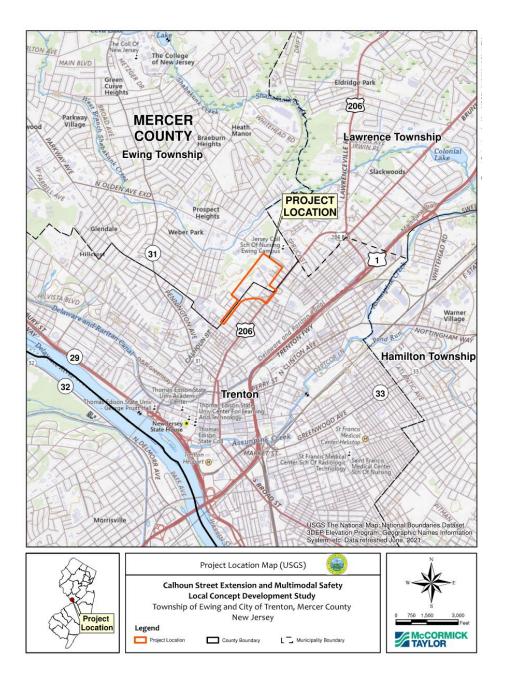


<u>Calhoun Street (CR 653) Extension and Multimodal Safety</u> <u>Local Concept Development Study Project Fact Sheet</u>

PROJECT LOCATION

The project is located along Calhoun Street (CR 653) (CR 653) from Southard Street (Milepost 0.99) to Martin Luther King Boulevard (Milepost 1.53). It also includes the area of lane bordered by North Olden Avenue, New Willow Street, Princeton Avenue and the western segment of Calhoun Street (CR 653). A project location map is provided below.





CALHOUN STREET (CR 653) EXISTING CONDITIONS

Calhoun Street (CR 653) is classified as an Urban Minor Arterial under County jurisdiction within the project limits. The roadway consists of one (1) approximately 20-foot lane in each direction with no striped outside shoulders. The posted speed limit is 25 MPH along Calhoun Street (CR 653). Calhoun Street (CR 653) runs north-south and provides connections between Ewing Township, the City of Trenton, and the Commonwealth of Pennsylvania via the Calhoun Street (CR 653) Bridge over the Delaware River.

The following two (2) signalized intersections are located within the project limits along Calhoun Street (CR 653):

- Southard Street
- Martin Luther King, Jr. Boulevard/Princeton Avenue/Chadwick Street

The following 11 unsignalized intersections are located between Southard Street and Siegel Avenue:

- Beakes Street
- Rossell Avenue
- Kirkbride Avenue
- Calhoun Street (CR 653) Extension
- W. Paul Avenue
- George Street

- New Willow Street
- W. Miller Street
- Jennett Street
- Pritchard Street
- Siegel Avenue

Photos of existing conditions are included in the attached photograph log.

Land Use

Along Calhoun Street (CR 653), there is a mix of homes, small businesses, and parks as well as auto-oriented strip malls, industrial sites, and vacant land. There are many community resources such as the Capitol City Sports Complex (swimming pool and athletic fields), convenience stores, and houses of worship, which generate people walking and biking. A Trenton Housing Authority complex is located at the northeast corner of the Southard Street intersection. The Paul Robeson Charter School is also currently under construction at the intersection of Princeton Avenue and Pritchard Street, which will generate additional pedestrians and bicyclists in the project area. Due to Sims Metal Management, Mercer Group International and the other industrial businesses, there are many tractor trailers driving through the area.

Land use along New Willow Street in the vicinity of the potential Calhoun Street (CR 653) Extension consists of the Boehm Porcelain building, Way of the Cross Holy Temple Ministries, and the Carolyn Stokes Preschool. Additional land uses along the potential extension alignment include U-Haul, Auto Outlet of Ewing, and the Green Acresencumbered Stout Avenue Playground.

Capital Health Regional Medical Center is a Level II Trauma Center located at 750 Brunswick Avenue in the City of Trenton, approximately 0.15 miles east of the Calhoun Street/Princeton Avenue intersection. The facility is primarily served by Brunswick Avenue and Princeton Avenue, which are two major north-south arterials in the project area. This facility serves the Greater Mercer County Region and beyond and is the only Trauma Center between New Brunswick, Neptune and City of Camden.



Access and On-Street Parking

Numerous access driveways are present within the study area. Access to some of the commercial properties along Calhoun Street (CR 653) is controlled, while some commercial properties have uncontrolled access such as very wide curb openings or numerous access driveways for the same property.

On-street parking is striped in the northbound direction from Rossell Avenue to just south of Kirkbride Avenue. Vehicles and heavy trucks were also observed parking along other sections of Calhoun Street (CR 653) and on the southbound side of Calhoun Street (CR 653) near Kirkbride Avenue.

At the Caprince Variety Market on the corner of Calhoun Street (CR 653) and Princeton Avenue, trucks were often observed parking on the sidewalk, impeding pedestrian movements.

Bicycles and Pedestrians

Some bicycles and pedestrians were observed along Calhoun Street (CR 653) throughout the project limits. Most bicyclists utilized the roadway and were not observed on the sidewalk. It is anticipated that bicycle and pedestrian traffic in the project will significantly increase with the opening of the Paul Robeson Charter School at the intersection of Princeton Avenue and Pritchard Street, anticipated in 2025.

The presence of sidewalk is sporadic along Calhoun Street (CR 653). New sidewalk was recently constructed adjacent to the Capitol Sports Complex, and newer sidewalk is present adjacent to the townhouse development and Trenton Housing Authority complex. There are also several locations where the sidewalk is deteriorated. Where sidewalk is not present, worn paths indicate the presence of pedestrian activity. Evaluation of ADA curb ramps within the project limits indicate that 36 of 44 (81%) curb ramps within the project limits are non-compliant.

No outside shoulders or bicycle lanes are striped along Calhoun Street (CR 653), and no Share the Road pavement markings or signs are present. Bicycles were observed traveling along and crossing Calhoun Street (CR 653) within the project limits. Additionally, bicycles were observed using the U-Haul parking lot as a connection between Calhoun Street (CR 653), New Willow Street, and North Olden Avenue.

Locations of existing and missing sidewalk and non-compliant curb ramps are illustrated on the attached *Existing Conditions Map*.

Transit

The NJ Transit #606 bus route runs along Calhoun Street (CR 653) within the project limits. This bus route serves the City of Trenton and the Townships of Lawrence, Princeton, Hamilton, and Robbinsville. Bus stops are located at New Willow Street, Rossell Avenue, and Southard Street. No shelters, benches, or bus turnouts are provided at any of the bus stop locations.

Drainage

The project is located within two HUC-14 Watersheds as shown on the attached *Watershed Map*. Field investigations were performed to identify potential drainage issues within the project limit. Debris and sediment buildup was observed at several existing curb ramps indicating minor ponding issues at corners. Ponding was also observed spanning the entire width of W. Paul Street in front of 1700 Calhoun Street, indicating a more significant drainage issue. Based on as-built plans and storm drain system maps, the storm pipe network within the project area primarily consists of Vitrified Clay Pipe. Lastly, many inlet curb pieces within project limits do not meet NJDEP Eco requirements. During Preliminary Engineering, additional survey of the project area will be recommended to



clearly identify drainage structure locations and elevations, and sizes and connections of pipe systems. If the proposed project qualifies as a Major Development by adding >0.25 acres of regulated impervious surface/regulated motor vehicle surface or requiring >1.0 acre of soil disturbance, it will trigger compliance with NJDEP SWM Rules.

Utilities

Public utilities within the project area are summarized in the table below.

Utility	Owner	Facilities	
Cable	Comcast	Aerial and underground	
Cable	Crown Castle	Aerial fiber optic	
Sewer	Ewing-Lawrence Sewer Authority	Underground	
Electric	PSE&G	Aerial	
Gas	PSE&G	Underground	
Sewer	Trenton Sewer Utility	Underground	
Water	Trenton Water Works	Underground	
Cable/Telephone	Verizon	Aerial fiber optic and Underground	
Cable	Zayo	Aerial	

SUBSTANDARD DESIGN ELEMENTS

There are no controlling substandard design elements within the project limits. Substandard design elements within the project limits are summarized below.

Stopping Sight Distance at Non-Signalized Intersections

The following eight (8) unsignalized intersections within the project limits do not have adequate stopping sight distance:

- Kirkbride Avenue
- Paul Avenue
- George Street
- New Willow Street

- W. Miller Street
- Jennett Street
- Miller Street
- Pritchard Street

Traffic Signal Deficiencies

Traffic signals at the following locations lack 12-inch signal heads, countdown pedestrian signal heads, handicap accessible push buttons, ADA compliant handicap ramps and/or are not in conformance with the *MUTCD* 11th Edition:

- Calhoun Street (CR 653) and Princeton Avenue
- Calhoun Street (CR 653) and Southard Street

The traffic signal timing at Calhoun Street (CR 653) and Southard Street intersection is also missing an All-Red interval.

CRASH ANALYSIS

Police crash reports along Calhoun Street (CR 653) for the Years 2021 through 2023 were obtained from the Ewing Township and City of Trenton Police Departments. Crash diagrams are provided as an attachment and a summary of the crash analysis is provided below.

Calhoun Street (CR 653) and Southard Street

Ten crashes were reported at the signalized intersection in a 3-year period, including two pedestrian crashes (20% of total crashes) and one bicycle crash (10% of total crashes). One pedestrian crash involved a motorist making a right turn on red and striking the pedestrian who was not in the crosswalk. The second pedestrian crash involved a motorist failing to stop for a pedestrian in the crosswalk. A bicyclist traveling in a crosswalk was hit by a left-turning motorist who fled the scene. Three Same Direction-Rear End crashes (30% of total crashes) were also reported on the Southard Street westbound intersection approach.

Calhoun Street (CR 653) and Jennett Street

Five crashes were reported at this unsignalized intersection, including two Right Angle crashes caused by motorists failing to stop at the stop sign.

Calhoun Street (CR 653) and Princeton Avenue/MLK Boulevard/Pritchard Street/Chadwick Street

Nine crashes were reported at the signalized intersection, including one pedestrian crash (11% of total crashes) involving a pedestrian under the influence.

It should be noted that one pedestrian crash was also reported at the MLK Boulevard and Jennett Street intersection, where a left-turning motorist failed to yield to oncoming traffic and a pedestrian was hit because of the crash.

Calhoun Street (CR 653) between Intersections

Several crashes involving motorists striking parked vehicles were reported along Calhoun Street (CR 653) between Southard Street and Beakes Street and between Rossell Avenue and Kirkbride Avenue. There were also three fixed object crashes reported just south of Kirkbride Avenue involving motorists striking utility poles and a fence. Seven crashes involving parked vehicles were also reported on Princeton Avenue just north of Siegel Avenue.

Princeton Avenue and North Olden Avenue

Although this intersection is not included with the project limits, NJDOT Safety Voyager data indicates that approximately 10 crashes per year are reported at this intersection, with Right Angle, Left Turn, Same Direction-Sideswipe and Same Direction-Rear End crashes as the most prevalent crash types. Previously completed crash analysis for Years 2014 to 2018 indicate that several pedestrian and bicycle crashes were also reported in the vicinity of the intersection.

TRAFFIC COUNTS AND ANALYSIS

Traffic Counts and Volumes

McCormick Taylor's subconsultant performed a data collection program in early June 2024, six turning movement counts and three Automatic Traffic Recorder (ATR) classification counts at the following locations:

Turning Movement Count Locations (Thursday, June 6, 2024)

- Calhoun Street (CR 653) and Southard Street
- Calhoun Street (CR 653) and Kirkbride Avenue
- Calhoun Street (CR 653) and New Willow Street
- Calhoun Street (CR 653) and Princeton Avenue/MLK Boulevard/Chadwick Avenue
- North Olden Avenue and Capitol Plaza Driveway



North Olden Avenue and Princeton Avenue

ATR Locations (Wednesday, June 5 to Tuesday, June 11, 2024)

- Calhoun Street (CR 653), south of New Willow Street
- New Willow Street, north of Calhoun Street (CR 653)
- MLK Boulevard, south of George Street

Based on the collected data, the AM, Midday, and PM peak hours within the study area are from 8:15 AM to 9:15 AM, 12:30 PM to 1:30 PM, and from 4:45 PM to 5:45 PM. A traffic flow diagram for 2024 Existing Conditions is provided as an attachment.

Annual Average Daily Traffic (AADT) Volumes

AADT volumes on Calhoun Street (CR 653) and Princeton Avenue/MLK Jr. Boulevard are summarized below. 2023 AADT count data from DVRPC was utilized for Princeton Avenue between Calhoun Street (CR 653) and North Olden Avenue.

Year	Calhoun St NB, south of New Willow St	Calhoun St SB, south of New Willow St	TOTAL
2024	4,349	4,712	8,790
Year	Princeton Ave NB, south of Calhoun St	Princeton Ave SB, south of Calhoun St	TOTAL
2024	2,732	3,613	6,345
Year	Princeton Ave NB, btw Calhoun St & N. Olden Ave	Princeton Ave SB, Btw Calhoun St & N. Olden Ave	TOTAL
2023	8,006	8,719	16,725

Truck/Bus Traffic

ATR count data on Calhoun Street (CR 653) indicates that during a typical weekday (Tuesday, Wednesday, Thursday), approximately 9% of traffic on Calhoun Street (CR 653) consists of light trucks, heavy trucks, and buses. Single-unit trucks comprise about 6% of total traffic (≈525 veh/day), heavy trucks comprise about 1.5% of total traffic (≈130 veh/day), and buses comprise approximately 1% of total traffic (≈85 veh/day) on Calhoun Street (CR 653).

Truck traffic was mainly observed on Calhoun Street (CR 653) accessing the various industrial facilities in the vicinity of Kirkbride Avenue, including Sims Metal Management and Mercer Group International/Horizon Disposal. Tractor trailers were also observed parking along Calhoun Street (CR 653) near these facilities.

Traffic Analysis

Traffic conditions were evaluated to identify Levels of Service (LOS) for study intersections under existing and future No Build conditions utilizing Synchro/SimTraffic traffic software and Highway Capacity Software (HCS). The traffic volumes were projected to Design Year 2049 using an annual background growth rate of 0.29% developed based on DVRPC demographic forecasts. This data, along with site-specific information for the proposed Paul



Robeson Charter School, was used to analyze the operation of the intersection movements under Existing and No Build conditions. LOS results are included as an attachment.

Existing Year 2024

Analysis of existing conditions indicates that the intersections within the study area operate at LOS C or better during the AM, Midday, and PM peak hours. No major queuing or delay operational issues were identified based on the analysis. However, field observations indicate that the North Olden Avenue/Princeton Avenue intersection does experience congestion during portions of the day due to the presence of the Paul Robeson Charter School, truck traffic, and geometric constraints.

Design Year 2049 No Build Conditions

Analysis of future no build conditions indicates that intersection operations are not anticipated to degrade by Design Year 2049. All intersections are expected to operate at LOS C or better during the peak hours.

Traffic Observations

Congestion in the vicinity of the North Olden Avenue/Princeton Avenue intersection resulted in several red-light running observations and motorists using insufficient gaps for turning movements. Truck traffic was notably heavy through this intersection for several movements, including North Olden Avenue northbound/southbound through movements and northbound Princeton Avenue right-turn movements. Turning truck movements consistently encroached onto the existing curb on the southeast corner. It should be noted that all traffic from Calhoun Street (CR 653) northbound merges with Princeton Avenue/MLK Jr. Boulevard and must utilize the North Olden Avenue/Princeton Avenue intersection to access points north, west, and east of the project area.

ENVIRONMENTAL SCREENING

The Draft Environmental Screening Report was completed in August 2024, which provides a preliminary indication of the environmentally sensitive resources located within the project area (see attached *Environmental Constraints Map*). A summary of the findings is provided below.

- Several previously identified cultural resources that are listed on the New Jersey Register of Historic Places and/or National Register of Historic Places (NRHP) or eligible for listing on the NRHP are located within one-half mile of the project limits. This includes the Boehm Porcelain Studio property, which could be impacted by the proposed Calhoun Street (CR 653) Extension. Historic Architectural survey may be required during the Preliminary Engineering phase if there is involvement with historic architectural resources over 50 years of age.
- An archaeological survey may be necessary during the Preliminary Engineering phase to identify the presence or absence of archaeological sites within the limits of disturbance.
- The project area lies within Zone B of the Delaware and Raritan Canal Commission Review Zone and will
 require a jurisdictional determination.
- The Capitol City Sports Complex is encumbered under Section 4(f) and Green Acres regulations and will require coordination with NJDEP Green Acres and a Section 4(f) evaluation if there are impacts to the park.
- Noise and air quality studies will be required if the proposed improvements include a new roadway (i.e., extension of Calhoun Street (CR 653)).
- A seasonal restriction on tree removal from April 1 to August 31 will likely be needed to protect various migratory birds that are potentially present within the project limits.



- There are several properties listed on the following databases: Known Contaminated Sites List (KCSL), Classification Exception Areas (CEA), and Underground Storage Tanks (UST). Further hazardous waste investigation may be necessary if areas of potential environmental concern are impacted by the proposed improvements.
- There are no stream crossings or Flood Hazard Areas within the project limits.
- There are no wetlands mapped within the project limits. However, the extent of wetlands within the deciduous wooded area in the northeastern portion of the project limits will need to be confirmed.

Anticipated Environmental Document

It is anticipated that the project will likely require a NEPA Environmental Assessment (EA). The EA was determined based on the possibility of creating a new roadway and the potential ROW impacts associated with the Capitol City Sports Complex (public land/Green Acres) and Boehm Porcelain Studio (historic property).

PROJECT PURPOSE

The purpose of the project is to improve multimodal safety along Calhoun Street (CR 653) and enhance network connectivity between Calhoun Street (CR 653) and North Olden Avenue.

PROJECT NEED

Calhoun Street (CR 653) is an important north-south roadway in Mercer County that connects Ewing Township and the City of Trenton to the Commonwealth of Pennsylvania via the Calhoun Street (CR 653) Bridge. The roadway provides access to residential properties, small businesses, industrial sites as well as community facilities such as the Capitol City Sports Complex. Over 7% of daily traffic is comprised of single unit trucks or tractor trailers, many of which originate from or are destined for the commercial businesses and industrial facilities within the project area. Retail businesses, Vinch Recycling, and the Mercer County Transfer Station on North Olden Avenue, north of the project limits, also generate significant vehicular, truck, and pedestrian/bicycle traffic. The Paul Robeson Charter school is currently being relocated adjacent to Princeton Avenue (CR 583/US 206Z) and will generate significant pedestrian and bicycle trips in the vicinity of Calhoun Street (CR 653) and Princeton Avenue. Existing multimodal facilities are lacking within the project limits, consisting mainly of deteriorated sidewalk and non-compliant ADA curb ramps. Worn paths are present at locations where there is no sidewalk, and bicycle lanes or outside shoulders are not present within the project limits. The lack of multimodal facilities results in potential conflicts between cars, trucks, bicyclists and pedestrians. At the Calhoun Street (CR 653) and Southard Street intersection, two pedestrian crashes and one bicycle crash were reported in a 3-year period, comprising 30% of total crashes at that intersection. In the vicinity of Kirkbride Avenue, tractor trailers and vehicles were observed parking along Calhoun Street (CR 653) and adjacent side streets, contributing to several crashes involving parked vehicles.

The Calhoun Street (CR 653) Extension (CSE) would directly connect existing Calhoun Street (CR 653) to North Olden Avenue and has been part of the Mercer County master plan for nearly 40 years. The existing Calhoun Street (CR 653) alignment requires vehicles on Calhoun Street (CR 653) to traverse the Princeton Avenue and North Olden Avenue signalized intersection, which currently exhibits congestion due to heavy vehicles, tight intersection geometry, and traffic backups due to pickup/drop-off at the Paul Robeson Charter School. Additionally, this intersection also serves vehicles traveling to/from the Capital Health Regional Medical Center on Brunswick Avenue. A proposed connection between Calhoun Street (CR 653) and North Olden Avenue would divert traffic volume from this intersection as well as other adjacent intersections, thereby improving overall traffic flow and



operations. The proposed CSE would also provide safer vehicular, pedestrian, and bicycle connections between residential land uses along Calhoun Street (CR 653) and the retail businesses along North Olden Avenue.

GOALS AND OBJECTIVES

The goals and objectives of the project are identified below. The Preliminary Preferred Alternative will be developed to satisfy as many goals and objectives as possible.

- Improve pedestrian and bicycle compatibility along Calhoun Street (CR 653) and provide connectivity between retail and residential land uses
- Reduce congestion at the North Olden Avenue and Princeton Avenue intersection to improve access to community facilities such as Capital Health Regional Medical Center
- Implement capital improvements listed in adopted master plans of Ewing Township, Trenton City, and Mercer County
- Comply with Mercer County, Ewing Township and City of Trenton Complete Streets Policies
- Reduce/eliminate barriers to pedestrian, bicyclist and transit user mobility
- Reduce heavy truck traffic impacts within the project limits
- Minimize environmental, social and economic impacts along the corridor
- Minimize ROW impacts to the extent feasible
- Minimize disruptions to traffic operations during construction
- Maintain access to adjacent properties during construction
- Minimize road user costs during construction to the extent feasible

COMMUNITY INVOLVEMENT

A Local Officials Briefing and a combined Stakeholders Meeting/Public Information Center will be held in October 2024 to introduce the project and to gather input for the development of the Project Purpose and Need Statement. A second set of public outreach meetings will be held in Winter 2025 to present and obtain input on the development alternatives. The final set of public meetings will be held in Spring 2025 to present the Preliminary Preferred Alternative.

CONCEPT DEVELOPMENT PROJECT SCHEDULE (MAJOR MILESTONES)

Develop Project Purpose and Need Statement	October 2024
Develop Conceptual Alternatives	Fall/Winter 2024
Selection of Preliminary Preferred Alternative	Spring 2025
Submission of Draft Local Concept Development Report	Spring 2025
Completion of Local Concept Development Phase	Spring/Early Summer 2025

ATTACHMENTS

- Photograph Log
- Existing Conditions Map
- Crash Diagrams



- Traffic Flow Diagrams
- Level of Service Results
- Environmental Constraints Map
- Watershed Map



ATTACHMENT A PHOTOGRAPH LOG



Ponding at ADA curb ramps



Delivery vehicle parked on sidewalk at Princeton Avenue



Heavy trucks along Calhoun Street



Worn path along Calhoun Street



Bicycle activity at Southard Street



Drainage issue at W. Paul Street



Bicycle activity at Kirkbride Avenue



Parked car on sidewalk in front of proposed charter school



Calhoun Street and Princeton Avenue intersection



Capitol City Sports Complex Parking Lot



Location of multiple pedestrian crashes at Southard Street intersection



New Sidewalk and Curb Ramp by Capital City Sports Complex



Newly constructed sidewalk and townhomes along Calhoun Street



Worn path on Calhoun Street



Deteriorating sidewalk along Calhoun Street



Worn path on Calhoun Street



Heavy truck turning at Southard Street intersection



Deteriorating sidewalk along Calhoun Street



U-Haul Driveway to Olden Avenue



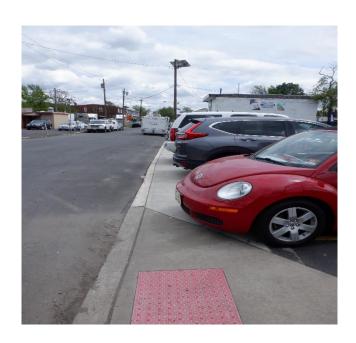
Damaged signal equipment at Calhoun Street and Southard Street intersection



U-Haul driveway to New Willow Street



Deteriorating sidewalk along Calhoun Street



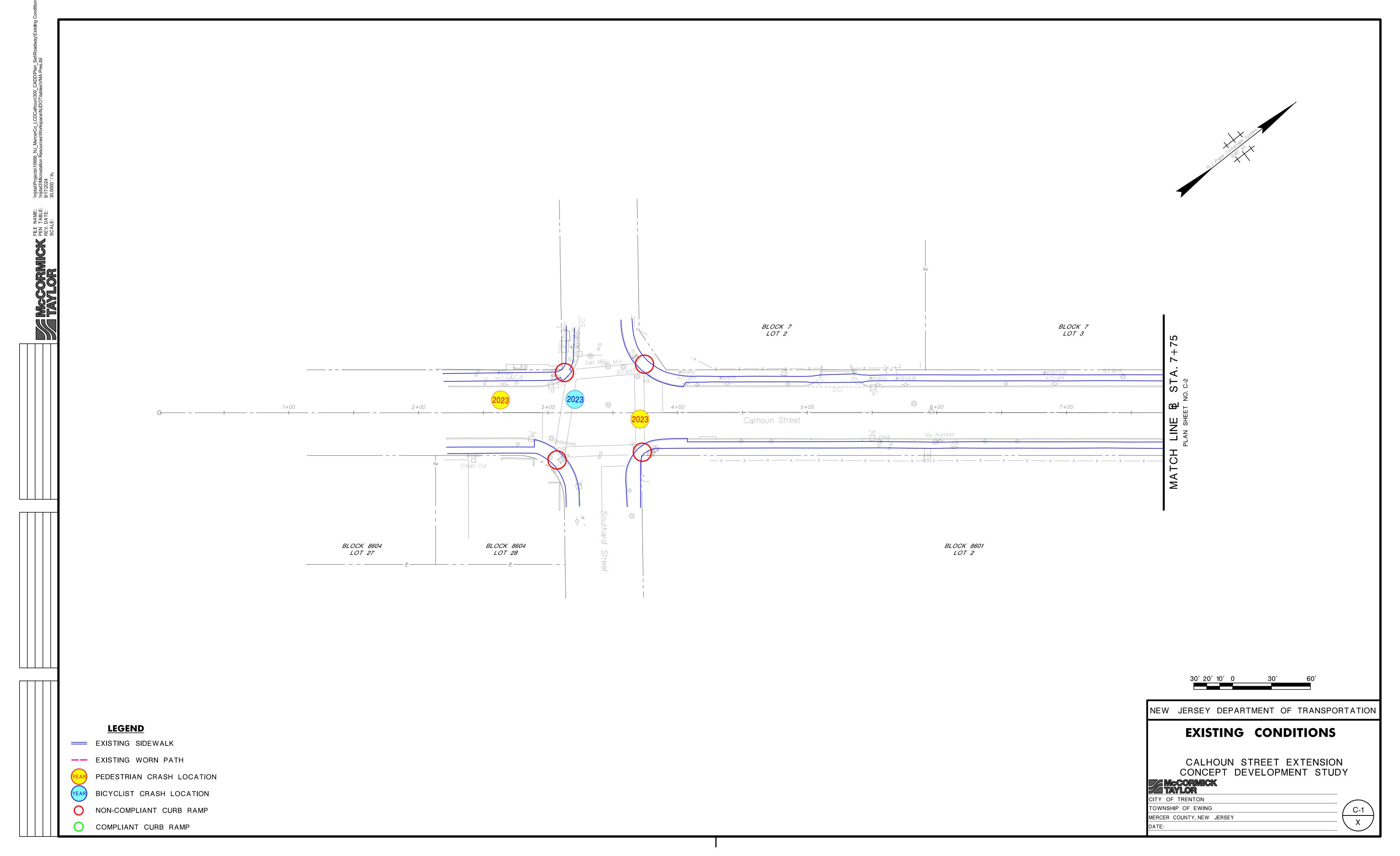
Parked cars encroaching on sidewalk

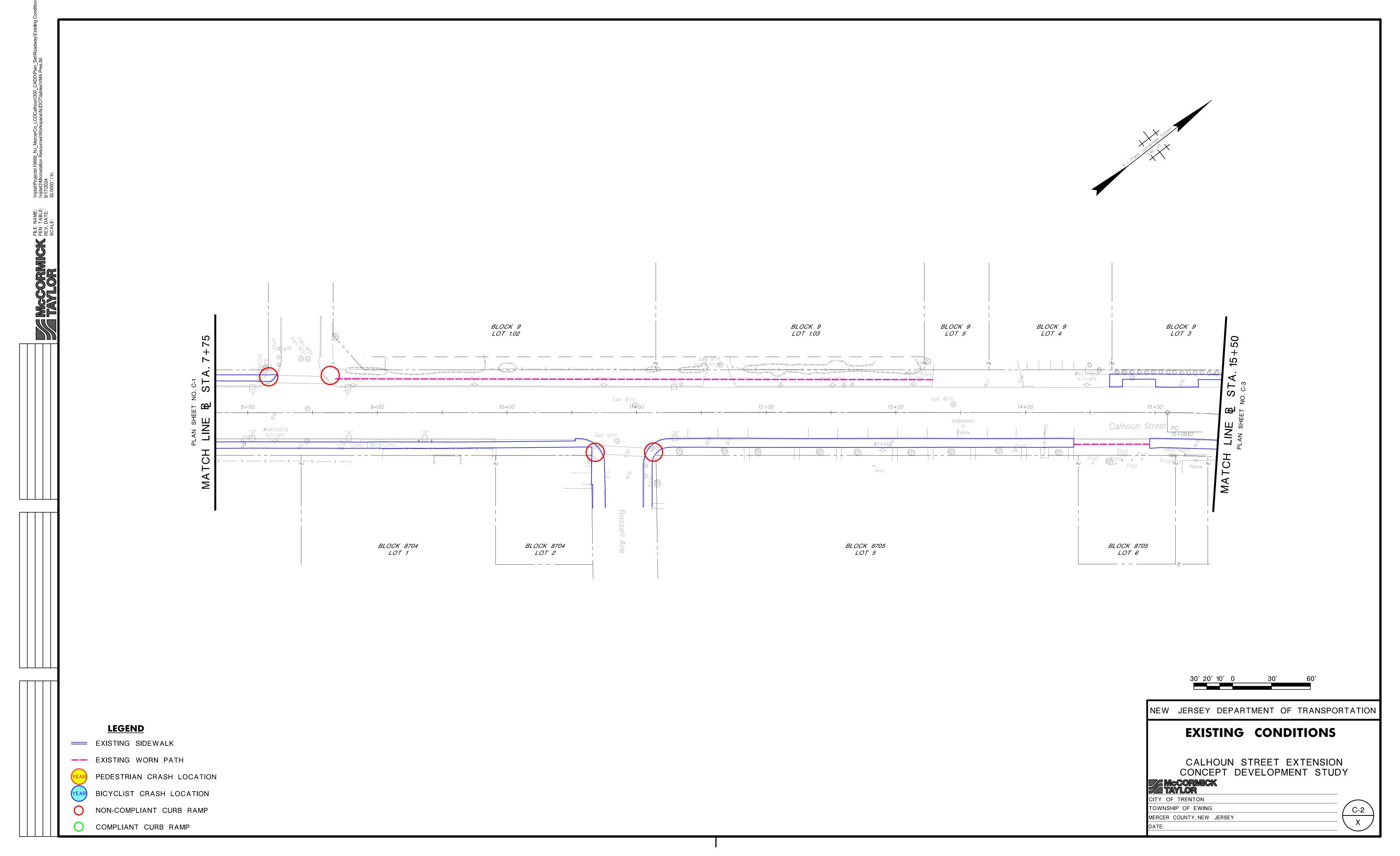


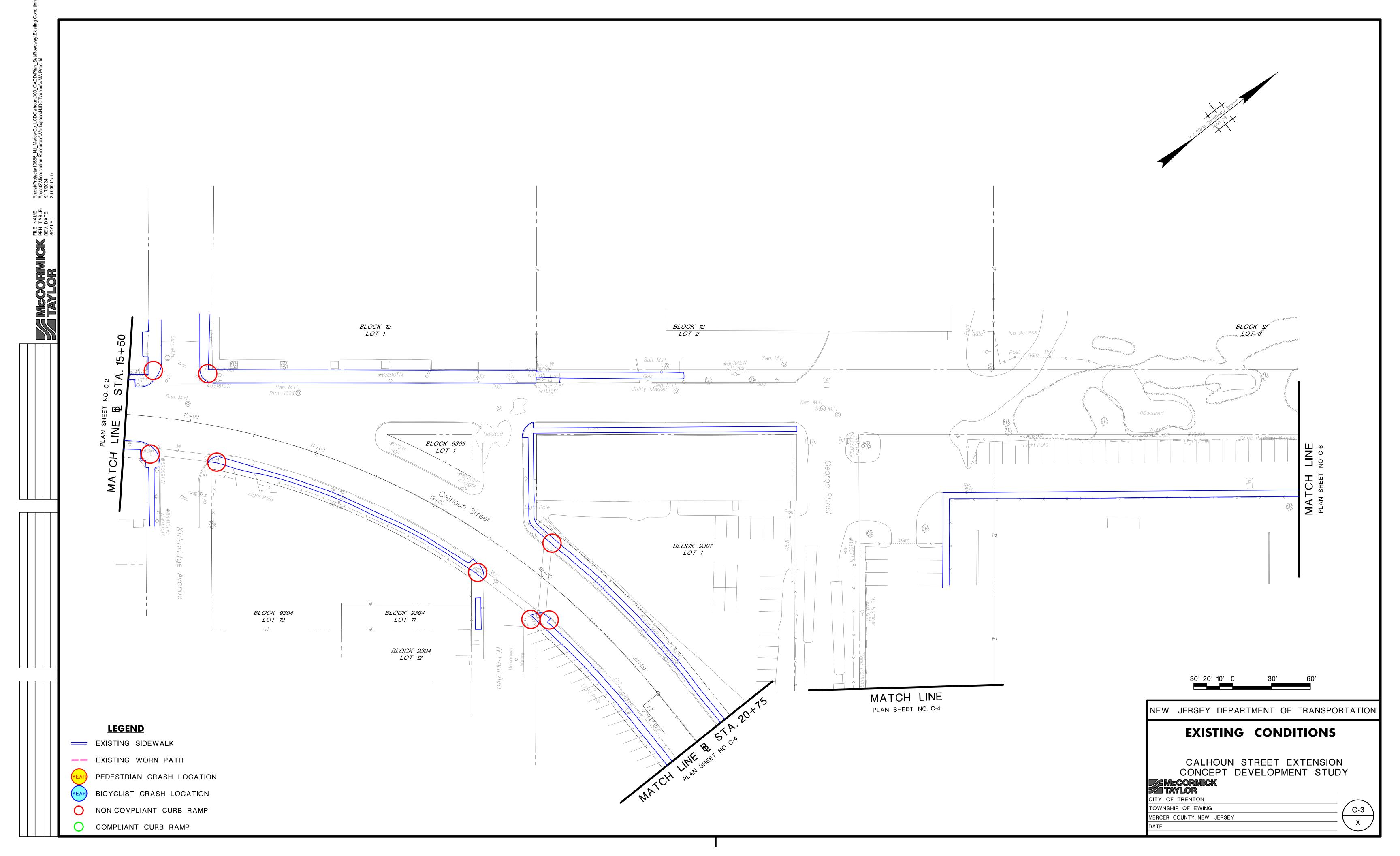
On-street parking along Calhoun Street

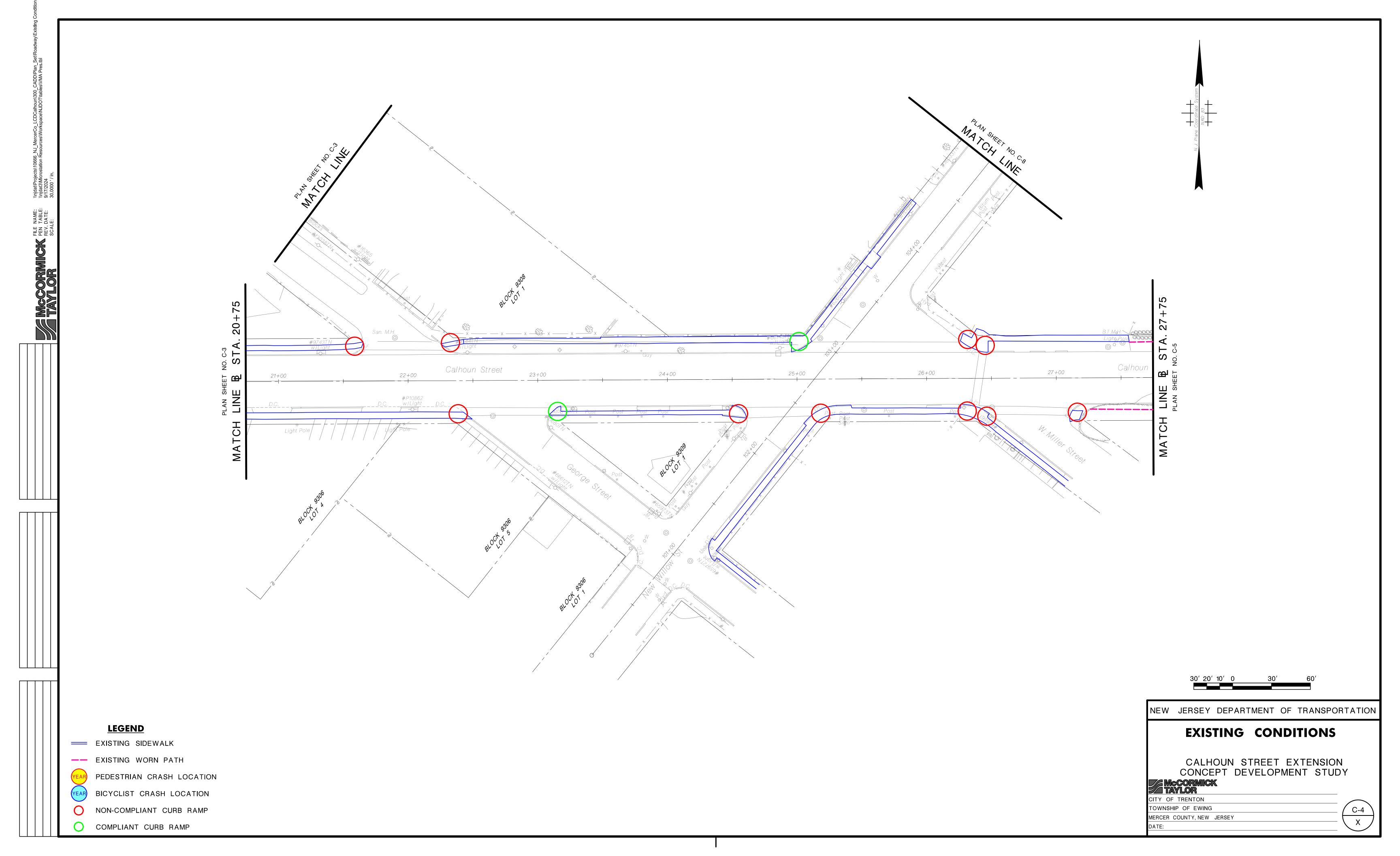


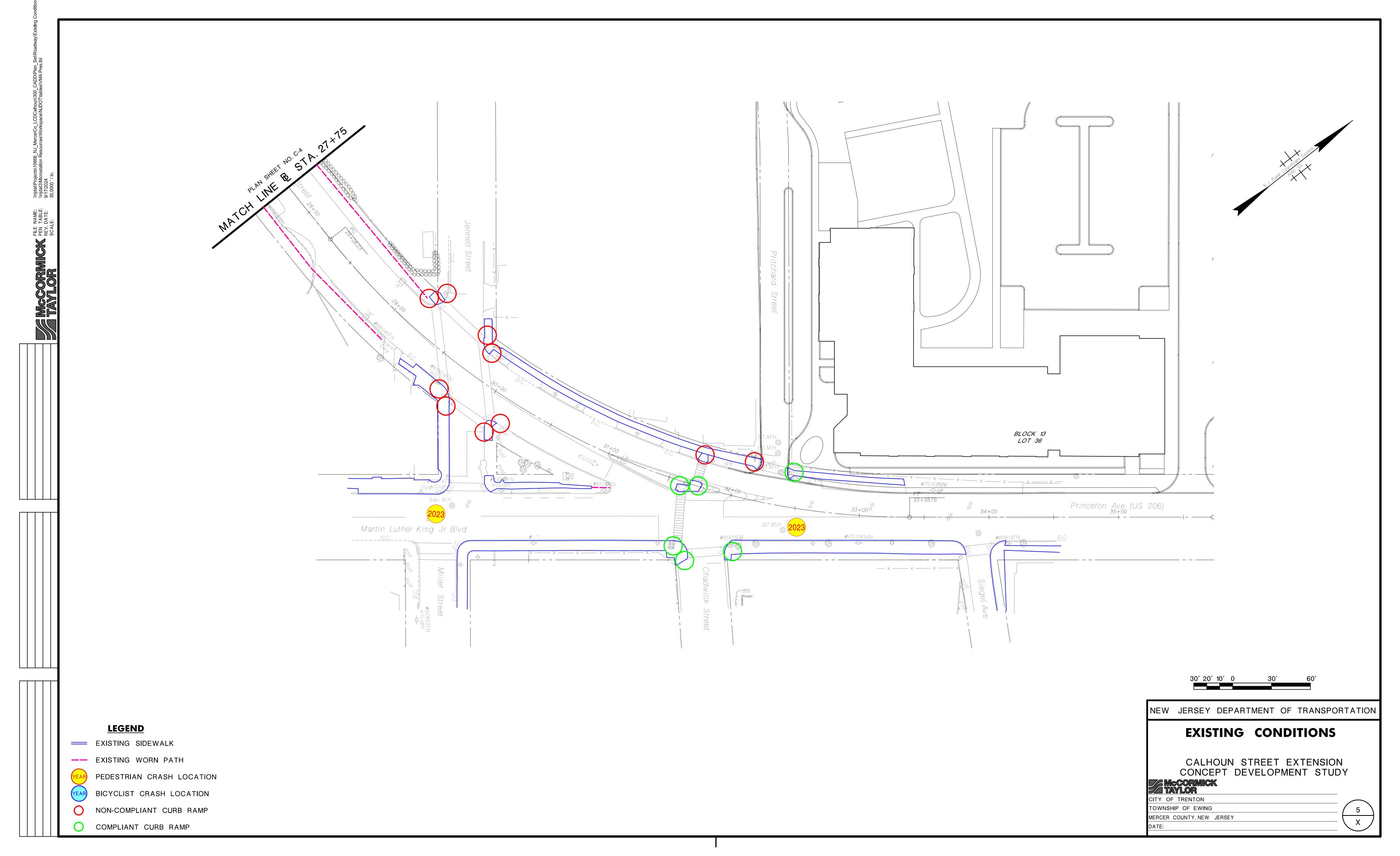
ATTACHMENT B EXISTING CONDITIONS MAP



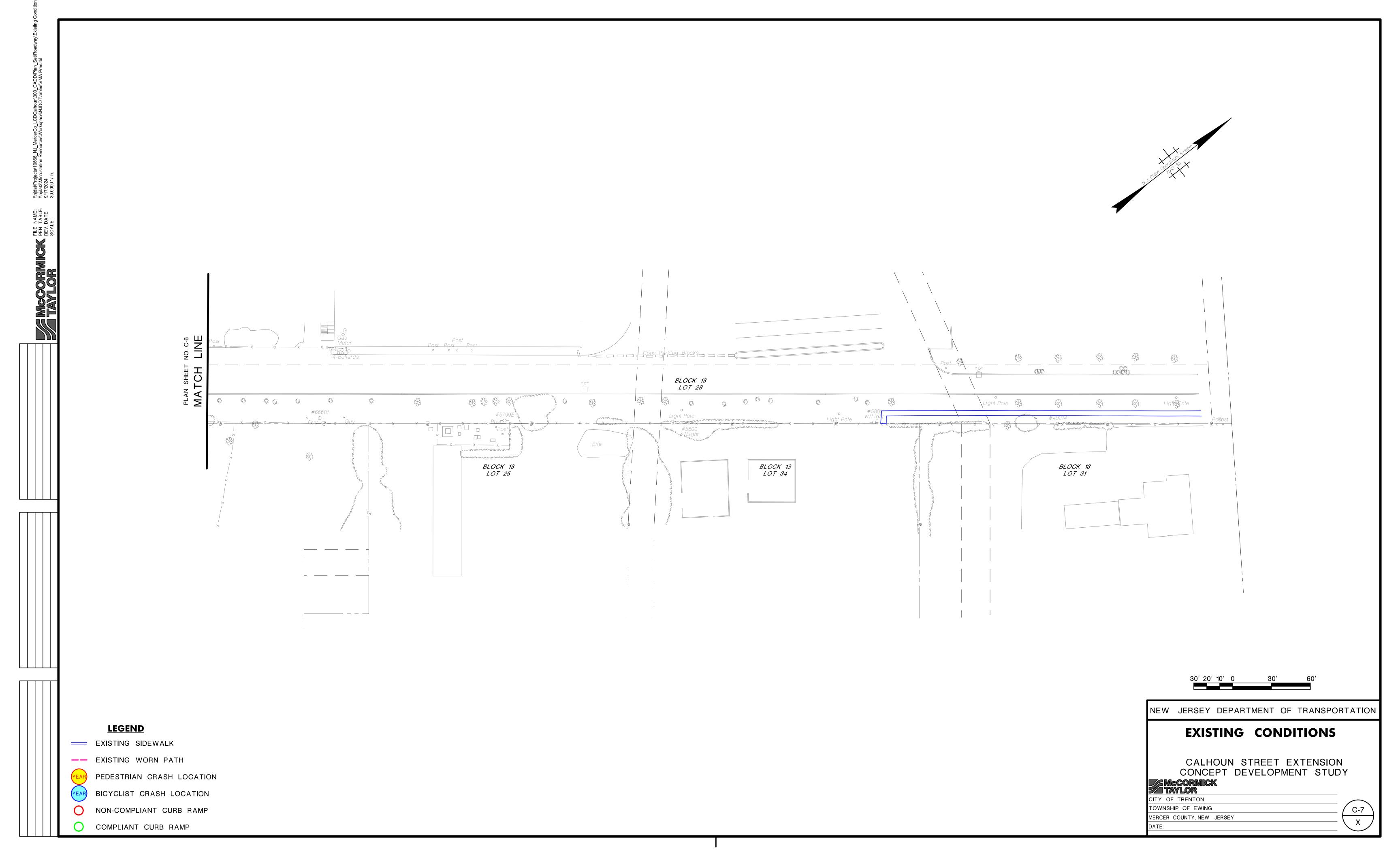


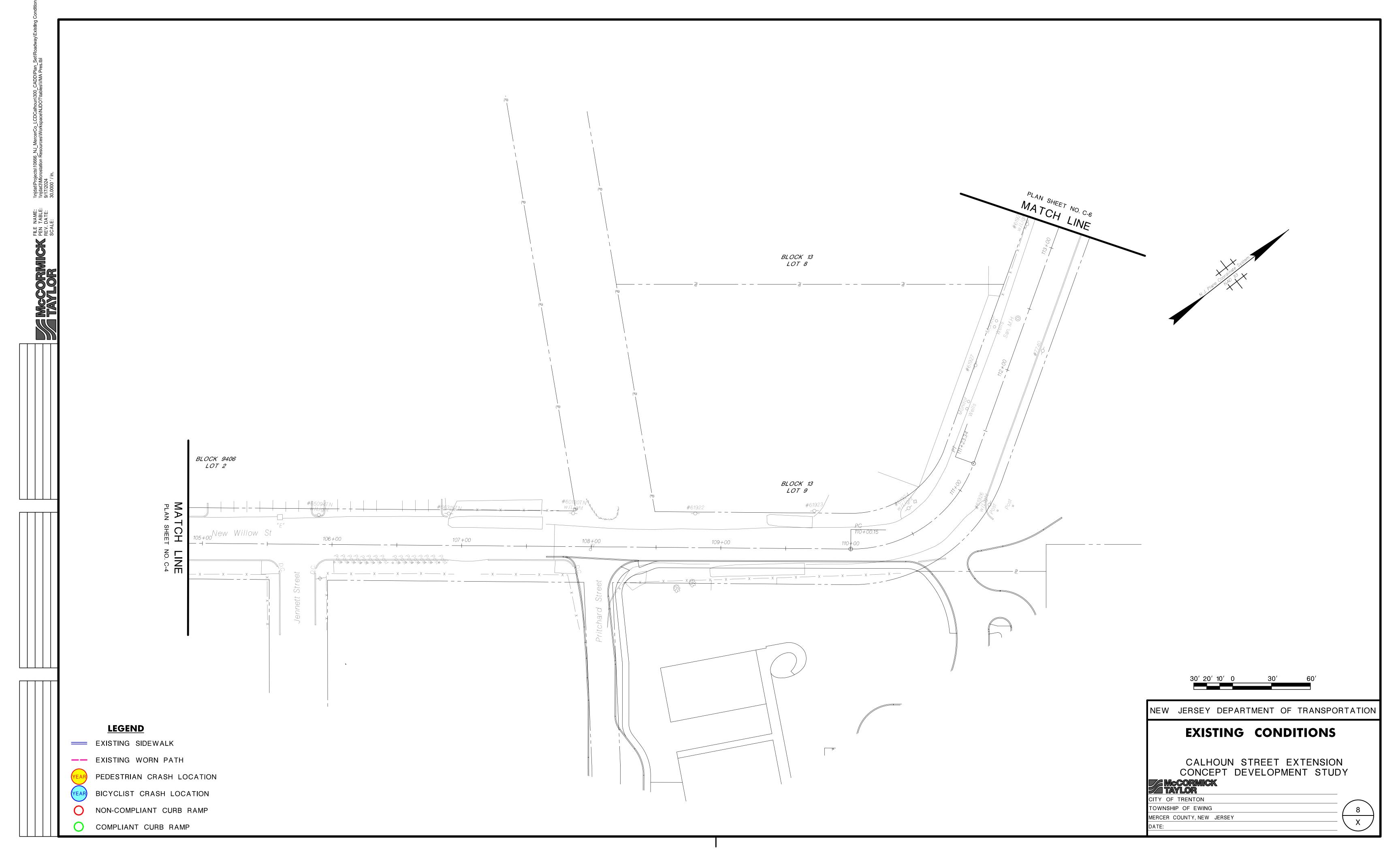






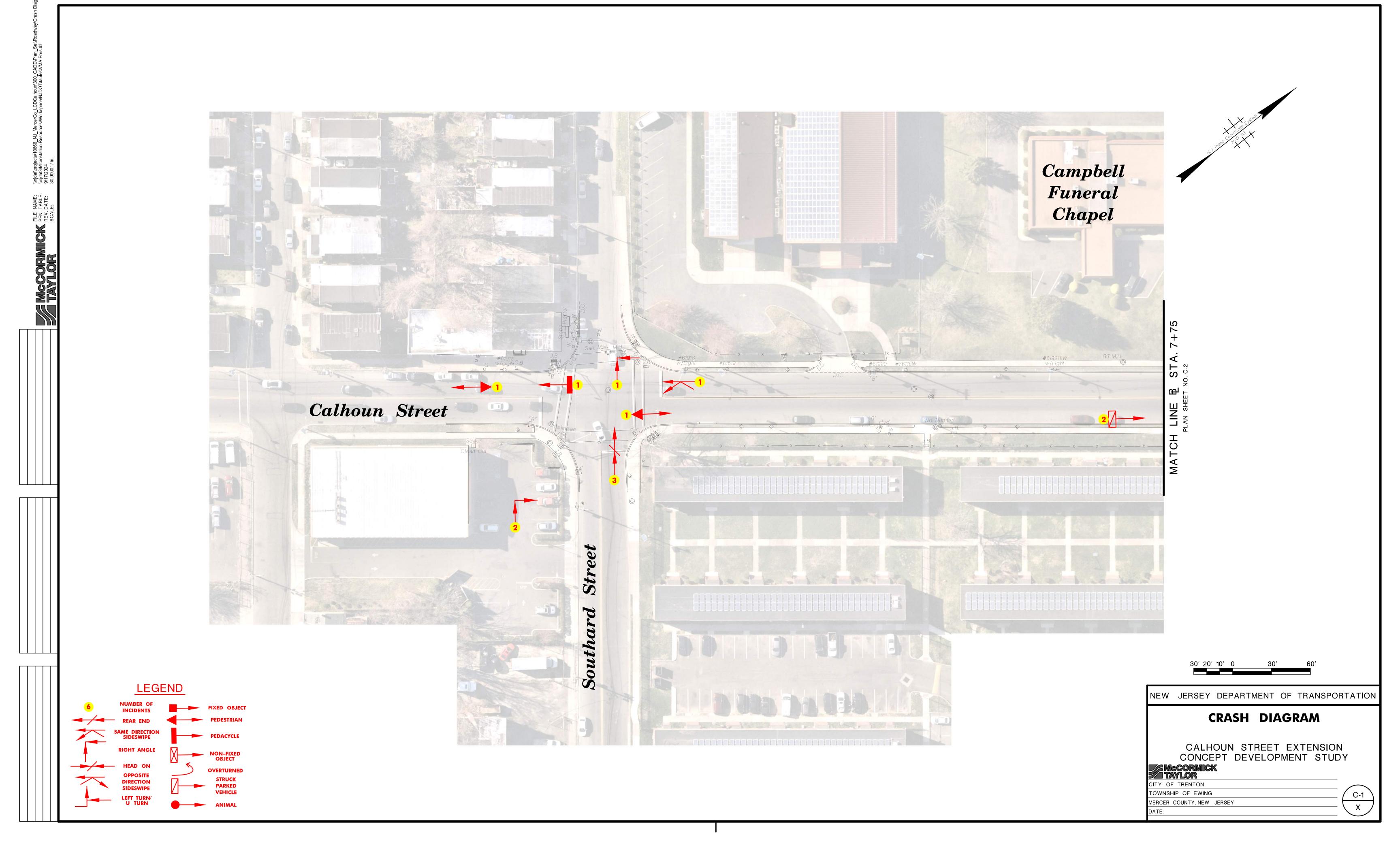




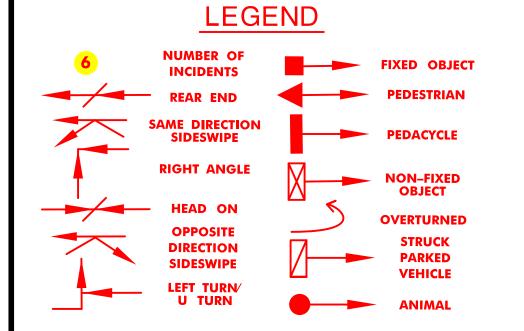


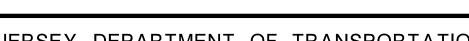


ATTACHMENT C CRASH DIAGRAMS









NEW JERSEY DEPARTMENT OF TRANSPORTATION

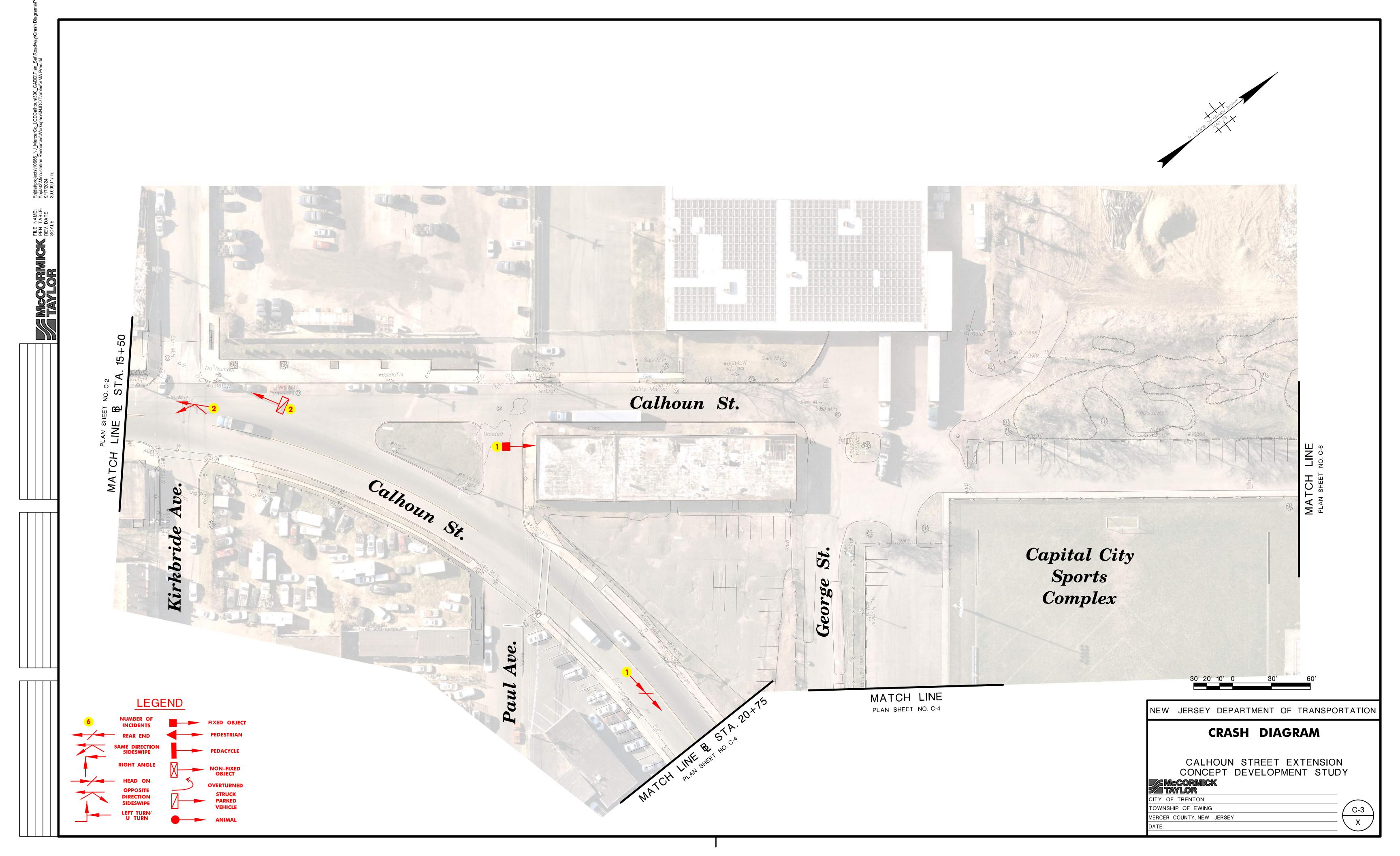
CRASH DIAGRAM

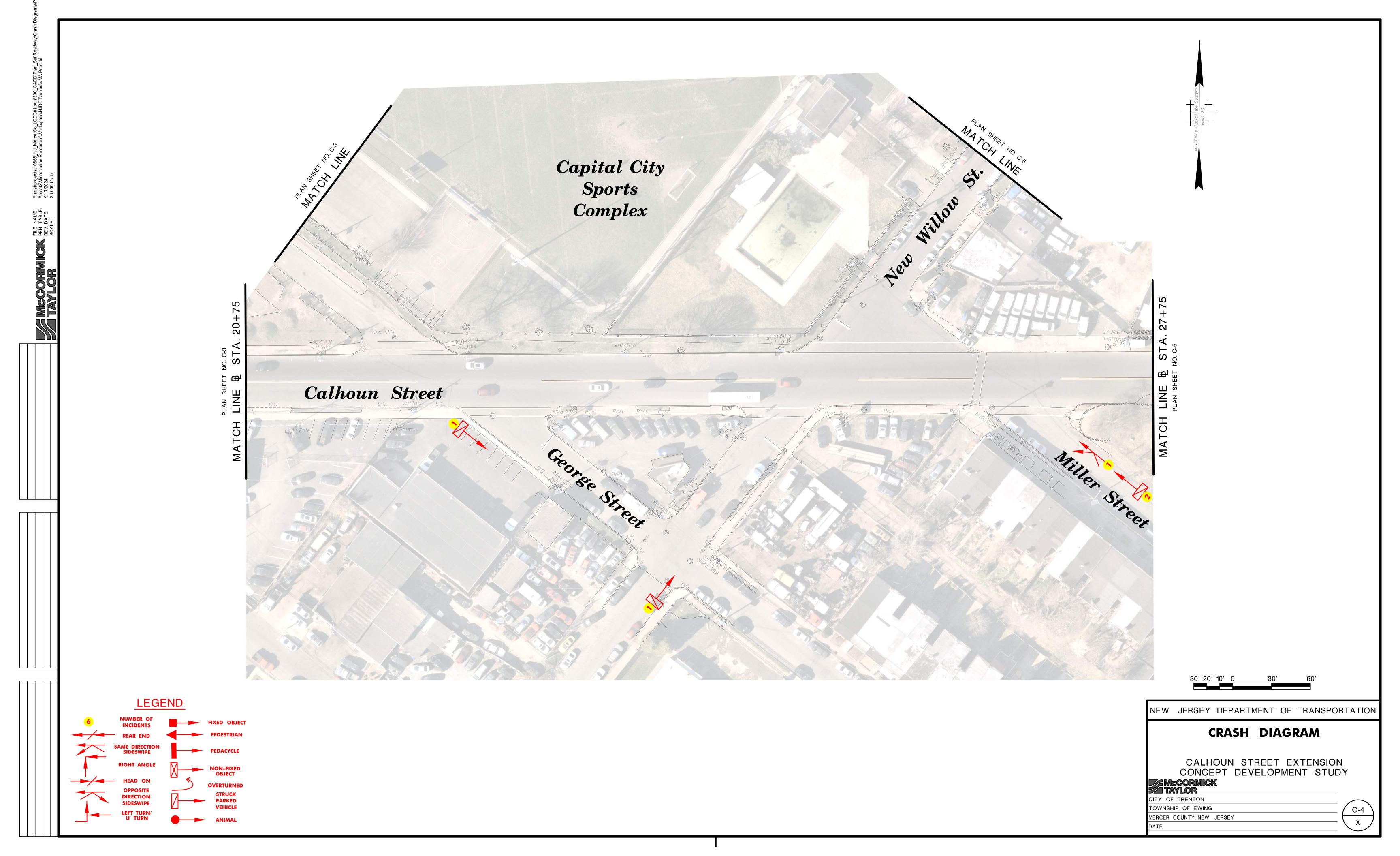
CALHOUN STREET EXTENSION CONCEPT DEVELOPMENT STUDY

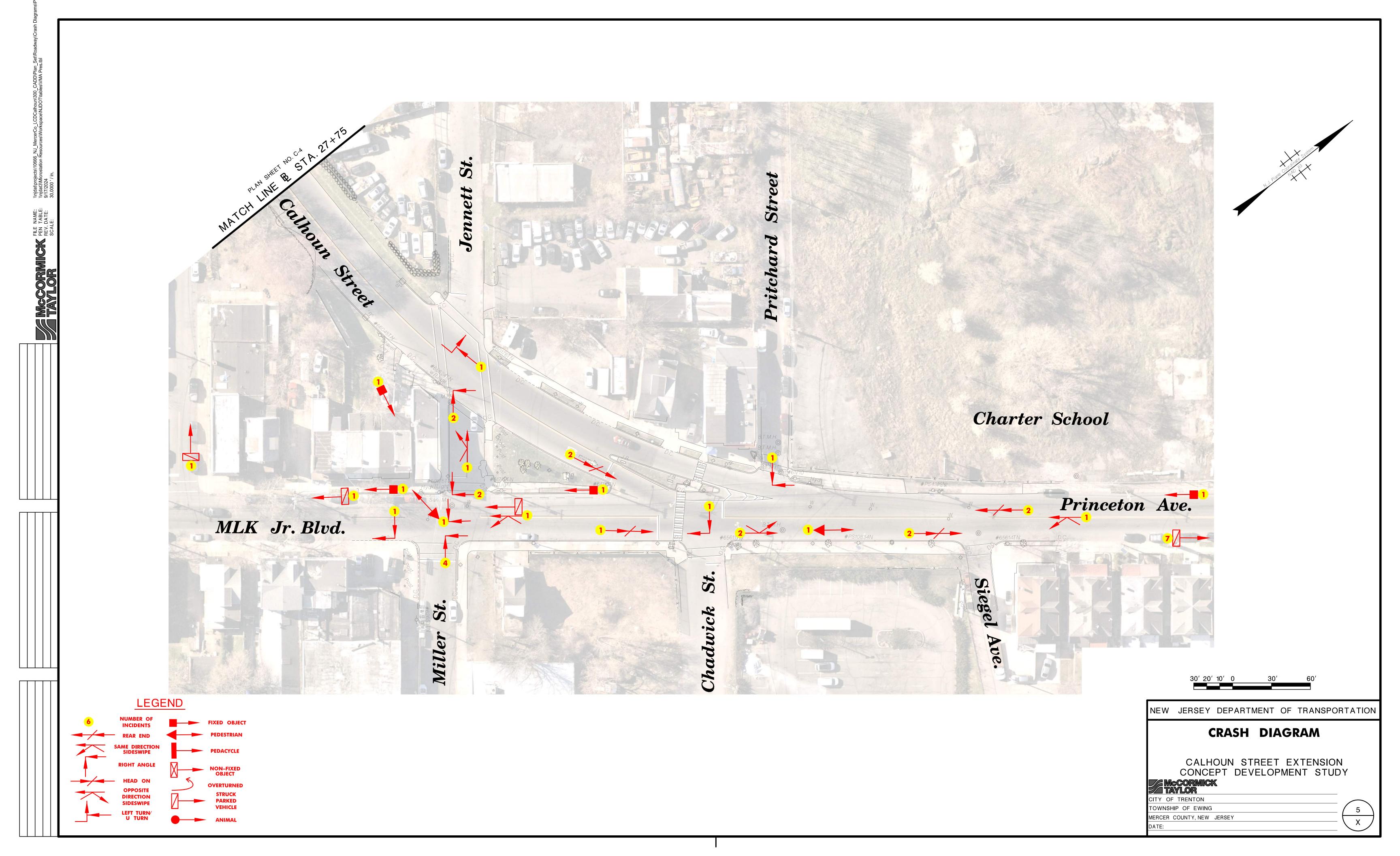
TAYLOR

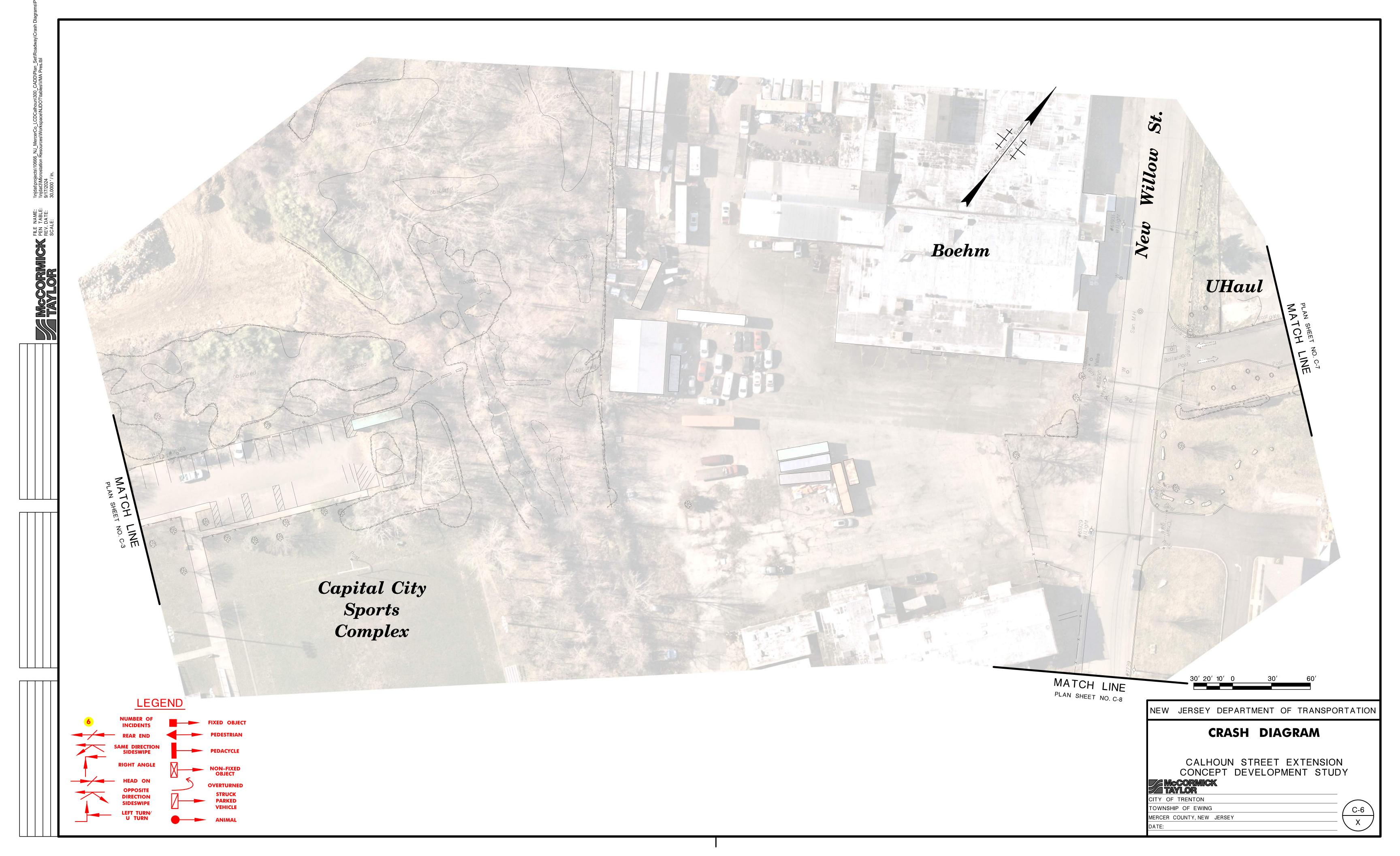
CITY OF TRENTON
TOWNSHIP OF EWING
MERCER COUNTY, NEW JERSEY

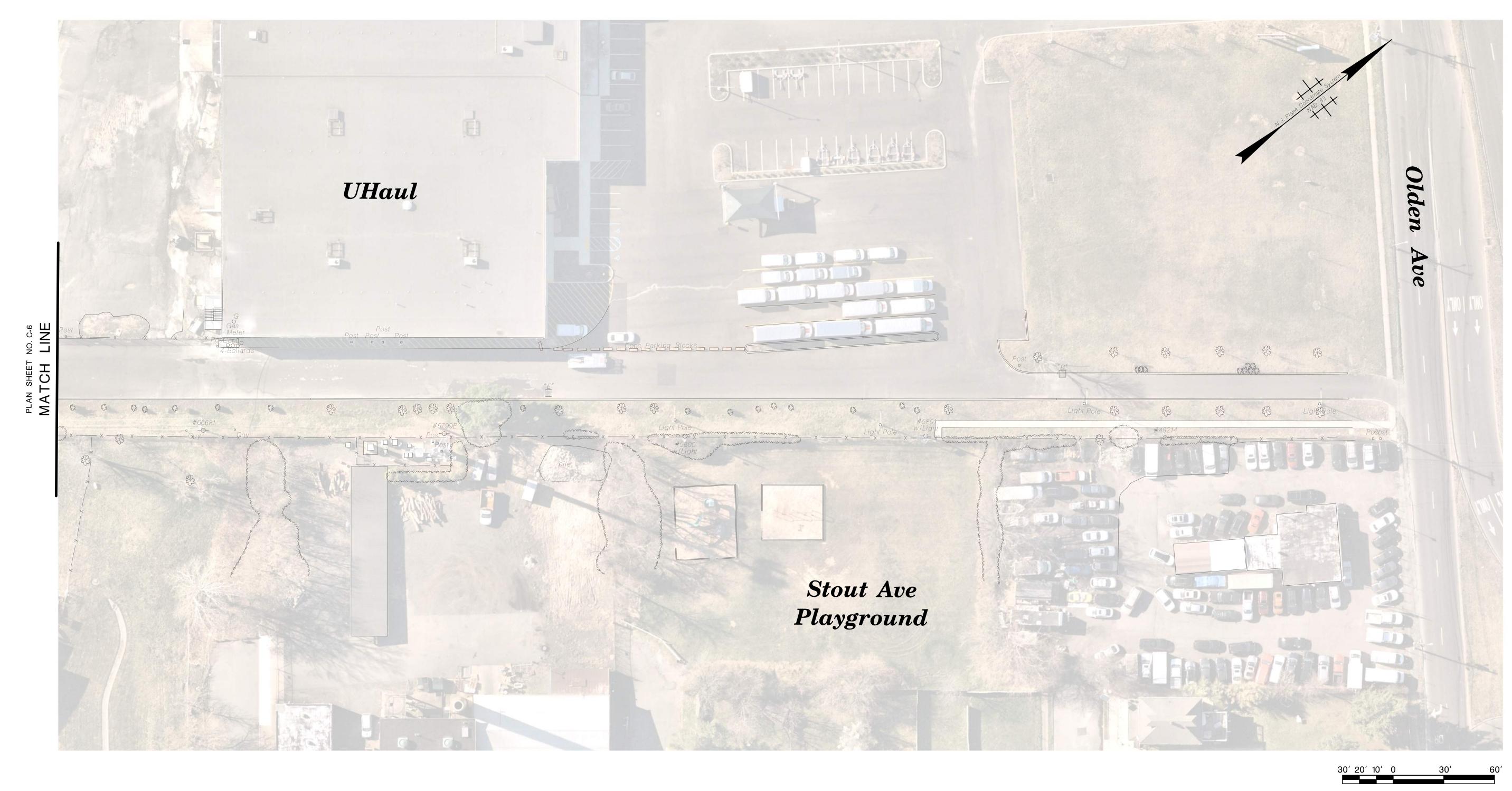




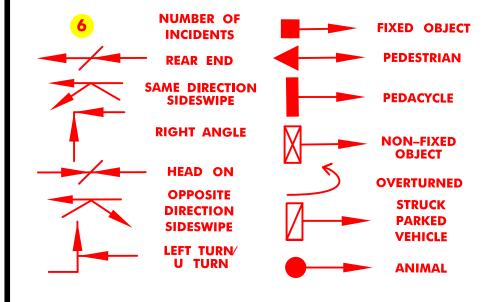












NEW JERSEY DEPARTMENT OF TRANSPORTATION

CRASH DIAGRAM

CALHOUN STREET EXTENSION CONCEPT DEVELOPMENT STUDY

MCCORMICK TAYLOR CITY OF TRENTON

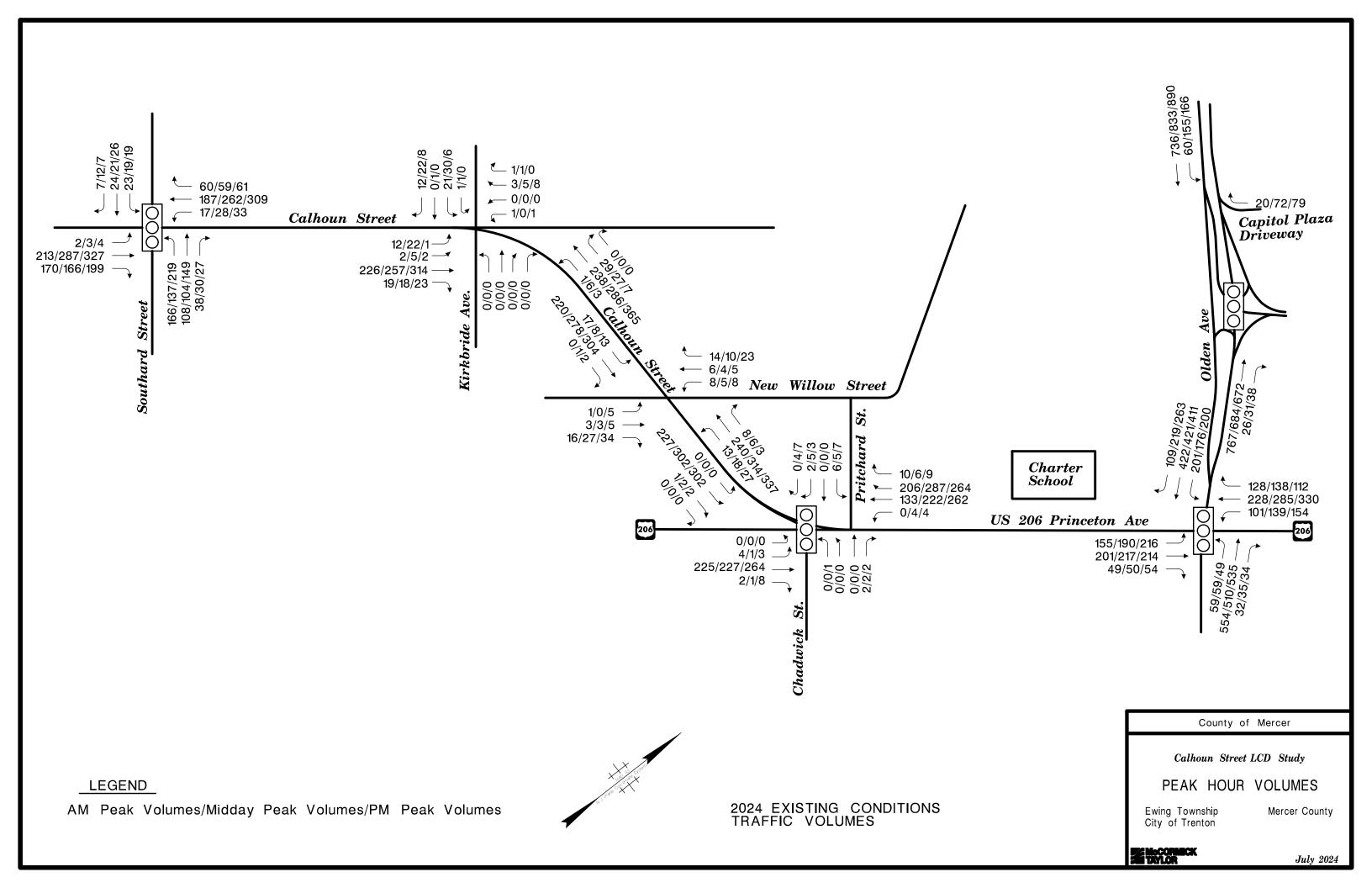
TOWNSHIP OF EWING MERCER COUNTY, NEW JERSEY

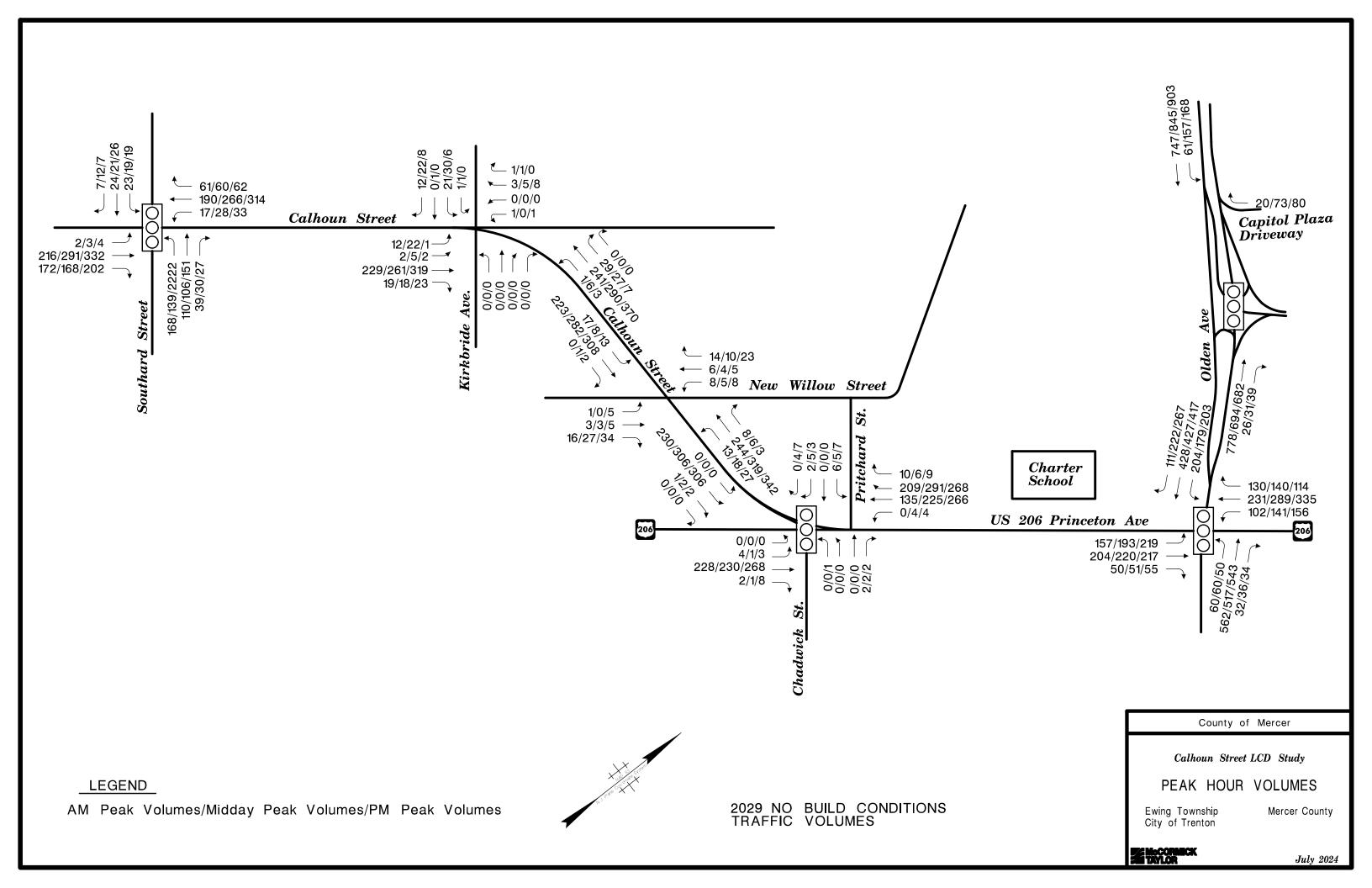


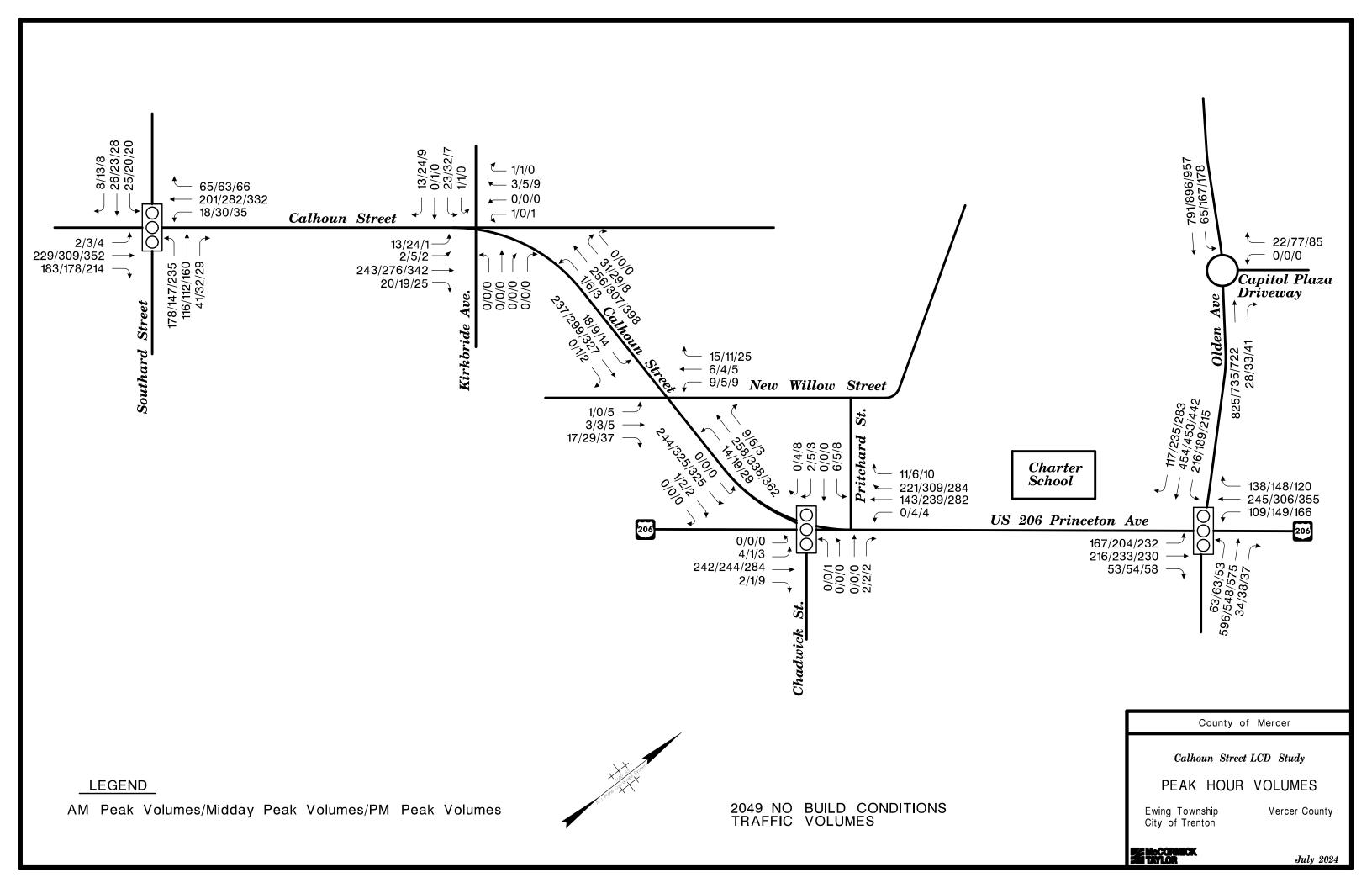


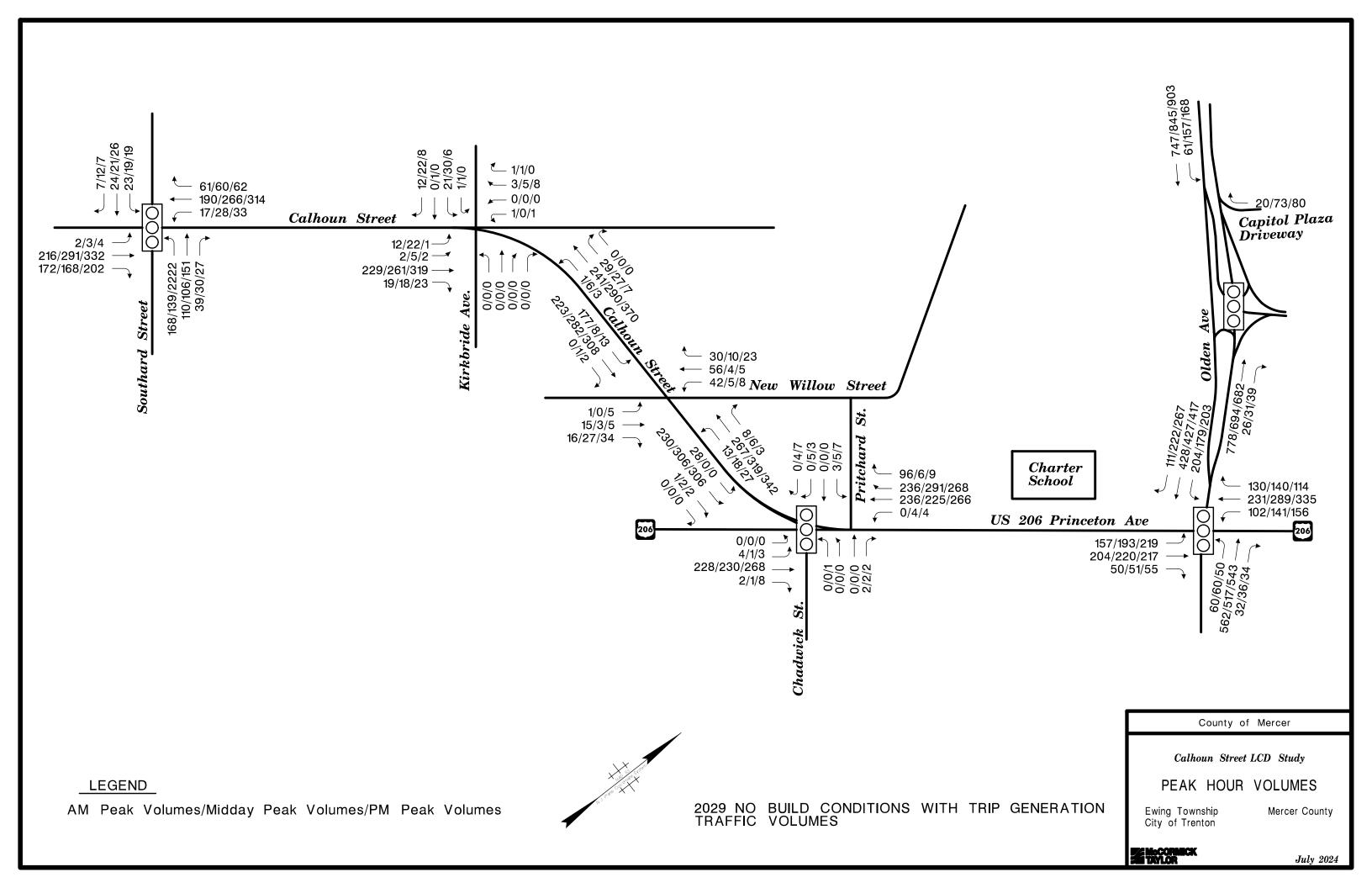


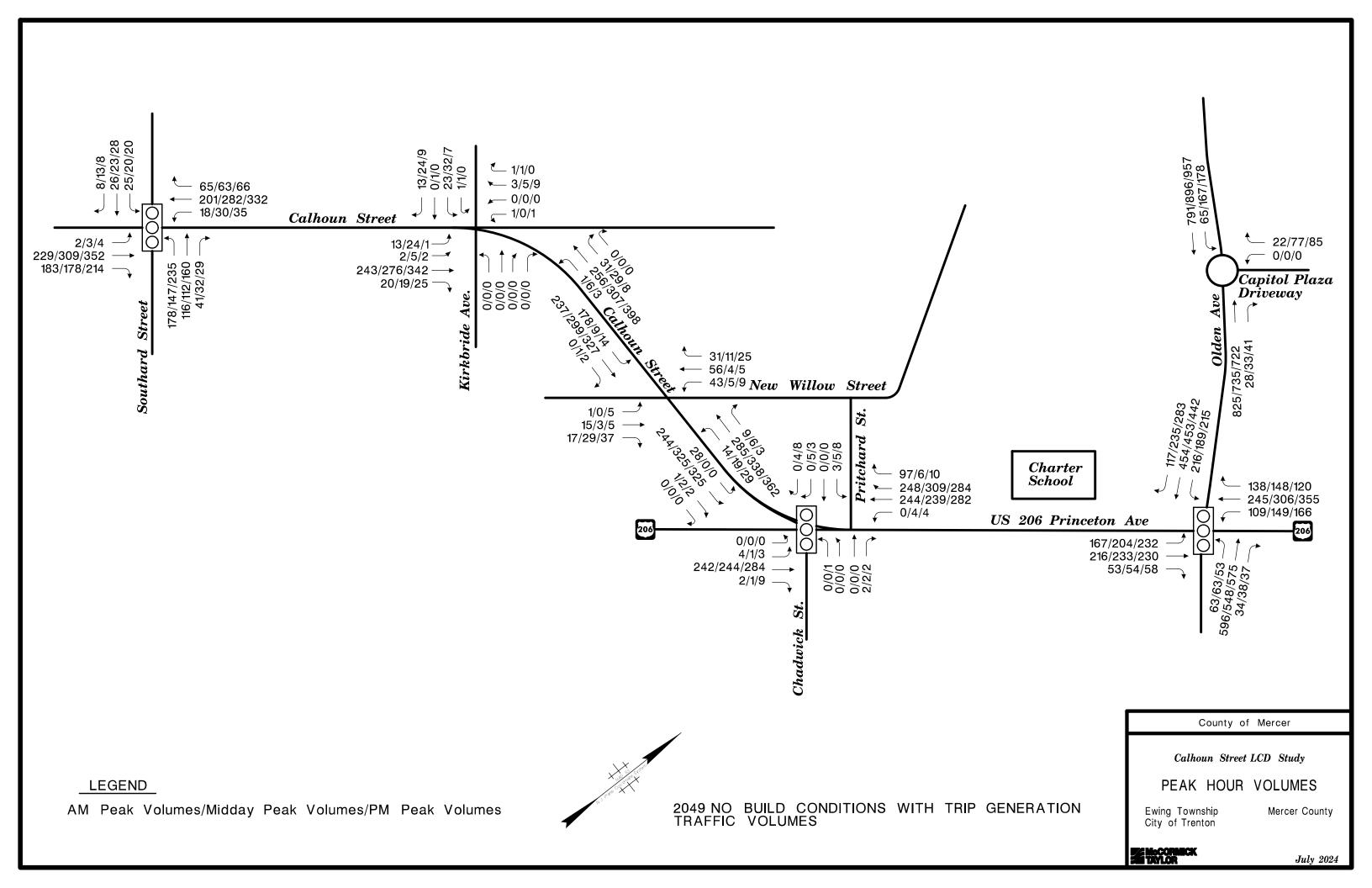
ATTACHMENT D TRAFFIC FLOW DIAGRAMS













ATTACHMENT E LEVEL OF SERVICE (LOS) RESULTS

Calhoun Street Extension LCD Study Existing and No Build Conditions - LOS Results

EXISTING YEAR 2024

					AM Peak							Midday Pea						PM Peak											
Intersection & Movement		By La	ne Configu	ration	Ву Ар	proach	,	verall section	By La	ne Configu	ration	Ву Арј	proach	By O ^r Inters		By La	ne Configu	ration	Ву Арр	oroach	=	verall ection							
		Delay	LOS	95% Queue	Delay	LOS	Delay	LOS	Delay	LOS	95% Queue	Delay	LOS	Delay	LOS	Delay	LOS	95% Queue	Delay	LOS	Delay	LOS							
	EBLTR	6	А	22	6	А			6.9	А	24	6.9	А			9.1	Α	30	9.1	Α									
Calhoun St. & Southard St.	WLTR	9.1	Α	115	9.1	Α	11		10.3	В	114	10.3	В	12.8	ь	18.6	В	262	18.6	В	15.3	В							
	NBLTR	13.1	В	111	13.1	В	11	В	14.8	В	147	14.8	В	12.0	В	15.3	В	178	15.3	В	15.5	Б							
	SBLTR	11.3	В	82	11.3	В]		12.9	В	115	12.9	В			12.9	В	135	12.9	В									
	EBL	0.1	Α	1					0.1	Α	1					0.1	Α	1											
	EBT	0.7	Α	1	0.7				0.3	Α	1	0.6				0.4	Α	1	0.8										
	EBR	0.7	Α	1			1.5	А	0.3	Α	1				A	0.4	Α	1											
	WBL	0.1	Α	1					0.2	Α	1			1.2		0.2	Α	2	0.8										
	WBT	0.5	А	1	0.5				0.6	Α	1	0.6				0.8	Α	2											
New Willow St. & Calhoun St. (stop controlled)	WBR	0.5	Α	1					0.6	А	1					0.8	Α	2			1.9	Α							
	NEL	10.5	В	2											^	12.2	В	7			1.5	^							
	NET	10.5	В	2	10.5				10.7	В	4	10.7				12.2	В	7	12.2										
	NER	10.5	В	2					10.7	В	4					12.2	В	7	13.8										
	NEL	10.5	В	2		1	1		13.1	В	3		1	1		13.8	В	7											
	NET	10.5	В	2	10.5			1	13.1	В	3	13.1				13.8	В	7											
	NER	10.5	В	2					13.1	В	3					13.8	В	7											
	WBLR	0	Α	0	0	Α	– 15.1 B								0	Α	0	0	A	4									
MLK Blvd. / Princeton Ave. & Chadwick St & Calhoun St.	NBTR SBTR	8.5	A	129	8.5 6.9	A		В	5.4	A	64	5.4	A	22.6	С	7.6	Α	125 255	7.6	A	23.3	С							
Chadwick St & Cambuil St.	NBLTR	6.9 34.2	A C	149 190	34.2	A C	ł		6.8 62.7	A E	151 296	6.8 62.7	A E			9.1 62.7	A E	296	9.1 62.7	A F									
	EBL	13.1	В	84	34.2				12.3	В	77	02.7	_			17.2	В	99	02.7	_									
	EBT	21.9	C	280	16.5	В			24	C	300	16.2	В			28.3	С	341	18.7	С									
	EBR	2	A	18					4.1	A	44	20.2				4.9	A	52	2017	Ŭ									
	WBL	8.8	A	30					9.4	A	31			1		11.3	В	30											
	WBTR	19.7	В	165	18.7	В			20.3	С	155	19.2	В			24.4	C	179	23.3	С									
Princeton Ave. & N. Olden Ave.	NBL	23.9	С	99			22.8	С	26.8	С	116			25.1	С	35.8	D	150			25.2	С							
	NBTR	39.9	D	231	33.8	С			45.8	D	242	37.9	D			32.7	C	193	34.1	С									
	SBL	19.5	В	69	1		ł		20	С	86					17	В	84	29.5										
	SBT	45.4	D	207	28.7	С			53.6	D	270	34	С			44.2	D	278		С									
	SBR	6.2	Α	35					7.5	Α	45					3.4	Α	23											
	EBL	32.7	С	31	2.6	А	2.5		33.1	С	63	5.3	А	4.5	А	33.1	С	67	5.4	Δ									
N. Olden Ave. & Capitol Plaza	EBT	0.1	Α	0		^		А	0.2	Α	0					0.2	Α	0		А	4.5	Α							
N. Oldell Ave. & Capitol Flaza	WBT	2.4	Α	57	2.4	A			3.8	Α	68	3.8	A			3.6	A	58	3.6	A	1.5								
	SBR	0	Α	0	0	Α			0.1	Α	0	0.1	Α			0.1	А	0	0.1	А									

Calhoun Street Extension LCD Study Existing and No Build Conditions - LOS Results

BUILD YEAR 2029

		I			AM Peak				1			LD YEAR 2 Midday Pea				1			PM Peak			
Intersection & Movement		By La	ne Configu	ıration		proach	-	verall section	By La	ne Configu			proach	By O ^r Inters		By Lane Configuration		By Approach			verall ection	
		Delay	LOS	95% Queue	Delay	LOS	Delay	LOS	Delay	LOS	95% Queue	Delay	LOS	Delay	LOS	Delay	LOS	95% Queue	Delay	LOS	Delay	LOS
	EBLTR	6.1	Α	22	6.1	А			7	А	25	7	Α			9.3	А	30	9.3	Α		
Calhoun St. & Southard St.	WLTR	9.3	Α	120	9.3	Α	11.1	В	10.5	В	117	10.5	В	12.9		19.4	В	271	19.4	В	15.6	В
	NBLTR	13.2	В	113	13.2	В	11.1	Ь	14.9	В	150	14.9	В	12.9	В	15.4	В	183	15.4	В	15.6	В
	SBLTR	11.4	В	83	11.4	В			12.9	В	117	12.9	В			12.9	В	138	12.9	В		
	EBL	1.5	А	13					0.1	Α	1					0.1	Α	1				
	EBT	4.5	А	13	4.5			А	0.3	Α	1	0.3				0.4	Α	1	0.4			
	EBR	4.5	Α	13			8.6		0.3	Α	1				A	0.4	Α	1	0.8		1.9	1
	WBL	0.1	Α	1	0.4				0.2	Α	1			1.2		0.2	Α	2				
New Willow St. & Calhoun St. (stop controlled)	WBT	0.4	Α	1					0.6	Α	1	0.6					Α	2				
	WBR	0.4	Α	1					0.6	Α	1					0.8	Α	2				А
	NEL	17	С	8											, ,	12.3	В	7				
	NET	17	С	8	17				10.7	В	4	10.7				12.3	В	7	12.3			
	NER	17	С	8	1				10.7	В	4					12.3	В	7	13.9			
	NEL	37.3	Е	80					13.2	В	3					13.9	В	7				
	NET	37.3	Е	80					13.2	В	3	13.2				13.9	В	7				
	NER	37.3	E	80	_				13.2	В	3					13.9	В	7				
MIK Dlud / Dringaton Ava 9	WBLR	0	A	125	9.1 10.3	A	4	6.6 B	F 4	Δ	CF	Г 4	^	23.5 C		7.7	A	0	7.7	^	24.1	
MLK Blvd. / Princeton Ave. & Chadwick St & Calhoun St.	NBTR SBTR	9.1 10.3	A B	135 274		A B	16.6		5.4 6.9	A A	65 155	5.4 6.9	A A		С	7.7 9.3	A A	129 267	7.7 9.3	A A		С
Chadwick of & Camban of.	NBLTR	35.1	D	215	35.1	D	1		65.3	E	303	65.3	E			65.3	E	303	65.3	E E		i
	EBL	13.4	В	86	33.2				12.6	В	79		55.5			17.8	В	101	19			
	EBT	22.1	С	285	16.7	В			24.3	С	309	16.4	В			28.7	С	348		В		
	EBR	2.1	А	19					4.1	А	44						А	53				
	WBL	8.9	А	30					9.4	А	31					11.4	В	31				
Princeton Ave. & N. Olden Ave.	WBTR	19.8	В	167	18.8	В	23.1	С	20.4	С	158	19.3	В	25.4	С	24.5	С	182	23.5	С	25.7	С
Princeton Ave. & N. Olden Ave.	NBL	24.4	С	100		1	23.1		27.5	С	122			25.4	C	37.9	D	157			25.7	C
	NBTR	40.7	D	237	34.5	С			46.5	D	246	38.6	D			32.9	С	196	35.2	D		
	SBL	19.7	В	69			1		20.2	С	87					17.2	В	86				
	SBT	46	D	212	29.1	С			54.6	D	274	34.5	С			44.9	D	283	30	С		
	SBR	6.4	Α	36					7.5	Α	45					3.6	Α	24				
	EBL	32.7	С	32	2.6	Α	2.5		33.1	С	64	5.3	Α	4.5	А	33.1	С	68	5.4	Α		
N. Olden Ave. & Capitol Plaza	EBT	0.2	A	0				Α	0.2	A	0					0.2	A	0		^	4.5	Α
·	WBT SBR	2.4 0	A	59 0	2.4 0	A A			3.8 0.1	A A	69 0	3.8 0.1	A A			3.6 0.1	A A	59 0	3.6	A A		1
	JDN	U	А	U	U	А			0.1	А	U	0.1	А			0.1	А	U U	0	^		

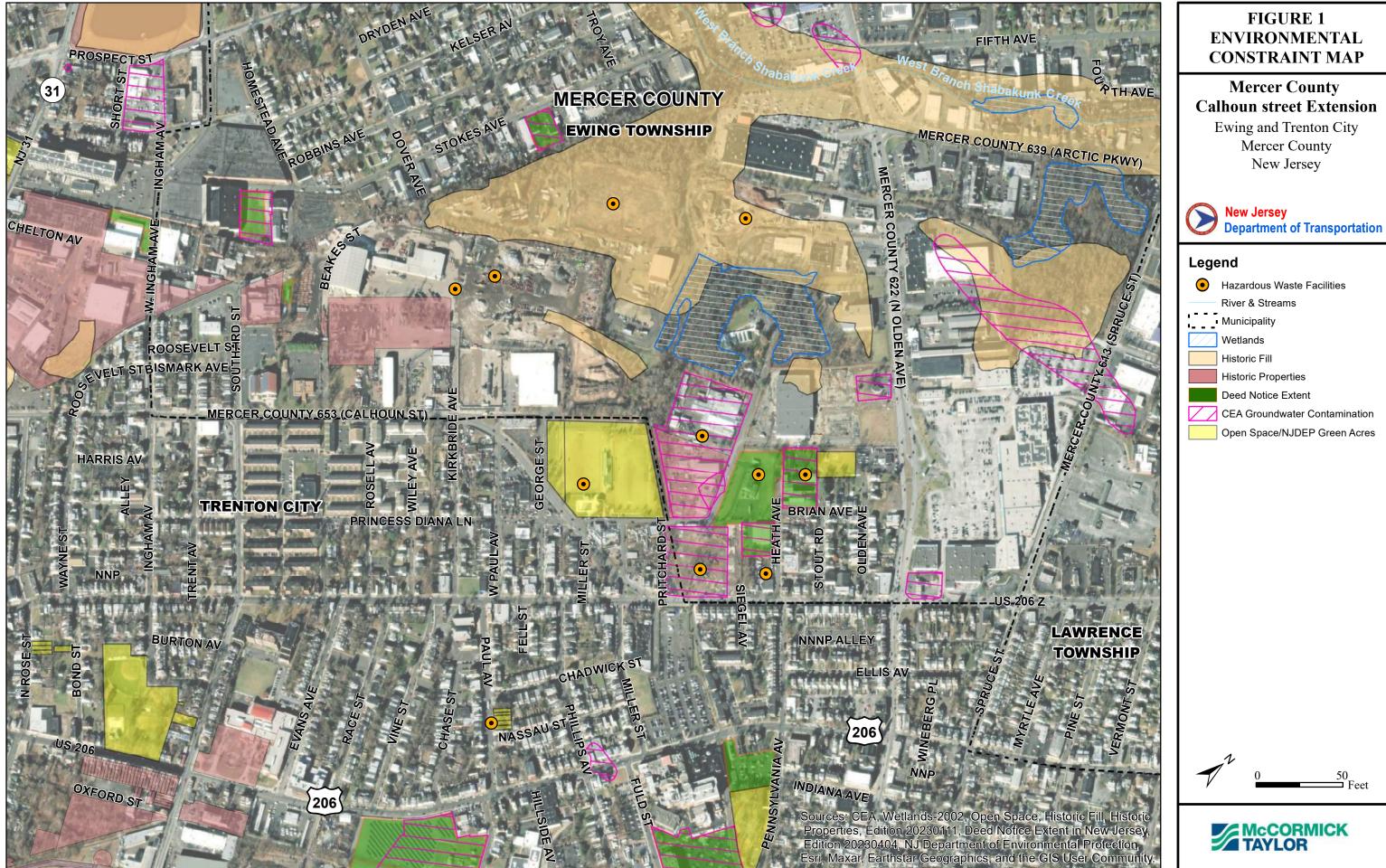
Calhoun Street Extension LCD Study Existing and No Build Conditions - LOS Results

DESIGN YEAR 2049

					AM Peak				1			Midday Pea				Γ			PM Peak			
Intersection & Movement		By La	By Lane Configuration			proach	1	verall section	By La	ne Configu		·	proach	By O ^r Inters	verall ection	By La	ne Configu	ration	Ву Арр	oroach		verall section
		Delay	LOS	95% Queue	Delay	LOS	Delay	LOS	Delay	LOS	95% Queue	Delay	LOS	Delay	LOS	Delay	LOS	95% Queue	Delay	LOS	Delay	LOS
Calhoun St. & Southard St.	EBLTR	6.5	Α	25	6.5	А			7.8	Α	28	7.8	А			10.3	С	34	10.3	В		
	WLTR	10.4	В	135	10.4	В	11.6	_	12.1	В	137	12.1	В	42.2	Б	23.5	В	320	23.5	С	46.0	
	NBLTR	13.4	В	122	13.4	В	11.6	В	14.8	В	161	14.8	В	13.2	В	15.6	В	197	15.6	В	16.9	В
	SBLTR	11.4	В	88	11.4	В			12.7	В	124	12.7	В	1		12.8	В	147	12.8	В		
	EBL	1.5	Α	14					0.1	Α	1					0.1	Α	1				
	EBT	4.5	Α	14	4.5			А	0.3	Α	1	0.3			1	0.5	Α	1	0.5			
	EBR	4.5	Α	14	1		9.2		0.3	Α	1					0.5 0.3 0.9	Α	1	0.9		2	1
	WBL	0.1	А	1	0.5				0.2	Α	1			1			Α	2				
	WBT	0.5	А	1					0.6	А	1	0.6					Α	2				
New Willow St. & Calhoun St. (stop controlled)	WBR	0.5	Α	1					0.6	Α	1			1.3	А	0.9		2				А
	NEL	17.6	С	9			3.2							1		12.6		8			2	
	NET	17.6	С	9	17.6				10.9	Α	1	0.6				12.6	В	8	12.6			
	NER	17.6	С	9	1				10.9	Α	1					12.6	В	8				
	NEL	42.4	Е	90			1		13.5	В	4			1		14.6	В	8				
	NET	42.4	Е	90	42.4				1 '	13.5	В	4	10.9				14.6	В	8	14.6		
	NER	42.4	E	90					13.5	В	4					14.6	В	8				
	WBLR	0	Α	0	9.4 10.8	Α	17.2 B							27.2		0	Α	0	0	A A 27.7	27.7	
MLK Blvd. / Princeton Ave. & Chadwick St & Calhoun St.	NBTR	9.4	A	143		A		В	5.5	A	69	5.5	A		С	7.8	A	137	7.8			С
Chadwick St & Camoun St.	SBTR NBLTR	10.8 35.8	B D	291 228	35.8	B D			7.3 77.6	A E	173 325	7.3 77.6	A E			9.9 77.6	A E	293 325	9.9 77.6			
	EBL	15	В	91	33.0				13.6	В	82	77.0				21.1	C	111	77.0			
	EBT	25.5	C	307	19.2	В			28.6	C	356	18.8	В			31	С	379	20.9	С		
	EBR	2.5	A	21					4.1	A	45	20.0				5	A	54				
	WBL	9.1	A	31			1		9.7	A	32	 				11.7	В	32				
	WBTR	20.4	С	180	19.3	В			21	C	169	19.9	В			25.5	С	194	24.4	С	27.0	
Princeton Ave. & N. Olden Ave.	NBL	26.3	С	106			24.9	С	32.4	С	146			27.9	С	49	D	183			27.9	С
	NBTR	43.4	D	257	36.9	D			50.1	D	268	427	D			33.7	С	209	40.5	D		
	SBL	20.4	С	73			1		21.4	С	91			l		17.8	В	90				
	SBT	49.3	D	230	31.1	1 C			59.7	E	297	37.4	D			47.6	D	309	31.8	С		
	SBR	7.2	Α	41	<u> </u>				7.4	Α	46					4	Α	27				
	EBL	32.7	С	34	2.6	А	2.5		33.1	С	67	5.4	А	4.6	А	33.2	С	71	5.4	Α		А
N. Olden Ave. & Capitol Plaza	EBT	0.2	A	0				Α	0.2	A	0					0.2	A	0			4.5	
2.2.2	WBT	2.4 0	Α	61 0	2.4 0	Α	1		3.9 0.1	Α Λ	75 0	3.9	Α Λ			3.6	Α	63 0	3.6			
	SBR	U	Α	U	U	Α			0.1	Α	U	0.1	Α			0.1	Α	U	0.1	Α		



ATTACHMENT F ENVIRONMENTAL CONSTRAINTS MAP



ENVIRONMENTAL CONSTRAINT MAP

CEA Groundwater Contamination

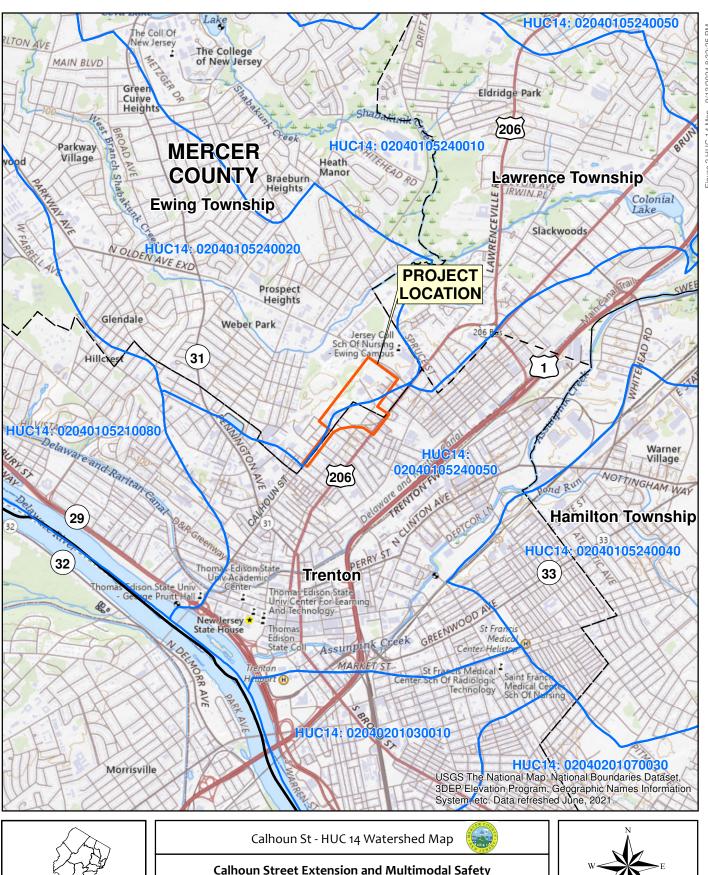
Open Space/NJDEP Green Acres







ATTACHMENT G WATERSHED MAP





Calhoun Street Extension and Multimodal Safety
Local Concept Development Study
Township of Ewing and City of Trenton, Mercer County
New Jersey
Legend
Project Location
HUC-14 Boundary
Municipality Boundary

