	C		-	4.1	A
440. RT 166 & Irons Street/Legion Court	3.5	A	3.3	A	70.4	F	21.9	C	14.2	B
430. RT 166 & Washington Street	4.9	A	7.1	A		-	25.3	C	8.9	A
371. RT 166 & S Main Street	14.1	B		-	53.9	F		-	19.3	C
402. Herflicker Blvd & Adafree Avenue		-	3.8	A	0.7	A	0.2	A	2.9	A
400. Herflicker Blvd & Irons Street	0.7	A	3.7	A	35.9	E		-	7.0	A
410. Herflicker Blvd & S Main Street	96.7	F		-	15.2	B	95.8	F	35.9	D

Note: Hatched cells indicate approach does not exist or zero volume

TRAVEL TIME COMPARISONS

Travel Time Road	Direction	Segment	Distance	Travel Times (minutes)		% Diff.
				No Build	Build No-Mit	SimTraffic
Water Street	Eastbound	Total (minutes)	3.0	3.4	5.6	67%
	Westbound	Total (minutes)	3.0	4.8	11.4	139%

Downtown Toms River Concept Development

2045 Build No-Mit PM Peak SimTraffic Results

Intersection	RT 166				Water Street				ALL	
	NB		SB		EB		WB		Delay (sec/veh)	LOS
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
001. Lakehurst Road & GSP SB Ramps	22.3	C		-	83.0	F	22.3	C	50.6	D
390. Water Street & Highland Parkway	295.0	F	39.2	D	126.3	F	44.7	D	99.1	F
018. Water Street & Adafree Avenue	313.3	F		-	70.8	F	6.1	A	44.0	E
380. Water Street & Irons Street		-	127.9	F	65.9	E	31.3	C	46.9	D
370. Water Street & RT 166 (Main Street)	24.2	C	17.5	B	5.1	A	60.4	E	33.1	C
360. Water Street & Horner Street/Robbins Pkwy	75.2	E	51.3	D	17.8	B	118.4	F	68.8	E
350. Water Street & Hooper Avenue		-	57.6	E	6.8	A	56.4	E	33.5	C
340. Hooper Avenue & Washington Street	20.3	C	139.2	F	33.4	C	118.5	F	85.7	F
016. RT 166 & Lien Street	2.4	A	2.1	A	15.7	C		-	3.6	A
440. RT 166 & Irons Street/Legion Court	3.7	A	2.4	A	77.7	F	35.7	E	17.4	C
430. RT 166 & Washington Street	12.0	B	9.2	A		-	39.1	D	16.2	B
371. RT 166 & S Main Street	8.2	A		-	36.6	E		-	15.5	C
402. Herflicker Blvd & Adafre Avenue		-	2.7	A	0.7	A	0.3	A	2.0	A
400. Herflicker Blvd & Irons Street	0.8	A	5.7	A	62.0	E		-	8.8	A
410. Herflicker Blvd & S Main Street	129.5	F		-	34.1	C	83.1	F	50.8	D

Note: Hatched cells indicate approach does not exist or zero volume

TRAVEL TIME COMPARISONS

Travel Time Road	Direction	Segment	Distance	Travel Times (minutes)		% Diff.
				No Build	Build No-Mit	SimTraffic
Water Street	Eastbound	Total (minutes)	3.0	4.9	8.2	68%
	Westbound	Total (minutes)	3.0	4.7	7.2	52%

Alternatives Analysis
Alternative 2 (Loop Road)

Intersection						
Int Delay, s/veh	370.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘			↑↑		
Traffic Vol, veh/h	850	0	0	1297	0	0
Future Vol, veh/h	850	0	0	1297	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1012	0	0	1544	0	0

Major/Minor	Minor2	Major1		
Conflicting Flow All	772	-	-	0
Stage 1	0	-	-	-
Stage 2	772	-	-	-
Critical Hdwy	6.84	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	-	-	-
Pot Cap-1 Maneuver	~ 336	0	0	-
Stage 1	-	0	0	-
Stage 2	~ 416	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 336	-	-	-
Mov Cap-2 Maneuver	~ 336	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 416	-	-	-

Approach	EB	NB
HCM Control Delay, s	\$ 936.7	0
HCM LOS	F	

Minor Lane/Major Mvmt	NBT	EBLn1
Capacity (veh/h)	-	336
HCM Lane V/C Ratio	-	3.012
HCM Control Delay (s)	-	\$ 936.7
HCM Lane LOS	-	F
HCM 95th %tile Q(veh)	-	88.8

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

Intersection

Int Delay, s/veh 126.5

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations	↘			↑↑		
Traffic Vol, veh/h	698	0	0	891	0	0
Future Vol, veh/h	698	0	0	891	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	350	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	784	0	0	1001	0	0

Major/Minor Minor2 Major1

Conflicting Flow All	501	-	-	0
Stage 1	0	-	-	-
Stage 2	501	-	-	-
Critical Hdwy	6.84	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-
Follow-up Hdwy	3.52	-	-	-
Pot Cap-1 Maneuver	~ 499	0	0	-
Stage 1	-	0	0	-
Stage 2	~ 574	0	0	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	~ 499	-	-	-
Mov Cap-2 Maneuver	~ 499	-	-	-
Stage 1	-	-	-	-
Stage 2	~ 574	-	-	-

Approach EB NB

HCM Control Delay, s	288	0
HCM LOS	F	

Minor Lane/Major Mvmt NBT EBLn1

Capacity (veh/h)	-	499
HCM Lane V/C Ratio	-	1.572
HCM Control Delay (s)	-	288
HCM Lane LOS	-	F
HCM 95th %tile Q(veh)	-	42.6

Notes

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

Lanes, Volumes, Timings
371: RT 166 #1 & S Main St

09/15/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	863	0	0	1537	0	0
Future Volume (vph)	863	0	0	1537	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	350			0
Storage Lanes	0	0	1			0
Taper Length (ft)	50		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	1770	0	0	3539	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	1770	0	0	3539	0	0
Right Turn on Red	Yes	Yes				Yes
Satd. Flow (RTOR)	10					
Link Speed (mph)	30			35	35	
Link Distance (ft)	232			664	339	
Travel Time (s)	5.3			12.9	6.6	
Lane Group Flow (vph)	1027	0	0	1830	0	0
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	7.0			15.0		
Minimum Split (s)	12.0			21.0		
Total Split (s)	22.0			38.0		
Total Split (%)	36.7%			63.3%		
Yellow Time (s)	3.0			4.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	5.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None			C-Max		
Act Effct Green (s)	17.0			32.0		
Actuated g/C Ratio	0.28			0.53		
v/c Ratio	2.02			0.97		
Control Delay	486.0			30.2		
Queue Delay	0.0			4.1		
Total Delay	486.0			34.4		
LOS	F			C		
Approach Delay	486.0			34.4		
Approach LOS	F			C		
Queue Length 50th (ft)	~1248			304		
Queue Length 95th (ft)	#1382			#430		
Internal Link Dist (ft)	152			584	259	
Turn Bay Length (ft)	140					
Base Capacity (vph)	508			1887		

Lanes, Volumes, Timings
 371: RT 166 #1 & S Main St

09/15/2020

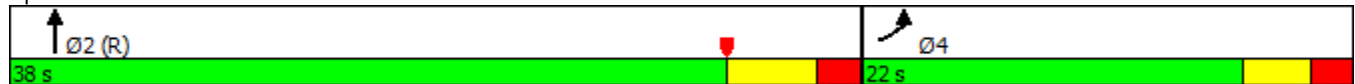


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Starvation Cap Reductn	3			0		
Spillback Cap Reductn	0			48		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	2.03			1.00		

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT, Start of Yellow
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.02
 Intersection Signal Delay: 196.7 Intersection LOS: F
 Intersection Capacity Utilization 99.5% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 371: RT 166 #1 & S Main St



Lanes, Volumes, Timings
371: RT 166 #1 & S Main St

09/15/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔↔			↑↑		
Traffic Volume (vph)	863	0	0	1537	0	0
Future Volume (vph)	863	0	0	1537	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140	0	350			0
Storage Lanes	1	0	1			0
Taper Length (ft)	50		100			
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00
Frt						
Flt Protected	0.950					
Satd. Flow (prot)	3433	0	0	3539	0	0
Flt Permitted	0.950					
Satd. Flow (perm)	3433	0	0	3539	0	0
Right Turn on Red	Yes	Yes				Yes
Satd. Flow (RTOR)	19					
Link Speed (mph)	30			35	35	
Link Distance (ft)	232			664	339	
Travel Time (s)	5.3			12.9	6.6	
Lane Group Flow (vph)	1027	0	0	1830	0	0
Turn Type	Prot			NA		
Protected Phases	4			2		
Permitted Phases						
Detector Phase	4			2		
Switch Phase						
Minimum Initial (s)	7.0			15.0		
Minimum Split (s)	12.0			21.0		
Total Split (s)	22.0			38.0		
Total Split (%)	36.7%			63.3%		
Yellow Time (s)	3.0			4.0		
All-Red Time (s)	2.0			2.0		
Lost Time Adjust (s)	0.0			0.0		
Total Lost Time (s)	5.0			6.0		
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None			C-Max		
Act Effct Green (s)	17.0			32.0		
Actuated g/C Ratio	0.28			0.53		
v/c Ratio	1.04			0.97		
Control Delay	59.7			30.2		
Queue Delay	23.0			4.1		
Total Delay	82.7			34.4		
LOS	F			C		
Approach Delay	82.7			34.4		
Approach LOS	F			C		
Queue Length 50th (ft)	~279			304		
Queue Length 95th (ft)	#301			#430		
Internal Link Dist (ft)	152			584	259	
Turn Bay Length (ft)	140					
Base Capacity (vph)	986			1887		

Lanes, Volumes, Timings
 371: RT 166 #1 & S Main St

09/15/2020



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Starvation Cap Reductn	99			0		
Spillback Cap Reductn	0			48		
Storage Cap Reductn	0			0		
Reduced v/c Ratio	1.16			1.00		

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 51.7
 Intersection LOS: D
 Intersection Capacity Utilization 76.3%
 ICU Level of Service D
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 371: RT 166 #1 & S Main St



Alternatives Analysis

Alternative 3 (Intersection Improvements)

MOVEMENT SUMMARY

Site: [HYB+RT+Bypass - HCM - 2045 - AM - 180]

Site Category: -
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: GSP Ramps												
3	L2	306	2.0	0.812	30.8	LOS D	8.9	225.0	0.89	1.32	2.27	24.8
8	T1	112	2.0	0.812	30.8	LOS D	8.9	225.0	0.89	1.32	2.27	24.7
18	R2	576	2.0	0.812	28.6	LOS D	9.3	235.9	0.89	1.32	2.27	25.1
18b	R3	43	2.0	0.812	28.3	LOS D	9.3	235.9	0.89	1.32	2.27	25.0
Approach		1037	2.0	0.812	29.5	LOS D	9.3	235.9	0.89	1.32	2.27	25.0
SouthEast: Highland Pkwy												
3bx	L3	25	2.0	0.217	15.4	LOS C	0.7	17.3	0.81	0.81	0.82	30.1
3ax	L1	17	2.0	0.217	15.4	LOS C	0.7	17.3	0.81	0.81	0.82	29.3
18ax	R1	17	2.0	0.217	15.4	LOS C	0.7	17.3	0.81	0.81	0.82	29.2
18bx	R3	11	2.0	0.217	15.4	LOS C	0.7	17.3	0.81	0.81	0.82	28.3
Approach		69	2.0	0.217	15.4	LOS C	0.7	17.3	0.81	0.81	0.82	29.4
East: Water St												
1b	L3	38	2.0	0.494	10.9	LOS B	3.3	83.3	0.69	0.79	0.96	32.1
1	L2	202	2.0	0.494	10.9	LOS B	3.3	83.3	0.69	0.79	0.96	31.7
6	T1	551	2.0	0.494	10.9	LOS B	3.3	83.3	0.69	0.79	0.96	32.6
16	R2	36	2.0	0.494	10.9	LOS B	3.3	83.3	0.69	0.79	0.96	32.0
Approach		826	2.0	0.494	10.9	LOS B	3.3	83.3	0.69	0.79	0.96	32.3
North: Highland Pkwy												
7	L2	8	2.0	0.098	8.2	LOS A	0.3	8.2	0.65	0.65	0.65	33.2
7a	L1	17	2.0	0.098	8.2	LOS A	0.3	8.2	0.65	0.65	0.65	32.8
4	T1	8	2.0	0.098	8.2	LOS A	0.3	8.2	0.65	0.65	0.65	33.0
14	R2	80	2.0	0.098	7.0	LOS A	0.3	8.4	0.60	0.60	0.60	33.3
Approach		114	2.0	0.098	7.4	LOS A	0.3	8.4	0.62	0.62	0.62	33.2
West: Water St/Lakehurst Rd												
5	L2	73	2.0	0.367	7.2	LOS A	1.8	46.9	0.50	0.40	0.50	34.6
2	T1	620	2.0	0.367	7.2	LOS A	1.8	46.9	0.50	0.40	0.50	34.6
12a	R1	82	2.0	0.367	7.2	LOS A	1.8	46.9	0.50	0.40	0.50	34.6
12	R2	39	2.0	0.035	3.5	LOS A	0.1	3.3	0.33	0.19	0.33	35.5
Approach		814	2.0	0.367	7.0	LOS A	1.8	46.9	0.49	0.39	0.49	34.7
All Vehicles		2860	2.0	0.812	16.5	LOS C	9.3	235.9	0.71	0.86	1.28	29.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [HYB+RT+Bypass - SS105 - 2045 - AM - 180]

Site Category: -
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: GSP Ramps												
3	L2	306	2.0	0.608	15.5	LOS B	4.2	106.6	0.78	0.99	1.00	33.9
8	T1	112	2.0	0.608	8.7	LOS A	4.2	106.6	0.78	0.99	1.00	33.7
18	R2	576	2.0	0.608	8.2	LOS A	4.4	112.4	0.78	0.95	0.97	34.6
18b	R3	43	2.0	0.608	8.1	LOS A	4.4	112.4	0.78	0.94	0.97	34.2
Approach		1037	2.0	0.608	10.4	LOS B	4.4	112.4	0.78	0.96	0.98	34.3
SouthEast: Highland Pkwy												
3bx	L3	25	2.0	0.138	16.8	LOS B	0.6	15.5	0.75	0.90	0.75	34.6
3ax	L1	17	2.0	0.138	14.1	LOS B	0.6	15.5	0.75	0.90	0.75	33.6
18ax	R1	17	2.0	0.138	8.2	LOS A	0.6	15.5	0.75	0.90	0.75	33.5
18bx	R3	11	2.0	0.138	9.0	LOS A	0.6	15.5	0.75	0.90	0.75	32.2
Approach		69	2.0	0.138	12.9	LOS B	0.6	15.5	0.75	0.90	0.75	33.7
East: Water St												
1b	L3	38	2.0	0.407	15.1	LOS B	3.0	75.3	0.78	0.79	0.78	35.1
1	L2	202	2.0	0.407	13.7	LOS B	3.0	75.3	0.78	0.79	0.78	34.6
6	T1	551	2.0	0.407	6.1	LOS A	3.3	83.2	0.77	0.64	0.77	35.7
16	R2	36	2.0	0.407	6.3	LOS A	3.3	83.2	0.77	0.60	0.77	34.8
Approach		826	2.0	0.407	8.4	LOS A	3.3	83.2	0.77	0.68	0.77	35.4
North: Highland Pkwy												
7	L2	8	2.0	0.067	12.9	LOS B	0.3	8.2	0.68	0.75	0.68	35.8
7a	L1	17	2.0	0.067	11.5	LOS B	0.3	8.2	0.68	0.75	0.68	35.3
4	T1	8	2.0	0.067	6.0	LOS A	0.3	8.2	0.68	0.75	0.68	35.5
14	R2	80	2.0	0.067	5.7	LOS A	0.3	8.2	0.60	0.68	0.60	35.4
Approach		114	2.0	0.067	7.1	LOS A	0.3	8.2	0.63	0.70	0.63	35.4
West: Water St/Lakehurst Rd												
5	L2	73	2.0	0.309	11.8	LOS B	2.1	53.0	0.56	0.54	0.56	36.6
2	T1	620	2.0	0.309	4.8	LOS A	2.2	56.2	0.55	0.49	0.55	36.6
12a	R1	82	2.0	0.309	4.1	LOS A	2.2	56.2	0.54	0.45	0.54	36.6
12	R2	39	2.0	0.027	4.2	LOS A	0.2	4.0	0.40	0.45	0.40	36.4
Approach		814	2.0	0.309	5.3	LOS A	2.2	56.2	0.54	0.49	0.54	36.6
All Vehicles		2860	2.0	0.608	8.3	LOS A	4.4	112.4	0.70	0.74	0.78	35.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [HYB+RT+Bypass - HCM - 2045 - PM - 180]

Site Category: -
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: GSP Ramps												
3	L2	213	2.0	0.684	29.5	LOS D	4.1	102.9	0.87	1.11	1.73	25.0
8	T1	38	2.0	0.684	29.5	LOS D	4.1	102.9	0.87	1.11	1.73	24.9
18	R2	332	2.0	0.684	26.5	LOS D	4.2	106.8	0.86	1.10	1.72	25.8
18b	R3	14	2.0	0.684	26.3	LOS D	4.2	106.8	0.86	1.10	1.72	25.6
Approach		597	2.0	0.684	27.8	LOS D	4.2	106.8	0.86	1.10	1.72	25.4
SouthEast: Highland Pkwy												
3bx	L3	29	2.0	0.294	15.9	LOS C	1.0	25.7	0.81	0.85	0.96	30.3
3ax	L1	20	2.0	0.294	15.9	LOS C	1.0	25.7	0.81	0.85	0.96	29.4
18ax	R1	33	2.0	0.294	15.9	LOS C	1.0	25.7	0.81	0.85	0.96	29.3
18bx	R3	22	2.0	0.294	15.9	LOS C	1.0	25.7	0.81	0.85	0.96	28.4
Approach		103	2.0	0.294	15.9	LOS C	1.0	25.7	0.81	0.85	0.96	29.4
East: Water St												
1b	L3	20	2.0	0.687	15.8	LOS C	8.1	205.7	0.80	1.06	1.48	30.3
1	L2	297	2.0	0.687	15.8	LOS C	8.1	205.7	0.80	1.06	1.48	29.9
6	T1	845	2.0	0.687	15.8	LOS C	8.1	205.7	0.80	1.06	1.48	30.5
16	R2	66	2.0	0.687	15.8	LOS C	8.1	205.7	0.80	1.06	1.48	30.0
Approach		1227	2.0	0.687	15.8	LOS C	8.1	205.7	0.80	1.06	1.48	30.3
North: Highland Pkwy												
7	L2	12	2.0	0.365	15.7	LOS C	1.4	35.5	0.79	0.86	1.05	29.6
7a	L1	96	2.0	0.365	15.7	LOS C	1.4	35.5	0.79	0.86	1.05	29.3
4	T1	22	2.0	0.365	15.7	LOS C	1.4	35.5	0.79	0.86	1.05	29.4
14	R2	213	2.0	0.365	12.8	LOS B	1.5	38.2	0.72	0.78	0.94	30.8
Approach		342	2.0	0.365	13.9	LOS B	1.5	38.2	0.75	0.81	0.98	30.2
West: Water St/Lakehurst Rd												
5	L2	146	2.0	0.633	13.8	LOS B	6.4	162.4	0.76	0.96	1.28	31.3
2	T1	847	2.0	0.633	13.8	LOS B	6.4	162.4	0.76	0.96	1.28	31.4
12a	R1	141	2.0	0.633	13.8	LOS B	6.4	162.4	0.76	0.96	1.28	31.5
12	R2	13	2.0	0.013	3.7	LOS A	0.0	1.2	0.40	0.24	0.40	35.4
Approach		1147	2.0	0.633	13.7	LOS B	6.4	162.4	0.75	0.95	1.27	31.4
All Vehicles		3416	2.0	0.687	17.0	LOS C	8.1	205.7	0.79	1.00	1.39	29.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [HYB+RT+Bypass - SS105 - 2045 - PM - 180]

Site Category: -
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: GSP Ramps												
3	L2	213	2.0	0.487	16.6	LOS B	2.9	72.9	0.83	0.99	1.00	32.9
8	T1	38	2.0	0.487	9.8	LOS A	2.9	72.9	0.83	0.99	1.00	32.7
18	R2	332	2.0	0.487	8.8	LOS A	3.2	80.5	0.85	0.96	0.99	34.4
18b	R3	14	2.0	0.487	8.8	LOS A	3.2	80.5	0.85	0.96	0.99	33.9
Approach		597	2.0	0.487	11.6	LOS B	3.2	80.5	0.84	0.98	1.00	33.7
SouthEast: Highland Pkwy												
3bx	L3	29	2.0	0.199	16.6	LOS B	0.9	22.5	0.75	0.89	0.75	35.3
3ax	L1	20	2.0	0.199	13.9	LOS B	0.9	22.5	0.75	0.89	0.75	34.2
18ax	R1	33	2.0	0.199	7.9	LOS A	0.9	22.5	0.75	0.89	0.75	34.0
18bx	R3	22	2.0	0.199	8.7	LOS A	0.9	22.5	0.75	0.89	0.75	32.7
Approach		103	2.0	0.199	11.7	LOS B	0.9	22.5	0.75	0.89	0.75	34.1
East: Water St												
1b	L3	20	2.0	0.556	15.9	LOS B	4.9	125.6	0.79	0.85	0.88	35.1
1	L2	297	2.0	0.556	14.6	LOS B	4.9	125.6	0.79	0.85	0.88	34.6
6	T1	845	2.0	0.556	6.6	LOS A	5.1	129.1	0.78	0.71	0.83	35.6
16	R2	66	2.0	0.556	6.6	LOS A	5.1	129.1	0.77	0.65	0.81	34.8
Approach		1227	2.0	0.556	8.7	LOS A	5.1	129.1	0.78	0.74	0.84	35.3
North: Highland Pkwy												
7	L2	12	2.0	0.235	13.7	LOS B	1.2	31.5	0.79	0.88	0.79	34.9
7a	L1	96	2.0	0.235	12.4	LOS B	1.2	31.5	0.79	0.88	0.79	34.4
4	T1	22	2.0	0.235	6.8	LOS A	1.2	31.5	0.79	0.88	0.79	34.7
14	R2	213	2.0	0.235	6.4	LOS A	1.2	31.5	0.72	0.77	0.72	35.2
Approach		342	2.0	0.235	8.4	LOS A	1.2	31.5	0.75	0.81	0.75	34.9
West: Water St/Lakehurst Rd												
5	L2	146	2.0	0.518	14.0	LOS B	4.3	109.9	0.78	0.77	0.83	35.5
2	T1	847	2.0	0.518	6.5	LOS A	4.4	112.4	0.77	0.67	0.80	35.7
12a	R1	141	2.0	0.518	5.5	LOS A	4.4	112.4	0.76	0.59	0.77	35.7
12	R2	13	2.0	0.010	4.5	LOS A	0.1	1.5	0.48	0.46	0.48	36.1
Approach		1147	2.0	0.518	7.3	LOS A	4.4	112.4	0.77	0.67	0.79	35.7
All Vehicles		3416	2.0	0.556	8.8	LOS A	5.1	129.1	0.78	0.77	0.84	35.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Signalised Intersections.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: SIDRA Standard.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Downtown Toms River Concept Development

2045 Build Alt 3 AM Peak SimTraffic Results

Intersection	RT 166				Water Street				ALL	
	NB		SB		EB		WB		Delay (sec/veh)	LOS
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
001. Lakehurst Road & GSP SB Ramps	16.8	B		-	9.3	A	10.6	B	11.2	B
390. Water Street & Highland Parkway	63.5	E	20.3	C	25.6	C	24.3	C	32.5	C
018. Water Street & Adafree Avenue	77.0	F		-	17.6	C	5.8	A	13.3	B
380. Water Street & Irons Street		-	2.0	A	33.2	C	22.5	C	25.9	C
370. Water Street & RT 166 (Main Street)	21.0	C	1.4	A	33.6	C	23.4	C	22.2	C
360. Water Street & Horner Street/Robbins Pkwy	45.4	D	26.4	C	21.6	C	17.7	B	20.8	C
350. Water Street & Hooper Avenue		-	8.8	A	11.1	B	34.2	C	13.4	B
340. Hooper Avenue & Washington Street	13.3	B	10.3	B	19.3	B	23.8	C	15.9	B
016. RT 166 & Lien Street	1.6	A	2.4	A	18.2	C		-	4.5	A
440. RT 166 & Irons Street/Legion Court	3.9	A	4.1	A	102.8	F	26.0	D	20.2	C
430. RT 166 & Washington Street	6.6	A	8.1	A		-	25.8	C	10.6	B
371. RT 166 & S Main Street	14.9	B		-	73.8	F		-	22.5	C
402. Herflicker Blvd & Adafre Avenue		-	4.5	A	0.4	A	0.3	A	1.9	A
400. Herflicker Blvd & Irons Street	0.5	A	3.9	A	44.6	E		-	13.9	B
410. Herflicker Blvd & S Main Street	96.0	F		-	8.4	A		-	24.4	C

Note: Hatched cells indicate approach does not exist or zero volume

TRAVEL TIME COMPARISONS

Travel Time Road	Direction	Segment	Distance	Travel Times (minutes)		% Diff.
				Build No-Mid	Build Alt 3	SimTraffic
Water Street	Eastbound	Total (minutes)	3.0	5.6	3.8	-32%
	Westbound	Total (minutes)	3.0	11.4	3.8	-67%

Downtown Toms River Concept Development

2045 Build Alt 3 PM Peak SimTraffic Results

Intersection	RT 166				Water Street				ALL	
	NB		SB		EB		WB		Delay (sec/veh)	LOS
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS		
018. Water Street & Adafree Avenue	101.6	F		-	11.4	B	8.0	A	11.8	B
380. Water Street & Irons Street		-	13.2	B	49.0	D	20.7	C	27.1	C
370. Water Street & RT 166 (Main Street)	29.0	C	7.1	A	36.7	D	39.6	D	30.0	C
360. Water Street & Horner Street/Robbins Pkwy	77.9	E	63.5	E	42.2	D	32.4	C	39.1	D
350. Water Street & Hooper Avenue		-	27.1	C	10.4	B	32.7	C	20.8	C
340. Hooper Avenue & Washington Street	21.9	C	18.2	B	31.1	C	31.5	C	24.8	C
016. RT 166 & Lien Street	2.1	A	1.9	A	16.6	C		-	3.3	A
440. RT 166 & Irons Street/Legion Court	4.1	A	2.5	A	72.7	F	107.6	F	23.4	C
430. RT 166 & Washington Street	14.7	B	8.9	A		-	38.1	D	17.1	B
371. RT 166 & S Main Street	8.8	A		-	39.0	E		-	16.7	C
402. Herflicker Blvd & Adafree Avenue		-	3.6	A	0.5	A	0.2	A	1.6	A
400. Herflicker Blvd & Irons Street	1.4	A	6.6	A	49.2	D		-	14.1	B
410. Herflicker Blvd & S Main Street	124.5	F		-	14.4	B		-	31.6	C

Note: Hatched cells indicate approach does not exist or zero volume

TRAVEL TIME COMPARISONS

Travel Time Road	Direction	Segment	Distance	Travel Times (minutes)		% Diff.
				Build No-Mit	Alt 3	SimTraffic
Water Street	Eastbound	Total (minutes)	3.0	8.2	4.5	-45%
	Westbound	Total (minutes)	3.0	7.2	4.5	-38%

Appendix E – Crash Data and Analysis

Crash ID	Year	County	Municipaliy	Police Department	Occurrence	DOW	Time	Total Fatal	Total Injury	Crash Severity	Crash Type	Location	Travel Direction	MP	Road System	Road Condition	Light Condition	Weather	Speed Limit
1	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/25/2016	Sunday	10:38	1	0	Killed	Pedestrian	HIGHLAND PKWY		0.75	County	Wet	Daylight	Clear	0
2	2017	OCEAN	TOMS RIVER TWP	FREEHOLD TWP PD	3/17/2017	Friday	08:06	0	0	Property Damage Only	Non-fixed Object	ROUTE 527	North	0.49	County	Dry	Daylight	Clear	50
3	2018	OCEAN	TOMS RIVER TWP	NEW JERSEY STATE POLICE	8/10/2018	Friday	16:39	0	0	Property Damage Only	Same Direction - Rear End	HIGHLAND PK	South	0	Municipal	Dry	Daylight	Clear	35
4	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/3/2017	Sunday	08:30	0	1	Complaint of Pain	Right Angle	ROUTE 527		0	County	Dry	Daylight	Overcast	30
5	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/10/2017	Wednesday	17:45	0	2	Complaint of Pain	Right Angle	HIGHLAND PKWY		0.58	Municipal	Dry	Daylight	Clear	40
6	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/31/2016	Wednesday	06:46	0	1	Complaint of Pain	Right Angle	HIGHLAND PARKWAY	North	0	Municipal	Dry	Daylight	Clear	35
7	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/15/2016	Tuesday	17:16	0	4	Complaint of Pain	Right Angle	ROUTE 527		0	County	Dry	Dark -street lights on	Overcast	30
8	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/10/2016	Saturday	11:18	0	0	Property Damage Only	Right Angle	HIGHLAND PARKWAY		0	County	Dry	Daylight	Clear	35
9	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/24/2017	Tuesday	09:30	0	0	Property Damage Only	Right Angle	ROUTE 527		0	County	Wet	Daylight	Clear	30
10	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/29/2016	Wednesday	09:48	0	1	Complaint of Pain	Right Angle	WEST WATER ST		0	Municipal	Dry	Daylight	Clear	35
11	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/9/2016	Monday	10:43	0	0	Property Damage Only	Same Direction - Sideswipe	HIGHLAND PARKWAY	North	0	Municipal	Dry	Daylight	Clear	35
12	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/14/2017	Tuesday	14:46	0	0	Property Damage Only	Right Angle	W WATER ST		0	County	Dry	Daylight	Clear	25
13	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/1/2016	Friday	14:43	0	1	Complaint of Pain	Right Angle	W WATER ST	East	0	Municipal	Dry	Daylight	Clear	30
14	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/29/2017	Wednesday	19:57	0	0	Property Damage Only	Same Direction - Sideswipe	WATER ST	West	0	County	Dry	Dark -street lights on	Clear	30
15	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/23/2016	Friday	16:39	0	0	Property Damage Only	Same Direction - Rear End	HIGHLAND PKWY	North	0	Municipal	Dry	Daylight	Clear	0
16	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/16/2016	Saturday	19:34	0	0	Property Damage Only	Right Angle	HIGHLAND PKWY	East	0	County	Wet	Daylight	Rain	35
17	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/24/2016	Saturday	14:21	0	0	Property Damage Only	Same Direction - Rear End	HIGHLAND PARKWAY	South	0	Municipal	Dry	Daylight	Clear	35
18	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/15/2017	Tuesday	14:36	0	0	Property Damage Only	Same Direction - Sideswipe	HIGHLAND PKWY	North	0	County	Wet	Daylight	Rain	40
19	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/20/2017	Monday	13:25	0	0	Property Damage Only	Right Angle	WATER ST	East	0	Municipal	Dry	Daylight	Clear	35
20	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/26/2016	Wednesday	19:24	0	0	Property Damage Only	Same Direction - Sideswipe	HIGHLAND PKWY	North	0.58	Municipal	Dry	Dark -street lights on	Clear	40
21	2016	OCEAN	TOMS RIVER TWP	NEW JERSEY STATE POLICE	4/2/2016	Saturday	09:09	0	1	Moderate Injury	Fixed Object	ROUTE 527	East	0.4	County	Wet	Daylight	Rain	45
22	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/15/2017	Thursday	07:59	0	0	Property Damage Only	Encroachment	HIGHLAND PKWY		0.58	County	Dry	Daylight	Clear	35
23	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/21/2018	Wednesday	13:12	0	0	Property Damage Only	Same Direction - Rear End	HIGHLAND PKWY	North	0.58	County	Dry	Daylight	Clear	40
24	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/6/2018	Thursday	11:56	0	0	Property Damage Only	Right Angle	HIGHLAND PKWY		0.58	County	Dry	Daylight	Clear	30
25	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/19/2018	Friday	18:50	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	South	0.39	County	Dry	Dark -street lights on	Clear	40
26	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/21/2016	Thursday	16:19	0	0	Property Damage Only	Fixed Object	ROUTE 527	West	0.32	County	Dry	Daylight	Clear	30
27	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/6/2018	Tuesday	17:17	0	1	Complaint of Pain	Same Direction - Rear End	ROUTE 527	West	0.31	County	Wet	Dark -street lights on	Rain	35
28	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/11/2018	Wednesday	22:14	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.31	County	Dry	Dark -street lights on	Clear	35
29	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/9/2016	Monday	05:58	0	0	Property Damage Only	Fixed Object	ROUTE 527	North	0.3	County	Dry	Dawn	Clear	30
30	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/18/2018	Wednesday	15:27	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 549	South	0	County	Dry	Daylight	Clear	30
31	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/16/2017	Tuesday	08:30	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.29	County	Dry	Daylight	Clear	30
32	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/19/2016	Saturday	12:07	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.29	County	Dry	Daylight	Overcast	30
33	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/6/2016	Saturday	20:00	0	0	Property Damage Only	Fixed Object	ROUTE 527		0.29	County	Wet	Daylight	Rain	30
34	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/21/2016	Wednesday	11:35	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0.29	County	Dry	Daylight	Clear	45
35	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/27/2018	Tuesday	16:49	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.29	County	Dry	Daylight	Clear	35
36	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/27/2017	Friday	18:27	0	1	Complaint of Pain	Left Turn/U Turn	ROUTE 527		0.29	County	Dry	Dark -street lights on	Clear	30
37	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/28/2017	Thursday	18:03	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 527		0.29	County	Dry	Dark -street lights on	Clear	25
38	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/29/2017	Wednesday	16:11	0	3	Moderate Injury	Left Turn/U Turn	ROUTE 527		0.29	County	Dry	Daylight	Clear	30
39	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/2/2017	Thursday	17:50	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.29	County	Dry	Dark -street lights on	Clear	30
40	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/12/2017	Friday	08:35	0	1	Complaint of Pain	Same Direction - Rear End	ROUTE 527		0.29	County	Dry	Daylight	Clear	30
41	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/21/2017	Thursday	13:02	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.29	County	Dry	Daylight	Clear	30
42	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/27/2017	Friday	15:20	0	1	Complaint of Pain	Same Direction - Rear End	ROUTE 527		0.29	County	Dry	Daylight	Overcast	35
43	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/11/2018	Friday	07:51	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0.29	County	Dry	Daylight	Clear	25
44	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/27/2017	Thursday	16:57	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0.29	County	Dry	Daylight	Clear	25
45	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/15/2016	Friday	12:14	0	0	Property Damage Only	Same Direction - Rear End	LIEN ST	South	0	Municipal	Dry	Daylight	Clear	25
46	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/30/2017	Saturday	10:02	0	0	Property Damage Only	Fixed Object	LIEN ST	North	0	Private Property	Snowy	Daylight	Snow	25
47	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/30/2016	Friday	08:36	0	0	Property Damage Only	Opposite Direction -Head On	LIEN STREET		0	Municipal	Wet	Daylight	Rain	25
48	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/3/2016	Saturday	13:31	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0.28	County	Dry	Daylight	Clear	30
49	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/26/2017	Tuesday	08:05	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0.23	County	Wet	Daylight	Fog/Smog/Smoke	30
50	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/21/2016	Thursday	21:54	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0.2	County	Dry	Dark -street lights on	Clear	30
51	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/26/2016	Tuesday	09:50	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.2	County	Wet	Daylight	Clear	30

52	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/18/2016	Saturday	11:24	0	0	Property Damage Only	Right Angle	ROUTE 527		0.2	County	Dry	Daylight	Clear	35
53	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/9/2017	Wednesday	07:58	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0.2	County	Dry	Daylight	Clear	30
54	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/1/2018	Monday	12:07	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 527		0.2	County	Dry	Daylight	Overcast	30
55	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/5/2018	Tuesday	12:28	0	0	Property Damage Only	Struck Parked Vehicle	ADAFRE AVE		0	Municipal	Dry	Daylight	Clear	25
56	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/3/2016	Thursday	08:25	0	1	Moderate Injury	Same Direction - Rear End	ROUTE 527	East	0.19	County	Dry	Daylight	Clear	25
57	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/20/2017	Monday	15:29	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.17	County	Dry	Daylight	Clear	30
58	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/20/2018	Friday	17:05	0	0	Property Damage Only	Same Direction - Rear End	HERFLICKER BLVD	East	0	Municipal	Dry	Daylight	Clear	35
59	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/22/2017	Friday	16:31	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 166 Z		0.19	County	Dry	Dark -street lights on	Overcast	35
60	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/21/2017	Friday	18:06	0	1	Complaint of Pain	Same Direction - Rear End	HERFLICKER BLVD		0	Municipal	Dry	Daylight	Clear	35
61	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/2/2017	Thursday	17:00	0	0	Property Damage Only	Same Direction - Rear End	HERFLICKER BLVD	East	0	Municipal	Dry	Daylight	Clear	25
62	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/28/2017	Thursday	00:16	0	0	Property Damage Only	Same Direction - Sideswipe	HERFLICKER BLVD	East	0	Municipal	Dry	Dark -street lights on	Clear	25
63	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/30/2017	Sunday	15:42	0	0	Property Damage Only	Same Direction - Sideswipe	HERFLICKER BLVD	East	0	Municipal	Dry	Daylight	Clear	25
64	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/14/2018	Friday	11:17	0	0	Property Damage Only	Same Direction - Rear End	IRONS ST	South	0	Municipal	Dry	Daylight	Overcast	25
65	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/6/2018	Tuesday	21:20	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.15	County	Dry	Dark -street lights on	Clear	30
66	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/10/2016	Monday	16:16	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0.14	County	Dry	Daylight	Clear	30
67	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/30/2018	Friday	09:02	0	1	Complaint of Pain	Same Direction - Rear End	ROUTE 527		0.13	County	Dry	Daylight	Clear	30
68	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/12/2017	Sunday	13:11	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	West	0.12	County	Dry	Daylight	Clear	35
69	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/20/2016	Wednesday	17:06	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0.12	County	Dry	Dark -no street lights)	Clear	30
70	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/29/2018	Tuesday	09:08	0	1	Complaint of Pain	Same Direction - Rear End	ROUTE 527		0.12	County	Dry	Daylight	Overcast	30
71	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/19/2017	Tuesday	22:11	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Wet	Dark -street lights on	Rain	25
72	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/8/2017	Wednesday	23:19	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	South	0.11	County	Dry	Dark -street lights on	Clear	25
73	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/23/2017	Wednesday	21:47	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Dark -street lights on	Clear	30
74	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/23/2016	Friday	13:10	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	35
75	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/27/2017	Monday	08:53	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 166 Z		0.11	County	Dry	Daylight	Clear	25
76	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/15/2016	Wednesday	13:46	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 527		0.11	County	Dry	Daylight	Clear	35
77	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/15/2016	Tuesday	19:28	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	West	0.11	County	Dry	Dark -street lights on	Clear	30
78	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/11/2017	Tuesday	21:12	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	West	0.11	County	Dry	Dark -street lights on	Clear	30
79	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/24/2016	Monday	16:07	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 527		0.11	County	Dry	Daylight	Clear	30
80	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/26/2017	Sunday	20:01	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Wet	Dark -street lights on	Rain	30
81	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/15/2016	Saturday	10:44	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	40
82	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/17/2017	Friday	16:03	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0.11	County	Dry	Dusk	Clear	35
83	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/16/2017	Saturday	21:05	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Dark -street lights on	Clear	25
84	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/28/2016	Thursday	19:06	0	0	Property Damage Only	Backing	ROUTE 527	East	0.11	County	Dry	Dark -street lights on	Clear	30
85	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/27/2016	Wednesday	17:16	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Dusk	Clear	35
86	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/15/2016	Tuesday	08:42	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Wet	Daylight	Overcast	30
87	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/29/2018	Sunday	12:08	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	30
88	2017	OCEAN	TOMS RIVER TWP	TINTON FALLS PD	9/10/2017	Sunday	00:25	0	0	Property Damage Only	Backing	ROUTE 527	West	0.11	County	Dry	Dark -street lights on	Clear	30
89	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/23/2017	Sunday	02:01	0	1	Complaint of Pain	Same Direction - Rear End	ROUTE 527	West	0.11	County	Dry	Dark -street lights on	Clear	30
90	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/10/2017	Sunday	00:25	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	West	0.11	County	Dry	Dark -street lights on	Clear	30
91	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/14/2017	Saturday	00:56	0	1	Complaint of Pain	Left Turn/U Turn	ROUTE 527	West	0.11	County	Dry	Dark -street lights on	Clear	35
92	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/24/2017	Wednesday	17:47	0	1	Complaint of Pain	Left Turn/U Turn	ROUTE 527		0.11	County	Dry	Daylight	Clear	30
93	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/11/2017	Thursday	22:01	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	North	0.11	County	Dry	Dark -street lights on	Clear	25
94	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/28/2017	Monday	12:01	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Daylight	Clear	30
95	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/2/2017	Monday	12:58	0	1	Complaint of Pain	Same Direction - Rear End	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	35
96	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/19/2018	Friday	14:03	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527		0.11	County	Dry	Daylight	Clear	30
97	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/1/2016	Tuesday	10:20	0	0	Property Damage Only	Right Angle	WATER ST	East	0.07	Municipal	Dry	Daylight	Clear	35
98	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/21/2016	Saturday	21:40	0	0	Property Damage Only	Same Direction - Sideswipe	W WATER ST	West	0	Municipal	Dry	Dark -street lights on	Overcast	30
99	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/22/2018	Sunday	15:55	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0.11	County	Dry	Daylight	Clear	30
100	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/11/2018	Tuesday	19:03	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0.11	County	Dry	Dark -street lights on	Clear	30
101	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/18/2018	Tuesday	07:43	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527		0.11	County	Dry	Daylight	Clear	30
102	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/27/2018	Monday	06:53	0	0	Property Damage Only	Same Direction - Sideswipe	W WATER ST	West	0	Municipal	Dry	Daylight	Clear	25
103	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/17/2018	Wednesday	10:09	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	35
104	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/14/2018	Friday	10:58	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Overcast	30

105	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/14/2018	Monday	13:49	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	35
106	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/24/2018	Tuesday	12:25	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	35
107	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/14/2018	Wednesday	12:53	0	0	Property Damage Only	Right Angle	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	35
108	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/12/2018	Monday	09:45	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Daylight	Clear	25
109	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/21/2018	Saturday	18:37	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Daylight	Clear	30
110	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/19/2018	Monday	11:42	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Daylight	Clear	30
111	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/11/2018	Tuesday	09:08	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0.11	County	Dry	Daylight	Clear	35
112	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/15/2018	Monday	10:47	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527		0.11	County	Wet	Daylight	Rain	30
113	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/15/2018	Tuesday	00:21	0	0	Property Damage Only	Fixed Object	ROUTE 527	East	0.11	County	Dry	Dark -street lights on	Clear	25
114	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/30/2018	Friday	17:43	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Dusk	Clear	25
115	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/20/2018	Saturday	00:23	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Dark -street lights on	Clear	25
116	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/27/2018	Friday	13:23	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0.11	County	Dry	Daylight	Clear	35
117	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/16/2018	Friday	16:55	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Clear	25
118	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/15/2018	Monday	08:34	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	West	0.11	County	Dry	Daylight	Overcast	25
119	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/25/2016	Thursday	06:42	0	0	Property Damage Only	Fixed Object	W WATER ST	West	0	Municipal	Dry	Daylight	Clear	25
120	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/5/2018	Monday	16:48	0	1	Complaint of Pain	Same Direction - Sideswipe	IRONS ST		0.1	Municipal	Wet	Dusk	Rain	30
121	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/27/2017	Thursday	14:16	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 166 Z	South	0.09	County	Dry	Daylight	Clear	25
122	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/8/2018	Thursday	14:37	0	0	Property Damage Only	Fixed Object	36 W WATER ST		0	Private Property	Dry	Daylight	Clear	0
123	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/27/2017	Tuesday	14:33	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	South	1.13	State Highway	Dry	Daylight	Clear	25
124	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/12/2016	Tuesday	16:26	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	North	1.14	State Highway	Dry	Dusk	Clear	35
125	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/29/2016	Thursday	12:42	0	0	Property Damage Only	Same Direction - Sideswipe	NJ 166	North	1.14	State Highway	Wet	Daylight	Rain	35
126	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/24/2018	Tuesday	16:55	0	1	Moderate Injury	Fixed Object	NJ 166		1.14	State Highway	Dry	Daylight	Clear	35
127	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/4/2016	Friday	15:36	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	South	0	State Highway	Dry	Daylight	Clear	35
128	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/22/2016	Wednesday	10:53	0	2	Moderate Injury	Fixed Object	ROUTE 527		0	County	Dry	Daylight	Clear	30
129	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/17/2018	Thursday	13:19	0	0	Property Damage Only	Right Angle	ROUTE 527	East	0	County	Wet	Daylight	Rain	40
130	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/18/2018	Tuesday	09:57	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 527		0	County	Dry	Daylight	Clear	30
131	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/13/2018	Wednesday	10:14	0	0	Property Damage Only	Same Direction - Rear End	NJ 166		0	State Highway	Dry	Daylight	Clear	25
132	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/18/2016	Friday	15:32	0	0	Property Damage Only	Same Direction - Rear End	US 9	South	0	State Highway	Dry	Daylight	Clear	30
133	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/22/2016	Tuesday	07:06	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0	County	Dry	Daylight	Clear	35
134	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/9/2016	Friday	16:54	0	0	Property Damage Only	Struck Parked Vehicle	US 9	North	0	State Highway	Dry	Dark -street lights on	Clear	35
135	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/8/2018	Thursday	08:13	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0	County	Dry	Daylight	Clear	30
136	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/29/2018	Sunday	19:15	0	0	Property Damage Only	Same Direction - Sideswipe	US 9	North	0	State Highway	Dry	Daylight	Clear	40
137	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/10/2016	Monday	20:31	0	0	Property Damage Only	Encroachment	ROUTE 527		0	County	Dry	Dark -street lights on	Clear	30
138	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/12/2018	Friday	11:17	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0	County	Wet	Daylight	Rain	40
139	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/28/2016	Tuesday	16:51	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527		0	County	Dry	Daylight	Clear	35
140	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/12/2017	Monday	16:32	0	0	Property Damage Only	Same Direction - Rear End	WATER STREET	West	0	County	Dry	Daylight	Clear	30
141	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/11/2017	Wednesday	15:03	0	1	Complaint of Pain	Left Turn/U Turn	ROUTE 527	East	0	County	Dry	Daylight	Clear	35
142	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/20/2016	Saturday	21:55	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	North	1.15	State Highway	Dry	Dark -street lights on	Clear	35
143	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/27/2016	Sunday	17:02	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	North	1.15	State Highway	Dry	Dark -street lights on	Clear	35
144	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/25/2016	Monday	07:39	0	0	Property Damage Only	Right Angle	NJ 166		1.15	State Highway	Dry	Daylight	Clear	35
145	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/25/2016	Thursday	05:45	0	1	Complaint of Pain	Same Direction - Sideswipe	NJ 166	West	1.15	State Highway	Wet	Dawn	Clear	30
146	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/5/2016	Friday	13:36	0	1	Complaint of Pain	Right Angle	NJ 166	North	1.15	State Highway	Wet	Daylight	Clear	35
147	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/9/2016	Friday	20:17	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	South	1.15	State Highway	Dry	Dark -street lights on	Clear	35
148	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/20/2018	Monday	17:12	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	South	1.15	State Highway	Dry	Daylight	Clear	25
149	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/4/2017	Monday	17:13	0	0	Property Damage Only	Same Direction - Sideswipe	NJ 166	South	1.15	State Highway	Dry	Dark -street lights on	Clear	35
150	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/13/2017	Saturday	14:58	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	North	1.15	State Highway	Wet	Daylight	Rain	30
151	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/10/2018	Monday	09:22	0	0	Property Damage Only	Same Direction - Rear End	NJ 166		1.15	State Highway	Dry	Daylight	Clear	35
152	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/2/2018	Sunday	15:56	0	0	Property Damage Only	Right Angle	NJ 166	North	1.15	State Highway	Wet	Dusk	Overcast	35
153	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/3/2018	Thursday	15:01	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	South	1.15	State Highway	Dry	Daylight	Clear	25
154	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/29/2018	Wednesday	09:46	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	North	1.15	State Highway	Dry	Daylight	Clear	35
155	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/18/2018	Thursday	20:08	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	North	1.15	State Highway	Dry	Dark -street lights on	Clear	35
156	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/25/2018	Monday	08:53	0	0	Property Damage Only	Same Direction - Rear End	NJ 166		1.15	State Highway	Dry	Daylight	Clear	40
157	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/14/2017	Thursday	09:19	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	North	1.15	State Highway	Wet	Daylight	Clear	35

158	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/9/2017	Thursday	17:05	0	0	Property Damage Only	Same Direction - Sideswipe	NJ 166	South	1.15	State Highway	Dry	Daylight	Clear	35
159	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/4/2018	Saturday	10:22	0	0	Property Damage Only	Same Direction - Sideswipe	NJ 166	South	1.16	State Highway	Dry	Daylight	Clear	25
160	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/1/2018	Saturday	00:30	0	0	Property Damage Only	Same Direction - Rear End	NJ 166	South	1.16	State Highway	Dry	Dark -street lights on	Clear	35
161	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/4/2017	Saturday	14:21	0	0	Property Damage Only	Right Angle	NJ 166		1.17	State Highway	Dry	Daylight	Clear	35
162	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/6/2017	Wednesday	13:08	0	0	Property Damage Only	Struck Parked Vehicle	NJ 166	South	1.18	State Highway	Wet	Daylight	Rain	35
163	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/3/2016	Monday	15:12	0	0	Property Damage Only	Struck Parked Vehicle	NJ 166		1.19	State Highway	Dry	Daylight	Clear	25
164	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/14/2018	Thursday	14:50	0	1	Complaint of Pain	Same Direction - Rear End	NJ 166	South	1.19	State Highway	Dry	Daylight	Clear	35
165	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/12/2018	Monday	11:10	0	1	Complaint of Pain	Same Direction - Sideswipe	NJ 166		1.19	State Highway	Dry	Daylight	Clear	30
166	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/14/2018	Wednesday	09:32	0	0	Property Damage Only	Same Direction - Sideswipe	NJ 166		1.19	State Highway	Dry	Daylight	Clear	25
167	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/2/2017	Saturday	15:12	0	0	Property Damage Only	Backing	NJ 166		1.21	State Highway	Dry	Daylight	Clear	35
168	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/30/2018	Tuesday	13:47	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	West	0	County	Wet	Daylight	Snow	35
169	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	11/25/2018	Sunday	11:19	0	0	Property Damage Only	Right Angle	ROUTE 549	East	0.04	County	Dry	Daylight	Clear	30
170	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/24/2018	Tuesday	11:45	0	1	Complaint of Pain	Left Turn/U Turn	ROUTE 527		0	County	Dry	Daylight	Overcast	35
171	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/11/2016	Saturday	18:57	0	0	Property Damage Only	Same Direction - Rear End	E WATER ST	East	0	Municipal	Dry	Daylight	Clear	35
172	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/28/2017	Thursday	12:14	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	West	0	County	Dry	Daylight	Clear	30
173	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/7/2017	Thursday	08:17	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0	County	Dry	Daylight	Clear	30
174	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/27/2017	Thursday	08:06	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 549		0.08	County	Dry	Daylight	Overcast	35
175	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/22/2016	Tuesday	13:52	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 527		0	County	Dry	Daylight	Clear	30
176	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/12/2016	Monday	12:17	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0	County	Wet	Daylight	Overcast	0
177	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/10/2017	Tuesday	16:37	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 549		0.11	County	Dry	Dusk	Overcast	30
178	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	7/20/2018	Friday	13:25	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0	County	Dry	Daylight	Clear	35
179	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/11/2017	Monday	11:35	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 549		0.11	County	Dry	Daylight	Clear	30
180	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/22/2017	Wednesday	15:42	0	2	Complaint of Pain	Right Angle	ROUTE 527		0	County	Dry	Daylight	Clear	30
181	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/2/2017	Wednesday	13:45	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 527		0	County	Wet	Daylight	Overcast	30
182	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/28/2017	Wednesday	16:32	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	West	0	County	Dry	Daylight	Clear	35
183	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/19/2017	Monday	18:07	0	0	Property Damage Only	Same Direction - Rear End	EAST WATER STREET		0	County	Dry	Daylight	Clear	35
184	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/22/2018	Saturday	15:02	0	0	Property Damage Only	Right Angle	ROUTE 527	East	0	County	Dry	Daylight	Overcast	35
185	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/13/2017	Wednesday	12:03	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 549	East	0.11	County	Dry	Daylight	Clear	30
186	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/15/2017	Tuesday	19:00	0	0	Property Damage Only	Fixed Object	ROBBINS PKWY		0	Municipal	Dry	Daylight	Clear	15
187	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/14/2016	Monday	11:13	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527	East	0	County	Wet	Daylight	Rain	35
188	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	9/28/2016	Wednesday	08:59	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527		0	County	Dry	Daylight	Clear	30
189	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/19/2018	Friday	19:14	0	2	Complaint of Pain	Right Angle	ROUTE 527		0	County	Dry	Dark -street lights on	Clear	30
190	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/16/2018	Thursday	17:13	0	1	Complaint of Pain	Same Direction - Sideswipe	ROUTE 527		0	County	Dry	Daylight	Clear	30
191	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/26/2018	Monday	13:59	0	0	Property Damage Only	Same Direction - Rear End	ROUTE 527		0	County	Dry	Daylight	Clear	30
192	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/9/2016	Tuesday	21:52	0	1	Moderate Injury	Pedestrian	E WATER ST	West	0	Municipal	Dry	Dark -street lights on	Clear	30
193	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	1/30/2016	Saturday	14:47	0	1	Complaint of Pain	Right Angle	ROUTE 527	East	0	County	Dry	Daylight	Clear	35
194	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	5/16/2016	Monday	07:53	0	0	Property Damage Only	Backing	HORNER ST	North	0	Municipal	Dry	Daylight	Clear	25
195	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/26/2016	Tuesday	15:04	0	0	Property Damage Only	Right Angle	ROUTE 527		0	County	Dry	Daylight	Clear	30
196	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	8/3/2016	Wednesday	13:55	0	0	Property Damage Only	Same Direction - Sideswipe	ROUTE 527	East	0	County	Dry	Daylight	Clear	30
197	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	6/21/2017	Wednesday	09:05	0	0	Property Damage Only	Left Turn/U Turn	ROUTE 527	West	0	County	Dry	Daylight	Clear	30
198	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/27/2018	Thursday	16:31	0	0	Property Damage Only	Left Turn/U Turn	EAST WATER STREET		0	County	Dry	Dusk	Clear	30
199	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/29/2017	Friday	18:31	1	0	Killed	Pedestrian	ROUTE 549		0.12	County	Dry	Dark -street lights on	Clear	30
200	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/14/2017	Saturday	10:54	0	2	Moderate Injury	Right Angle	HIGHLAND PKWY	South	0	County	Wet	Daylight	Overcast	40
201	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/11/2016	Friday	16:07	0	2	Incapacitated	Right Angle	HIGHLAND PKWY		0	Municipal	Dry	Daylight	Clear	40
202	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	2/23/2018	Friday	14:20	0	0	Property Damage Only	Same Direction - Rear End	HIGHLAND PKWY		0.58	Municipal	Wet	Daylight	Rain	40
203	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/14/2018	Wednesday	09:35	0	0	Property Damage Only	Right Angle	HIGHLAND PKWY		0	Municipal	Dry	Daylight	Clear	40
204	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	4/20/2017	Thursday	14:23	0	1	Complaint of Pain	Same Direction - Rear End	HIGHLAND PKWY		0.58	Municipal	Dry	Daylight	Clear	40
205	2016	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	12/1/2016	Thursday	10:26	0	0	Property Damage Only	Right Angle	HIGHLAND PKWY		0.58	Municipal	Dry	Daylight	Clear	35
206	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/15/2018	Thursday	15:59	0	0	Property Damage Only	Right Angle	HIGHLAND PKWY	North	0.58	Municipal	Dry	Daylight	Clear	25
207	2018	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	10/20/2018	Saturday	12:09	0	0	Property Damage Only	Same Direction - Sideswipe	IRONS ST		0.07	Municipal	Dry	Daylight	Overcast	25
208	2017	OCEAN	TOMS RIVER TWP	TOMS RIVER PD	3/11/2017	Saturday	17:22	0	0	Property Damage Only	Struck Parked Vehicle	WILSEY WAY		0	Municipal	Dry	Daylight	Clear	25

Appendix F – Utility Information



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

A.T. & T.
Attn: Louis Marello
Cable Protection Center
Engineering Inquiries
400 Hamilton Avenue, Mail Room
White Plains, NY 10601

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Marello:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

Please find attached the project location map for your reference. Kindly indicate any facilities (overhead and/or underground) owned/operated by your company in the vicinity of the project (indicating the type, size, and limits of each), and provide any additional plans and information related to these facilities that would be helpful in our design process. Please also advise us of any proposed utility work within the project limits so provisions can be made if possible to accommodate any future utility work. Also, please provide us with the name of the contact person for future correspondence. Thank you for your cooperation in this matter.

We kindly ask that you provide the requested information as soon as possible, but no later than June 19, 2020. Electronic or hard-copy responses are both acceptable.

Should you have any questions or concerns about this project or our request, please contact me at 856-663-5367 ext. 1661 or JLDibiase@urbanengineers.com.

Thank you for your cooperation in this matter.

Sincerely,

URBAN ENGINEERS, INC.

*Justin DiBiase, P.E., P.T.O.E.
Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Comcast Cable
Attn: Tony Vörös
1846 Northwest Boulevard
Vineland, NJ 08360

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Vörös:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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We kindly ask that you provide the requested information as soon as possible, but no later than June 19, 2020. Electronic or hard-copy responses are both acceptable.

Should you have any questions or concerns about this project or our request, please contact me at 856-663-5367 ext. 1661 or JLDibiase@urbanengineers.com.

Thank you for your cooperation in this matter.

Sincerely,

URBAN ENGINEERS, INC.

*Justin DiBiase, P.E., P.T.O.E.
Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Jersey Central Power & Light Co.
Attn: Harvey Lockley
101 Crawford's Corner Road, Bldg. #1, Suite 1-511
Holmdel, NJ 07733

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Lockley:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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URBAN ENGINEERS, INC.

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Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

New Jersey Natural Gas Co.
Attn: Mark Kurilla, Supervising Engineer
1415 Wyckoff Road, P.O. Box 1464
Wall, NJ 07719

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Kurilla:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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URBAN ENGINEERS, INC.

*Justin DiBiase, P.E., P.T.O.E.
Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Ocean County Utilities Authority
Attn: Robert McGlaughlin
501 Hickory Lane - P.O. Box P
Bayville, NJ 08721

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. McGlaughlin:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Sprint Nextel
Attn: Mike Brown
484 Williamsport Pike, Box 113
Martinsburg, WV 25404

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Brown:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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URBAN ENGINEERS, INC.

*Justin DiBiase, P.E., P.T.O.E.
Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Suez Water
Attn: Michael Willis
1451 Route 37 West, Suite 2
Toms River, NJ 08753

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Willis:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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Thank you for your cooperation in this matter.

Sincerely,

URBAN ENGINEERS, INC.

*Justin DiBiase, P.E., P.T.O.E.
Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Toms River Township M.U.A.
Attn: Nicholas Otten, PE
340 W. Water Street
Toms River, NJ 08753

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Otten:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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Thank you for your cooperation in this matter.

Sincerely,

URBAN ENGINEERS, INC.

*Justin DiBiase, P.E., P.T.O.E.
Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Verizon Engineering
Attn: Arturo Cabrera
51 Beechwood Drive
Shrewsbury, NJ 07702-4418

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Cabrera:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Zayo Group
Attn: Mr. Tim Hatchell
1821 30th St. Unit A
Boulder, Colorado 80301

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Hatchell:

The County of Ocean has secured the services of Urban Engineers to perform Local Concept Development for the Toms River Waterfront and Surrounding Area Study in the Township of Toms River, Ocean County, New Jersey. The study will involve the investigation of alternatives to address traffic, circulation and safety issues affecting Downtown Toms River. Conceptual infrastructure improvements will be developed in the areas where issues are encountered. The location and approximate limits of the project is shown on the enclosed project area map to give you a better understanding of the work that may be proposed for this project.

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URBAN ENGINEERS, INC.

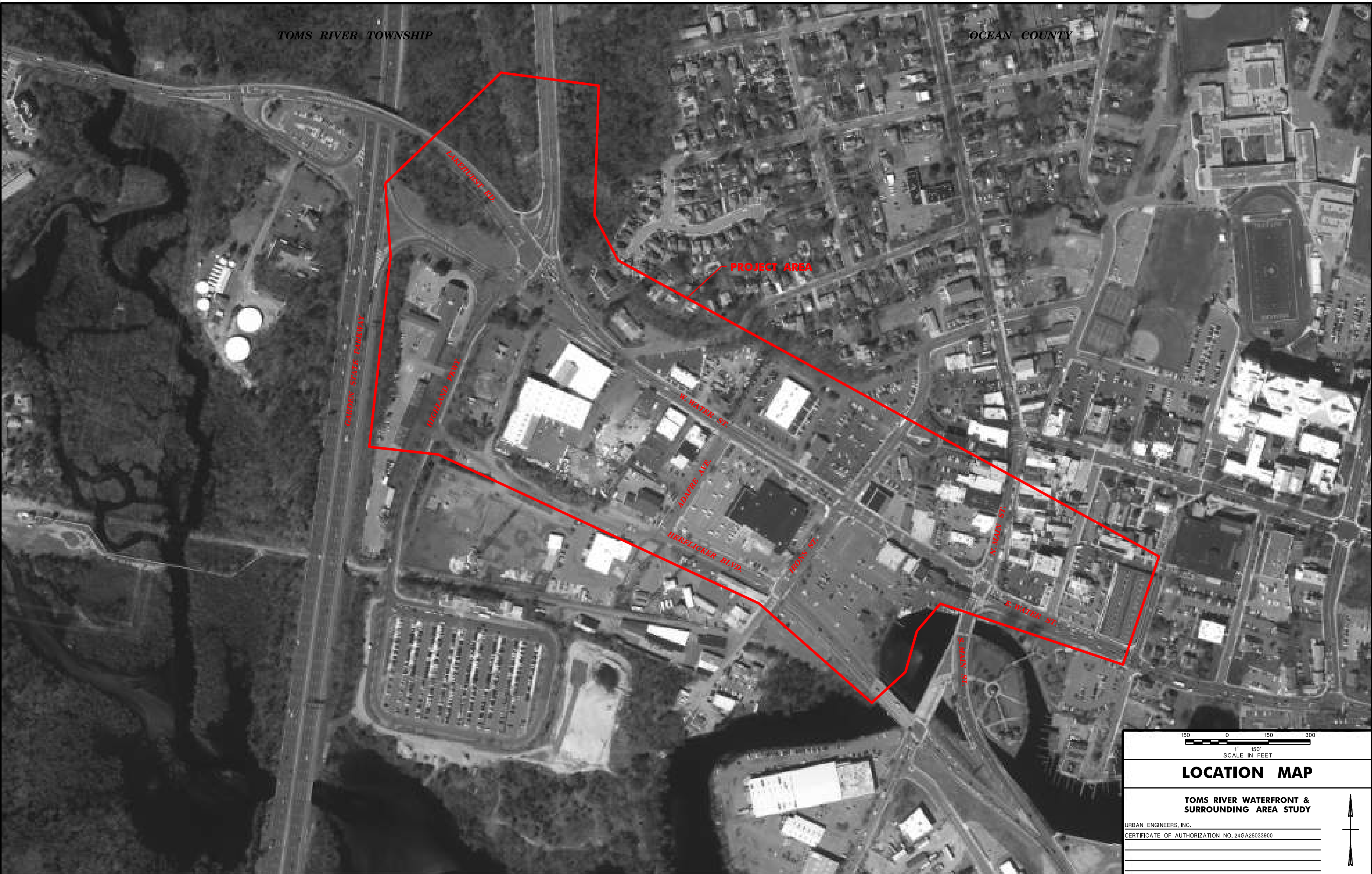
*Justin DiBiase, P.E., P.T.O.E.
Project Engineer*

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059

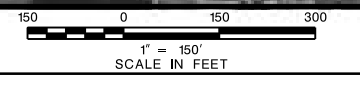
TOMS RIVER TOWNSHIP

OCEAN COUNTY



LAURELVIEW RD.
HADDON RD.
W. WATER ST.
ADAMPTON AVE.
HERFLICKER BLVD.
TRUSS ST.
N. MAIN ST.
E. WATER ST.
S. MAIN ST.

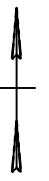
PROJECT AREA



LOCATION MAP

TOMS RIVER WATERFRONT & SURROUNDING AREA STUDY

URBAN ENGINEERS, INC.
CERTIFICATE OF AUTHORIZATION NO. 24GA28033900





July 6, 2020

Urban Engineers
Attn: Justin DiBiase
220 Lake Drive East
Suite 300
Cherry Hill, NJ 08002

**Re: Utility Mark-Up Request
Toms River Waterfront and Surrounding Area Study, Toms River Township, Ocean County**

Dear Mr. DiBiase,

Enclosed, please find a markup depicting the location of New Jersey Natural Gas facilities. Any gas facilities (excluding service laterals) within the project area are red-lined on these plans, and are not warranted as to exactness. A copy of these plans will be retained on file by NJNG for a period of one (1) year, after which time we recommend that you submit a new request for mark-up, as facilities may have changed.

For a more exact location of these facilities, or to determine if they conflict with your proposed work, their physical location should be field-verified by performing test pits. Wherever proposed construction comes within 12 inches horizontally or vertically of any existing gas facility, it should be considered a conflict. NJNG will perform test pits when requested; however, please be aware of the following:

- Test Pits will be done as a no-cost courtesy for counties and municipalities, and for a fee to private companies, property owners, and utility authorities.
- Test pits are offered *only during the design phase* of the project and are based on NJNG resource availability. If we are unable to perform them within your design timetable, you have the option to perform them at your cost.
- Test pits should be considered whenever the project involves:
 - Drainage installation / replacement
 - Road cuts and/or changes in elevation
 - Pavement “box outs”, including road widening
 - Any other proposed subsurface construction that may result in a conflict
- Test pits must be requested in writing, along with a set of plans denoting their location(s).
- NJNG may require your assistance in the field to confirm location, survey, etc. in order to satisfy your request.

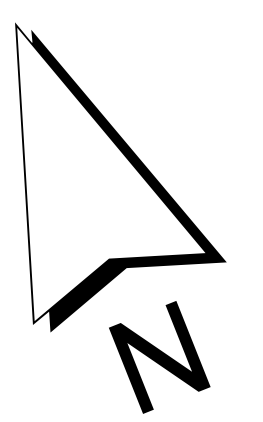
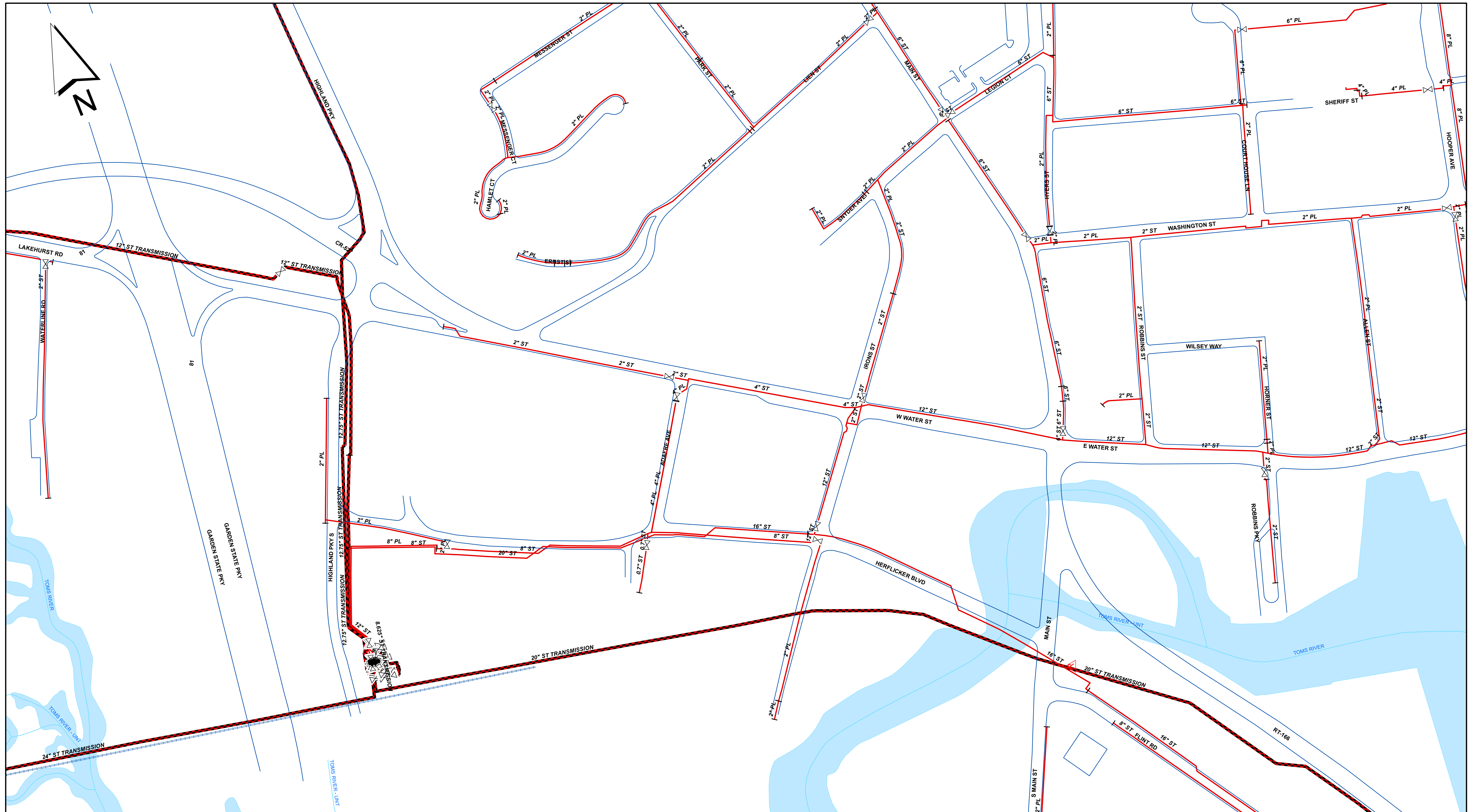
This courtesy is offered to assist the designer in identifying and eliminating, or greatly reducing, the number of conflicts requiring the relocation of our facilities. We also expect that conflicts be shared as equally as possible among all utilities. Once final design is completed, this service is no longer offered by NJNG. Should you choose not to request or perform necessary test pits, and/or allow time for any necessary relocations, prior to the start of the project, your schedule will inevitably be delayed due to the late identification of utility conflicts. ***Please note that there is typically a twelve (12) week scheduling period for any relocation work required once conflicts have been confirmed.***

Your anticipated cooperation in this matter will contribute to the project’s smooth completion. Lastly, please send a full set of final plans once completed. If you have questions or require additional information, please feel free to contact me at dmenaker@njng.com.

Sincerely,
NEW JERSEY NATURAL GAS COMPANY

A handwritten signature in black ink, appearing to read 'DMenaker', is written over a horizontal line.

David Menaker, P.E.
Sr. Engineer



Legend	
	Distribution Main
	Transmission Main
	Proposed Main

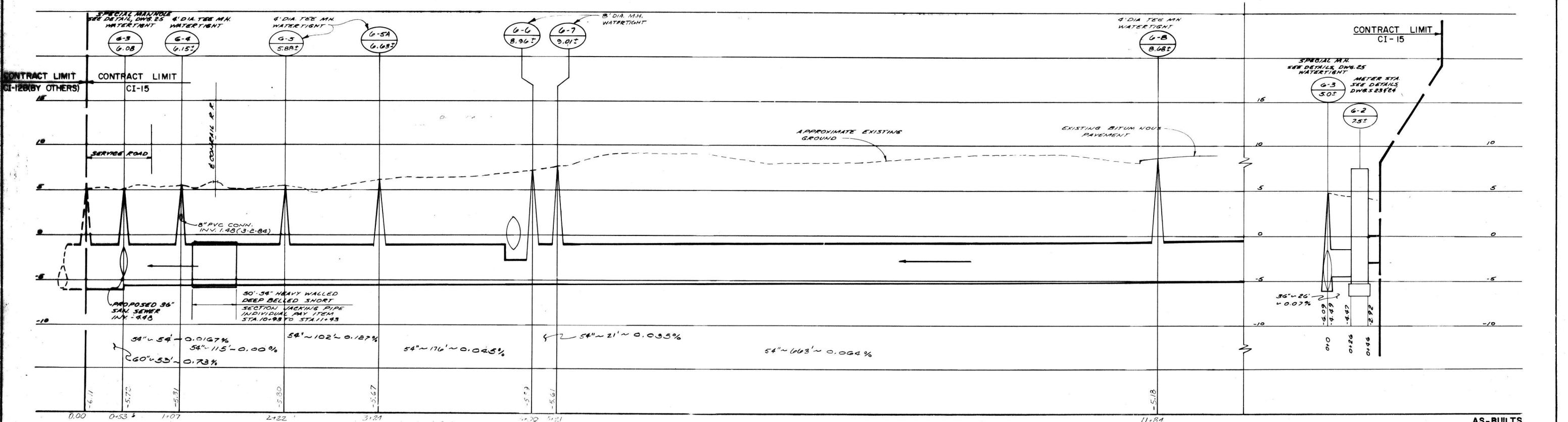
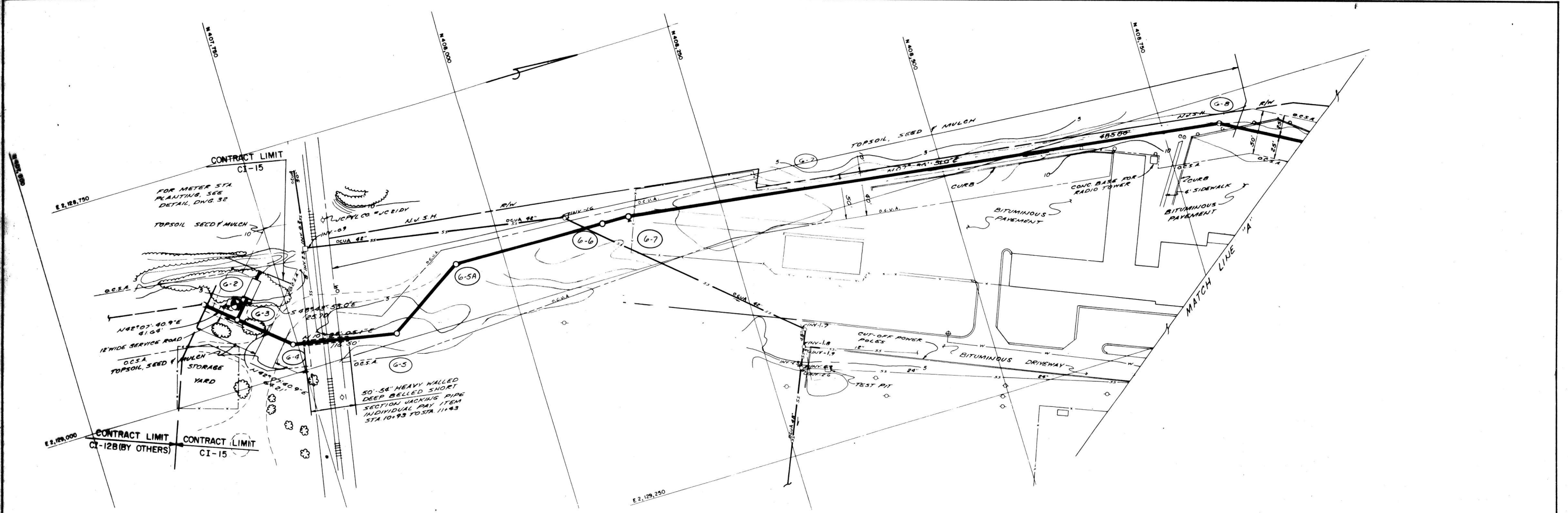
Abbreviations:	
PL	Plastic
ST	Steel

If required, relocations on transmission mains are subject to seasonal constraints. Contact NJNG Engineer to discuss requirements.

**DESIGN PURPOSE ONLY
FOR EXACT LOCATION
DIAL 811 FOR MARKOUT**

TOMS RIVER WATERFRONT and SURROUNDING AREA STUDY	
TOMS RIVER TWP, OCEAN COUNTY	
CREATED BY: menakerd	DATE: 7/6/2020
SCALE: NONE	
SHEET 1 OF 1	

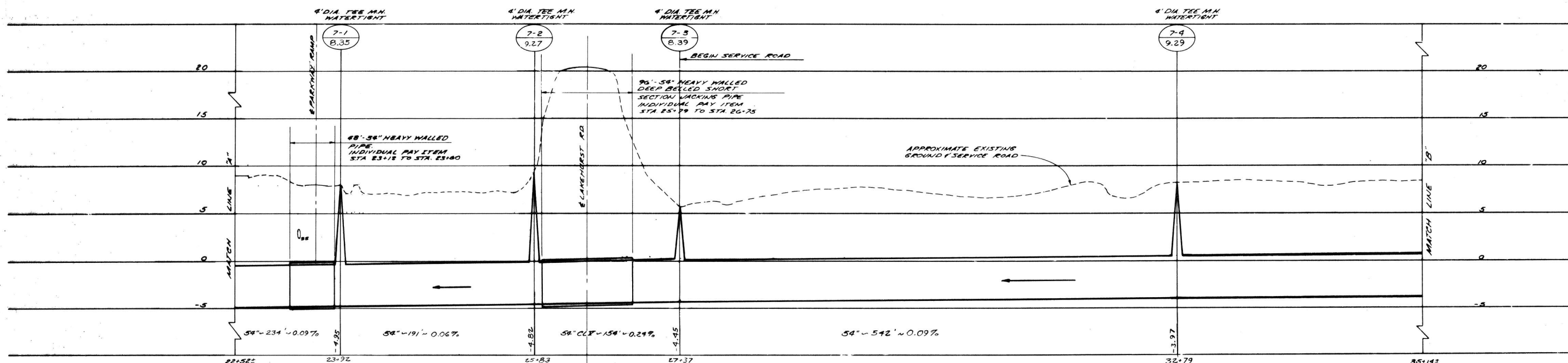
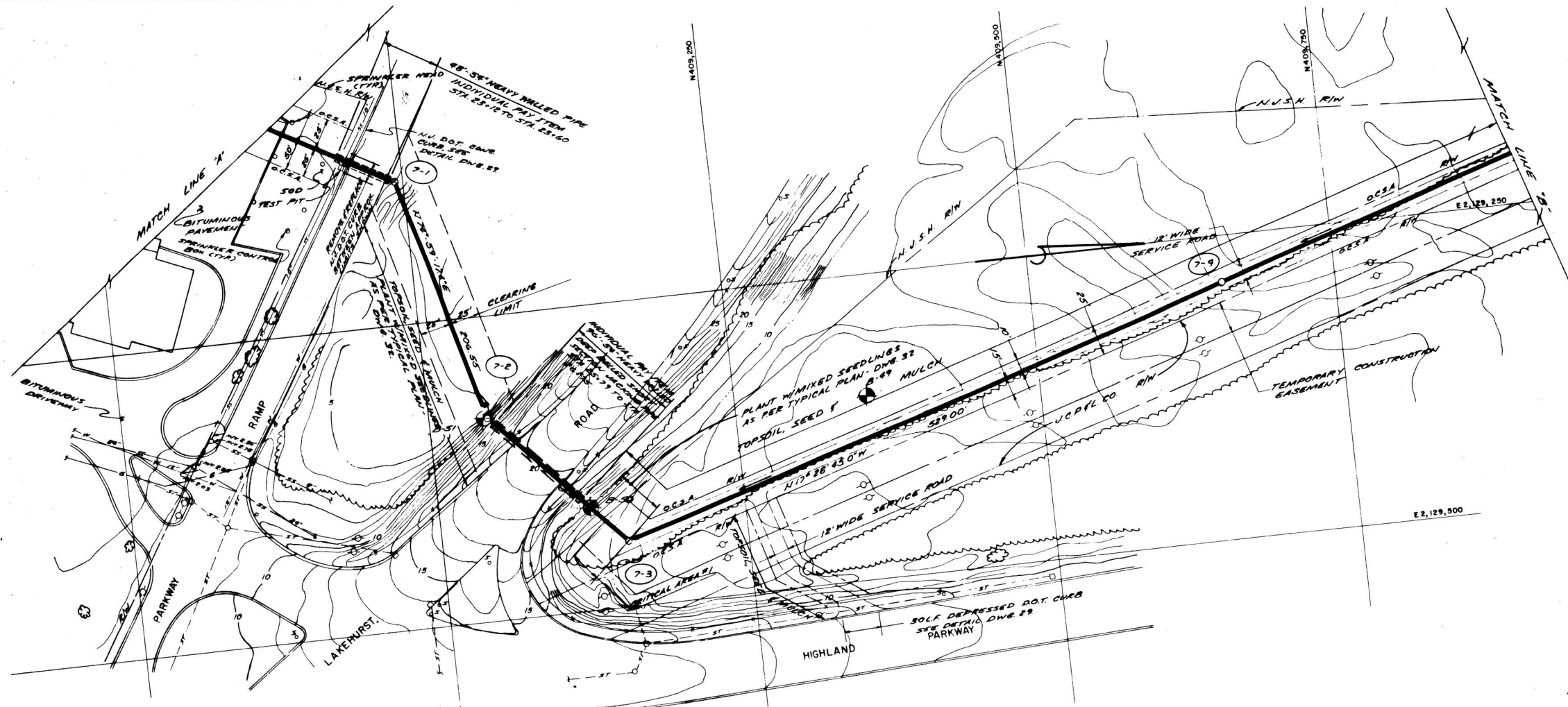




CONSTRUCTION AT CONTRACT LIMIT TO BE DONE IN COORDINATION WITH CI-12B CONTRACTOR. CI-15 CONTRACTOR TO VERIFY SIZE, LOCATION, TYPE OF PIPE & INVERT AT CONTRACT LIMIT AND MAKE CONNECTION USING REQUIRED FITTINGS & ADAPTORS. SHOULD NO CONNECTION EXIST CI-15 CONTRACTOR TO INSTALL WATER TIGHT BULKHEAD AT CONTRACT LIMIT.

- NOTES:
- FOR GENERAL NOTES, SEE DWG 5
 - FOR ENVIRONMENTAL RESTORATION DETAILS SEE DWG'S 30 & 31
 - SERVICE ROAD TO MATCH EXISTING GRADE UNLESS OTHERWISE INDICATED
 - FOR SERVICE ROAD DETAILS & SECTION SEE DWG 29

2 DA REVISED PIPE SLOPE 2/90 1 R AS-BUILTS 1/77		NO. BY REVISIONS DATE
FELLOWS, READ & WEBER INC. CONSULTING ENGINEERS 310 MAIN STREET TOMS RIVER, NEW JERSEY 08753 JOHN C. FELLOWS JR. P.E. & L.S. Professional Engineer & Land Surveyor, N.J. Lic. No. 10843		
OCEAN COUNTY SEWERAGE AUTHORITY PLAN & PROFILE TOMS RIVER INTERCEPTOR CONTRACT CI-15 OCEAN COUNTY, NEW JERSEY		
SCALE: 1" = 50' HORIZ. 5" VERT.	DATE: 12/76 CHKD. BY: EPE APPROV. BY: JEM	DRAWING NUMBER: 6 OF 35



- NOTES:
- FOR GENERAL NOTES SEE DWG 5
 - FOR ENVIRONMENTAL RESTORATION DETAILS SEE DWG'S 80431
 - SERVICE ROAD TO MATCH EXISTING GRADE UNLESS OTHERWISE INDICATED
 - FOR SERVICE ROAD DETAILS & SECTION SEE DWG 29

NO.	BY	REVISIONS	DATE
1	AS-BUILT		1/84

FELLOWS, READ & WEBER INC.
CONSULTING ENGINEERS
310 MAIN STREET
TOMS RIVER, NEW JERSEY 08753

JOHN C. FELLOWS JR. P.E. & L.S.
Professional Engineer & Land Surveyor, N.J. Lic. No. 10243

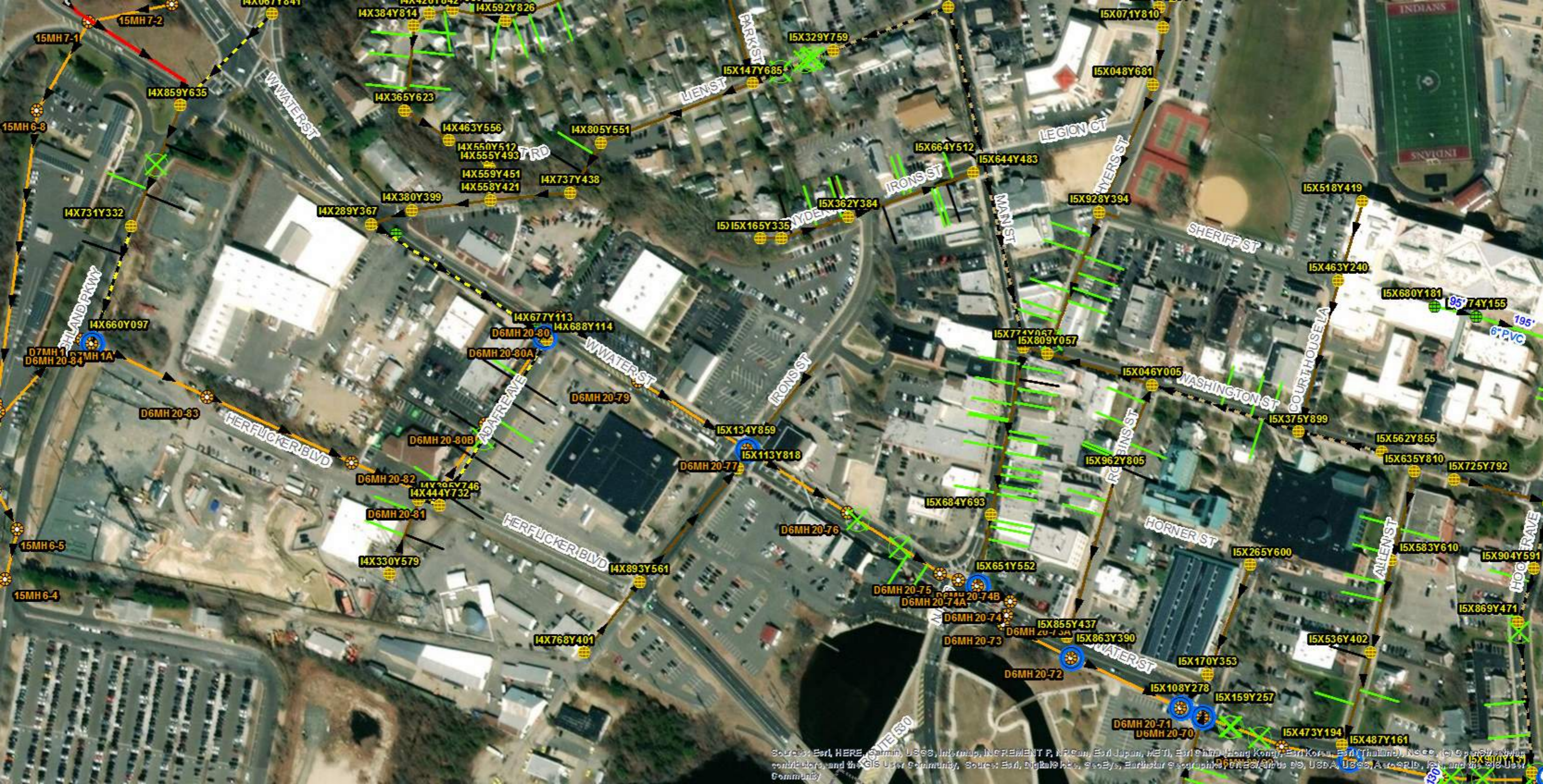
FINAL PLANS AS-BUILTS

OCEAN COUNTY SEWERAGE AUTHORITY
PLAN & PROFILE

TOMS RIVER INTERCEPTOR

CONTRACT CI-15
OCEAN COUNTY, NEW JERSEY

SCALE	DATE	DRAWN BY	CHKD. BY	DRAWING NUMBER
1" = 50' HORIZ 1" = 5' VERT.	12/78	CHD. BY RPE	APPRVD. BY VBA	7 OF 35



Source: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NSC, (c) OpenStreetMap contributors, and the GIS User Community. Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



220 Lake Drive East, Suite 300
Cherry Hill, NJ 08002
856.663.5550

May 20, 2020

Comcast Cable
Attn: Tony Vörös
1846 Northwest Boulevard
Vineland, NJ 08360

Re: Toms River Waterfront and Surrounding Area Study
Local Concept Development
Township of Toms River, County of Ocean, New Jersey

Dear Mr. Vörös:

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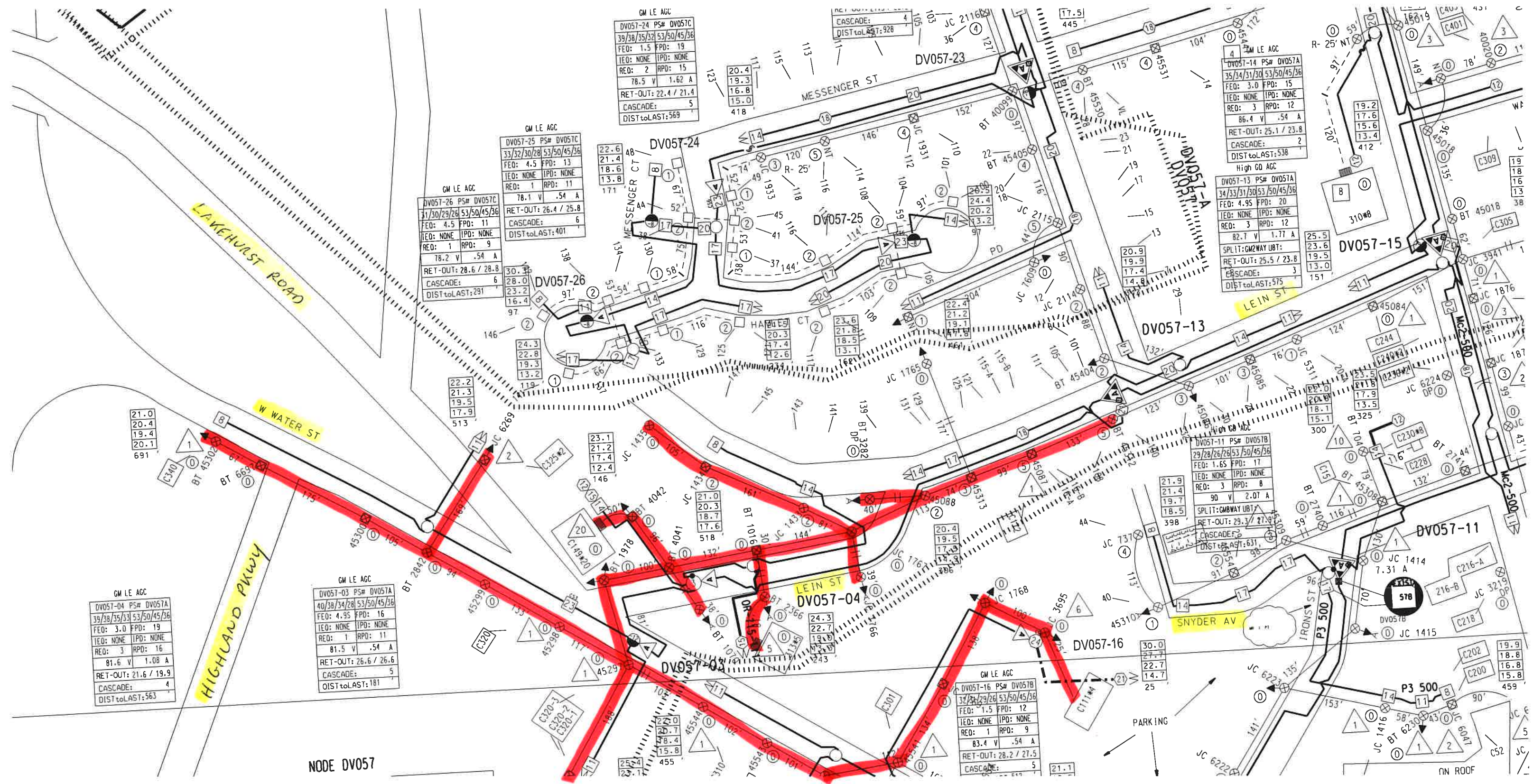
URBAN ENGINEERS, INC.

COMCAST FACILITIES ARE
NOTATED

Justin DiBiase, P.E., P.T.O.E.
Project Engineer

Enclosures

Cc: John Ernst, County Engineer, Ocean County
Mark Jehnke, Assistant County Engineer, Ocean County
Scott Diehl, Urban Engineers
File: 2020300059



GM LE AGC

DV057-04 PS# DV057A
39/38/35/33 53/50/45/36
FEQ: 3.0 FPD: 19
IEQ: NONE IPD: NONE
REQ: 3 RPD: 16
81.6 V 1.08 A
RET-OUT: 21.6 / 19.9
CASCADE: 4
DIST to LAST: 563

GM LE AGC

DV057-03 PS# DV057A
40/38/34/28 53/50/45/36
FEQ: 4.95 FPD: 16
IEQ: NONE IPD: NONE
REQ: 1 RPD: 11
81.5 V .54 A
RET-OUT: 26.6 / 26.6
CASCADE: 5
OIST to LAST: 181

GM LE AGC

DV057-26 PS# DV057C
31/30/29/26 53/50/45/36
FEQ: 4.5 FPD: 11
IEQ: NONE IPD: NONE
REQ: 1 RPD: 9
78.2 V .54 A
RET-OUT: 28.6 / 28.8
CASCADE: 6
DIST to LAST: 291

GM LE AGC

DV057-25 PS# DV057C
33/32/30/28 53/50/45/36
FEQ: 4.5 FPD: 13
IEQ: NONE IPD: NONE
REQ: 1 RPD: 11
78.1 V .54 A
RET-OUT: 26.4 / 25.8
CASCADE: 6
DIST to LAST: 401

GM LE AGC

DV057-24 PS# DV057C
39/38/35/32 53/50/45/36
FEQ: 1.5 FPD: 19
IEQ: NONE IPD: NONE
REQ: 2 RPD: 15
78.5 V 1.62 A
RET-OUT: 22.4 / 21.4
CASCADE: 5
DIST to LAST: 569

GM LE AGC

DV057-14 PS# DV057A
35/34/31/30 53/50/45/36
FEQ: 3.0 FPD: 15
IEQ: NONE IPD: NONE
REQ: 3 RPD: 12
86.4 V .54 A
RET-OUT: 25.1 / 23.8
CASCADE: 2
DIST to LAST: 538

High CO AGC

DV057-13 PS# DV057A
34/33/31/30 53/50/45/36
FEQ: 4.95 FPD: 20
IEQ: NONE IPD: NONE
REQ: 3 RPD: 12
82.7 V 1.77 A
SPLIT: GMBWAY LIBT
RET-OUT: 25.5 / 23.8
CASCADE: 3
DIST to LAST: 575

High CO AGC

DV057-11 PS# DV057B
29/28/26/26 53/50/45/36
FEQ: 1.65 FPD: 17
IEQ: NONE IPD: NONE
REQ: 3 RPD: 8
90 V 2.07 A
SPLIT: GMBWAY LIBT
RET-OUT: 29.3 / 27.9
CASCADE: 2
DIST to LAST: 631

GM LE AGC

DV057-16 PS# DV057B
32/31/29/26 53/50/45/36
FEQ: 1.5 FPD: 12
IEQ: NONE IPD: NONE
REQ: 1 RPD: 9
83.4 V .54 A
RET-OUT: 28.2 / 27.5
CASCADE: 5

NODE DV057

AERIAL COMCAST FACILITIES (COAXIAL + FIBER)

From: Nicholas Otten <notten@tomsrivermua.org>
To: Justin DiBiase <jldibiase@urbanengineers.com>
CC: Scott Diehl <sjdiehl@urbanengineers.com>
Date: 5/21/2020 9:43 AM
Subject: RE: Facilities Information Request
Attachments: TomsRiverWaterfrontStudy.bmp

Justin - Please see attached, as taken from the Toms River MUA's GIS, which you can further access for desired information:

https://urldefense.proofpoint.com/v2/url?u=http-3A__www.tomsrivermua.org&d=DwIFAg&c=euGZstcaTDIIVimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=Qj3YEGkriFd8yVmCf9cVFThalblo0dTSuf-HAj8ivAk&m=quvNrEKeLH5cW0Hk-bmO06VivrFfsl6OJxkb5c1AR_I&s=dPfg-Rn3AqOrfpiPi5xKimJe27d-6skGdMgxAixn9Ks&e=

>TRMUA GIS

Note that the orange lines, however, are sewer interceptors owned by the Ocean County Utilities Authority.

Thank you,

From: Justin DiBiase <jldibiase@urbanengineers.com>
 Sent: Wednesday, May 20, 2020 9:51 AM
 To: Nicholas Otten <notten@tomsrivermua.org>
 Cc: Scott Diehl <sjdiehl@urbanengineers.com>
 Subject: Facilities Information Request

Good morning,

Please see the attached letter and location map regarding a request for facilities information for our project in Toms River, NJ.

Please let me know if you have any questions. Thank you,

Justin DiBiase, PE, PTOE | Project Engineer
 Urban Engineers, Inc. | 220 Lake Drive East, Suite 300 | Cherry Hill, NJ 08002
 Office: 856-663-5367<tel:8566635550>, ext. 1661 | Cell: 856-498-1252<tel:2159228082>

[X]

Connect with Us:

https://urldefense.proofpoint.com/v2/url?u=http-3A__www.urbanengineers.com&d=DwIFAg&c=euGZstcaTDIIVimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=Qj3YEGkriFd8yVmCf9cVFThalblo0dTSuf-HAj8ivAk&m=quvNrEKeLH5cW0Hk-bmO06VivrFfsl6OJxkb5c1AR_I&s=zhvUWR7bzbvWxVMedqVvrATG6FGNL4VVC_4Vac9wQilw&e=<https://urldefense.proofpoint.com/v2/url?u=http-3A__www.urbanengineers.com_&d=DwIFAg&c=euGZstcaTDIIVimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=Qj3YEGkriFd8yVmCf9cVFThalblo0dTSuf-HAj8ivAk&m=quvNrEKeLH5cW0Hk-bmO06VivrFfsl6OJxkb5c1AR_I&s=SU1NeyAQSEdgmvbepD1DPHhaG4PrAk22w1qQ58x68D8&e=>

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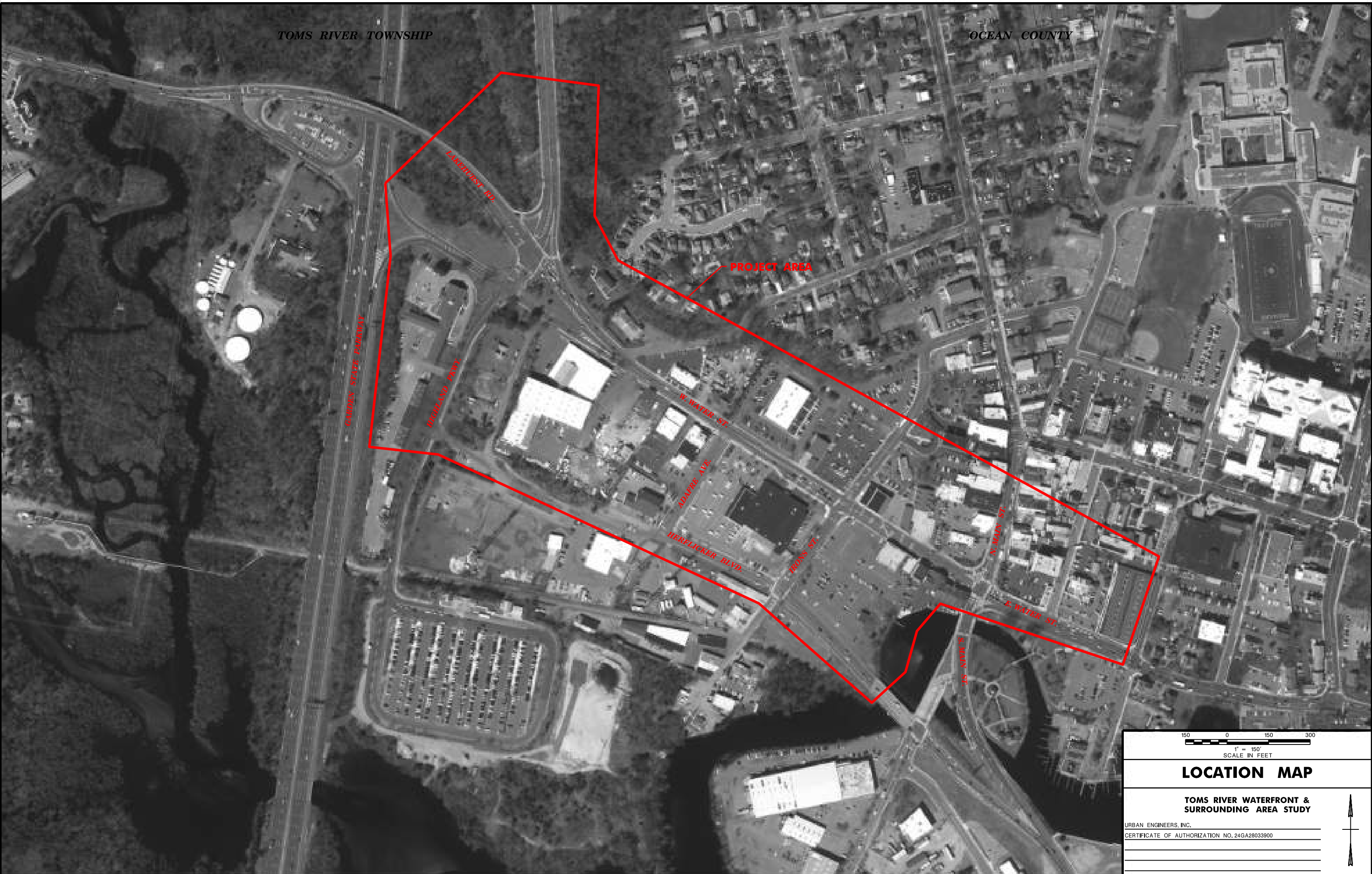
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TOMS RIVER TOWNSHIP

OCEAN COUNTY



LAURELVIEW RD.

COASTWAY STATE PARKWAY

INDUSTRIAL PKWY.

W. WATER ST.

ADAMITE AVE.

HERFLICKER BLVD.

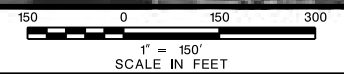
TRUSS ST.

N. MAIN ST.

E. WATER ST.

150' NORTH ST.

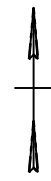
WATERFRONT

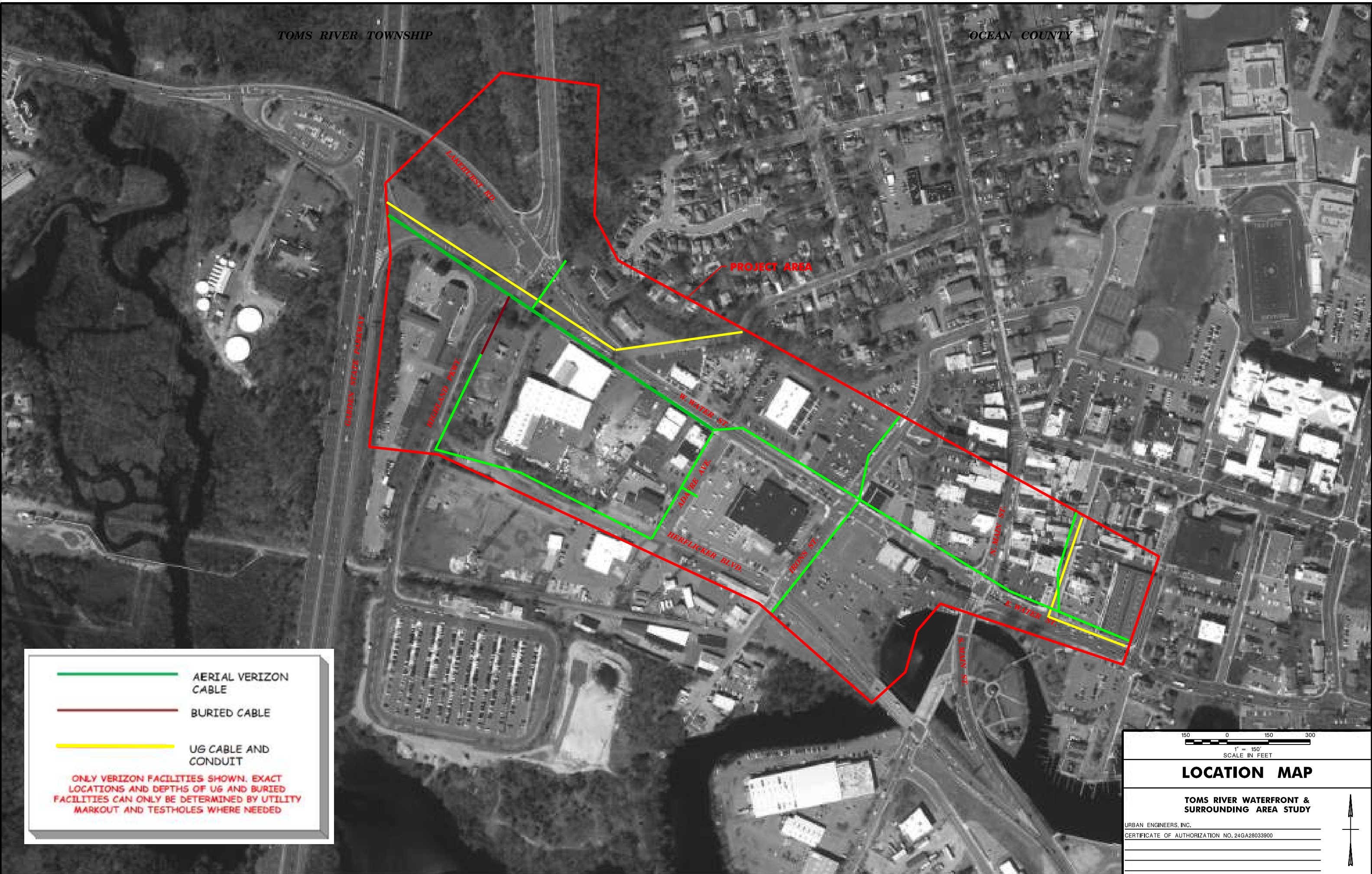


LOCATION MAP

TOMS RIVER WATERFRONT & SURROUNDING AREA STUDY

URBAN ENGINEERS, INC.
CERTIFICATE OF AUTHORIZATION NO. 24GA28033900





PROJECT AREA

GARDNER ST. RD.

HIGHLAND RD.

LAURELWOOD RD.

W. WATER ST.

20th RD. AVE.




HERFLICKER BLVD.

PRUSS ST.

N. MAIN ST.

E. WATER ST.

1st AVE. S.

 AERIAL VERIZON CABLE
 BURIED CABLE
 UG CABLE AND CONDUIT


ONLY VERIZON FACILITIES SHOWN. EXACT LOCATIONS AND DEPTHS OF UG AND BURIED FACILITIES CAN ONLY BE DETERMINED BY UTILITY MARKOUT AND TESTHOLES WHERE NEEDED

150 0 150 300
 1" = 150'
 SCALE IN FEET

LOCATION MAP

TOMS RIVER WATERFRONT & SURROUNDING AREA STUDY

URBAN ENGINEERS, INC.
 CERTIFICATE OF AUTHORIZATION NO. 24GA28033900



E-2,128,000

E-2,129,200

E-2,130,400

E-2,131,600

E-2,132,800

E-2,134,000



CONTRACT LIMIT AT STUB
 CONTRACTOR TO SHALL
 LOCATE AND VERIFY SIZE, TYPE, AND INVERT OF STUB,
 BUILT UNDER OTHER CONTRACTS, MAKE CONNECTION
 USING ADAPTORS AS REQUIRED, AND SHALL REMOVE
 THE BULKHEAD AT THE DIRECTION OF THE ENGINEER.

PAVED LOWER
 B.M. MON 5698
 DISK SET IN ROAD
 WAY ELEV.
 26.437

NOTE: SEE
 1" = 30' SCALE
 PLAN SHEETS 4-7 INC.
 FOR ADDITIONAL DETAILS,
 BETWEEN M.H. 20-83 AND
 M.H. 20-58 INCLUSIVE.

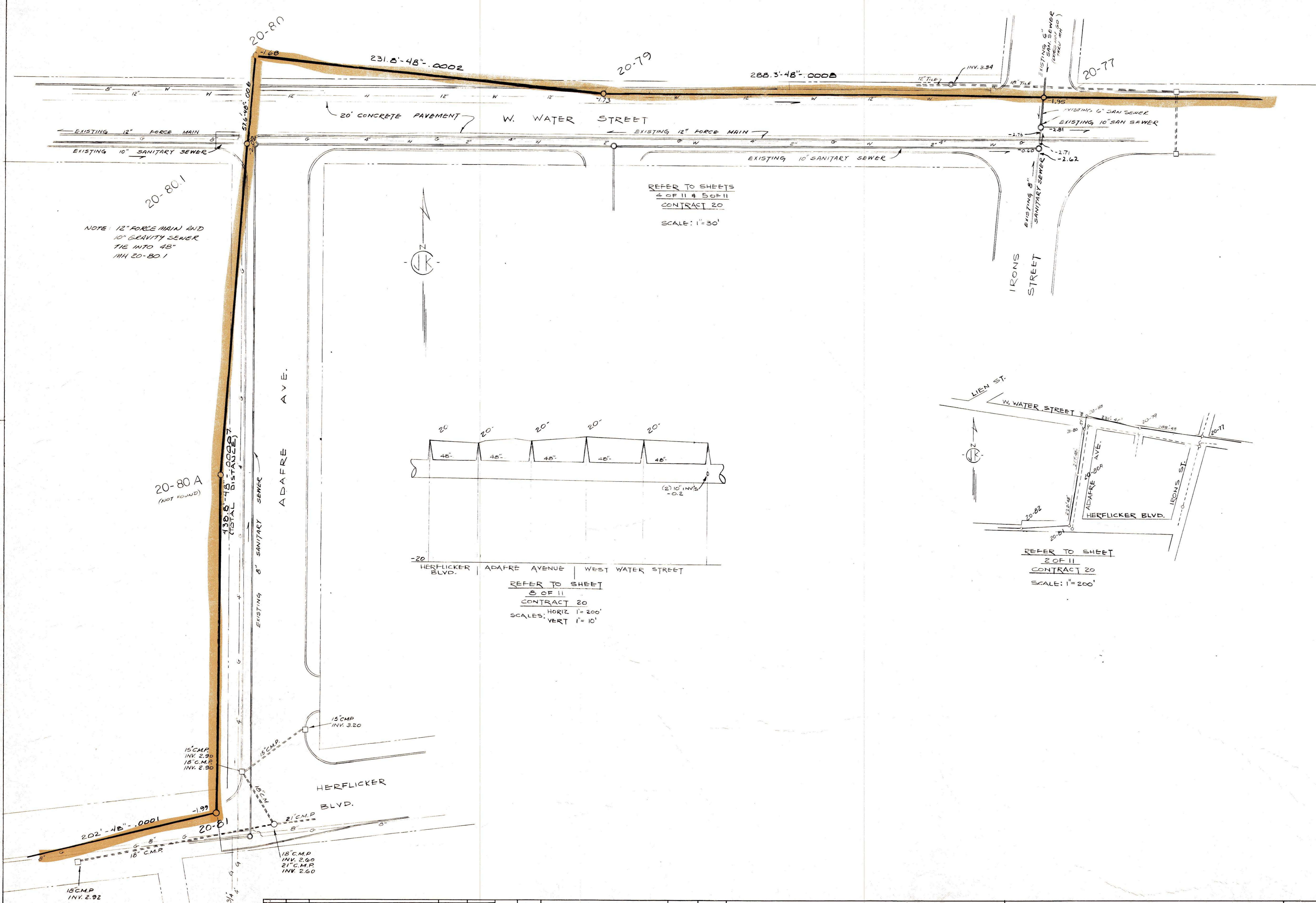
SEE CONT 20
 ADDENDUM 1
 SHEET 1 OF 1

NO	DATE	DESCRIPTION	CHK'D	APPR'D
		DESIGNED <u>J.N.B.S. J.F.S.</u>	CHECKED <u>J.N.B.S. J.F.S.</u>	
		DRAWN <u>A.L.H.W.D.</u>	APPROVED <u>E.J.H.</u>	
		TRACED <u>S.P.</u>		

DOVER SEWERAGE AUTHORITY
 DOVER TOWNSHIP
 OCEAN COUNTY, NEW JERSEY

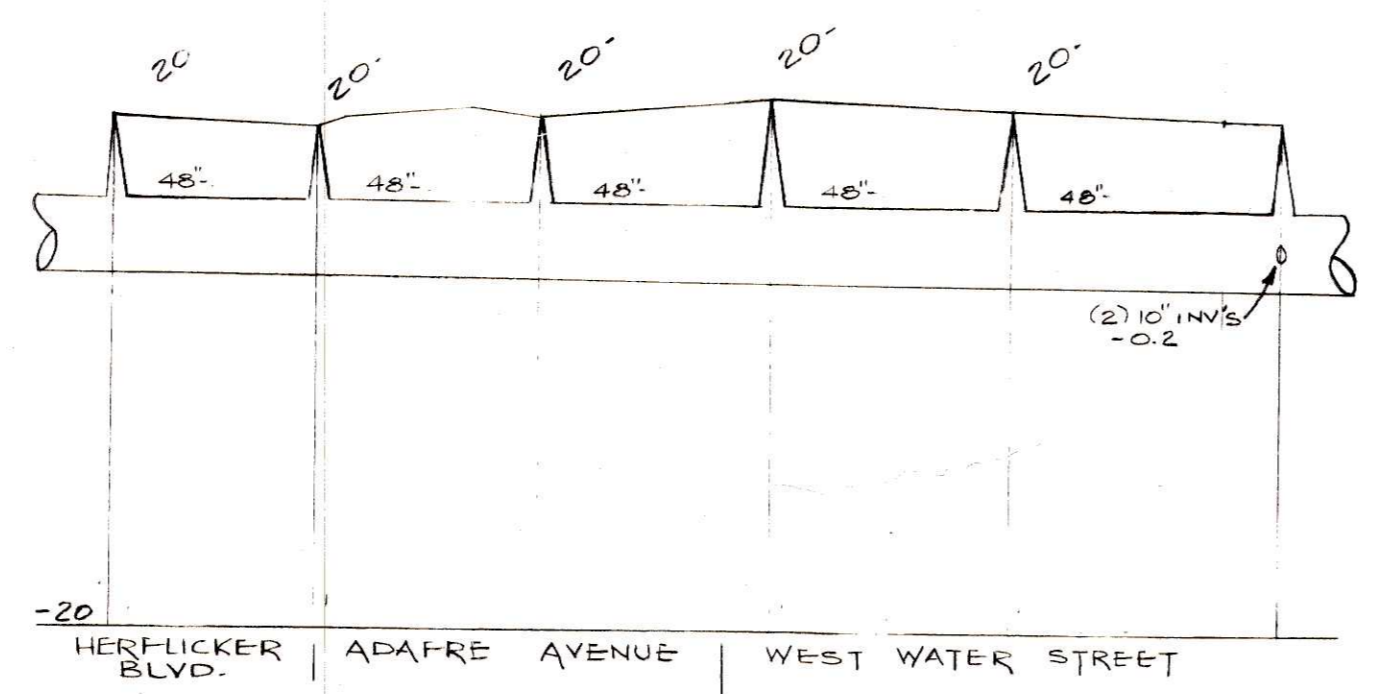
PLAN
 DOVER TOWNSHIP MAINLAND
 SANITARY SEWERAGE SYSTEM,
 TOMS RIVER INTERCEPTOR SEWER
 EXTENSION TO TOMS RIVER

CI-D6
CHARLES J. KUPPER
 REG. PROF. ENGR. NO. 1556
 15 STELTON ROAD PISCATAWAY, N.J.
 CONTRACT NO. 20 SHEET NO. 2 OF 11
 SCALE - 1" = 200' DATE: SEPT. 1970

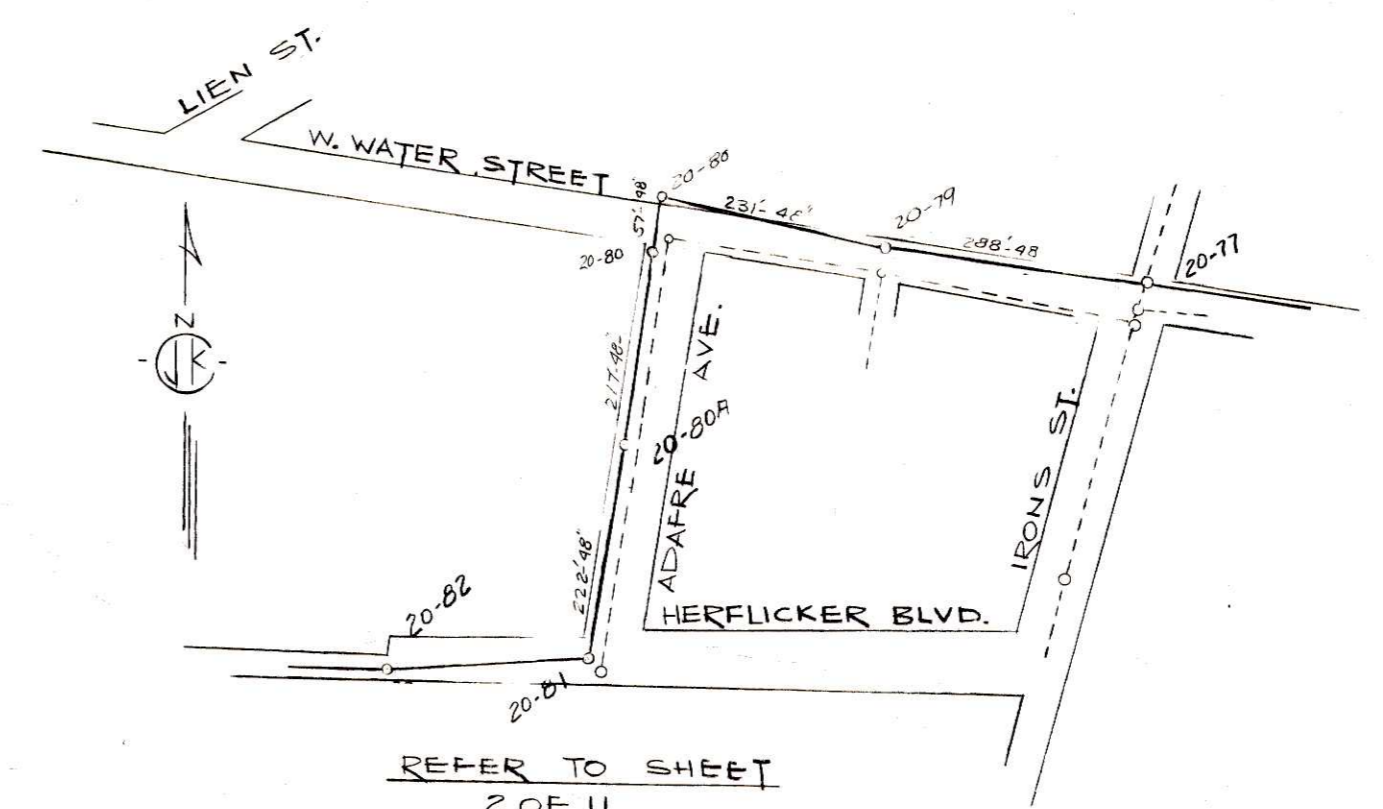


NOTE: 12" FORCE MAIN AND 10" GRAVITY SEWER TIE INTO 48" MH 20-80.1

REFER TO SHEETS 4 OF 11 & 5 OF 11 CONTRACT 20 SCALE: 1" = 30'



REFER TO SHEET 8 OF 11 CONTRACT 20 SCALES: HORIZ. 1" = 200' VERT. 1" = 10'



REFER TO SHEET 2 OF 11 CONTRACT 20 SCALE: 1" = 200'

NO.	DATE	DESCRIPTION	CHK'D.	APPR'D.
6-70		AS-BUILTS	JPP	MAF
10/14/70		ADDENDUM NO. 2	HWD	HSA
REVISIONS				
DESIGNED	J.N.S.	CHECKED	J.N.S.	H.W.D.
DRAWN	H.W.D.	APPROVED	H.S.A.	
NO.	DATE	DESCRIPTION	CHK'D.	APPR'D.

DOVER SEWERAGE AUTHORITY
DOVER TOWNSHIP
OCEAN COUNTY, NEW JERSEY

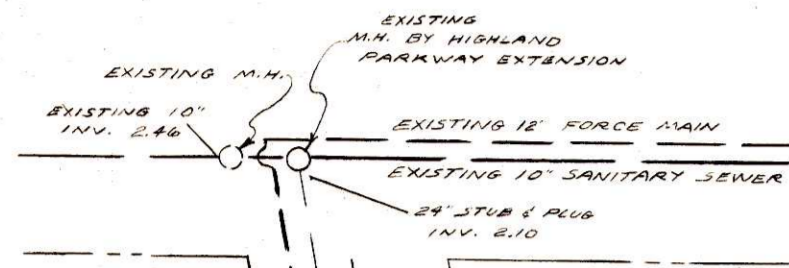
DOVER TOWNSHIP MAINLAND
SANITARY SEWERAGE SYSTEM
TOMS RIVER INTERCEPTOR SEWER
EXTENSION TO TOMS RIVER
SCALE: AS SHOWN

CHARLES J. KUPPER
Charles J. Kupper
REG. PROF. ENGR. NO. 1556
15 STELTON ROAD PISCATAWAY, N.J.
CONTRACT NO. 20
ADDENDUM NO. 2
SHEET NO. 1 OF 1
DATE: OCT. 1970

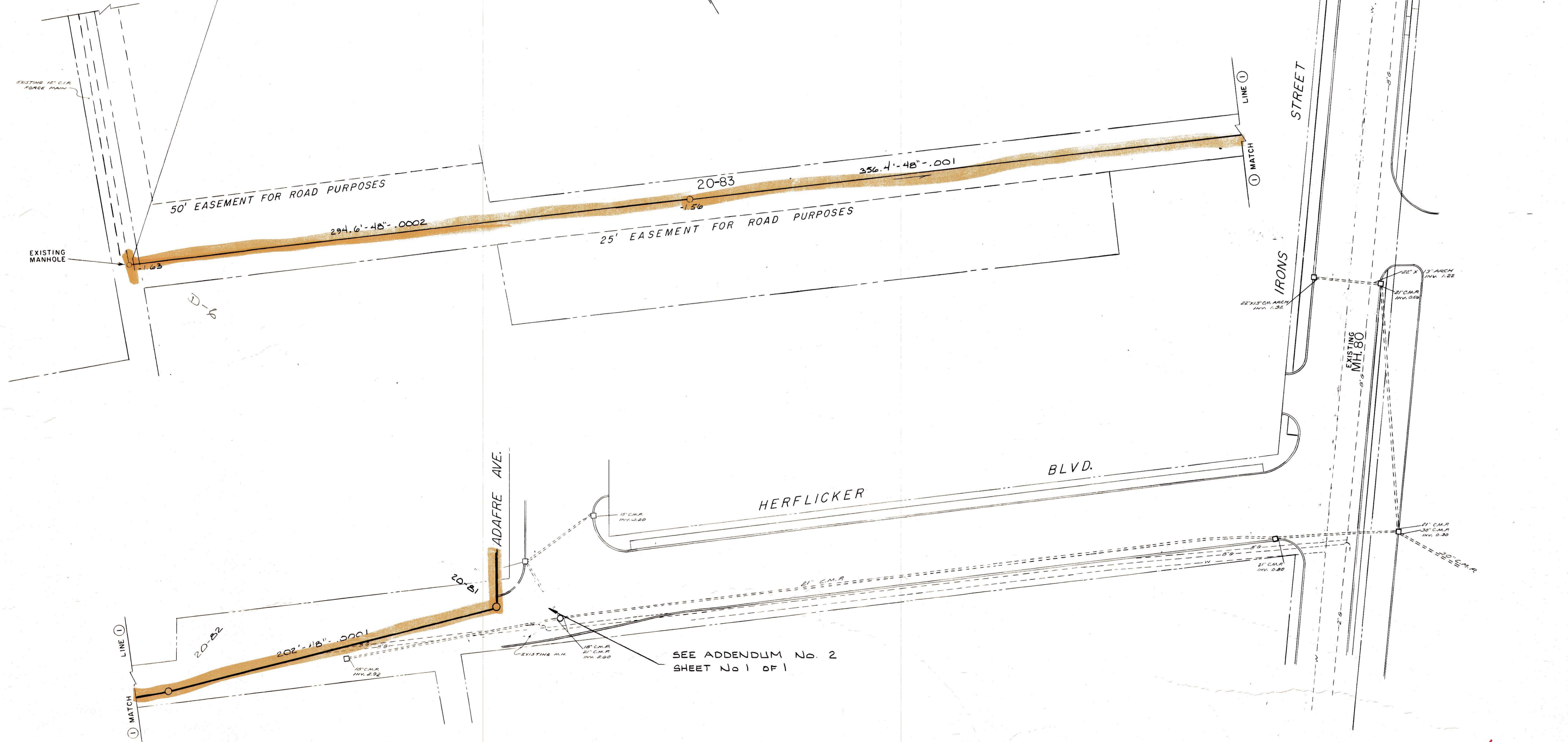
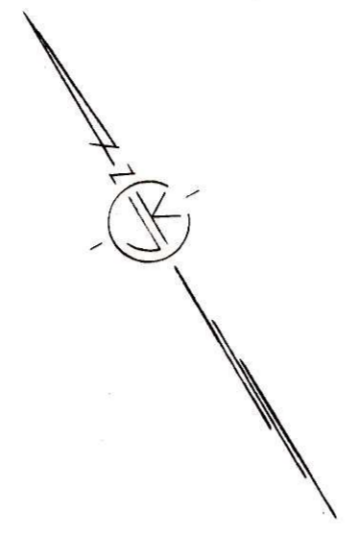
CI-D6

WEST WATER ST.

WEST WATER ST.



CONTRACT LIMIT AT STUB
 CONTRACTOR 20 SHALL
 LOCATE AND VERIFY SIZE TYPE AND INVERT OF STUB
 BUILT UNDER OTHER CONTRACTS, MAKE CONNECTION
 USING ADAPTORS AS REQUIRED AND SHALL REMOVE
 THE BULKHEAD AT THE DIRECTION OF THE ENGINEER.



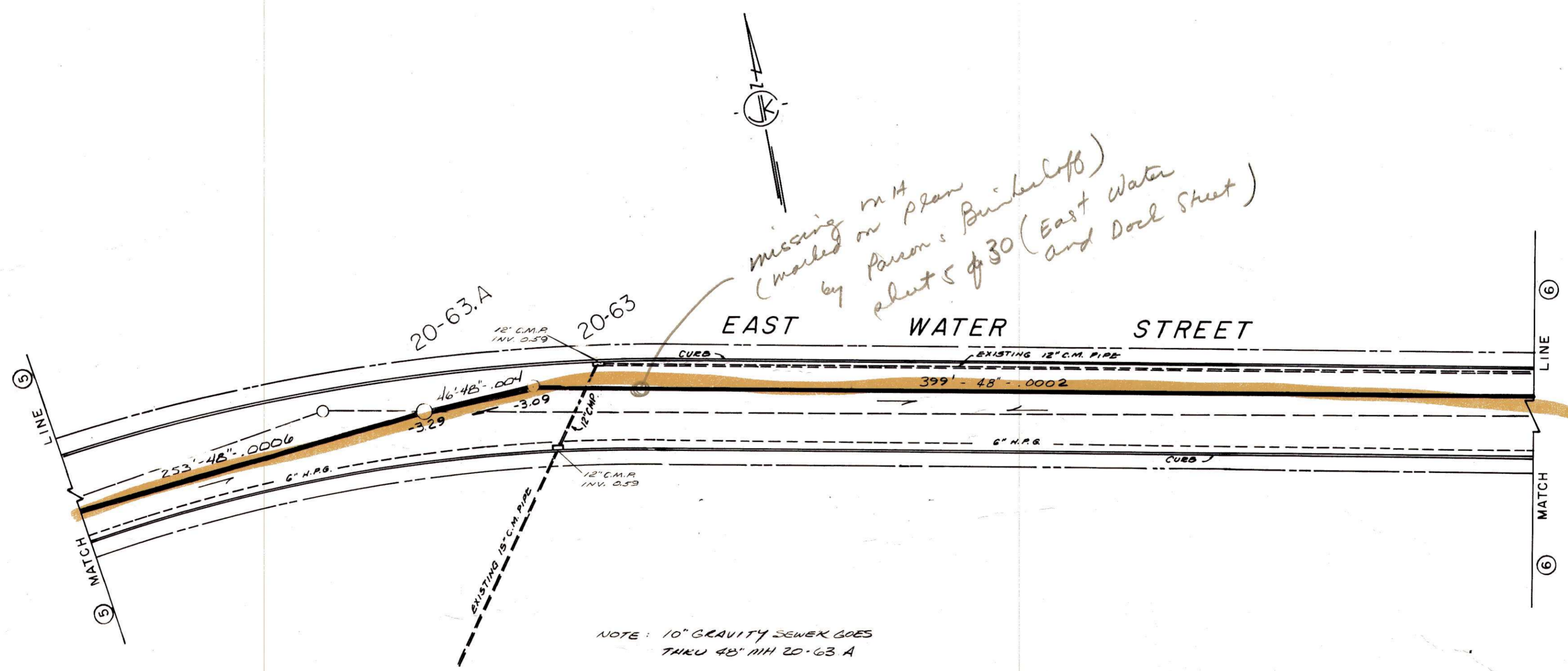
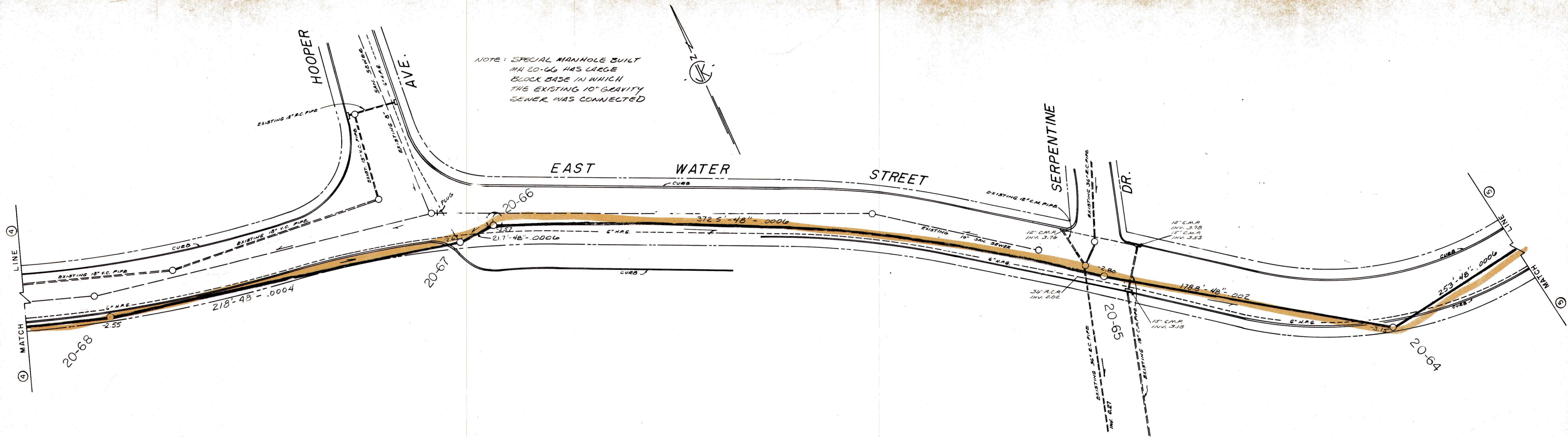
CI-D6

NO.	DATE	DESCRIPTION	CHK'D.	APPR'D.
6-76		AS QUILTS	J.P.P.	
6-77		ADDED THIS SHEET	H.W.D.	J.N.B.S.
REVISIONS				
DESIGNED	J.N.B.S.	CHECKED	J.N.B.S. & H.W.D.	
DRAWN	H.W.D.	APPROVED	E.J.H.	
TRACED	J.P.			

DOVER SEWERAGE AUTHORITY
 DOVER TOWNSHIP
 OCEAN COUNTY NEW JERSEY

PLAN
 DOVER TOWNSHIP MAINLAND
 SANITARY SEWERAGE SYSTEM
 TOMS RIVER INTERCEPTOR SEWER
 EXTENSION TO TOMS RIVER
 SCALE: 1" = 30'
 DATE: SEPT. 1970

CHARLES J. KUPPER
Charles J. Kupper
 REG. PROF. ENGR. NO. 1556
 15 STELTON ROAD PISCATAWAY, N.J.
 CONTRACT NO. 20 SHEET NO. 4 OF 11



NO.	DATE	DESCRIPTION	CHK'D.	APPR'D.
	4/30/79	AS-BUILT	JPP	
		RENUMBERED ALL SHEETS	HWD	JNRS
	1/5/70	REVISED ENTIRE DESIGN	HWD	JNRS
REVISIONS				
		DESIGNED J.N.B.S. & J.F.S.	CHECKED J.N.B.S. & H.W.D.	
		DRAWN A.P.L. & H.W.D.	APPROVED E.J.H.	
		TRACED A.P.L. & P.T.D.		

DOVER SEWERAGE AUTHORITY
DOVER TOWNSHIP
OCEAN COUNTY NEW JERSEY

PLAN
DOVER TOWNSHIP MAINLAND
SANITARY SEWERAGE SYSTEM
TOMS RIVER INTERCEPTOR SEWER
EXTENSION TO TOMS RIVER
SCALE: 1" = 30'
DATE: SEPT. 1970

CHARLES J. KUPPER
REG. PROF. ENGR. NO. 1556
15 STELTON ROAD PISCATAWAY, N.J.
CONTRACT NO. 20 SHEET NO. 6 OF 11

CI-D6

Appendix G - Environmental Screening and Environmental Constraints Map



220 Lake Drive East, Suite 300 | Cherry Hill, NJ 08002

**Ocean County
Toms River Waterfront Redevelopment and
Surrounding Area Concept Development Study,
Toms River Township, Ocean County, NJ**

Environmental Screening Report (ESR) Summary

Date:	3/29/2021
Project Sponsor:	Ocean County Engineering Department
Project Name:	Toms River Waterfront Redevelopment and Surrounding Area Concept Development Study
County and Municipality:	Toms River Township, Ocean County, NJ
Project Funding & Purpose:	FHWA BUILD Grant
Project Purpose	To develop conceptual infrastructure improvements that address existing safety and operational issues while providing capacity for planned re-development of the waterfront area in Toms River.

Environmental Constraints Map and Concerns

(Attached Constraint Map)

Cultural Resources	Yes/No
Known Historic Properties	Yes
Known Historic District	Yes
Known Archaeological Site	pending
Subject to Preliminary Engineering Historic and/or Archaeological Study	Yes
Comments: Excluded per NJTPA within the scope	

Section 4(f) Properties	Yes/No
Known Section 4(f) Properties	Yes
Comments: Excluded per NJTPA within scope. Subject to Design and Alternatives and subject to the principle of “avoid, minimize, and mitigate.”	

Other Environmental Considerations	Fatal Flaw High/Low/Comment



220 Lake Drive East, Suite 300 | Cherry Hill, NJ 08002

Ocean County
Toms River Waterfront Redevelopment and
Surrounding Area Concept Development Study,
 Toms River Township, Ocean County, NJ

Noise - subject to PE review	Low
Air Quality - subject to PE review	Low
Floodplain	Comment
Coastal Wetland and Tideland Riparian	Low
Freshwater Wetlands	Low
Vernal Pool	Low
Wild and Scenic River	NA
Essential Fish Habitat	Low
Shellfish Habitat	Low
Threatened and Endangered Species	Low
Known Contaminated Sites	Low
Socio-economic / Environmental Justice /Community Needs and Impacts	Low
Regulated/Protected Areas	Low
NJDEP Green Acres Program (GAP)- Existing- subject to avoidance	Low
Land Use - Planned Waterfront Development	Comment
Comments: The majority of the project area is located in Zone AE (within the 100-year floodplain). Planned Waterfront Development occurring in stages and will be subject to their own environmental permit obligations.	

Environmental Screening Summary

- Project study area is within the CAFRA Zone.
- Wetlands are just outside the project study area. If the project boundaries change, there could be impacts.
- This project is likely regulated by FHA Control Act Rules. Portions of the project area are in the 100-year flood plain and may be controlled by the Tidal Flood Elevation.
- The PPA is considered a “Major Development” and will be subject to Stormwater Management Rules.
- The population within Toms River is comprised of 10% minorities (state average 43%) and that 6.2% of the population lives below the poverty line (state average 10.7%). 10.1% of the population are over the age of 65 (state average 13.5%).



220 Lake Drive East, Suite 300 | Cherry Hill, NJ 08002

Ocean County
Toms River Waterfront Redevelopment and
Surrounding Area Concept Development Study,
Toms River Township, Ocean County, NJ

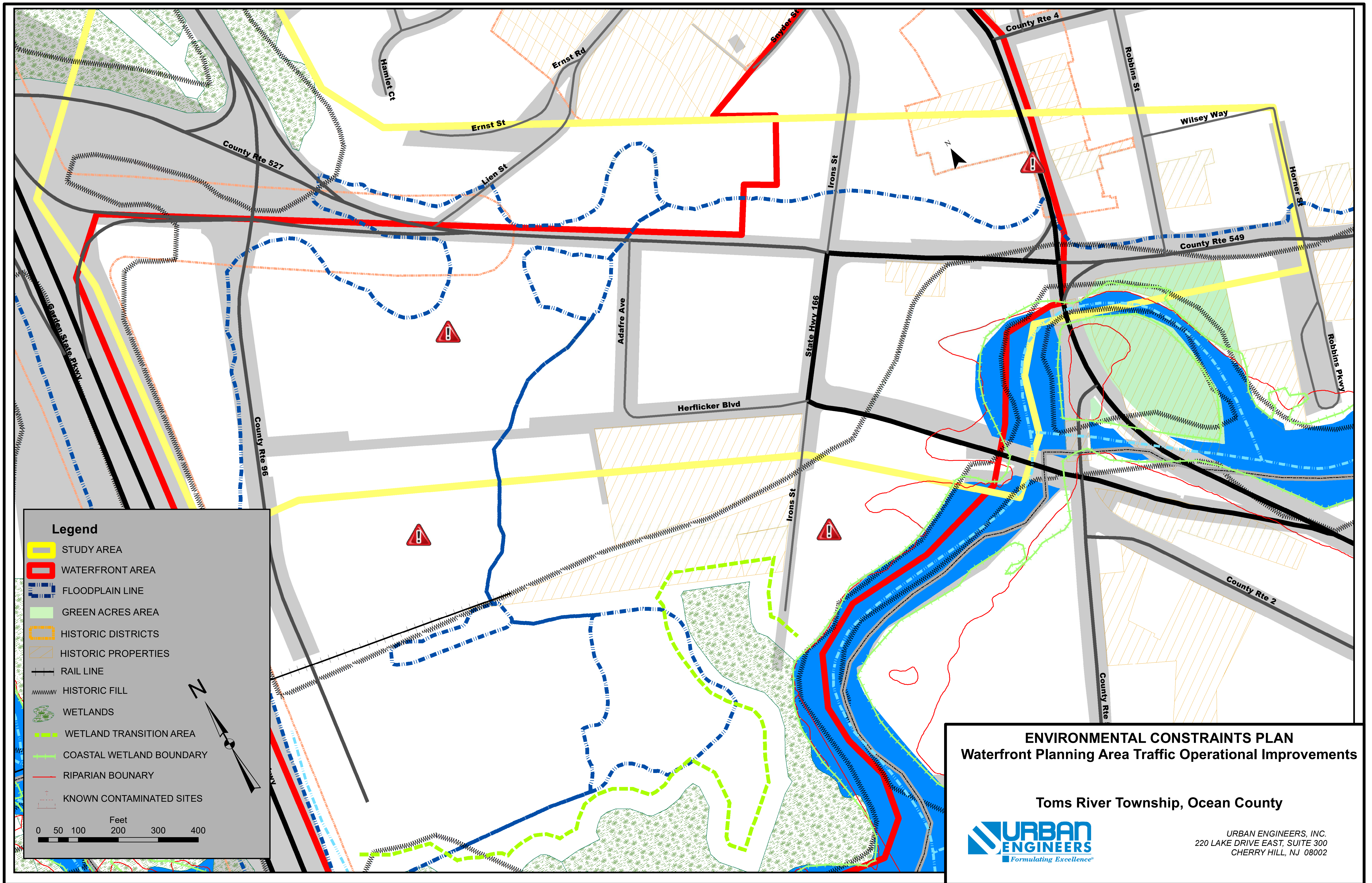
- Municipal-owned open space (Township of Toms River) is located at the southeast corner of the Main Street/Water Street intersection.
- The western side of the Highland Parkway/Lakehurst Road intersection is within a Regional Growth Pinelands Management Area. In this area the Pinelands Commission has limited regulatory jurisdiction. Applications to the Commission are not required for development in this area.
- The study area is within the New Jersey Coastal Plain sole source aquifer.
- Potential acid-producing soils exist at the southern and western edges of the study area. The Kirkwood sedimentary formation within the area have the potential to produce these soils upon air exposure through drainage or earth-moving operations.
- According to the USFWS Information, Planning, and Conservation (IpaC) resource list, the northern long-eared Bar (*Myotis septentrionalis*, federally threatened), swamp pink (*Helonias bullata*, federally threatened) and Knieskern's Beaked-rush (*Rhynchospora knieskernii*, federally threatened) could potentially be affected by proposed project activities.
- Since there are several sites with NJDEP enforcement cases and historical fill within the project area, there is the potential for involvement with regulated material or contaminated sites. Once more specific project plans are available then a reevaluation will be made to determine whether environmental investigation will be required.

Key:

Low - resource may exist but not anticipated to be a fatal flaw and subject to the principle of avoidance and minimization where feasible.

High - resource exists and avoidance is not feasible and subject to higher design consideration in PE.

Comment - Notes for fatal flaw consideration.



Legend

- STUDY AREA
- WATERFRONT AREA
- FLOODPLAIN LINE
- GREEN ACRES AREA
- HISTORIC DISTRICTS
- HISTORIC PROPERTIES
- RAIL LINE
- HISTORIC FILL
- WETLANDS
- WETLAND TRANSITION AREA
- COASTAL WETLAND BOUNDARY
- RIPARIAN BOUNDARY
- KNOWN CONTAMINATED SITES

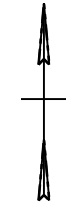
0 50 100 200 300 400 Feet

ENVIRONMENTAL CONSTRAINTS PLAN
Waterfront Planning Area Traffic Operational Improvements




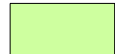

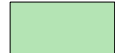

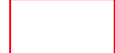



Toms River Township, Ocean County

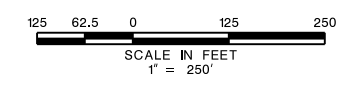
URBAN ENGINEERS
Formulating Excellence

URBAN ENGINEERS, INC.
 220 LAKE DRIVE EAST, SUITE 300
 CHERRY HILL, NJ 08002



LEGEND

-  SELECT ENVIRONMENTAL CONSTRAINT MAP
-  STREAMS
-  KNOWN CONTAMINATED SITES
-  OPEN SPACE (GREEN ACRES)
-  WATER
-  WETLANDS
-  PROJECT AREA
-  TIDELAND BOUNDARY
-  HISTORICAL SIGNIFICANCE
-  COASTAL WETLANDS
-  RAILROAD



TOMS RIVER WATERFRONT & SURROUNDING AREA STUDY

SELECT ENVIRONMENTAL
CONSTRAINT MAP
TOMS RIVER TOWNSHIP, OCEAN COUNTY



Appendix H – Alternative Analysis Matrix

**Toms River Waterfront and Surrounding Area Concept Development -
ALTERNATIVES IMPACTS MATRIX**

	ALTERNATIVE 1 (NO BUILD)	ALTERNATIVE 2 (Loop Road)	ALTERNATIVE 3
Meets Purpose and Need	No	No	Yes
Safety Improvement	N/A	One-way traffic flow (eliminating conflicts), Complete Streets, New Traffic Signals	Modern Roundabout, Reduction of conflict points at Main Street / Water Street, Dedicated bike lane on Irons St
Existing and Design Year Level of Service Analysis	N/A	Existing LOS: AM= C (Water Street & Irons Street), C (Herflicker Blvd. & South Main Street), C (Highland Parkway & GSP NB Ramps), C (Water Street & Adafre Avenue) , PM=D (Water Street & GSP SB Ramps), C (Water Street & Irons Street), C (Water Street & Main Street), C (Herflicker Blvd. & S. Main Street), Design Year 2045 : AM= F (South Main Street & Route 166), PM= F (South Main Street & Route 166)	Existing LOS: AM= C (Water Street & Irons Street), C (Herflicker Blvd. & South Main Street), C (Highland Parkway & GSP NB Ramps), C (Water Street & Adafre Avenue) , PM=D (Water Street & GSP SB Ramps), C (Water Street & Irons Street), C (Water Street & Main Street), C (Herflicker Blvd. & S. Main Street), Design Year 2045 : AM= All intersections LOS C or better, PM=All intersections LOS C or better
Estimated Construction Cost	N/A	\$5,600,000	\$4,920,000
Constructability Risk	N/A	Low	Medium - Advanced Utility Relocation Recommended
Maintenance of Traffic	N/A	Staged construction with detours	Staged construction - 3 Stages
Design Exceptions	N/A	1. Outside Shoulder Width	1. Outside Shoulder Width
ROW Impacts (areas, easements, land use & impacts, lot and block)	N/A	Temporary Construction Easements	Impacts mostly occur around the roundabout on the Northeast and Southeast corners. Other intersection improvements will require partial acquisitions. These include Block/Lot 537/20, 103, 86.22, 566.01/3, 566.02/6, 566.03/1, 569/11.02, 658/47
Commercial Acquisitions	N/A	None	None
Access Impacts and Waivers (Driveways)	N/A	Conversion of two-way flow to one-way flow	3 modifications of access near the entries and exits on the eastern side of the roundabout
Access Impacts - Parking Lot (Number of Spaces)	N/A	None	Loss of 8 on-street parking spots on Herflicker Blvd
Utilities Relocation and Associated Costs	N/A	None	6 Utility Poles (Approx.) , \$200,000
Complete Streets Policy Compliance	The existing project area is not compliant.	Loop Road achieves complete streets compliance by implementing bike lanes, parking and sidewalks.	Sidewalk is provided, but there is not enough width to provide dedicated bike lanes.
Anticipated Environmental Document	N/A	CED	CED
Environmental Justice	N/A	No EJ Issues	No EJ Issues
Potential Impacts on Contaminated Sites	N/A	None	Driveway adjustment for Contaminated Site Block 566.01 Lot 4
Major Risks (Threats or Opportunities)	1. Does not fulfill the project purpose and need.	1. Does not fulfill the project purpose and need.	1. Does not address outside shoulder width

Appendix I – Project Correspondence



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***Toms River Waterfront and Surrounding Area
Local Concept Development Report***

Toms River Township, Ocean County, NJ

MINUTES OF MEETING

SUBJECT: Project Kickoff Meeting

DATE/TIME: April 16, 2020, 1:30 PM – 2:30 PM

LOCATION: GoToMeeting

ATTENDED BY:

John Ernst	Ocean County Engineering Department
Mark Jehnke	Ocean County Engineering Department
Scott Diehl	Urban Engineers
Chris Burke	Urban Engineers
Daniel Hutton	Urban Engineers
Justin DiBiase	Urban Engineers

The purpose of this meeting was kickoff project. The meeting began with a round of introductions of the project team. The following information is a summary of the major items discussed during the meeting:

Waterfront Project Scope

The proposed Waterfront Redevelopment is broken into two (2) phases. Phase 1 includes parcels to the north of Herflicker Boulevard; while Phase 2 occurs to the South.

Schedule

Urban presented the project schedule. Ocean County remarked that the 12-month schedule looks acceptable and previous work should provide us a head-start on the project to help achieve the shorter than typical 18-month Concept Development (CD) timeframe.

Public Involvement

Ocean County mentioned that the project's Purpose and Need (P&N) will likely be guided by Toms River's FHWA Grant. Ocean County indicated that they would provide any information they have to help the project team in this effort.

Ocean County stated that the <https://www.chadwickbeachbridge.com/> website should serve as the example to follow for the project website. Ocean County also mentioned that they will coordinate with NJTPA so that Urban can use the website shell from the Chadwick Beach Bridge Project to help expedite the project's website development process. Both Urban and Ocean County are aware of and will follow the most recent guidance concerning Virtual Public Engagement and Public Engagement from the State and NJTPA.

As Built Plans & Phase 1 Redevelopment

Urban will coordinate with Ocean County and Toms River Township to collect all relevant data and plans pertaining to the project. In addition to the plans, a meeting with Toms River will be arranged to understand better how Toms River plans to approach the redevelopment of the entire Waterfront area from a development phasing and infrastructure changes perspective. It was recommended that this coordination meeting occur in the near future in order to understand the status of the redevelopment and its phases.

Herflicker Blvd Extension

Urban inquired about the status of Herflicker Blvd extension project. Ocean County remarked that it is internally working on this project, in the process of finalizing designs for the project and would provide information to Urban as need for the CD effort. The timing of the construction is dependent upon the gas utility's remediation project approximately 5' below grade within the ROW.

Additional Comments/Questions

Ocean County remarked that they want a portion of the study to be focused on parking and more specifically the loss of parking related to redevelopment.

Urban asked if Ocean County has a preferred style/template for Local Concept Development (LCD) Reports. Ocean County stated that it has done two previous LCD reports 1) Rt. 83 and 2) Chadwick Bridge. Both LCD reports were consistent with NJTPA LCD reports, and Urban may follow the precedent examples while using discretion based off of previous experience with other CD reports.

Action Items

Urban Engineers

- Create a list of items/information needed from Ocean County for the project with a focus on items/information needed for existing conditions analysis
- Initiate work on existing conditions, traffic volume distribution for land use

scenarios and project website

Ocean County

- Coordinate with NJTPA on website shell for Chadwick Project
- Provide available materials/information to Urban based on the to be submitted list

We believe the foregoing record to be an accurate summary of the discussion and related decisions. We would appreciate notification of exceptions or corrections to these Minutes within five (5) working days. Without notification, we will consider these minutes to be a record of fact.

Respectfully Submitted,

Daniel Hutton, AICP Candidate
Project Planner

Project Coordination Meeting Agenda

May 8, 2020, 11:00 a.m.

1. Purpose of Meeting

To coordinate on on-going and upcoming study activities

2. Study Activities

- Data Collection
 - On-going. Need some additional information (as-built plans, jurisdictional maps, utility info/contacts, and known development plans)

- Existing Conditions
 - Physical Inventory and Condition
 - Safety
 - Environmental

- Traffic
 - Existing Conditions
 - Done
 - No-Build
 - Background growth
 - Base Build
 - Trip Generation and Trip Distribution Tables Created
 - Easily changeable based on different land use scenarios and/or trip distribution assumptions
 - Concepts
 - Pending results of Base Build and discussions with Toms River

- Public Outreach
 - Project Website
 - Public Involvement Action Plan
 - Local Officials and Stakeholder Meeting/Coordination

3. Project Schedule Key Upcoming Dates

- Coordination with Local Officials – TBD
 - How/What do we want to prepare for the meeting?
- Existing Conditions Analysis – Week of June 11
- Draft Project Purpose and Need – Week of July 2

4. Other Items

- Cultural Resources -- Who's handling cultural resources
- Toms River Plan – Overall development plan (transit village), Bike Network, etc.

5. Open Discussion (other items)

Project Coordination Meeting Agenda

June 23, 2020, 11:00 a.m.

1. Purpose of Meeting

To provide an overview of the project and to coordinate on project activities (CD and Grant)

2. Project Overview (PowerPoint Presentation)

- Project Delivery Process
- Project Location/Background
- Data Collection and Existing Conditions Analysis
- Future Conditions
- Waterfront Redevelopment Plans and BUILD Grant
- Project Purpose and Need (In Progress)
- Initial Ideas
- Schedule and Next Steps

3. Public Involvement

- Public Involvement Action Plan
- Project Website

4. Project Schedule Key Upcoming Dates

- Existing Conditions Analysis – End of June/Mid July
- Draft Project Purpose and Need – End of June/Mid July
- Public Information Center – End of July/Early August

5. Open Discussion (other items)

Toms River Waterfront & Surrounding Area Local Concept Development Study

Questions and Answers from Public Meeting (September 24, 2020)

Q1: *How much does the project cost and who will pay for it?*

A1: *There is no estimated cost for design and construction of the project at this time since the Preliminary Preferred Alternative (PPA) has not yet been determined. The LCD study will determine this PPA and is funded by Ocean County. The USDOT BUILD grant will subsequently be used to advance the project from the LCD study phase to final Construction.*

Q2: *Are there going to be parking for existing stores and offices on Water Street west of Main Street?*

A2: *We will be looking at all the roadways in the project and surrounding area while developing concepts. Looking at the existing parking supply we will evaluate its need and any potential for changes. At this time we do not know or anticipate changes on Water Street. We plan to meet with the Toms River Downtown Business Improvement District (BID) and business owners in the area to get input on how the parking serves their needs and clientele. Getting feedback from the BID and business owners in the area will help to inform the concepts that we develop.*

Q3: *In regard to the project area, the red outline appears to cut into or near the area of Hamlet Court, Messenger Street, Broad Street and others. This would be the upper left of your diagram. East of the parkway. Will this affect the wooded areas of the residential areas?*

A3: *Currently, we do not know or anticipate impacts to the wooded areas north of the Water Street/Parkway interchange. The red outline is intended to show the area where we see potential for roadway and multimodal improvements. These improvements are intended to occur within the existing right-of-way (ROW). However, the intersection of Water Street/Highland Parkway/Garden State Parkway looks to be an area where we will investigate the potential for a modern roundabout solution.*

Q4: *Since some of the area involves the Garden State Parkway entrances or exits, is the State of NJ and or NJ Transit helping to fund some of this project?*

A4: *At this point in the project Ocean County is funding the Local Concept Development Study. Once this is completed there are funds available from the USDOT BUILD Grant to progress the project into the next phases. Depending on the concepts developed during phase 1 (Local Concept Development) there may or may not be opportunities to involve the State, NJ Transit, or NJTA in discussion for additional funding. This is to be determined.*



Q5: *What is the anticipated timeline to construction of these improvements?*

A5: *The timeframe will be better determined at the end of the Local Concept Development Study once a Preliminary Preferred Alternative (PPA) is selected. However, the USDOT BUILD Grant must be executed 5-years from the beginning of the project. With that said, we anticipate that construction bids will be released in 2023 with construction beginning before or by 2025.*

Q6: *Can you repeat the project website?*

A6: www.tomsriverdowntownstudy.com

Q7: *Will there be any condemnations on Water Street?*

A7: *The anticipation is that there will be no additional right-of-way acquisitions and all project improvements will be done within the existing right-of-way, with the exception of the Herflicker Blvd. extension that is already underway.*

Q8: *Is the website live?*

A8: *The project website has been live for about a week.*

Q9: *Will the municipal parking lot at Water Street and Irons Street still be there after this project?*

A9: *As part of the Local Concept Development process we want to minimize all right-of-way impacts to existing properties. Redevelopment of properties such as the municipal parking lot at Water Street and Irons Street is controlled by Toms River Township and is not a part of this project's Local Concept Development.*

Q10: *How are you doing a road concept when the Redevelopment plans are not finalized yet?*

A10: *We have existing roadway network data and a good understanding with Toms River on the anticipated redevelopment, as well as, the traffic impact of that redevelopment on the roadways within the project area. Working in close collaboration with Toms River Township we are able to anticipate the long term impacts of redevelopment (whether finalized or future) and develop roadway concepts that address these impacts.*

Q11: *Will there be detours during this project? Where will they be?*

A11: *It is too early in the process to say for sure if there will be planned detours for the proposed improvements and where those detours will be located. Traffic impacts as a result of construction and the necessary detours or construction staging will be addressed during the next phase of this project Preliminary Engineering (PE).*

Q12: *Will we be able to see the questions and responses given during today's Q&A during the seven (7) day public comment period?*

A12: *Yes, a summary of the Q&A will be uploaded on the project website and available for the public to view by Friday, September 25, 2020.*

DATE: July 7, 2020

SUBJECT: Toms River Waterfront and Surrounding Area Concept Development
Projected Development Summary

The following is a memo summarizing Urban Engineers' (Urban) assessment of trip generation and trip distribution associated with the Toms River Waterfront and surrounding area projected development.

Project Background

The Toms River Waterfront and Surrounding Area Concept Development (CD) study was initiated by Ocean County to develop conceptual infrastructure improvements that address existing safety and operational issues while providing capacity for planned redevelopment of the waterfront area in Toms River. The project area encompasses approximately 60 acres of land containing commercial land uses in the targeted redevelopment zone. There are three major County Routes (Herflicker Boulevard (CR 166), Lakehurst Road/Water Street (CR 527/549), Highland Parkway (CR 96) and one State Road (Main Street (NJ 166) in the project area, which is located in Toms River Township, Ocean County.

The Phase 1 development Urban based trip generation on is included as **Attachment 1**. During the June 23, 2020 Local Officials meeting, Toms River noted that the Meridia Waterside (Development Site #2) might end up being 327 residential units and not 399 as shown. It was agreed this conservatively higher estimate was appropriate for Concept Development. It should be noted the original Downtown TR Redevelopment figure shown in Attachment 1 had 160 and 327 residential units for Meridia Overlook and Meridia Waterside sites, respectively. These values were updated based on "Residential Units @ 125/acre" shown in Attachment 1, which changed to 191 and 399 residential units, respectively.

Background Growth Rate

The future analysis year for analysis purposes was determined to be 2025 Opening year plus 20 years for a 2045 Design year. The background growth rate was based on NJTPA population and employment data for Toms River and South Toms River townships, and was determined to be 0.5% annual growth rate.

ITE Trip Generation

Trip Generation rates were developed including Pass-By and Internal Capture. The trip generation for the six mixed use developments was calculated using ITE's *Trip Generation Handbook 10th Edition* and ITE's *Trip Generation Manual, 3rd Edition*. The ITE Land Use (LU) codes used were LU 820 (Shopping Center) for retail and LU 221 (Multifamily House: Mid Rise) for residential. The fitted curve equations from the Trip Generation Manual were used for each individual site, except during the morning peak hour for proposed retail components.

When calculating the weekday morning peak hour trips for the proposed retail components, the square footage of proposed retail space for all sites was added together. This total square footage (73,250 SF) was then inserted into the fitted curve equation, to give the total trips generated by the retail components. The total number of trips were then divided between the six sites proportionally according to the retail component square footage



of each site. The reason this approach was used is because of the nature of the equation. If the equation was used to calculate each site individually, each of the six sites would be calculated to generate a minimum of 151 trips separately. While it is good practice to be conservative when estimating trips, it is the opinion of Urban that given the size and nature of the sites in question, using the equation for each site separately would vastly overestimate the trip generation.

Internal Capture & Pass-By Trips

After the gross trips were determined the number of internal trips was estimated. Internal trips are trips that occur within mixed use developments that include a combination of at least two ITE LU codes (e.g., Residential and Retail). The theory is that some of the trips generated by these components within a mixed use development will originate and terminate entirely within the development, thus reducing the trips that originate and terminate externally, thus reducing the amount of trips using the public roadway network as a result of the development.

Chapter 6 of ITE’s Trip Generation Manual, 3rd Edition details the methodology for calculating internal trips. Table 6.1 and Table 6.2 show the internal trip capture rates between origins and destinations for the various ITE LU codes. Internal trip capture volumes generated from Table 6.1 and 6.2 are then balanced where the smaller of the two values calculated between the two tables is selected. Once the number of captured trips was determined, they are subtracted from the gross trips to give us the external trips. The next step is to calculate the pass by trips.

Pass-By trips are trips which already use the roadway network who decide to enter the proposed site(s), as opposed to those who make a dedicated trip to or from one of the proposed sites. Pass-By is common for retail components, but non-existent for residential components. Table E9 of ITE’s Trip Generation Manual, 3rd Edition gives a Pass-By percentage of 34% for the Retail Land Use Code 820 (Shopping Center) for the weekday afternoon peak hour. So all external trips calculated for the retail component can be reduced by a further 34%. As mentioned, there is no Pass-By component for trips to and from residential land uses, so no further trips are subtracted from those components.

Table 1 below shows the gross trips generated, Internal Capture, Pass-By trips, and net trips generated for the AM and PM peak periods.

Table 1: Trip Generation Summary

	AM Peak			PM Peak		
	Enter	Exit	Total	Enter	Exit	Total
Gross Trips	239	415	654	683	581	1264
Internal Capture	5	5	10	124	124	248
Pass-By	0	0	0	98	88	186
Net Trips	234	410	644	461	369	830

Trip Distribution

The trip distribution percentages were developed based on existing traffic patterns, location of proposed sites, and engineering judgement. **Attachment 2** graphically shows trip distributions into and out of the six sites. The red boxes (trips out) and green boxes (trips in) represent the trip distribution percentages.



Build Traffic Volumes

The Background Growth Rate described above was applied to the Existing volumes to generate the 2045 No Build volumes. The Net Trips from **Table 1** were added to the 2045 No Build volumes using the Trip Distribution percentages from **Attachment 2** to create the 2045 Build volumes. **Attachment 3** contains the 2019 Existing, 2045 No Build, and 2045 Build volume figures.

Herflicker Road Extension Trip Re-distribution

With the completion of the Herflicker Road Extension connecting Herflicker Road between Adafre Avenue and Highland Parkway, vehicles coming from the Garden State Parkway (GSP), Lakehurst Township and the West headed south to Route 166 now have the option of using Herflicker Road instead of Water Street. With the Water Street/Irons Street intersection being a bottleneck point in the proposed condition, it was assumed a percentage of vehicles coming from the west would head south on Highland Parkway South to Herflicker Road to Route 166. Existing traffic volumes coming from the GSP and Lakehurst entering the project area were used to develop the 15% and 25% diversion percentages for the AM and PM peak periods, respectively.

These percentages were applied to the Build Volume Figures shown in **Attachment 3**, and the resulting volumes were used in the 2045 Build operations analysis.

Concept Development

It should be noted that as concepts are developed, trip distribution may be adjusted for operations analysis based on the geometry and roadway network associated with each concept.



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***Toms River Waterfront & Surrounding Area Local
 Concept Development Study***

Township of Toms River, Ocean County, NJ

MINUTES OF MEETING

SUBJECT: Stakeholder Coordination Meeting

DATE/TIME: October 30th, 2020, 11:00 AM – 12:00 PM

LOCATION: Virtual

ATTENDED BY:

John Ernst (JE)	Ocean County
Mark Jehnke (MJ)	Ocean County
Lisa Navarro (LN)	NJTA
Kevin Dunn (KD)	NJTA
Maynard Abuan (MA)	NJTA
Shawn Taylor (ST)	NJTA
Vincent Mignella (VM)	NJTA
William Wilson (WW)	NJTA
Scott Diehl (SD)	Urban Engineers

The purpose of the meeting was to provide NJTA an overview of the Toms River Waterfront & Surrounding Area Local Concept Development Study, update on latest study activities including sharing initial ideas at interchange 81, and to hear from NJTA about the Interchange 80 to 83 project.

The PowerPoint (attached) was used to provide an overview of the study and included the following agenda items:

- Project Location/Background
- Existing and Future Conditions Analysis
- Project Purpose and Need
- Initial Ideas (GSP/Highland Pkwy/Water St)
- Schedule & Next Steps

Key points and items discussed during the PowerPoint presentation included:

- Traffic Counts were conducted in May 2019. Urban to provide traffic data to NJTA.
- Design Year 2045 (opening day 2025).
- Roundabout at GSP/Highland Pkwy/Water St:
 - Urban indicated that the concepts presented are initial and need additional design work to improve geometric design elements of the roundabout, but before doing that work Urban/OC wanted to share with NJTA to see if NJTA was open to a roundabout.
 - NJTA (KD) indicated that from NJTA’s perspective a roundabout was a possibility to address the congestion and safety issues at the two key intersections, although their preference would be a solution that would provide NJTA the ability to control queues on the ramp (e.g., if a signalized intersection, queue detection could be used to “flush” a ramp queue).
 - Urban indicated that all traffic data, analysis and geometric design details would be provided to NJTA for their review.
 - Urban showed circulating & entering volumes to explain the hybrid (2/1 lanes) design.

After OC completes conceptual design, Toms River (TR) will be the lead for final design and construction. Key schedule requirements of TR’s grant include anticipated construction start of May 2023 and substantial completion of May 2025.

Following the discussion of the CD project, NJTA provided an overview of the Interchange 80 to 83 project. Key points and items discussed included:

- NJTA (MA) is in the process of evaluating proposals and selecting a designer for the Interchange 80-83 project:
 - NJTA (VM) indicated that once the Preliminary Engineering and Environmental Permitting consultant is awarded by the NJTA, VM will be the main point of contact for the NJTA’s OPS.
- Anticipated timeframe for start of project and coordination with OC and TR is spring of 2021.
- NJTA (MA) indicated that the proposed improvements would provide a continuous auxiliary lane in the northbound and southbound directions between Interchanges 80 and 83. Between Interchanges 81 and 82/82A, the auxiliary lane would be converted to a C/D roadway separated by barrier from the mainline roadways. Improvements are anticipated at Interchange 80 to provide for missing movements (NB exit and SB entrance).
- There was discussion about impacts to the Lakehurst (CR 527) bridge over GSP at Interchange 81:
 - NJTA (VM/MA) indicated it was too early to know what impacts may occur including how the widening of the GSP could impact the structure and exit/entrance ramps.
 - NJTA (VM) also noted that depending on what’s designed construction staging could impact the existing bridge (e.g., a new alignment could be needed).
 - OC indicated that if changes are made to the bridge, OC would like to provide input on the cross-section for the bridge as a 2nd lane WB lane would be consistent with long-term needs. NJTA (MA) indicated that OC also review the other roadway crossings underneath the GSP mainline within the milepost limits and advise of the desired cross-sections for those roadways to meet future needs.

- NJTA will coordinate with TR and OC early in the Interchange 80-83 project. One of the items as part of would be an MOA between NJTA/TR/OC to define roles and responsibilities.

Follow-up Items:

- Urban (SD) to provide traffic counts to NJTA (VM).
- Urban (SD) to provide proposed TR development information to NJTA (VM).

Follow-up Items to be provided, along with other data and analysis, when concept development alternatives have been reviewed by OC, but prior to public information center (PIC). It is estimated that the alternatives will be reviewed by OC in late November or early December.

Toms River Waterfront & Surrounding Area Local Concept Development Study

Questions and Answers from Public Meeting #2 (April 8, 2020)

Q1: *What is the County and Townships position of support for Concept 3?*

A1: *The County is very satisfied of the configuration and elements included in Concept 3. The modern roundabout and intersection improvements address safety and reduces congestion throughout the area. The Township is pleased as the proposed improvements included in Concept 3 provide for the anticipated redevelopment and we look forward to progressing Concept 3 into the next phase of the project by using the BUILD Grant funding.*

Q2: *Will there be any takings of properties or knocking down buildings as part of this project?*

A2: *No, this project will not be taking any buildings but there may be impacts to some driveways within the project area.*

Q3: *Is there going to be an elevation difference between the existing and proposed improvements?*

A3: *We hope to elevate Herflicker Blvd to the maximum extent possible. The BUILD Grant anticipates this work. However, we may be limited in how much we can feasibly elevate Herflicker Blvd. This will be further investigated as part of Preliminary Engineering (PE) and Final Design (FD) phases.*

Q4: *How would the proposed roundabout affect traffic at Water Street and Lein Street?*

A4: *Due to the traffic calming effect of the roundabout we believe traffic movements at Lein Street will be easier as traffic will be approaching more slowly than in it's previous condition. Additionally, the intersection of Water Street and Lein Street is not being reconfigured and will function as it currently does in it's existing condition.*

Q5: *How will pedestrian traffic cross Water Street to get to Huddy Park?*

A5: *We are not removing the existing crosswalks or sidewalks that provide pedestrian access to Huddy Park. As the project progresses into PE and FD we believe changes to the traffic signal phasing at Water Street/RT 166 will be looked at and analyzed from the perspective of pedestrians.*

Q6: Concept 3 no longer proposes a one-way Loop Concept Plan?

A6: As part of this project, we evaluated and investigated various Loop Concepts. However, we found that the one-way pairs could not handle the traffic volumes during the AM and PM hours as needed. Eastbound traffic looking to go north to Washington Street or East to Hooper Avenue would bottleneck at the stop sign at RT 166 NB.

Q7: Will the far right through-lane at WB Water Street be widened as part of Concept 3?

A7: Concept 3 does not propose any changes to the lane widths at that location but this is certainly something that can be further looked at as part of the next phases in this project.

Q8: How will the entrance and exist be added to the new proposed building at Water Street?

A8: The proposed building at the lower Irons Street Municipal Parking Lot (where Red Carpet Inn used to be) has proposed various access points. The access points will function almost identical to how they do in the existing condition. The proposed building has been designed around the access points to provide access to residents to get to the Toms River Bus Terminal easily by using the 2-way section of Herflicker Blvd.

Q9: Will you be able to head north on Irons Street from Herflicker Blvd?

A9: No, Irons Street will remain a one-way section between Water Street and Herflicker Blvd. The favorite vehicular traffic move will be to make a left onto Adafre Ave then a left onto Irons Street at the Water Street/Irons Street intersection.

Q10: Was a traffic study considered to understand the influx of people caused by the proposed building at Water Street?

A10: Yes, as part of our analysis we studied the build-out scenario of the entire waterfront area and looked at the anticipated traffic volumes created by the future development as outlined in the Waterfront Area Redevelopment Plan.

Q11: Will be there consideration and coordination with Toms River to do their own study before a final decision is made on the proposed improvements?

A11: There has been coordination as part of this project with both Toms River and South Toms River. The next phases of this project will be undertaken by Toms River and they will ultimately decide the direction of the project during those phases. Toms River is going to release an RFP for this project soon and anticipates working closely with Ocean County on County owned roadways. From the County's

perspective, this study was intended to evaluate the roadway network and provide a framework on improvements on County roadways that best served both the County and the Town if they choose so to do.



DATE: March 25, 2021

SUBJECT: Toms River Waterfront and Surrounding Area Local Concept Development (LCD) Study
Congestion Management Plan (CMP) Evaluation

TO: Jeffrey Vernick, North Jersey Transportation Planning Authority (NJTPA)

FROM: Dan Hutton – Urban Engineers

CC: John Ernst – Ocean County
Mark Jehnke – Ocean County
Scott Diehl – Urban Engineers

Purpose of Memo

This memo is intended to provide an overview of the work completed by Urban Engineers for Ocean County's *Toms River Waterfront and Surrounding Area LCD* in order to determine if a CMP study is needed for this project.

Project Description

In June of 2016, Toms River Township completed their Downtown Circulation Neighborhood Plan (Neighborhood Plan). The purpose of the Neighborhood Plan was to evaluate traffic and circulation issues affecting Downtown Toms River's Downtown Waterfront Redevelopment Area (shown in Figure 1). From the analysis that was completed the plan identified a number of existing issues and identified potential improvements to mitigate the existing issues while also providing for redevelopment of the waterfront area.

Funding to address the identified existing issues and study the potential improvements was awarded to Toms River in 2017 via a federal BUILD Grant. Due to the identified roadways being primarily under Ocean County jurisdiction, Ocean County Engineering Department is performing the Local Concept Development Study with Urban Engineers providing consultant assistance.

Ocean County has completed several studies and projects in the area including operation analysis and retiming of intersections along Water Street (CR 527)



Figure 1: Downtown Waterfront Redevelopment Area

in 2018 and a Road Safety Audit in 2019 of Water Street (CR 527)/Dock Street between the Garden State Parkway (GSP) and Washington Street. The purpose of this Toms River Waterfront and Surrounding Area LCD Study project is to build off the work that was completed by Toms River Township and Ocean County in order to develop conceptual infrastructure improvements that address existing safety and operational issues while adequately providing for future planned redevelopment of the waterfront area in Toms River.

Notice to proceed for this project was given to Urban Engineers by Ocean County on May 1, 2020. Public outreach was a priority from the beginning of the project. As such, the project's Public Involvement Action Plan (PIAP) includes both virtual and in-person public engagement techniques and strategies as recommended in the **NJTPA Public Engagement Plan** and **NJTPA Virtual Public Engagement Best Practices**. A dedicated project website was developed and is updated consistently to reflect the project's progress - <https://tomsriverdowntownstudy.com/>. A virtual public information session was held September 24, 2020 and a second and final one is scheduled for April 8, 2021. Recordings of the public information sessions are posted to the website for further public comment.

The 2016 Neighborhood Plan identified a "Loop Road Concept" (shown Figure 2) as being the preferred operational improvement for the Waterfront Redevelopment Area. However, both Toms River and Ocean County were unsure if this concept was able to adequately provide safety and traffic operations required for future redevelopment.

This LCD project has developed and analyzed multiple concepts, including the "Loop Road Concept", and narrowed the concepts down to a recommended alternative that best satisfies the project's purpose and need as well as goals and objectives. This concept will be presented to the public for feedback at the upcoming public information session.

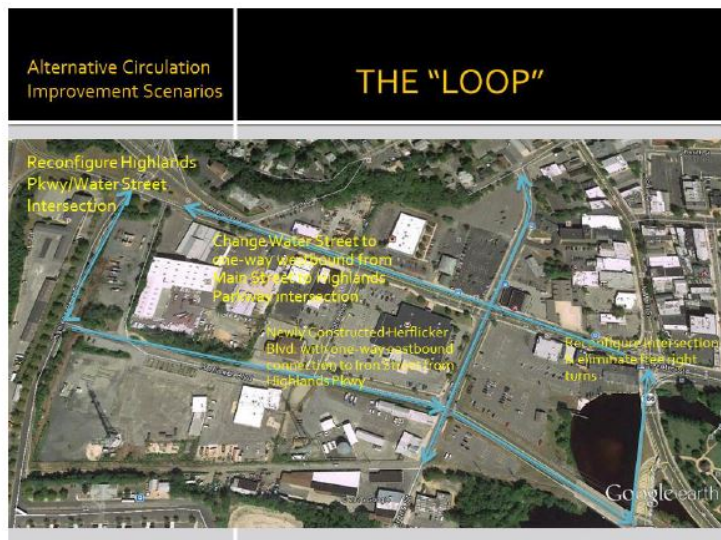


Figure 2: The Loop Road Concept

The following section describes the nature of the improvements shown in the initial preliminary preferred alternative (referred to as Concept 3).

Nature of Key Improvements (Concept 3) – Please see below clip image and attached figure

NOTE: THERE IS NO PROPOSED ADDING OF THROUGH LANE CAPACITY OR WIDENING OF THE ROADWAY AS PART OF THIS PROJECT

1. Reconfiguring the intersections of the Exit 81 GSP off-ramp/Lakehurst Road/Highland Pkwy/Water Street (CR 527) into a modern hybrid roundabout.
2. Adding a SB bike lane on Irons Street to connect to a future multi-use path.
3. Restricting SB left turning movements from Main Street (NJ 166) to Water Street (CR 527), eliminating a phase from the signal and allowing the signal to run more efficiently.
4. Channelization of Irons Street SB right-turns and re-timing of the traffic signal to adjust for more efficient green time usage.
5. Installation of a new traffic signal at Herflicker Boulevard and Irons Street.
6. Reconfiguring the Herflicker Boulevard/S. Main Street intersection through re-striping and re-timing.
7. Restriping and extending the Herflicker Boulevard/NJ 166 merge.



Figure 3: Concept 3 (see attached PDF for larger view)

Conclusion

The proposed improvements developed as part of this project improve safety and operations within the project area without adding capacity or widening roadways.

This project also supports the implementation of the Toms River's Downtown Waterfront Phase 1 Redevelopment Plan (2017), which proposes higher-density mixed-use redevelopment within the project area to create a compact, pedestrian-friendly development using sustainable planning and design techniques.

In compliance with the Redevelopment Plan, future redevelopment of parcels within this area will likely include installation of a pedestrian and bicycle friendly streetscape (15' sidewalk). The Plan also recommends TDM strategies, such as jitneys/vans to take residents to the adjacent Toms River Bus Terminal, bike parking, shared parking agreements, and pedestrian plazas to increase mobility and access.

This project supports the federal BUILD grant awarded to Toms River Township, which will fund the subsequent phases of this project in order to “holistically address congestion, circulation, and flooding issues facing the downtown waterfront district of Toms River”¹.

While CMP review is required by NJTPA for any transportation project that can lead to potential increases in single occupant vehicle (SOV) travel. We believe that the information provided demonstrates that this project does not lead to increases in SOV travel but rather is focused on improving safety and operations of roadways, accommodating multimodal access, and mitigating congestion within the project area to support future redevelopment. As such, this project does not propose widening of roadways or adding of capacity.

We welcome the opportunity to discuss the proposed project further with NJTPA if that would be beneficial.

¹ BUILD Grant Application, Downtown Toms River Loop Road Project, Rutala Associates, (2018)

From: [Vernick, Jeffrey](#)
To: [Daniel R Hutton](#)
Cc: [Scott J Diehl](#); [Fineman, Brian](#); [McGuinness, Eugene](#)
Subject: RE: Congestion Management Process (CMP) Study Review
Date: Tuesday, April 20, 2021 2:55:35 PM
Attachments: [image001.png](#)
[Toms River Waterfront LCD - Memo 3.25.21.pdf](#)
[Overall Final Conceptual Design-Default-001.pdf](#)

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

Hi Dan,

Thank you for providing CMP Study documentation for the Toms River Waterfront and Surrounding Area Local Concept Development (LCD), a federal BUILD grant-funded project to address traffic and circulation issues affecting Downtown Toms River's Downtown Waterfront Redevelopment Area. The following provides our review the CMP aspects of this initiative.

Based on the information provided, the project has developed an "initial preliminary preferred alternative" referred to as "Concept 3" building upon:

- Circulation and waterfront redevelopment needs identified in the Toms River Township Downtown Circulation Neighborhood Plan beginning in 2016
- A 2018 operational analysis and retiming of intersections along Water Street (CR 527) and
- A 2019 road safety audit in 2019 of Water Street (CR 527)/Dock Street between the Garden State Parkway (GSP) and Washington Street
- Community outreach through this LCD effort begun in May of 2020 utilizing NJTPA recommended outreach practices

As presented, Concept 3 proposed strategies and improvements:

- Are intended to address specific operational and safety improvements to improve circulation and facilitate improved access within the redeveloping Toms River Waterfront Area
- Will contain multi-modal improvements through incorporation of a bike lane that will link up to the evolving regional trail system
- Incorporate the use of a loop circulation approach supported by an innovative roundabout design and
- Will NOT add roadway lane capacity capable of increasing vehicle volumes and furthering regional congestion

Based on our review, the NJTPA finds that the project is consistent with our NJTPA CMP and should not increase roadway capacity. Although not required, we would recommend that the project team seek to incorporate a performance measurement program to assess the effectiveness of the completed improvements on an ongoing basis.

Finally, the NJTPA commends Ocean County for following the recommended processes of the NJTPA CMP. Starting with initial planning reviews and outreach for the project area leading to the identification of needs in both a local and regional context, and then evaluating and selecting

strategies in a multi-modal perspective to identify a locally preferred alternative concept mindful of potential capacity increases, we believe that the study has achieved its stated project goal in the BUILD application of “holistically address[ing] congestion, circulation, and flooding issues facing the downtown waterfront district of Toms River.”

Thank you for your efforts to prepare the CMP Study documentation and if you have any further questions, please feel free to contact me.

Regards,

Jeffrey F. Vernick

Manager, Performance Analysis and Planning
North Jersey Transportation Planning Authority
One Newark Center, 17th Floor
Newark, NJ 07102

Tel.: 973.639.8429

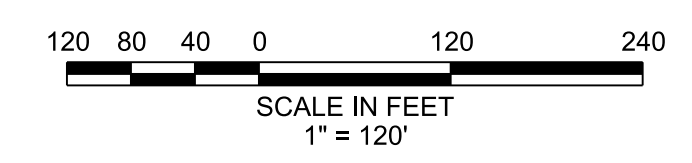
Fax: 973.639.1953

E-Mail: jvernick@njtpa.org

Appendix J - Preliminary Preferred Alternative

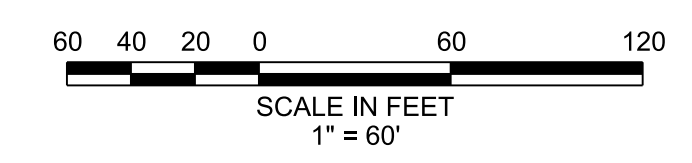


ALTERNATIVE 3 CONCEPTUAL PLAN
TOMS RIVER WATERFRONT AND SURROUNDING AREA
CONCEPTUAL DEVELOPMENT STUDY
TOMS RIVER TOWNSHIP
OCEAN COUNTY, NEW JERSEY





MODERN ROUNDABOUT CONCEPT
TOMS RIVER WATERFRONT AND SURROUNDING AREA
CONCEPTUAL DEVELOPMENT STUDY
TOMS RIVER TOWNSHIP
OCEAN COUNTY, NEW JERSEY



Appendix K - Resolution of Support

**RESOLUTION OF SUPPORT
RESOLUTION 2021-105**

**RESOLUTION SUPPORTING THE TOMS RIVER WATERFRONT & SURROUNDING
AREA LOCAL CONCEPT DEVELOPMENT STUDY**

NOW, THEREFORE, BE IT RESOLVED that the Borough Council of the Borough of South Toms River, County of Ocean and State of New Jersey, does hereby support the advancement of the Toms River Waterfront and Surrounding Area Local Concept Development Study to the next phase of the project: Preliminary Engineering.

This resolution was adopted at a meeting of the Borough Council held on the 12th Day of April, 2021, and shall take effect immediately.


Municipal Clerk

	MOTION	AYE...	NAY	ABSTAINED	ABSENT	TRANSMITTED
Fennell	2 nd	/				
Mosley	1 st	/				
Murray		/				
Polzhasen		/				
Ritzler		/				
Taylor		/				

Appendix L – Risk Management Information



NJDOT RISK MANAGEMENT

PROJECT RISK REGISTER

Project Manager:	Ocean County	Municipality(ies):	Toms River
Designer:	Urban Engineers, Inc.	County(ies):	Ocean
NJDOT Project Job No.:		Initial Register Date:	3/2/2021
NJDOT UPC #:		Last Register Update:	

Project Name: Toms River Waterfront Redevelopment and Surrounding Area LCD

Risk Rank & ID		Risk Statement & Category			Risk Analysis Matrix						Risk Response Strategy & Response Planning				
Risk Rank	Unique ID #	Risk Statement	Risk Category		Risk Probability	Risk Impact		Schedule Score	Cost Score	Final Score	Risk Response Strategy	Risk Response Action Plan	Final Risk Owner	Action Plan Status	Risk Last Updated
			Initial Risk Owner	Risk May Occur In		Schedule	Cost								
3	1	Reviewing agencies may encounter application backlogs, causing delays in receiving permits and requiring a delay in the scheduled advertisement	Environmental	Final Design	3 - Moderate	7 - High	2 - Low	21	6	27	Mitigate Threat	Coordination with DEP should occur as soon as possible to minimize any potential schedule delays	Designer	Active Plan Implementation	
4	2	External stakeholders may be opposed to the project or support may change; lawsuits could be filed	Community Relations	Preliminary Engineering	2 - Low	7 - High	4 - Moderate	14	8	22	Mitigate Threat	Continue to coordinate with stakeholders to ensure they are informed on project status and address any concerns if they arise	County	Active Plan Implementation	
1	3	Access modification/revocation may adversely disrupt property owner's business, resulting in changes, or possible lawsuits	Access	Preliminary Engineering	4 - High	7 - High	4 - Moderate	28	16	44	Accept Threat	The Access process will determine revocation and the designer will need to be flexible with plan changes should they be required	Designer	Active Plan Implementation	
4	4	Utility owners may be unable or unwilling to advance the utility relocations as scheduled or in a timely manner	Utilities	Construction	2 - Low	7 - High	4 - Moderate	14	8	22	Accept Threat	Managing this risk may be unavoidable but early coordination with utility companies on relocations can help reduce possibility of delay	Designer and County	Active Plan Implementation	
4	5	Utility work takes longer than anticipated and impacts construction staging and traffic control	Utilities	Construction	2 - Low	7 - High	4 - Moderate	14	8	22	Accept Threat	Scheduling advanced utility relocation should mitigate this risk.	Contractor and Designer	Active Plan Implementation	
10	6	Contractor may encounter unforeseen subsurface or differing site condition, which may require corrective action or change of plan prior to completing construction work	Construction	Construction	3 - Moderate	2 - Low	2 - Low	6	6	12	Accept Threat	Managing this risk may not be applicable as unforeseen items are not typically manageable	County	No Action Plan	
10	7	Maintaining adequate access during construction/staging may be difficult, resulting in businesses impacts.	Access	Construction	3 - Moderate	2 - Low	2 - Low	6	6	12	Accept Threat	The Traffic Control Plan in the contract documents should detail clear access for businesses during times construction for the contractor to maintain.	Designer and County	Active Plan Implementation	
2	8	The project may encounter previously unidentified contaminated soils, which were to be used for on-site fill, resulting in new environmental impacts and/or changes.	Environmental	Construction	3 - Moderate	4 - Moderate	7 - High	12	21	33	Mitigate Threat	Perform soil contamination testing during design, especially when designing any stormwater infiltration features.	Contractor and County	Active Plan Implementation	
8	9	Unacceptable congestion/queuing may occur in the detour areas/construction area requiring late TCP changes.	Traffic Operations	Construction	2 - Low	4 - Moderate	4 - Moderate	8	8	16	Mitigate Threat	Study adjacent intersections during preliminary design to determine whether diverted traffic will cause traffic operations to fail.	Designer	Active Plan Implementation	
8	10	The TCP and/or staging plans may not correctly/adequately identify a vertical differential between adjacent travelways, resulting in changes.	Traffic Operations	Construction	2 - Low	4 - Moderate	4 - Moderate	8	8	16	Mitigate Threat	Design traffic control during PE with vertical differences in mind at crossover areas.	Designer	Active Plan Implementation	
10	11	If base mapping is 5 years old or older, it may not accurately reflect recent, private construction within the project limits; the entire base map may need to have an extensive field edit performed to determine its usefulness.	Survey	Construction	3 - Moderate	2 - Low	2 - Low	6	6	12	Accept Threat	As development occurs, obtain as-built mapping from developers or perform supplemental survey closer to construction.	Designer and County	Active Plan Implementation	
7	12	The adjacent Herflucker extension project may not be completed by the time this project begins, creating a problem for the final circulation pattern of the Waterfront area.	Other	Final Design	3 - Moderate	4 - Moderate	2 - Low	12	6	18	Accept Threat	As the two projects continue, coordinate design with owners, designers and stakeholders so construction is seamless.	Designer and County	No Action Plan	

Appendix M – ROM Impact Plan and Cost Estimate

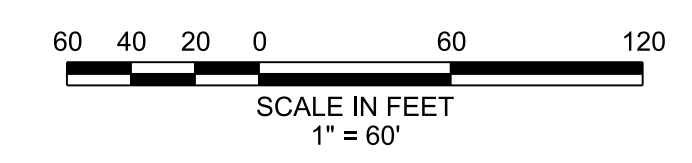


LEGEND

- EXISTING ROW/PROPERTY LINE
- - - PROPOSED ROW/PROPERTY LINE
- PROPOSED FEATURES
- ROW TAKING AREA
- ROW REMAINING AREA

BLOCK	LOT	TOTAL AREA (ac.)	ROW TAKING (ac.)	PROPERTY OWNER
537	20	0.710	0.036	NAPLES FLP
	103	0.548	0.042	ALBERTO FAMILY LIMITED PART XV
	86,22	2.433	0.010	TONZOLA, ERICA
566.01	3	2.180	0.086	JCP&L @GPU SERVICE TAX DEPT
566.02	6	2.370	0.051	POINT BAY FUEL%FC HAAB CO INC
566.03	1	4.210	0.087	TOMS RIVER MUNICIPAL UTIL AUTH
570	11.02	1.650	0.002	TOWNSHIP OF TOMS RIVER
658	47	1.046	0.012	GRACE ACQUISITIONS NJ LLC

ROW IMPACT PLAN
TOMS RIVER WATERFRONT AND SURROUNDING AREA
CONCEPTUAL DEVELOPMENT STUDY
TOMS RIVER TOWNSHIP
OCEAN COUNTY, NEW JERSEY



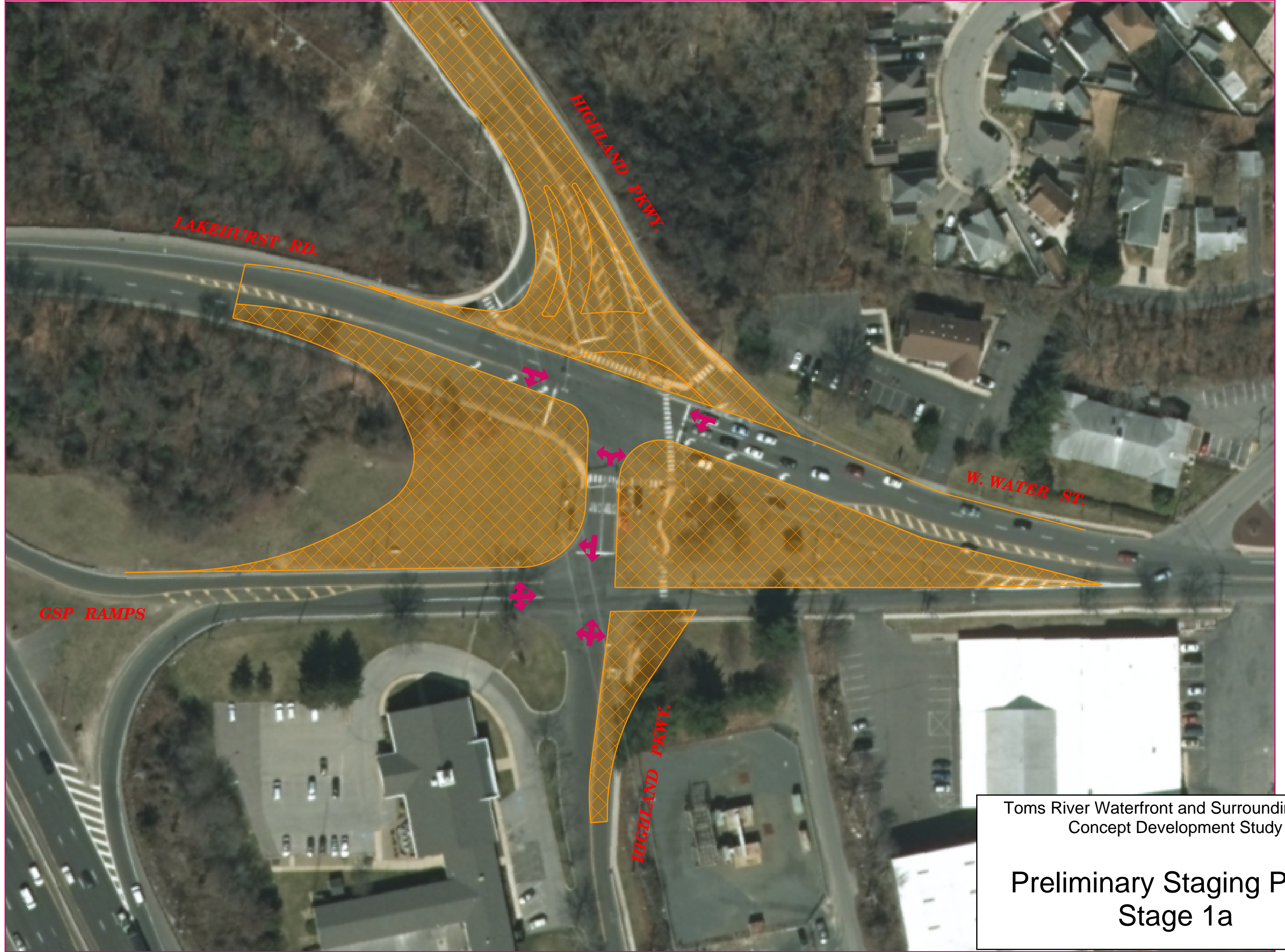
Toms River Waterfront and Surrounding Area Conceptual Development Study
 Alternative 3 Right-of-Way Estimate

	Block	Lot	Area SF	Area Acre	Price/Acre	\$/AC X Taking Area	Improvements/ Damages	Total Cost
1	537	20	1568	0.036	\$305,000	\$10,980	\$2,000	\$12,980
2	537	103	1830	0.042	\$305,000	\$12,820	\$2,000	\$14,820
3	537	86.22	436	0.010	\$305,000	\$3,060	\$1,500	\$4,560
4	566.01	3	3746	0.086	\$305,000	\$26,230	\$3,000	\$29,230
5	566.02	6	2222	0.051	\$305,000	\$15,560	\$1,500	\$17,060
6	566.03	1	3790	0.087	\$305,000	\$26,540	\$2,500	\$29,040
7	570	11.02	87	0.002	\$305,000	\$610	\$1,500	\$2,110
8	658	47	523	0.012	\$305,000	\$3,670	\$1,500	\$5,170

0.326

Right of Way Costs	8 Parcels	\$114,970
Business And Farm Payments		\$0
Signs & Billboards		\$0
Demolition Costs		\$0
Appraisal, Review & NRE Specialist Consultant Fees		\$10,000
Awards & Judgements		\$60,000
Closing Costs		\$10,000
	CAPITAL TOTAL	\$194,970
Cost to Acquire	\$80,000	
Relocation Services Cost	\$0	
In-House Cost Totals		\$80,000
GRAND TOTAL CAPITAL & IN-HOUSE		\$274,970

Appendix N – Preliminary Staging Plans



LAKEHURST RD.

HIGHLAND PKWY.

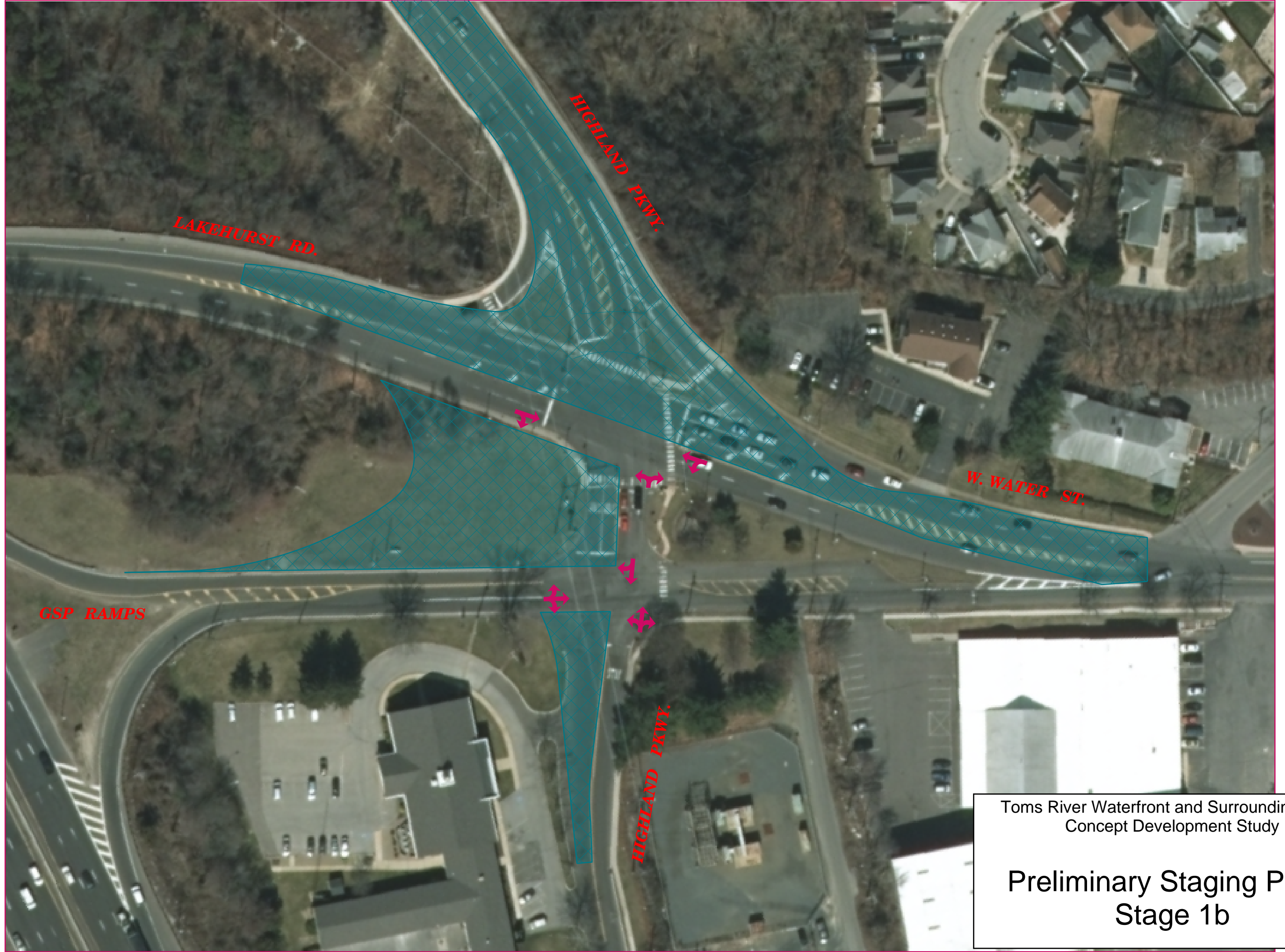
W. WATER ST.

GSP RAMPS

HIGHLAND PKWY.

Toms River Waterfront and Surrounding Area
Concept Development Study

Preliminary Staging Plans
Stage 1a



Toms River Waterfront and Surrounding Area
Concept Development Study

**Preliminary Staging Plans
Stage 1b**



Toms River Waterfront and Surrounding Area
Concept Development Study

**Preliminary Staging Plans
Stage 2**



Toms River Waterfront and Surrounding Area
Concept Development Study

Preliminary Staging Plans
Stage 3

Appendix O – Public Involvement Action Plan

Toms River Waterfront & Surrounding Area LCD Study

Toms River, New Jersey

Public Involvement Action Plan

Local Concept Development

June 2020

Prepared for:



Ocean County Engineering Department
129 Hooper Avenue
Toms River, NJ 08754

Submitted by:



Urban Engineers
220 Lake Drive East, Suite #300
Cherry Hill, NJ 08002



Public Involvement Action Plan (PIAP)



Toms River Waterfront and Surrounding Area Local Concept Development Township of Toms River Ocean County, New Jersey

Introduction

A comprehensive Public Involvement Action Plan (PIAP) is critical to the successful implementation of Ocean County projects. The purpose of the plan is to solicit public involvement, as early as possible, within the LCD phase that should continue throughout Local Preliminary Engineering (LPE), Final Design (FD) /Right of Way (ROW) and Construction (CON), although Urban Engineers will only be responsible for implementing the PIAP during the LCD phase of work. We shall successfully demonstrate the ability to implement a PIAP during the LCD phase that includes appropriate consideration of the public's viewpoint by actively involving the public in the planning and decision-making process. The PIAP is also designed to promote an on-going public partnership to ensure that the benefits of this project are considered within the context of the impacted surrounding communities. Moreover, the PIAP will encourage public and agency support in the selection of a preferred alternative, and can provide for early identification of any potential "fatal flaws" that would prevent the advancement of the project, or its ability to adequately address the identified problems. It should be noted that the PIAP is a "living" document that shall be amended in consultation with the Project Team, as the project advances through the LCD phase. The details of the PIAP developed during the Local Concept Development process are provided below; however, the PIAP process will continue to develop as the study and project progresses.

Public Involvement Goals

In order to foster public awareness of the project and to ensure that the public's concerns are addresses in a timely manner, Ocean County has set the following public involvement goals:

- Provide effective education to the general public about the purpose, need and goals of the study.
- To treat the public as partners in determining the preferred alternative.
- Engage the public in the implementation and design of the project including all identified public concerns to the maximum extent possible.
- Establish credibility and trust with the surrounding communities and road users.
- Meet required Federal and State requirements for public comment.
- Identify early in the process any potential "fatal flaws" that would prevent the advancement of the project or its ability to adequately address the identified need(s).
- To provide, to the maximum extent possible, opportunity for public involvement in the project for residents with and without internet access.



Public Involvement Action Plan (PIAP)



Public Involvement Strategies & Techniques

The public outreach program is intended to apprise the public of the project and provide a forum for all affected parties to present their views and concerns. However, achieving community involvement during the design process can be a challenge. Moreover, achieving this involvement during the current health crisis while following appropriate guidance on COVID-19 presents additional challenges. Therefore, the PIAP must adopt a variety of creative techniques and activities to elicit public participation during the process. This PIAP is anticipated to evolve as the guidance on public gatherings changes and as the project progresses. However, for the foreseeable future, the PIAP will utilize only virtual strategies and tools to engage the public. These tools include but are not limited to the use of a robust and informative project website, social media accounts, and stakeholder email. To ensure the efficient integration of each strategy and tool from LCD through Construction the PIAP has been organized by project phase. The project phases are as follows:

- Local Concept Development (LCD) – currently underway
- Local Preliminary Engineering (LPE)
- Final Design (FD)/Right of Way (ROW)
- Construction (CON)

Community Concerns

Local community members are mainly concerned with the following topics:

- Redevelopment and revitalization of the Waterfront Redevelopment Area
- Safe and convenient multimodal connections to the Waterfront Area and Toms River Bus Terminal
- Congestion mitigation of future anticipated redevelopment
- Knowledge of proposed redevelopment and changes in municipal parking lots

Address Community Concerns

Community concerns have been identified as part of the Local Concept Development Phase and addressed in the following ways:

- Clearly defining how the scope of this project is not to determine decisions related to land use and redevelopment but rather to support existing and future circulation of the Waterfront & Surrounding Area in Toms River, NJ and address existing safety and operational issues within the project area.



Public Involvement Action Plan (PIAP)



- Demonstrate how the project's purpose and need as well as goals and objectives address their concerns.
- Document concerns to inform future phases of the project as well as key stakeholders

Local Concept Development – A scope of work for public outreach was developed in coordination with the North Jersey Transportation Planning Authority (NJTPA). To comply with local and federal standards and guidelines it is assumed that all meetings (including Public Information Sessions) will be virtually held until further notice.

This scope of work incorporated numerous coordination elements including:

- Local Officials Meetings - Status updates with the governing body of Toms River Township and Ocean County on multiple occasions.
- Stakeholder Coordination Meetings with local officials, regulatory agencies, the New Jersey Turnpike Authority, concerned and/or affected community organizations and residents, user groups, and other agencies to communicate the project.
- Public Information Sessions (Virtual or Face to Face) – Public Information Sessions will comply with both local and federal standards and guidelines. Work efforts may include preparing detailed mailing lists, meeting notifications and advertisements, flyers, handouts and presentation materials.
- Resolutions of Support – Urban Engineers shall aid Ocean County in obtaining “resolutions of support” from local municipalities impacted by the proposed action. Resolutions of support are typically obtained at the conclusion of the Alternative Analysis phase when a PPA has been identified.
- Project Website Development – Urban Engineers shall develop a public website dedicated to reaching out to the public about the project as well as informing them and engaging with them on all pertinent project information. The project website will be used to provide notice of Public Information Sessions (Virtual or Face to Face). At the end of the LCD phase, Urban Engineers will hand over all website materials, project website email list, and any information needed to enable Ocean County to take control of the URL/accounts.
- 3D Visualizations – Urban shall develop a 3D Vissim Model using anticipated 2042 traffic volumes to communicate the benefits of the proposed roundabout



Public Involvement Action Plan (PIAP)



improvement at the GSP off-ramp/Lakehurst Rd/Water St/Highland Pkwy intersection.

Local Preliminary Engineering – Once the project is transferred to the Preliminary Engineering phase, the PIAP will be reviewed and revised, as necessary. Public involvement activities that may be employed during this phase are as follows:

- a) Update the contact list of key project stakeholders developed in the LCD phase.
- b) Coordinate with Ocean County and Toms River Township to schedule a Public Information Session. Prepare a mailing list, handouts and presentations.
- c) Utilize project website and email list to engage, educate, and inform public
- d) Create an issues log. The project team will document key issues raised by public agencies and affected parties in chronological files. A summary of the issues will be prepared outlining key issues and information on how each was considered and addressed by the project team.
- e) Reassess the PIAP to ensure the identified strategies still adequately address the public involvement needs for this project.

Final Design/Right of Way – Once the project is transferred to the Final Design/Right of Way phase, the PIAP will be reviewed and revised, as necessary. Public involvement activities that may be undertaken during Final Design include the following:

- a) Hold a Public Information Session to allow the public to view the PPA near completion
- b) Utilize project website, social media, and email list to engage, educate, and inform public
- c) Reassess the PIAP to ensure the identified strategies still adequately address the public involvement needs for this project.

Construction – When the project is transferred to the Construction phase, the PIAP will be reviewed and revised, as necessary. During this phase it is essential to work closely with local officials and surrounding businesses to ensure the least amount of impact to the traveling public. Preconstruction meetings and information centers will be held to ensure maximum support for the construction schedule and minimal disruption to the community. Notifying the public about changes to traffic patterns and potential delays is an important step toward building positive public perception toward the County and the project. The following public involvement activities may be employed:



Public Involvement Action Plan (PIAP)



- a) Utilize agency websites to provide contact information, construction schedules, expected delays/lane closures, and construction progress.
- b) Utilize project website, social media, and email list to provide contact information, construction schedules, expected delays/lane closures, and construction progress.
- c) Review feedback provided by the public to implement improvements to construction activities.

PIAP Deliverables

- **Meeting Minutes** – Minutes will be prepared of all meetings. The minutes will be comprehensive and include an action item list. The minutes will be completed within five (5) business days of the meeting and distributed to all of the attendees.
- **Project Fact Sheet** – A Project Fact Sheet will be prepared and distributed at all meetings with local officials following the initial project kick-off meeting. The Project Fact Sheet will include a brief project history, project issues, project location map, and proposed alternatives, when applicable. The Project Fact Sheet will be updated as the project progresses to reflect the most up-to-date project information available.
- **Display Boards** – Display boards will be utilized to illustrate existing conditions and the proposed improvements to the local officials and the public. Project display boards may include project aerials, a project process display, project deficiency display, alternatives displays and a PPA display. The display boards will also be converted to .PDF files where possible so that they may be displayed via a projector when necessary.
- **Virtual Public Information Sessions*** – Virtual Public Information Sessions will be conducted in accordance with current local and regional guidelines. Virtual Sessions will include: 1) a powerpoint presentation given by project team and 2) a Q&A period open to the public. Attendees will have the option of listening in via toll free call and/or watching and participating virtually through the chat box. Attendees who listen via call will have the ability to email questions to the project team or write questions and submit them by hand or letter to “Mark F. Jehnke, Assistant County Engineer, Ocean County Engineering Department, 129 Hooper Ave 3rd floor, Toms River, NJ 08754”.
- **Meeting Minutes/Video Recording*** - Virtual Public Information Sessions will be recorded and subsequently posted on the project website www.tomsriverdowntownstudy.com for a public comment period of twelve (7) days.

* virtual-only PIAP deliverables



Public Involvement Action Plan (PIAP)



Key Project Stakeholders

The following is a list of key stakeholders identified as of March 2021 for this project:

- Toms River Township
- Borough of South Toms River
- Ocean County
- New Jersey Turnpike Authority
- Federal Highway Administration

Demographics

An evaluation of the study area was conducted to determine the presence of minority, low-income, and digitally unconnected populations and to assess potential adverse impacts on these communities. Demographic data of Toms River Township, New Jersey reported by the U.S. Census's American Community Survey (2014-2018) indicated the following:

- Majority of the residents are White (87.3%) with 3.1% African American, 4.3% Asian and 11.0% Hispanic.
- Median age is 43.2 years
- Median household income is \$77,401 (in 2018 dollars)
- Percentage of persons below the poverty line is approximately 7.3%
- Percentage of households with an Internet subscription 86.2%

Additional demographic data will be included as needed, there does not appear to be a significant low-income or digitally isolated population that may require special accommodations on this project.

Appendix P – Cost Estimates



**Toms River Waterfront and Surrounding Area Concept Development Study
Alternative 3 Preliminary Cost Estimate**

**PRELIMINARY CONSTRUCTION COST ESTIMATE
SUMMARY**

Proposed Roundabout at Water St/Highland Parkway/GSP ramps	\$2,930,000.00
Proposed Intersection and Roadway Improvements (non Roundabout)	\$1,990,000.00
TOTAL PROJECT COST =	<u>\$4,920,000.00</u>



**Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Roundabout at Water St/Highland Parkway/GSP Ramps
Alternative 3 (Partial Total)**

**PRELIMINARY CONSTRUCTION COST ESTIMATE
SUMMARY**

QUANTIFIED CONSTRUCTION PAY ITEMS	COST
PAVEMENT	\$511,455.00
EARTHWORK	\$179,423.04
INCIDENTAL ITEMS	\$729,780.00
GENERAL ITEMS	\$39,415.00
DRAINAGE	\$63,000.00

QUANTIFIED ITEMS SUBTOTAL = \$1,523,073.04

CONSTRUCTION ITEMS BY PERCENTAGE

Lighting, Traffic Stripes, Signs, Delineators	(3.0%)	\$45,692.00
Maintenance & Protection of Traffic	(10.0%)	\$152,307.00
Training	(1.0%)	\$15,231.00
Utilities	(10.0%)	\$152,307.00

\$365,537.00

LUMP SUM PAY ITEMS

Performance and Payment Bond	\$24,500.00
Progress Schedule	\$0.00
Construction Layout	\$20,000.00
Asphalt Price Adjustment	\$5,000.00
Fuel Price Adjustment	\$2,800.00
Clearing Site	\$30,000.00

LUMP SUM PAY ITEMS SUBTOTAL = \$82,300.00

CONSTRUCTION ITEMS TOTAL = \$1,970,910.04

Contingency	3.0%	\$59,127.00
Escalation	0.0%	\$0.00
Construction Engineering	35.1%	\$712,500.00
Construction Change Order Contingencies		\$86,200.00

TOTAL CONSTRUCTION COST = \$2,828,737.04
UTILITY RELOCATION COST = (0.0%) \$0.00
RIGHT OF WAY COST = \$100,000.00
TOTAL PROJECT COST = \$2,928,737.04

SAY **\$2,930,000**



**Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Roundabout at Water St/Highland Parkway/GSP Ramps
Alternative 3 (Partial Total)**

PRELIMINARY CONSTRUCTION COST ESTIMATE

PAVEMENT

Item	Unit	Quantity	Unit Cost	Total
HMA Surface Course	T	1,700	\$95.00	\$161,500.00
HMA Base Course	T	2,219	\$85.00	\$188,615.00
Dense Graded Aggregate Base Course, 6" Thick	SY	6,444	\$15.00	\$96,660.00
Milling, 3" or Less	SY	8,372	\$5.00	\$41,860.00
HMA Driveway, 6" Thick	SY	276	\$70.00	\$19,320.00
Concrete Driveway, 6" Thick	SY	28	\$125.00	\$3,500.00

PAVEMENT TOTAL COST = \$511,455.00

EARTHWORK

Item	Unit	Quantity	Unit Cost	Total
Removal of Pavement	SY	6444	\$10.00	\$64,440.00
Excavation, Unclassified	CY	3222	\$35.00	\$112,770.00
Stripping (4"-6" Depth)	AC	0.6	\$4,000.00	\$2,213.04

EXCAVATION TOTAL COST = \$179,423.04

INCIDENTAL ITEMS

Item	Unit	Quantity	Unit Cost	Total
9"x18" Concrete Vertical Curb	LF	4,900	\$60.00	\$294,000.00
12"x13" Concrete Sloping Curb	LF	3250	\$47.00	\$152,750.00
Concrete Island, 4" Thick	SY	1694	\$25.00	\$42,350.00
Concrete Surface Course, Reinforced, Stamped, Colored	SY	628	\$200.00	\$125,600.00
Concrete Sidewalk, 4" Thick	SY	1644	\$70.00	\$115,080.00

INCIDENTAL ITEMS TOTAL COST = \$729,780.00



Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Roundabout at Water St/Highland Parkway/GSP Ramps
Alternative 3 (Partial Total)

PRELIMINARY CONSTRUCTION COST ESTIMATE

GENERAL ITEMS

Item	Unit	Quantity	Unit Cost	Total
Erosion Control: Silt Fence	LF	1,400	\$3.00	\$4,200.00
Erosions Control: Inlet Filter	UNIT	20	\$50.00	\$1,000.00
Landscape: Topsoiling, Fertilizing & Seeding, Straw Mulching	SY	4,843	\$5.00	\$24,215.00
Landscape: Plantings				\$10,000.00

ITS TOTAL COST = \$39,415.00

DRAINAGE

Item	Unit	Quantity	Unit Cost	Total
Reset Casting	EA	12	\$500.00	\$6,000.00
Inlet	EA	8	\$4,500.00	\$36,000.00
Drainage Contingenies				\$21,000.00

TOTAL COST = \$63,000.00

Item	Unit	Quantity	Unit Cost	Total

TOTAL COST = \$0.00



**Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Roundabout at Water St/Highland Parkway/GSP Ramps
Alternative 3 (Partial Total)**

**PRELIMINARY CONSTRUCTION COST ESTIMATE
Contingencies & Escalation
Class 6 - Intersection Improvement**

Y = Number of Years until midpoint of construction duration. If midpoint is less than 2 years no escalation is required.

\$1,970,910	X	1.030	X	1.00	=	\$2,030,037
Project Total		Contingencies (1+C)		$1+[0.01(Y+1)(Y-2)]$		Construction Cost for PD Estimate

Y =

Project Cost (Mil.)	Contingencies (C) Percent	Average Construction Duration in Years
0 - 5	3%	1
Over 5	2.5%	2

Construction Engineering (CE)

Project Cost (Mil.)	% of Construction Cost
Less than 1.0	36.5%
1.0 to 5.0	35.1%
5.0 to 10.0	12.2%
10.0 & above	10.5%

Construction Engineering Amount	\$712,500.00
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Contingencies for Construction Change Order

Total Federal Participating Items in Millions of \$	Construction Change Order Contingency Amount
\$0 to 0.1	\$6,000
0.1 to 0.5	25,000
0.5 to 5.0	25,000 + 4% of amount in excess of \$500,000
5.0 to 10.0	205,000 + 3% of amount in excess of 5,000,000
10.0 to 15.0	355,000 + 2% of amount in excess of 10,000,000
15.0 and Above	500,000

Change Order Contingencies	\$86,200
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For State Funded Projects, Contingencies for Change order = 0



**Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Intersection and Roadway Improvements (non Roundabout)
Alternative 3 (Partial Total)**

**PRELIMINARY CONSTRUCTION COST ESTIMATE
SUMMARY**

QUANTIFIED CONSTRUCTION PAY ITEMS (Water & Main)	COST
PAVEMENT	\$71,688.00
EARTHWORK	\$780.00
INCIDENTAL ITEMS	\$11,200.00
GENERAL ITEMS	\$100,000.00
DRAINAGE	\$0.00

QUANTIFIED ITEMS SUBTOTAL (Water & Main) = \$183,668.00

QUANTIFIED CONSTRUCTION PAY ITEMS (Water & Irons)	COST
PAVEMENT	\$47,147.00
EARTHWORK	\$875.00
INCIDENTAL ITEMS	\$9,894.00
GENERAL ITEMS	\$85,405.00
DRAINAGE	\$33,450.00

QUANTIFIED ITEMS SUBTOTAL (Water & Irons) = \$176,771.00

QUANTIFIED CONSTRUCTION PAY ITEMS (Herflicker Resurfacing)	COST
PAVEMENT	\$195,503.00
EARTHWORK	\$5,000.00
INCIDENTAL ITEMS	\$60,350.00
GENERAL ITEMS	\$362,055.00
DRAINAGE	\$54,000.00

QUANTIFIED ITEMS SUBTOTAL (Herflicker Resurfacing) = \$676,908.00

CONSTRUCTION ITEMS BY PERCENTAGE

Lighting, Traffic Stripes, Signs, Delineators	(3.0%)	\$31,120.00
Maintenance & Protection of Traffic	(10.0%)	\$103,735.00
Training	(1.0%)	\$10,373.00
Utilities	(10.0%)	\$103,735.00

\$248,963.00

LUMP SUM PAY ITEMS

Performance and Payment Bond	\$27,000.00
Progress Schedule	\$10,000.00
Construction Layout	\$45,000.00
Asphalt Price Adjustment	\$1,400.00
Fuel Price Adjustment	\$1,500.00
Clearing Site	\$40,000.00

LUMP SUM PAY ITEMS SUBTOTAL = \$124,900.00

CONSTRUCTION ITEMS TOTAL = \$1,411,210.00

Contingency	3.0%	\$42,336.00
Escalation	0.0%	\$0.00
Construction Engineering	36.5%	\$530,544.29
Construction Change Order Contingencies		\$0.00

TOTAL CONSTRUCTION COST = \$1,984,090.29
UTILITY RELOCATION COST = (0.0%) \$0.00
RIGHT OF WAY COST = \$0.00
TOTAL PROJECT COST = \$1,984,090.29

SAY **\$1,990,000**



**Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Water Street & Main Street Intersection Improvements
Alternative 3 (Partial Total)**

PRELIMINARY CONSTRUCTION COST ESTIMATE

PAVEMENT

Item	Unit	Quantity	Unit Cost	Total
HMA Surface Course	T	368	\$125.00	\$46,000.00
HMA Base Course	T	0	\$85.00	\$0.00
Dense Graded Aggregate Base Course, 6" Thick	SY	0	\$15.00	\$0.00
Milling, 3" or Less	SY	3,211	\$8.00	\$25,688.00
HMA Driveway, 6" Thick	SY	0	\$70.00	\$0.00
Concrete Driveway, 6" Thick	SY	0	\$125.00	\$0.00

PAVEMENT TOTAL COST = \$71,688.00

EARTHWORK

Item	Unit	Quantity	Unit Cost	Total
Removal of Pavement	SY	39	\$20.00	\$780.00
Excavation, Unclassified	CY	0	\$50.00	\$0.00
Stripping (4"-6" Depth)	AC	0.0	\$4,000.00	\$0.00

EARTHWORK TOTAL COST = \$780.00

INCIDENTAL ITEMS

Item	Unit	Quantity	Unit Cost	Total
9"x18" Concrete Vertical Curb	LF	100	\$60.00	\$6,000.00
12"x13" Concrete Sloping Curb	LF	20	\$47.00	\$940.00
Concrete Island, 4" Thick	SY	39	\$50.00	\$1,950.00
Concrete Surface Course, Reinforced, Stamped, Colored	SY	0	\$200.00	\$0.00
Concrete Sidewalk, 4" Thick	SY	33	\$70.00	\$2,310.00

INCIDENTAL ITEMS TOTAL COST = \$11,200.00



Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Water Street & Main Street Intersection Improvements
Alternative 3 (Partial Total)

PRELIMINARY CONSTRUCTION COST ESTIMATE

GENERAL ITEMS

Item	Unit	Quantity	Unit Cost	Total
Erosion Control: Silt Fence	LF	0	\$5.00	\$0.00
Erosions Control: Inlet Filter	UNIT	0	\$50.00	\$0.00
Landscape: Topsoiling, Fertilizing & Seeding, Straw Mulching	SY	0	\$5.00	\$0.00
Landscape: Plantings				\$0.00
Traffic Signal Modification	LS	1	\$100,000.00	\$100,000.00

GENERAL ITEMS TOTAL COST = \$100,000.00

DRAINAGE

Item	Unit	Quantity	Unit Cost	Total
Reset Casting	EA	0	\$500.00	\$0.00
Inlet	EA	0	\$4,500.00	\$0.00
Pipe	LF	0	\$105.00	\$0.00
Manhole	EA	0	\$4,000.00	\$0.00
Drainage Contingenies				\$0.00

DRAINAGE TOTAL COST = \$0.00



**Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Water Street & Irons Street Intersection Improvements
Alternative 3 (Partial Total)**

PRELIMINARY CONSTRUCTION COST ESTIMATE

PAVEMENT

Item	Unit	Quantity	Unit Cost	Total
HMA Surface Course	T	234	\$125.00	\$29,250.00
HMA Base Course	T	12	\$85.00	\$1,020.00
Dense Graded Aggregate Base Course, 6" Thick	SY	35	\$15.00	\$525.00
Milling, 3" or Less	SY	2,044	\$8.00	\$16,352.00
HMA Driveway, 6" Thick	SY	0	\$70.00	\$0.00
Concrete Driveway, 6" Thick	SY	0	\$125.00	\$0.00

PAVEMENT TOTAL COST = \$47,147.00

EARTHWORK

Item	Unit	Quantity	Unit Cost	Total
Removal of Pavement	SY	0	\$20.00	\$0.00
Excavation, Unclassified	CY	18	\$50.00	\$875.00
Stripping (4"-6" Depth)	AC	0.0	\$4,000.00	\$0.00

EARTHWORK TOTAL COST = \$875.00

INCIDENTAL ITEMS

Item	Unit	Quantity	Unit Cost	Total
9"x18" Concrete Vertical Curb	LF	60	\$60.00	\$3,600.00
12"x13" Concrete Sloping Curb	LF	42	\$47.00	\$1,974.00
Concrete Island, 4" Thick	SY	8	\$50.00	\$400.00
Concrete Surface Course, Reinforced, Stamped, Colored	SY	0	\$200.00	\$0.00
Concrete Sidewalk, 4" Thick	SY	56	\$70.00	\$3,920.00

INCIDENTAL ITEMS TOTAL COST = \$9,894.00



Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Water Street & Irons Street Intersection Improvements
Alternative 3 (Partial Total)

PRELIMINARY CONSTRUCTION COST ESTIMATE

GENERAL ITEMS

Item	Unit	Quantity	Unit Cost	Total
Erosion Control: Silt Fence	LF	50	\$5.00	\$250.00
Erosions Control: Inlet Filter	UNIT	2	\$50.00	\$100.00
Landscape: Topsoiling, Fertilizing & Seeding, Straw Mulching	SY	11	\$5.00	\$55.00
Landscape: Plantings				\$10,000.00
Traffic Signal Modification	LS	1	\$75,000.00	\$75,000.00

GENERAL ITEMS TOTAL COST = \$85,405.00

DRAINAGE

Item	Unit	Quantity	Unit Cost	Total
Reset Casting	EA	0	\$500.00	\$0.00
Inlet	EA	2	\$4,500.00	\$9,000.00
Pipe	LF	50	\$105.00	\$5,250.00
Manhole	EA	2	\$4,000.00	\$8,000.00
Drainage Contingenies				\$11,200.00

DRAINAGE TOTAL COST = \$33,450.00



Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Herflicker Boulevard Improvements (non Extension)
Alternative 3 (Partial Total)

PRELIMINARY CONSTRUCTION COST ESTIMATE

PAVEMENT

Item	Unit	Quantity	Unit Cost	Total
HMA Surface Course	T	979	\$125.00	\$122,375.00
HMA Base Course	T	38	\$85.00	\$3,230.00
Dense Graded Aggregate Base Course, 6" Thick	SY	110	\$15.00	\$1,650.00
Milling, 3" or Less	SY	8,531	\$8.00	\$68,248.00
HMA Driveway, 6" Thick	SY	0	\$70.00	\$0.00
Concrete Driveway, 6" Thick	SY	0	\$125.00	\$0.00

PAVEMENT TOTAL COST = \$195,503.00

EARTHWORK

Item	Unit	Quantity	Unit Cost	Total
Removal of Pavement	SY	50	\$20.00	\$1,000.00
Excavation, Unclassified	CY	80	\$50.00	\$4,000.00
Stripping (4"-6" Depth)	AC	0.0	\$4,000.00	\$0.00

EARTHWORK TOTAL COST = \$5,000.00

INCIDENTAL ITEMS

Item	Unit	Quantity	Unit Cost	Total
9"x18" Concrete Vertical Curb	LF	865	\$60.00	\$51,900.00

INCIDENTAL ITEMS TOTAL COST = \$51,900.00



**Toms River Waterfront and Surrounding Area Concept Development Study
Proposed Herflicker Boulevard Improvements (non Extension)
Alternative 3 (Partial Total)**

PRELIMINARY CONSTRUCTION COST ESTIMATE

GENERAL ITEMS

Item	Unit	Quantity	Unit Cost	Total
Erosion Control: Silt Fence	LF	200	\$5.00	\$1,000.00
Erosions Control: Inlet Filter	UNIT	10	\$50.00	\$500.00
Landscape: Topsoiling, Fertilizing & Seeding, Straw Mulching	SY	111	\$5.00	\$555.00
Landscape: Plantings				\$10,000.00
Traffic Signal Installation at Herflicker & Irons	LS	1	\$300,000.00	\$300,000.00
Traffic Signal Modification at Herflicker & Main	LS	1	\$50,000.00	\$50,000.00

GENERAL ITEMS TOTAL COST = \$362,055.00

DRAINAGE

Item	Unit	Quantity	Unit Cost	Total
Reset Casting	EA	0	\$500.00	\$0.00
Inlet	EA	3	\$4,500.00	\$13,500.00
Pipe	LF	100	\$105.00	\$10,500.00
Manhole	EA	3	\$4,000.00	\$12,000.00
Drainage Contingenies				\$18,000.00

DRAINAGE TOTAL COST = \$54,000.00

Appendix Q – Complete Streets

RESOLUTION OF THE TOWNSHIP COUNCIL OF THE TOWNSHIP
OF TOMS RIVER, COUNTY OF OCEAN, STATE OF NEW JERSEY,
RECOGNIZING THE ADOPTION OF A COMPLETE STREETS
POLICY

JULY 24, 2012

WHEREAS, the Township Council of the Township of Toms River recognizes the need to accommodate all modes of travel on Township streets, including pedestrians, cyclists, motorists and mass transit riders; and

WHEREAS, the Township of Toms River seeks to meet the transportation needs of all its citizens by providing road networks that are safer, more livable and welcoming to everyone, regardless of age and ability; and

WHEREAS, complete streets are typically designed to include wider sidewalks, pedestrian intersection treatments, bicycle facilities, and transit accommodations; and

WHEREAS, a Complete Streets Policy is consistent with the Township Master Plan; and

WHEREAS, the Township's Complete Streets Policy does not include street lights and street beautification items such as street furniture, planters, and landscaping; and

WHEREAS, the Township Engineer and Township Planner may waive the implementation of the Complete Streets Policy for projects where the cost to provide said improvements are disproportionate to need, and represent more than twenty percent (20%) of total cost; and

WHEREAS, total project costs shall be defined as the cost of the street improvements without the Complete Streets improvements; and

K¹¹

J. Mark Miller
Township Clerk, RMC

WHEREAS, the Township Council proposes that the Environmental Commission in partnership with the Planning Board undertake a pedestrian and bicycle plan study to identify priority areas for implementation of Complete Streets, and the Township Planning Board hear and adopt the plan; and

WHEREAS, Township funds may only be utilized for complete street implementation as the required match for state and federal funding until the Planning Board adopts a Pedestrian and Bicycle Plan subsection of the Master Plan Circulation Element;

NOW, THEREFORE, BE IT RESOLVED BY THE TOWNSHIP COUNCIL OF THE TOWNSHIP OF TOMS RIVER, IN THE COUNTY OF OCEAN, AND STATE OF NEW JERSEY, as follows:

1. All public street projects, both new construction and reconstruction (excluding maintenance) undertaken by the Township of Toms River shall be designed and constructed as "Complete Streets" whenever feasible to do so in order to safely accommodate travel by pedestrians, bicyclists, public transit, and motorized vehicles and their passengers, with special priority given to pedestrian safety, and subject to the following conditions:


- a. Pedestrian and bicycle facilities shall not be required where they are prohibited by law.
- b. Public transit facilities shall not be required on streets not serving as transit routes.
- c. In any project, should the cost of pedestrian, public transit, and/or bicycle facilities account for more than 20% of total project costs, as determined by engineering estimates, then, and in that event, the Complete Streets Policy may be waived.
- d. Township funds may only be utilized for priority sites identified in the Pedestrian and Bicycle subsection of the Circulation Element of the Master Plan, when no state or federal match is available.

e. In any project funded only with Township funds, should the cost of pedestrian, public, transit, and/or bicycle facilities account for more than 15% of total project cost, as determined by engineering estimates, then, and in that event, the Township Engineer or Township Planner may waive the Complete Streets Policy or obtain approval by the Township Council for same prior to bidding the project.

2. A certified copy of this resolution shall be provided by the Office of the Township Clerk to each of the following:


- a) Mayor Thomas Kelaheer
- b) Township Council
- c) Business Administrator
- d) Township Attorney
- e) Chief Financial Officer
- f) Jay Lynch, Township Planner
- g) Erika Stahl, Assistant Township Planner
- h) Robert J. Chankalian, Township Engineer
- i) Lorraine Adams, Grant Coordinator
- j) Debbie Kingsland
New Jersey Department of Transportation
1035 Parkway Ave.
P.O. Box 600
Trenton, N.J. 08625

L July 24, 2012-06

Approved as to
Legal Form

Kenneth B. Fitzsimmons
Township Attorney



I, ALISON CARLISLE, DEPUTY MUNICIPAL CLERK OF THE TOWNSHIP OF TOMS RIVER, IN THE COUNTY OF OCEAN, HEREBY CERTIFY THAT THIS IS A TRUE AND EXACT COPY OF A RESOLUTION APPROVED BY THE TOWNSHIP COUNCIL AT THEIR REGULAR MEETING OF JULY 24, 2012.


Alison Carlisle, Deputy Municipal Clerk