

OFFICE OF THE COUNCIL

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SCOTT MORGAN
LAURA M. TOY



COMMITTEE MEMBERS:

Brandon McCullough, Chair
All Councilmembers

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2250
citycouncil@livonia.gov

OFFICE OF THE COUNCIL
MEETING PACKET FOR THE
COMMITTEE OF THE WHOLE
NOVEMBER 19, 2025
6:00 P.M.

**The electronic packet is compiled, produced and distributed
by the City Council Staff. (734) 466-2250**

The official documents are on file in the City Clerk's office.

COMMITTEE OF THE WHOLE
November 19, 2025
Livonia City Hall Council Chambers
33000 Civic Center Drive
Livonia, MI 48154
6:00 PM

Members:

Brandon McCullough, Chair
All Councilmembers

AGENDA ITEM(S)

1. The subject matter of Petition 2025-07-02-15, submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval to operate an Auto-Wash Establishment, at 38888 Six Mile Road, located at the N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7. (CR 340-25).

**THIS IS AN OPEN MEETING AND
ALL INTERESTED PARTIES ARE WELCOME TO ATTEND.**

This meeting will be reported at the Regular Meeting of December 3, 2025

Minutes of this meeting will be available for public inspection in the City Clerk's Office not more than eight business days following the date of the meeting.

In accordance with Title II of the American with Disabilities Act as it pertains to access to Public Meetings, the City Clerk's Office of the City of Livonia, upon adequate notice, will make reasonable accommodations for persons with disabilities. Please call (734) 466-2236 or email clerk@livonia.gov if you need assistance. Council agendas are available on the City's website – www.livonia.gov - under Government, City Council, Agendas.

October 31, 2025

City of Livonia
Livonia City Council
33000 Civic Center Drive
Livonia, MI 48154

Robert & Jennifer Doehrer
3717 Vorhies Road
Ann Arbor, MI 48105
Owners of the land parcel located at:
38888 Six Mile Road, Livonia, MI

Re: Petition 2025-07-02-15 - Waiver Petition on Behalf of Clean Express Car Wash - Requesting Waiver Use Approval to Operate an Auto-Wash Establishment located at 38888 Six Mile Road, Livonia, Michigan.

Dear Honorable Members of the City Council,

We are writing this letter in an effort to address two specific points, as brought up at the last city council meeting held on October 20, 2025, related to the request for waiver use approval by Clean Express Car Wash.

The two points we would like to address are as follows:

- 1.) The decision by the landowner to choose Clean Express Car Wash (an auto-wash establishment) as a tenant, as opposed to engaging with another restaurant group.

As you know, Buca di Beppo (Buca) was a long-standing tenant of that property since approximately 1999. Buca was a publicly held company at first and in the later years was held by private equity. Both owners were able to place a large amount of capital behind their projects and locations during initial operations and to sustain operations during difficult times. However, even with private equity ownership in the later years, Buca started to incur financial difficulties just prior to Covid and those difficulties continued from 2020 through August 2024, when they finally filed for bankruptcy. During the final years, they were not a steady tenants and upon their filing for bankruptcy, they left the landlord with significant debts owed while still a tenant.

The financial headwinds that Buca encountered from 2020 through their exit in 2024, was a constant throughout the entire restaurant industry. Initially, the industry was impacted by Covid issues, but for the past several years the industry has been battling the rising cost of goods, the rising cost of labor, increased labor shortages, and the fact that more competition has occurred, including new concepts. These issues alone have made the restaurant industry much more of a risk.

In fact, depending upon your research, a new restaurant has a 17% to 30% chance of failure in the first year and a 51% chance of failure by the fifth year. Obviously, national chain restaurants have a much higher chance of success, while independent operators face a higher chance of failure.

As owners of the location, we did place the property out for lease (but not for sale) on the national market. We did receive several offers for the land to be purchased, but the owners had determined that keeping the land and leasing it out was best. With that, we did receive two offers from national chain restaurant operators. However, they too have calculated the risks associated with a new restaurant and asked that we contribute approximately \$1,000,000 to their project, immediately. This was not a capital, ownership injection, but an interest free loan for 10 years. Obviously, the two national operators saw this investment as a high risk, too, and they asked that we share in the risk, as well. That is not a risk we were willing to take on, as we would have no control over their operations and the market. To us, both offers did not make sense from an economic and risk/reward standpoint.

Lastly, we felt that the location was a high risk for another "sit-down" restaurant as there is current competition present and more coming within a 1-mile radius. With Capital Grille just across 275 coming, Hyde Park across Haggerty, Flemmings just to the north, and "restaurant row" on Haggerty coupled with the new development on the corner, it appears that there is significant restaurant competition.

With the items stated above, we came to the determination that with no reasonable national chain offers in hand, nor reasonable local operator offers in hand, that our best options were to entertain another industry that would be a better fit. We did our research on Clean Express Car Wash and determined that the company is very respected in the industry and has partnered with communities to best serve them.

2.) The traffic impact that would occur with Clean Express Car Wash being located at the 38888 Six Mile site.

I believe the traffic study, which was performed in coordination with Schoolcraft College, will demonstrate that no additional traffic would occur with Clean Express. In fact, it would be reduced as compared to having a restaurant on the site. A restaurant is a destination and generates new traffic from those patrons who are specifically going to the restaurant. However, a car wash is not a destination and does not generate new traffic, it feeds off of current traffic flow.

In addition, by moving the current ingress and egress from the southwest corner of the Buca site to the southeast corner this will create a new "right turn in only and right turn out only" ingress and egress, which should provide for a smoother traffic flow. By keeping the current ingress and egress on the southwest corner, patrons are able to turn in and out to the left and the right at their own discretion, which creates more traffic hazards.

Lastly, we have been fully cooperating with Schoolcraft College in attempting to have a traffic light installed at Fox Drive and Six Mile Road. At this current time, negotiations are ongoing.

We hope that our responses to the inquiries from the October 20th council meeting assist you in understanding our decision making and the benefits that we believe will occur once allowing Clean Express to operate at our site.

Thank you for your time and efforts and consideration.

Sincerely,
Robert and Jennifer Doehrer, Owners

Robert A. Doehrer 10-31-2025
Date

Jennifer Doehrer 10/31/25
Date



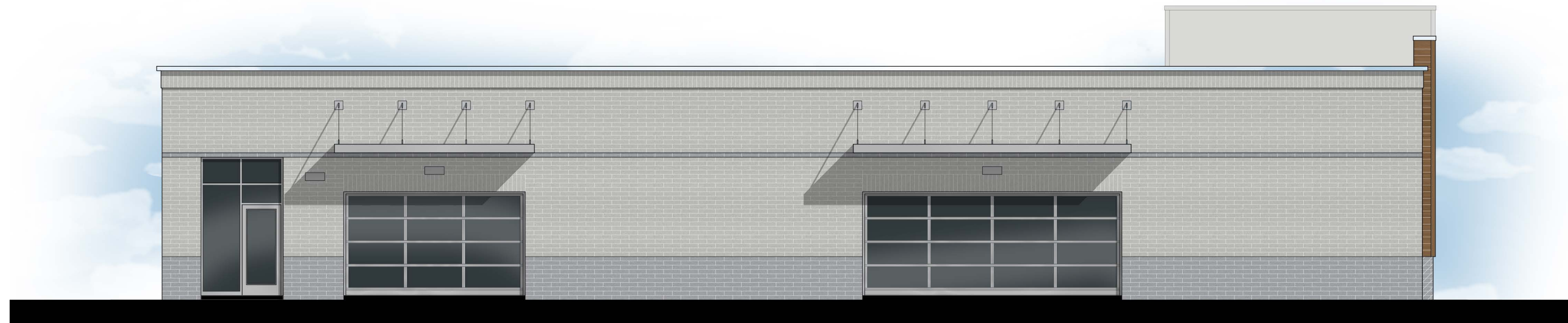
Side (East) Elevation
Scale: None



Side (West) Elevation
Scale: None



Rear (South) Elevation
Scale: None



Entry (North) Elevation
Scale: None

From: [Taormina, Mark](#)
To: [Kasprowicz, Sara](#)
Subject: Clean Express - New Data
Date: Wednesday, October 29, 2025 1:49:36 PM
Attachments: [CE Six Mile - 10.24.2025 \(002\).pdf](#)
[2500286 C00X Site Plan-SITE PLAN 10222025.pdf](#)

Sara,

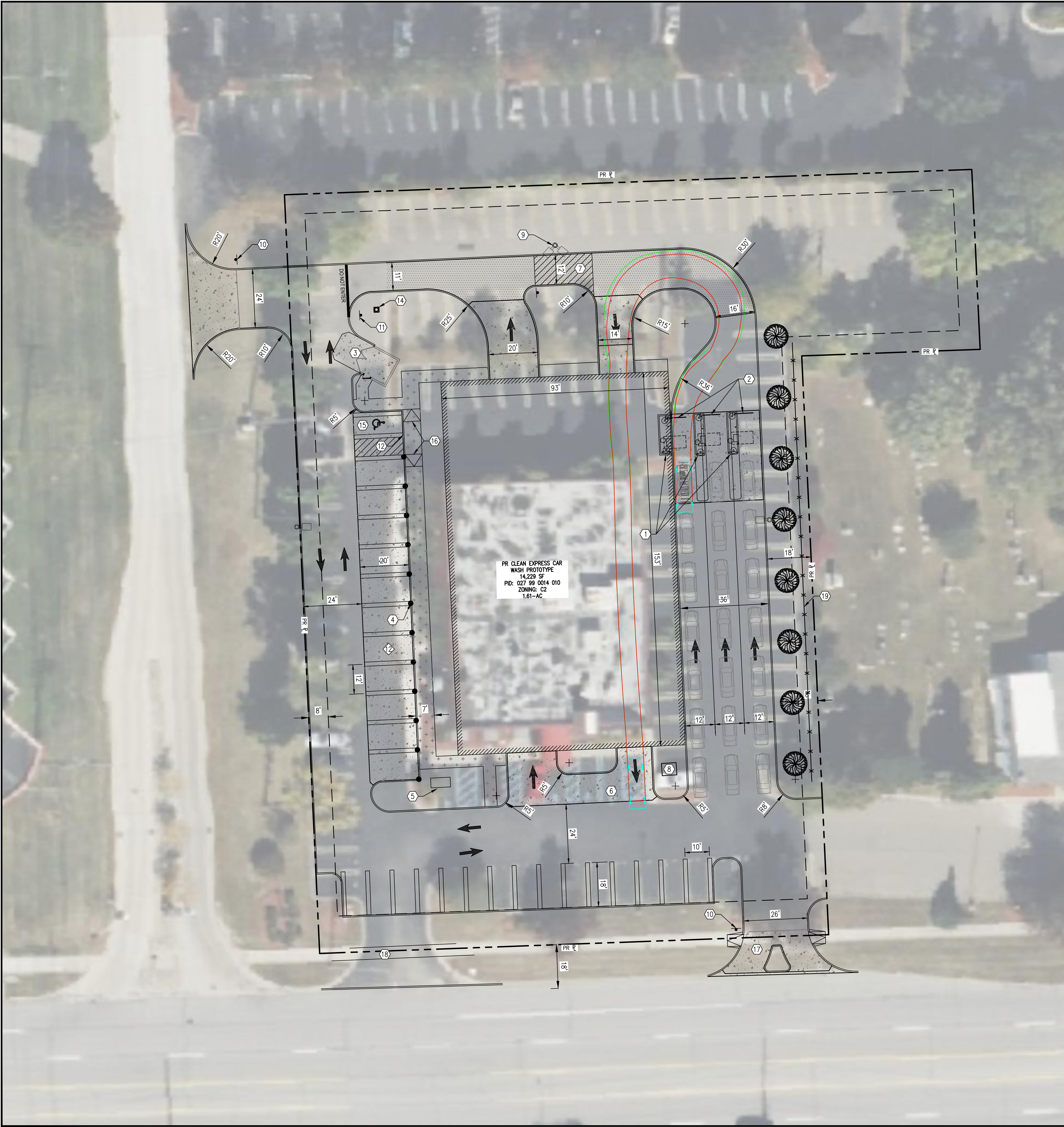
Please see the attached new data for the Clean Express carwash petition, including revised building elevations showing additional glazing on the south façade, and brick roll locks along the top of the building and above the overhead doors on all four sides, and a revised site plan showing the setback of the stacking lanes from the cemetery increased from 10 feet to 18 feet.

Mark

Mark Taormina

Planning and Economic Development Director
City of Livonia | Planning Department
(734) 466-2292
mtaormina@livonia.gov

W:\Projects\2025\3888\3888\3888\CAUSH\15250296_C00X_Site Plan.dwg last saved: 10/22/2025 2:38 PM by Pchlin, plotted 10/22/2025 2:38 PM

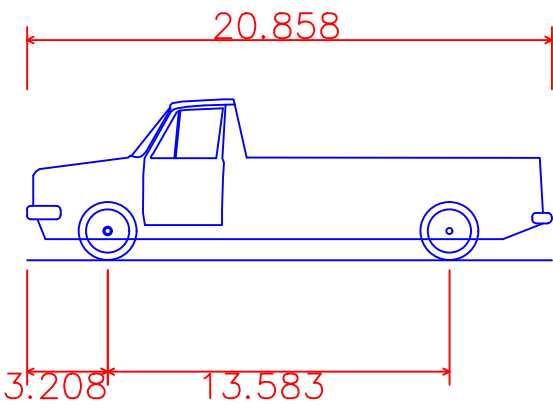


LEGEND

- EX CONCRETE CURB
- PR CONCRETE CURB
- PR PROPERTY LINE
- PR ASPHALT PAVEMENT
- PR CONCRETE PAVEMENT
- PR 5' SIDEWALK
- PARKING COUNT

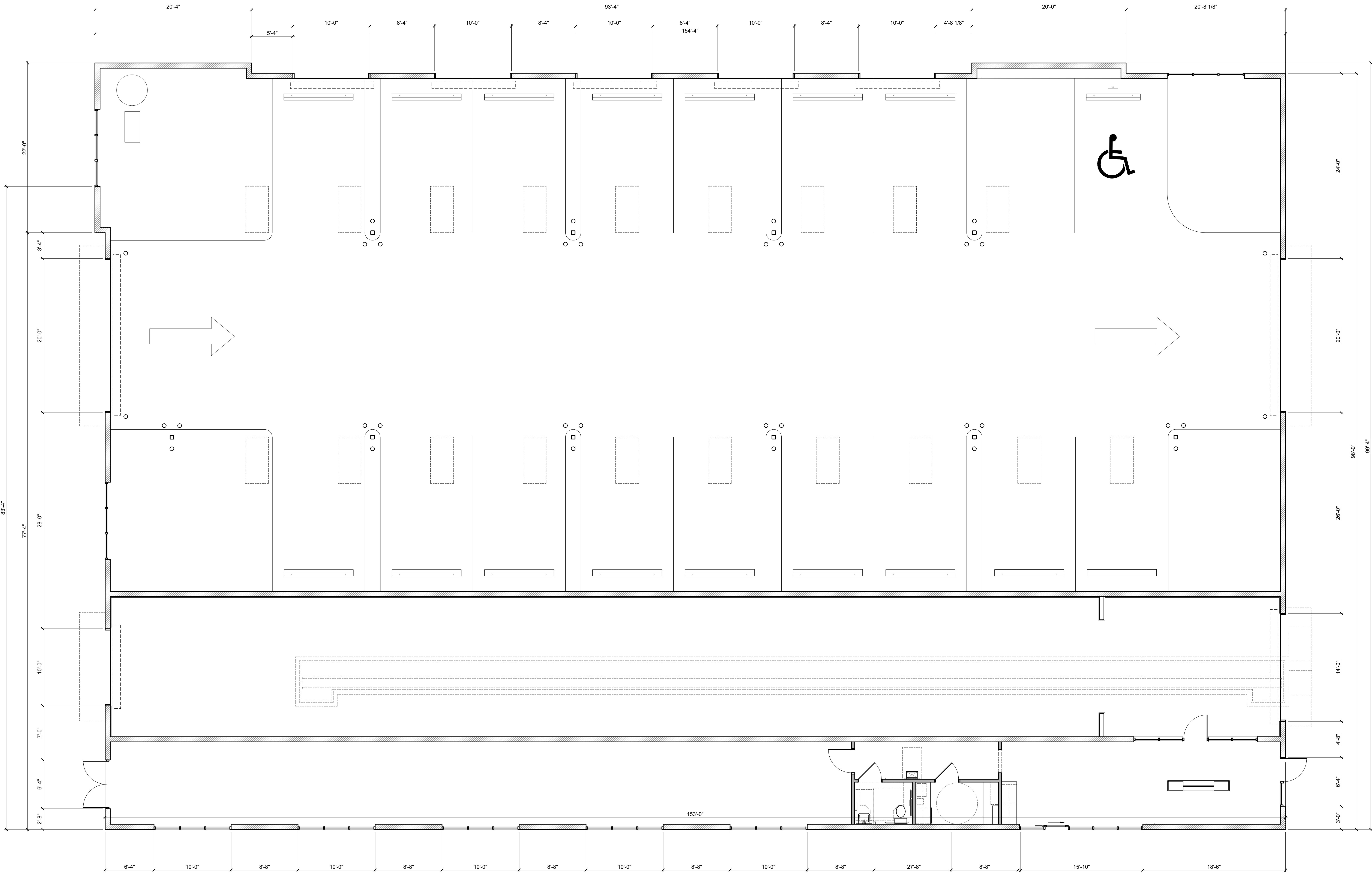
CODED NOTES

- 1 PAY STATION (TYP OF 3)
- 2 CLEARANCE BAR (TYP OF 3)
- 3 8" CONCRETE DUMPSTER PAD
- 4 VACUUM STATION (TYP OF 12)
- 5 VACUUM CORRELATOR (TYP. OF 2)
- 6 HEATED CONCRETE PAVEMENT
- 7 ESCAPE LANE
- 8 TRANSFORMER PAD
- 9 LIGHT POLE
- 10 STOP SIGN
- 11 DO NOT ENTER SIGN
- 12 FLUSH WALK AND PAVEMENT
- 13 18" STRAIGHT CONCRETE CURB
- 14 FLAGPOLE
- 15 ADA PARKING SPACE
- 16 RAMP
- 17 CURB CUT
- 18 5' CONCRETE WALK
- 19 PR 8' DECORATIVE VINYL FENCE



F-150 SuperCab 4x4 STYLESIDE 8' Box
Overall Length 20.858ft
Overall Width 6.575ft
Overall Body Height 6.392ft
Min Body Ground Clearance 0.833ft
Track Width 6.575ft
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 26.150ft

C200	SITE PLAN	SITE IMPROVEMENT PLAN FOR CLEAN EXPRESS AUTO WASH 38888 SIX MILE RD, LIVONIA, MI 48152	PREPARED FOR:  EXPRESS WASH CONCEPTS 13375 NATIONAL ROAD SW ETNA, OHIO 43088	 Mannik Smith GROUP www.MannikSmithGroup.com	TECHNICAL SKILL: CREATIVE SPIRIT. PROJECT DATE: 07/09/2025 PROJECT NO: 250286 DRAWN BY: HTK/JAR CHECKED BY: ESP	1160 DUBLIN ROAD	NO.	DATE	BY	DESCRIPTION
						SUITE 100				
						COLUMBUS, OH 43215				
						TEL: 614.441.4222				
						FAX: 888.488.7400				



FLOOR PLAN CODED NOTES

1. WALL MOUNTED FIRE EXTINGUISHER. EXTINGUISHER TO BE RED ENAMELED FINISH HEAVY DUTY STEEL CYLINDER. UL AND FM APPROVED. ABC MULTI PURPOSE DRY CHEMICAL. 10 LB CAPACITY UL RATED 4A 60B. C. HOSE TYPE, UPRIGHT, SQUEEZE GRIP OPERATION.
2. INTERIOR WALL LINER PANEL. TYP. @ WASH BAY
3. 14'-0" x 8'-0" OVERHEAD DOOR
4. 10'-0" x 8'-0" OVERHEAD DOOR
5. 20'-0" x 8'-0" OVERHEAD DOOR
6. CAR WASH TRENCH. SEE MANUFACTURER'S DRAWINGS
7. DECORATIVE AWNING. CENTER OVER WINDOWS / DOORS
8. DEDICATED COMMERCIAL GRADE SINK FOR UTILITY SINK
9. ANSI COMPLIANT WATER BOTTLE FILLER
10. 12" DEEP SHELVING W/ STANDARDS AND BRACKETS
11. WIND WALL. P.T. 2x6 WALL W/ 7/16" OSB SHEATHING & LINER PANEL BOTH SIDES. BUILD WALL TO BOTTOM OF BAR JOISTS.
12. TIRE SHINE GRATE. COORDINATE W/ EQUIPMENT SHOP DRAWINGS.
13. UNDER COUNTER REFRIGERATOR
14. SERVER RACK. SEE SHEET A5-1
15. NOT USED
16. ALUMINUM STOREFRONT SYSTEM. SEE EXTERIOR ELEVATIONS. PROVIDE 1" INSULATED GLASS
17. CORRULATOR. SEE EQUIPMENT SHOP DRAWINGS
18. ANSI COMPLIANT STAFF DESK. SEE A5-1
19. PROVIDE 2 1/2" METAL Z-FURRING STRIPS @ 24" HORIZONTAL W/ MIN R-13 RIGID INSULATION IN FURRING CAVITIES W/ 5 MIL VAPOR BARRIER
20. ANSI COMPLIANT SIGNAGE DESIGNATING UNISEX TOILET ROOM. SEE A5-1
21. COFFEE MAKER. SEE INTERIOR ELEVATION
22. MICROWAVE. SEE INTERIOR ELEVATION
23. ANSI COMPLIANT STACKABLE WASHER / DRYER
24. ANSI COMPLIANT SIGNAGE DESIGNATING MAXIMUM OCCUPANCY OF 24 PERSONS
25. QUIK-BRICK MASONRY CONSTRUCTION. TYP @ EXTERIOR WALLS.
26. ANSI COMPLIANT EXIT SIGNAGE. SEE A5-1
27. STORAGE CABINETRY BY OWNER.
28. 8" CMU WALL
29. ROOF ACCESS LADDER. CENTER BELOW ROOF HATCH ABOVE. SEE DETAIL ON A5-1
30. 30"x30" CLEAR LANDING SPACE, CENTERED ON LADDER
31. INSTALL SMOOTH, HARD, NON ABSORBANT FRP PANEL SIM. TO WASH BAY LINER PANEL, FULL HEIGHT OVER THIS WALL.
32. PRODUCT DISPLAY RACK PROVIDED BY OWNER.
33. VACUUM EQUIPMENT.
34. SKYLIGHT ABOVE.
35. 6" CONCRETE FILLED PIPE BOLLARD.
36. PRECAST CONC. PARKING WHEEL STOP.
37. ACCESSIBLE PARKING SIGNAGE.
38. VAN ACCESSIBLE PARKING STALL PER ANSI SECTION 502, ANSI COMPLIANT VACUUM TO BE PROVIDED AT THIS STALL.
39. 8'-0" WIDE AISLE SPACE MARKED SO AS TO DISCOURAGE PARKING WITHIN IT FOR VAN ACCESSIBLE PARKING PER ANSI 502.2 THROUGH 502.4.4.

WALL LEGEND

- NEW STUD WALL
- NEW 8" FOUNDATION WALL

WALL TYPES SCHEDULE

#	ASSEMBLY DESCRIPTION	HR	NOTES
181	3 5/8" METAL STUDS, @ 16" O.C. 5/8" GYP BD 3" SOUND BATT 4 7/8"	0 HR	PARTIAL HEIGHT PARTITION, TERMINATE GYPSUM BOARD 6" ABOVE FINISH CEILING. BRACE PARTITION TO DECK. ASSEMBLY THICKNESS = 4 7/8"
150	3 5/8" METAL STUDS, @ 16" O.C. 5/8" TYPE 'X' GYP BD 4 7/8"	1 HR	FULL HEIGHT PARTITION, TERMINATE GYPSUM BOARD @ MEZZANINE DECKING. BRACE PARTITION TO DECK. ASSEMBLY THICKNESS = 4 7/8"

#	DATE	ISSUED WITH: CHANGE DESCRIPTION

CLEAN EXPRESS CAR WASH
38888 SIX MILE ROAD
LIVONIA, MI 48152

CLEAN
EXPRESS AUTO WASH

SBA
STUDIOS
ARCHITECTURAL DESIGN
614.562.7761 WWW.SBA-STUDIOS.COM

SCALE: 3/16" = 1'-0" (UN.O.)

SHEET # / DESCRIPTION

FLOOR PLAN

A1-1

DATE: 08.11.2025

PLANNING COMMISSION

SBA STUDIOS PROJECT # 2025-371

DATE OF REVIEW: 08/11/2025

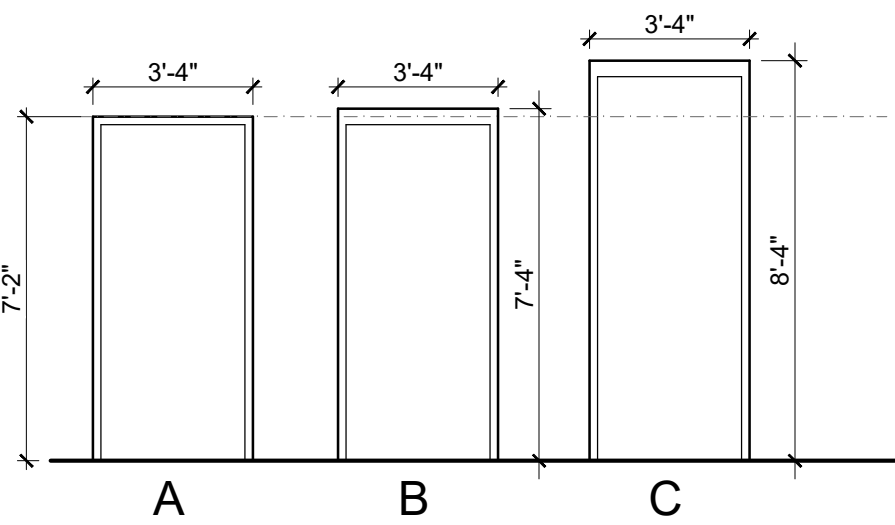
PREPARED BY: SBA STUDIOS

CHECKED BY: SBA STUDIOS

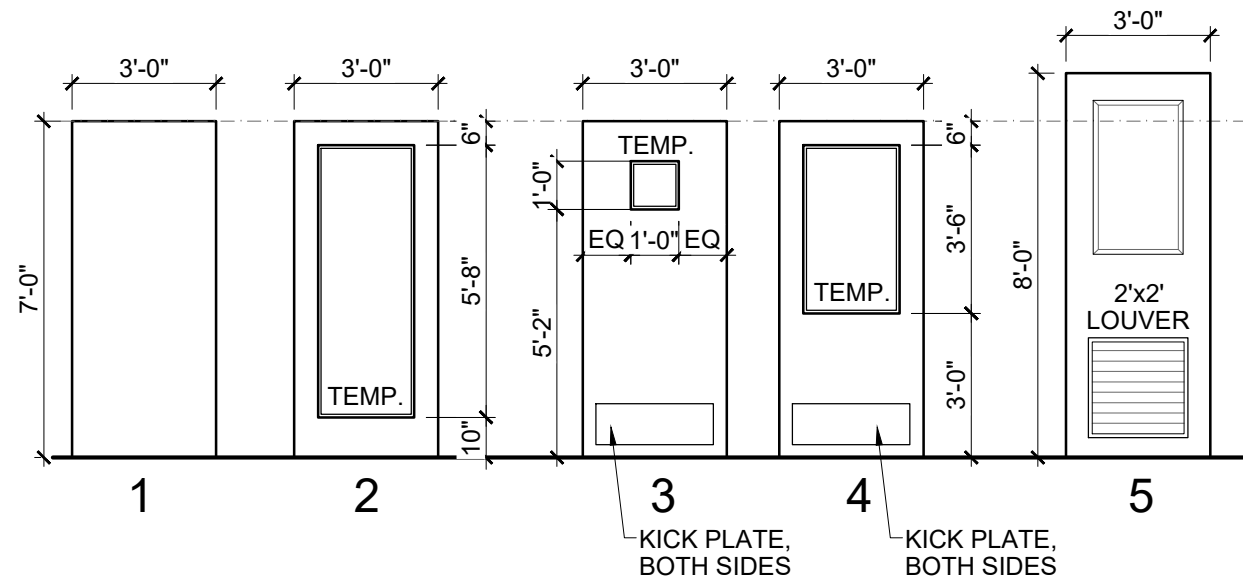
APPROVED BY: SBA STUDIOS

PROJECT NO: 2025-371

5 FLOOR PLAN



SCALE: 1/4" = 1'-0"



SCALE: 1/4" = 1'-0"

DOOR										FRAME		REMARKS	SPACE		FLOOR		WALLS				CLG	REMARKS
NO.	ROOM NAME	SIZE	ELEV	MAT	RATING	GLASS	HDWR	ELEV	MAT				NO.	ROOM NAME	MAT	BASE	NORTH	EAST	SOUTH	WEST		
1.01	STAFF	3070	01	H.M.	0-HR	N/A	SET 01	A	H.M.				1.01	STAFF	WD	VB	PT-1	PT-1	PT-1	PT-1	GYP	
1.02	CLOSET	3070	01	H.M.	0-HR	N/A	SET 02	A	H.M.				1.02	CLOSET	WD	VB	PT-1	PT-1	PT-1	PT-1	GYP	
1.03	OFFICE	(3) 3070	02	ALUM.	0-HR	TEMP	SET 05	B	ALUM.			CLOSER	1.03	OFFICE	WD	VB	PT-1	PT-1	PT-1	PT-1	NO	PAINT BAR JOISTS & ROOF DECK
1.04	UNISEX	3070	01	H.M.	0-HR	N/A	SET 03	A	H.M.				1.04	UNISEX	WD	VB	PT-1	PT-1	PT-1	PT-1	WL	6" VINYL BASE
1.05A	MECHANICAL	3070	04	H.M.	0-HR	N/A	SET 04	A	H.M.				1.05	EQUIPMENT	CONC	NO	PT-2	PT-2	PT-2	PT-2	NO	PAINT BAR JOISTS & ROOF DECK
1.05B	MECHANICAL	(2) 3080	05	H.M.	0-HR	N/A	SET 05	C	H.M.				1.06	WASH BAY	CONC	NO	WL	WL	WL	WL	NO	PAINT BAR JOISTS & ROOF DECK
1.05C	MECHANICAL	3070	02	ALUM.	0-HR	N/A	SET 04	B	ALUM.				1.07	VACUUMS	CONC	NO	PT-2	PT-2	PT-2	PT-2	NO	PAINT BAR JOISTS & ROOF DECK
1.06	WASH BAY	3070	04	H.M.	0-HR	N/A	SET 04	B	H.M.			CLOSER										
1.07A	VACUUMS	3070	01	H.M.	0-HR	N/A	SET 04	B	H.M.			CLOSER										
1.07B	VACUUMS	3070	04	H.M.	0-HR	N/A	SET 05	B	H.M.			CLOSER										

DOOR GENERAL NOTES										DOOR HARDWARE SETS									
1. ALL DOOR HARDWARE TO BE: ANSI COMPLIANT LEVER STYLE										SET 01: OFFICE LOCKSET									
2. ALL DOOR HARDWARE TO BE MOUNTED BETWEEN 34" - 48" A.F.F.										SET 02: STORAGE LOCKSET									
3. ALL GLAZING IN NEW DOORS TO BE TEMPERED										SET 03: PRIVACY LOCKSET									
4. ALL DOORS TO RECEIVE (3) HINGES										SET 04: PASSAGE LOCKSET									
5. ALL DOORS TO RECEIVE (3) SILENCERS										SET 05: EXIT LOCKSET									
6. ALL DOORS TO RECEIVE DOOR STOP										SET 06: PUSH / PULL									
7. ALL EXTERIOR DOORS TO RECEIVE CLOSER										KEY ALL DOORS ALIKE									
8. ALL EXTERIOR DOORS TO HAVE ANIS COMPLIANT THRESHOLD (1/4" MAX)																			
9. ALL EGRESS DOORS SHALL UNLATCH WITH ONLY ONE OPERATION OF THE DOOR HARDWARE. READILY OPERABLE FROM EGRESS SIDE WITHOUT USE OF A KEY OR SPECIAL KNOWLEDGE AND SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. 2021 MBC 1010.1.9/1010.1.9.1/1010.1.9.5.																			

FLOORING	BASE	WALLS	CEILING
WD SIM WOOD FLR NO NO FLOORING	VB VINYL BASE NO NO BASE	PT-1 WHITE PAINT PT-2 BLONDE PAINT SW 6128 WL WALL LINER PANEL NO NO FINISH	GYP GYPSUM BOARD CEILING WL WALL LINER NO NO CEILING

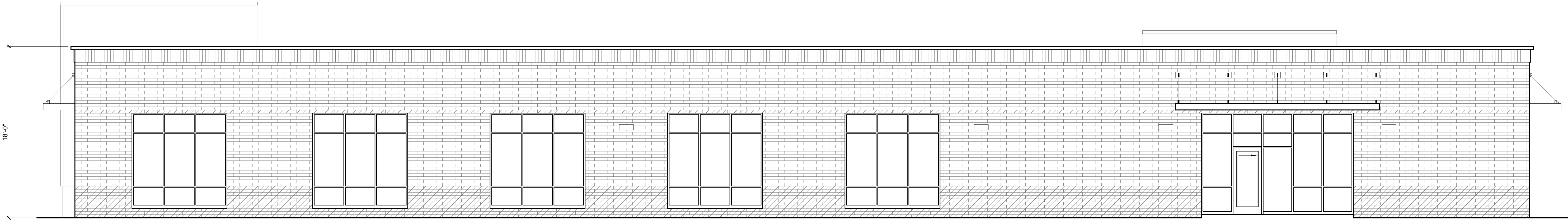
SIM WOOD FLOOR = AXISCOR PRO12 12x24 URBAN CONCRETE			
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4 DOOR FRAMES

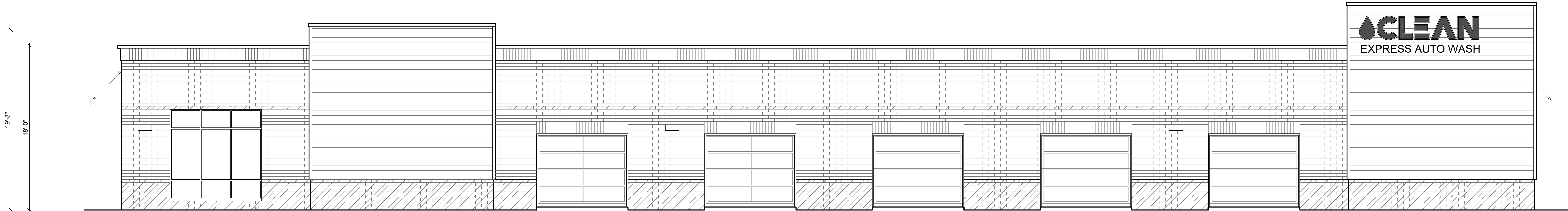
3 DOOR ELEVATIONS

2 DOOR SCHEDULE

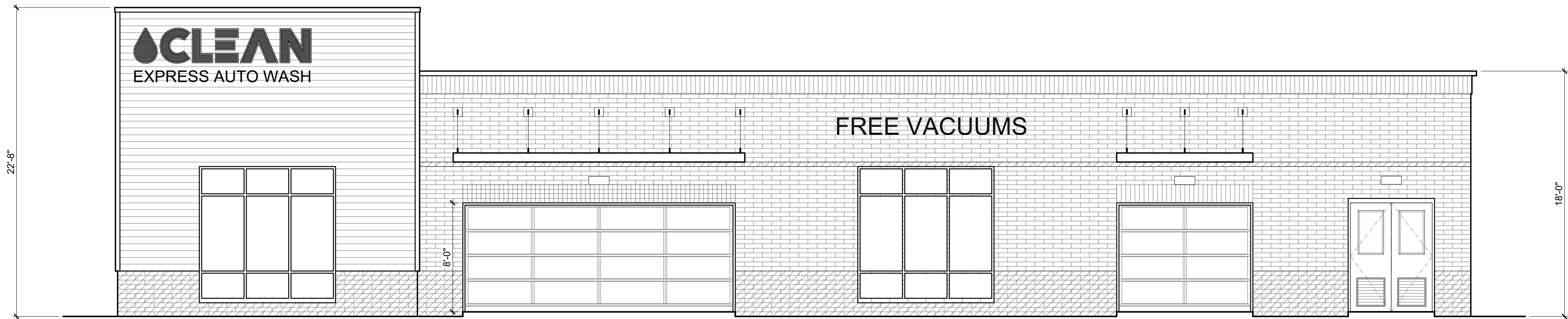
1 FINISH SCHEDULE



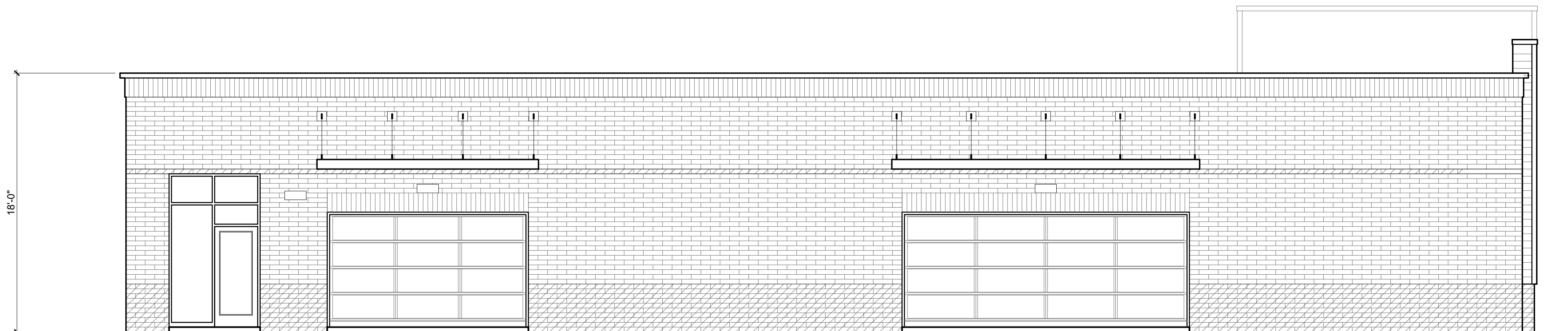
4 SIDE (EAST) ELEVATION



3 SIDE (WEST) ELEVATION



2 REAR (SOUTH) ELEVATION



1 ENTRY (NORTH) ELEVATION

ELEVATION CODED NOTES

1. ALUMINUM STOREFRONT GLAZING SYSTEM. MANUFACTURER TO DESIGN FOR WIND LOAD REQUIREMENTS PER CODE
2. QUIK-BRIK CMU CONSTRUCTION, SEE MATERIALS LEGEND. INSTALL CONTROL JOINTS PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS
3. CONTINUOUS METAL COPING, TYP.
4. 5" SQUARE METAL DOWNSPOUT
5. OVERHEAD DOOR
6. SIGNAGE PROVIDED BY OWNER
7. 1/4" COMPOSITE CORNER TRIM, TYP.
8. GRADE, COORDINATE W/ CIVIL DRAWINGS.
9. PRE-MANUFACTURED ALUMINUM AWNING. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
10. NICHIA FIBER CEMENT AWP181 HORIZONTAL SIDING.
11. MASONRY BAND IN DARK FINISH TO MATCH BASE OF WALL
12. DECORATIVE LIGHT FIXTURE

ELEVATION MATERIAL LEGEND

- QUIK-BRIK (LIGHT FINISH)
- QUIK-BRIK (DARK FINISH)
- NICHIA FIBER CEMENT AWP181 HORIZONTAL SIDING

EXTERIOR MATERIAL NOTES:
1. COLOR OF METAL COPING TO MATCH STOREFRONT SYSTEM COLOR

#	DATE	ISSUED WITH: CHANGE DESCRIPTION

CLEAN EXPRESS CAR WASH
38888 SIX MILE ROAD
LIVONIA, MI 48152

CLEAN
EXPRESS AUTO WASH

SBA
STUDIOS
ARCHITECTURAL DESIGN
614.562.7761 WWW.SBA-STUDIOS.COM

SCALE: 3/16" = 1'-0" (U.N.O.)
SHEET # / DESCRIPTION
EXTERIOR ELEVATIONS
A2-1
DATE: 08.11.2025
PLANNING COMMISSION
SBA STUDIOS PROJECT # 2025-371

From: [Jacob Rilett](#)
To: [Kasprowicz, Sara](#)
Cc: [Dennis Miller](#)
Subject: Clean Express Carwash 38888 6-Mile Rd
Date: Friday, October 24, 2025 4:10:20 PM
Attachments: [Committee of the Whole Letter.pdf](#)

Sara,

After receiving the comments from the Council at Monday's study meeting we have put together a letter expressing our agreement to move to committee of the whole in order to have additional conversation to address their questions.

Adjustments have also been made to the site plan to improve the shared property boundary with the cemetery and to the building's south elevation. Traffic representatives will be in attendance to answer questions about the study as well as how the future development of the area was taken into account.

Jake Rilett
Project Engineer
The Mannik & Smith Group, Inc.
607 Shelby St, Suite 300
Detroit, MI 48226
[313-961-9500](tel:313-961-9500) ext. 1021



10-23-2025

Sara Kasprowicz
Prpgram Supervisor
City of Livonia

RE:

Plan Review for: **Clean Express Car Wash**
38888 6-Mile Rd, Livonia MI
Petition 2025-07-02-15

Honorable Members of the City Council:

After hearing the council member's feedback at the 10/20 City Council study meeting, Express Wash would like to pursue the suggestion to move the project to the committee of the whole for further consideration. The additional conversation will help to fully explain the traffic impact of the carwash and traffic signal and how the future development of the area will be accounted for.

Because of the due diligence requirements of the lease agreement we would like to respectfully ask for a timely review so that we can get back on the regular city council agenda as quickly as possible.

For any questions or additional documents please call:

Jake Rilett
Project Engineer
The Mannik & Smith Group, Inc.
607 Shelby St, Suite 300
Detroit, MI 48226
313-961-9500 ext. 1021

TECHNICAL SKILL.
CREATIVE SPIRIT.

**CITY OF LIVONIA – CITY COUNCIL
MINUTES OF STUDY MEETING HELD OCTOBER 20, 2025**

Meeting was called to order at 10:33 p.m. by President McCullough. Present: Rob Donovic, Carrie Budzinski, Lynda Scheel, Scott Morgan, Laura Toy, and President McCullough. Absent: Vice President Ptashnik.

2. WAIVER PETITION: Planning Commission, re: Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval to operate an Auto-Wash Establishment, at 38888 Six Mile Road, located at the N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7.

Jacob Rilett, 808 Northview Ln, noted the amount of traffic generated by the car wash is less than the previous restaurant that occupied the space.

Rob Doer, Ann Arbor, stated there was a lack of offers that made sense, a lot of competition, and a low success rate, therefore, the property would be better off stepping away from being a restaurant location.

Kathleen Bilger, Fox Creek Meadows, expressed concern over the safety of the nearby cemetery with the addition of a nearby car wash.

Cindy Fleming, Resident, voiced concern over the monitoring of the property with the lack of employee presence.

Barbara Glover, Myrna Court, echoed concerns over the safety of the cemetery and stated Livonia has plenty of car washes as is.

Betsy Calhoun, Grennada, suggested a buffer between the car wash and the cemetery.

Ray Whitney, Quakertown, spoke about the poor state of traffic in the location.

Jim Biga, Lancashire, stated the current plan does not seem to help the traffic issue.

Neil Morouski, Quakertown, expressed the overabundance of car washes in Livonia and suggested an independent traffic study be done.

Eileen McDonnell, Resident, listed off the various nearby car washes and stated the location is bad for a business to exist in the first place.

Laura Janika, Munger St., suggested visitation to the nearby cemetery before deciding.

Motion was made by Councilmember Budzinski to consider in Committee of the Whole.

Motion was made by Councilmember Scheel to put the matter on the Regular portion of the next Regular Agenda.

DIRECTION:

APPROVING & DENYING

REGULAR

From: noreply@civicplus.com
To: [CityCouncil](#)
Subject: Online Form Submittal: City Council Inquiries
Date: Monday, October 20, 2025 5:55:45 PM

City Council Inquiries

This form is for any questions, comments, or concerns you may have for the City in regards to city council meetings or other city council inquiries. If you leave contact information, the City will reply within 2 business days. If this is an emergency, please dial 9-1-1.

First Name	Mark
Last Name	Corey
Address	39057 reo dr
Email Address	mcorey@myupn.com
Phone Number	3132206214
Topic	City Council Meetings
Date of Issue	10/20/2025
Attachment (Optional)	<i>Field not completed.</i>
Comments	I can't attend 10/20 meeting but am opposed to car wash at 6 mile near Haggerty. Traffic is terrible and I typically have trouble getting out of my sub Quakertown. With all the restaurants and the new comerica bldg development adding congestion please dont approve

Email not displaying correctly? [View it in your browser.](#)

From: [McCullough, Brandon](#)
To: [Kasprowicz, Sara](#)
Subject: Fwd: Clean Express Car Wash proposal
Date: Wednesday, October 15, 2025 7:07:45 AM

Sent from my iPhone

Brandon McCullough
Council President
City of Livonia | City Council
(734) 466-2252
bmccullough@livonia.gov

Begin forwarded message:

From: Denise Pew <pewsdn2@att.net>
Date: October 14, 2025 at 10:12:05 PM EDT
To: "McCullough, Brandon" <bmccullough@livonia.gov>
Subject: Clean Express Car Wash proposal

Feel free to copy and paste my letter to city council members

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown Subdivision and am writing to formally express my opposition to Petition 2025-07-02-15, submitted by Mannik & Smith Group on behalf of Clean Express Car Wash. The petition requests waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance, as amended, to operate an Auto-Wash Establishment at 38888 Six Mile Road, located at the northeast corner of Fox Drive and Six Mile Road in the southwest ¼ of Section 7.

Traffic congestion in this area is already a serious concern for residents. Accessing and exiting the Quakertown Subdivision is increasingly difficult, and the addition of a car wash will only exacerbate these conditions. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the additional traffic generated by a high-volume car wash will further compromise safety at this intersection. Moreover, the anticipated increase in vehicles from the new Comerica development will already present substantial traffic challenges.

It should also be noted that the traffic study used to support this petition is approximately two and a half years old. At that time, a large percentage of the workforce was still operating remotely, which likely resulted in significantly lower recorded traffic volumes than what exists today. The study also appears not to have incorporated the additional traffic that will be generated by the Comerica

development or the new restaurants located in front of the Holiday Inn.

Unlike a restaurant, which experiences moderate and predictable traffic patterns tied to meal periods, a car wash produces a continuous flow of vehicles throughout the day. The project's own design engineer stated that the proposed facility is "capable of cycling through about 100 cars an hour." Such volume represents a constant and sustained traffic impact that will worsen congestion and increase the risk of traffic incidents along Six Mile Road and within surrounding neighborhoods.

Furthermore, there are already several car wash establishments within a short distance of this site, including those located at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. The addition of another facility in this corridor is redundant and inconsistent with the character of the surrounding area.

For these reasons, I respectfully urge the Planning Commission to deny Petition 2025-07-02-15 in order to protect the safety, livability, and quality of life of nearby residents.

Thank you for your time and careful consideration of this matter.

Denise Pew
Reo Drive

Sent from my iPhone



LETTER TO THE LIVONIA CITY COUNCIL

2.

Planning
August 22, 2025

MEETING DATE

S102025/R110525

PRESENTED BY

Mark Taormina, Planning and Economic Development Director

AGENDA ITEM

WAIVER PETITION: Planning Commission, re: Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval to operate an Auto-Wash Establishment, at 38888 Six Mile Road, located at the N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7.

BACKGROUND DETAILS

August 25, 2025

Honorable Members of the City Council
City of Livonia, Michigan

Re: Petition 2025- 07-02-15 - Clean Express Wash

Dear Council Members:

At the 1,234th Meeting held by the Livonia City Planning Commission on August 19, 2025, the following resolution was adopted:

PREFERRED COUNCIL RECOMMENDATION/RESOLUTION (Please complete this field. Attachments are not to be used in lieu of the recommendation)

#08-37-2025 RESOLVED, That the City Planning Commission does hereby recommend to the City Council that Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and Section 6.07 of the Livonia Zoning Ordinance, as amended, to operate an Auto-Wash Establishment, at 38888 Six Mile Road, located at the N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7, be approved subject to the following conditions:

1. That the Site Plan marked Sheet C200 dated July 9, 2025, as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to, except as may be modified below.
2. That the Demolition Plan marked Sheet C101 dated July 9, 2025 as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
3. That the Landscape Plan marked Sheets L100 and L101 dated July 9, 2025, as revised,

prepared by Mannick Smith Group is hereby approved and shall be adhered to, except as may be modified below.

4. That the Photometric Plan marked Sheets C600 dated July 9, 2025, as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to, except as may be modified below.

5. The Exterior Elevations Plan, identified as A2-1, dated July 10, 2025, prepared by SBA Studios, is approved and shall be adhered to except the south elevation, which shall be enhanced to the satisfaction of the Planning Director.

6. The hours of operation shall be limited to the following: Monday through Saturday from 7:00 a.m. to 8:00 p.m. and Sunday from 8:00 a.m. to 7:00 p.m.

7. All light fixtures shall not exceed a height of twenty feet (20') and shall be aimed and shielded to minimize stray light trespassing across property lines and glaring onto adjacent roadways. All exterior lights shall be turned off or dimmed between 8:00 p.m. and 7:00 a.m.

8. Underground sprinklers shall be installed for all landscaped and sodded areas. All planted materials shall be installed to the satisfaction of the Inspection Department and permanently maintained in a healthy condition.

9. All disturbed lawn areas, including road rights-of-way, shall be sodded instead of hydroseeding.

10. The three walls of the trash dumpster area shall be constructed out of building materials that complement the building, and the enclosure gates shall consist of opaque and durable steel or composite panels.

11. That a detailed Stormwater Detention plans are submitted to the Engineering Department before construction.

12. Only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals.

13. No exposed LED light band or neon shall be permitted on this site, including, but not limited to, the building or around the windows.

14. The car wash bay lights shall be shut off when closed.

15. Unless approved by the Inspection Department, any type of exterior advertising, such as promotional flags, streamers, or sponsor vehicles designed to attract the attention of passing motorists, shall be prohibited.

16. That sidewalks be added to the site to the satisfaction of the Planning Director.

17. The petitioner shall provide an updated traffic study to City Council to affirm the proposed use would not have a significant negative impact on the area.

18. Approval is contingent upon the Petitioner entering into an agreement with the owners of the adjacent commercial property to the west, allowing the Petitioner access to Fox Drive.

19. The petitioner shall work with Trinity House to mitigate parking issues to the satisfaction of the Planning Director.

20. All parking spaces, except the required handicapped spaces, shall be doubled striped at ten feet (10') wide by twenty feet (20') in length as required.

21. Egress onto Six Mile Road shall be restricted to right-in and right-out configuration.

22. The plans referenced in this approving resolution shall be submitted to the Inspection Department with the building permit application(s); and

23. Per Section 13.13 of the Livonia Zoning Ordinance, this approval is valid for one (1) year from the date of approval by the City Council. Unless a building permit is obtained, this approval shall be null and void after the one (1) year period.

FURTHER RESOLVED, That notice of the above hearing was given in accordance with the provisions of Section 13.13 of the Livonia Zoning Ordinance, as amended.

ATTACHMENTS

1. 2025-07-02-15_Clean Express_Revised Plans
2. 2025-07-02-15_COUNCIL E-Pkt 2
3. 2500286_Trip Gen Comparision Memo
4. Trinity House Letter

APPROVED BY



Mark Taormina, Planning and Economic Development Director

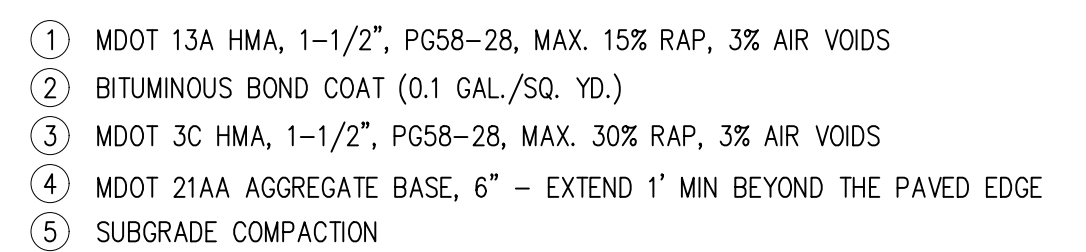
Date: October 08, 2025



Maureen Miller Brosnan, Mayor

Date: October 09, 2025

C001



TYPICAL SIDEWALK SECTION
NOT TO SCALE



LEGEND

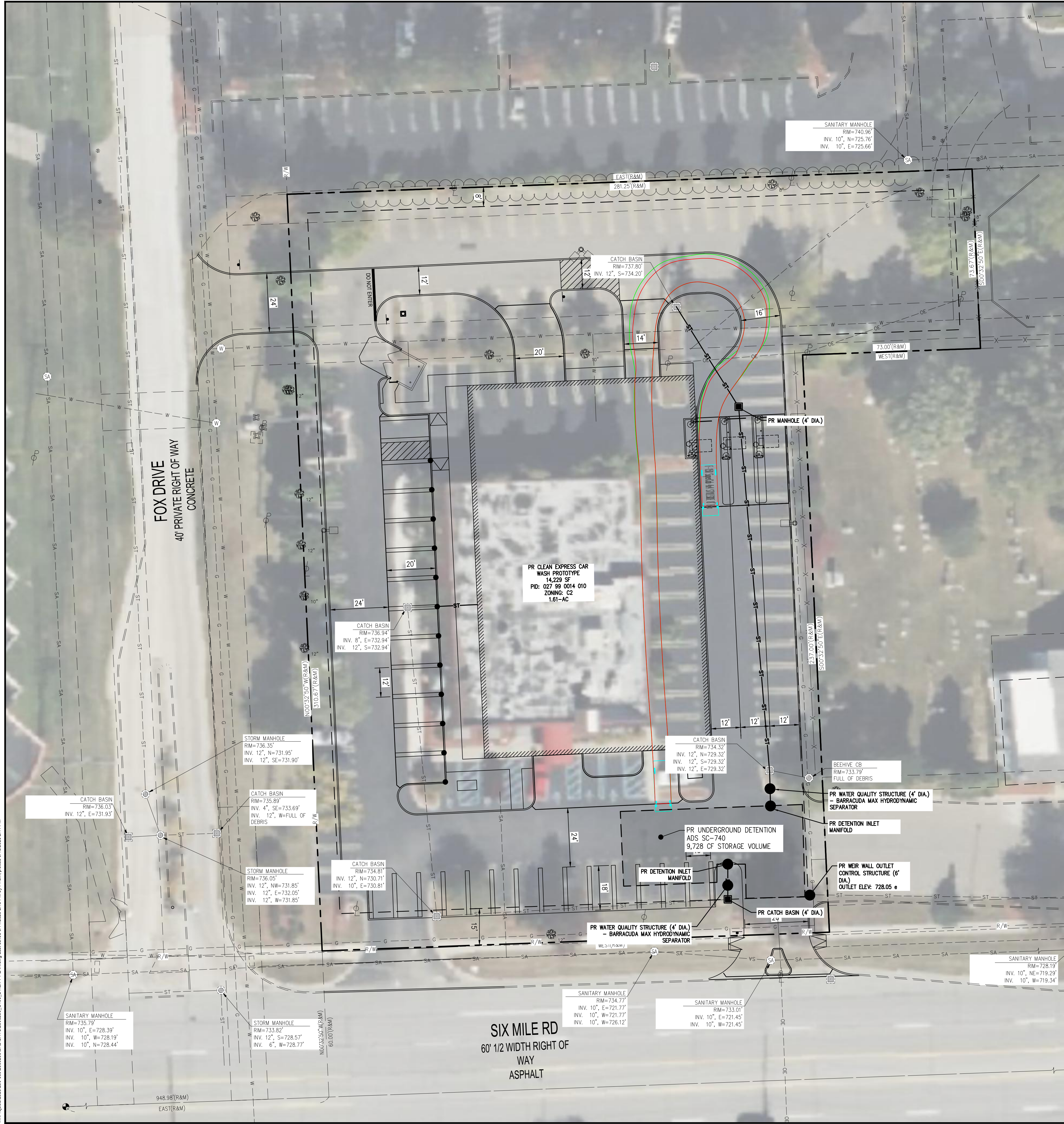
- | | |
|---|----------------------|
|  | EX CONCRETE CURB |
|  | PR CONCRETE CURB |
|  | PR PROPERTY LINE |
|  | PR ASPHALT PAVEMENT |
|  | PR CONCRETE PAVEMENT |
|  | PR 5' SIDEWALK |
|  | PARKING COUNT |

CODED NOTES

- ① PAY STATION (TYP OF 3)
- ② CLEARANCE BAR (TYP OF 3)
- ③ 8" CONCRETE DUMPSTER PAD
- ④ VACUUM STATION (TYP OF 12)
- ⑤ VACUUM CORRELATOR (TYP. OF 2)
- ⑥ HEATED CONCRETE PAVEMENT
- ⑦ ESCAPE LANE
- ⑧ TRANSFORMER PAD
- ⑨ LIGHT POLE
- ⑩ STOP SIGN
- ⑪ DO NOT ENTER SIGN
- ⑫ FLUSH WALK AND PAVEMENT
- ⑬ 18" STRAIGHT CONCRETE CURB
- ⑭ FLAGPOLE
- ⑮ ADA PARKING SPACE
- ⑯ RAMP
- ⑰ SIGHT DISTANCE TRIANGLE
- ⑱ CURB CUT
- ⑲ RIP RAP
- ⑳ 5' CONCRETE WALK
- ㉑ ROLLED CURB

C200	SITE PLAN	SITE IMPROVEMENT PLAN FOR CLEAN EXPRESS AUTO WASH 38888 SIX MILE RD, LIVONIA, MI 48152	PREPARED FOR:  EXPRESS WASH CONCEPTS 13375 NATIONAL ROAD SW ETNA, OHIO 43068	 Mannik Smith GROUP www.MannikSmithGroup.com	TECHNICAL SKILL - CREATIVE SPIRIT.	1160 DUEBEN ROAD SUITE 100 COLUMBUS, OH 43215 TEL: 614.441.4222 FAX: 688.488.7540 PROJECT DATE: 07/09/2005 PROJECT NO: 250026 DRAWN BY: HTK/JAK CHECKED BY: ESP	NO. DATE BY DESCRIPTION
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W:\Projects\2025\300-388\20250206CAUSHTS250206_C400_UTILITY PLAN.dwg Last saved 9/11/2025 2:48 PM by Phelin, plotted 9/15/2025 2:41 PM



DETENTION CALCULATIONS

Land Use	Breakdown	Area (Ac.)	C
Impervious		1.00	0.95
Grass (HSG D)		0.61	0.3
Total		1.61	0.70

Water Quality
 $V_{WQ-1 inch} = 3630 \times A \times C$
 $V_{WQ-1 inch} =$ 4,112 cubic feet
 $Q_{WQ} = C \times I_1 \times A$
 $T (min) =$ 10 minutes
 I_1 (per NOAA Atlas 14) = 2.11 inch/hr
 I_1 (max per 8.2.4) = 2.00 inch/hr
 $Q_{WQ} =$ 2.27 cfs

Intensity
 $I_{100} = \frac{101}{(12.33 + T)^{0.84}}$
 $T (min) =$ 10
 $I_{100} =$ 7.43

Channel Protection Volume Control (CPVC)
 $V_{CPVC} = A \times C \times 3,630$
 $V_{CPVC} =$ 4,112 cubic feet

Channel Protection Rate Control (CPRC)
 $V_{CPRC} = A \times C \times 6,897$
 $V_{CPRC} =$ 7,814 cubic feet

100-Year Detention Volume
Allowable Release Rate
If site is less than 2 acres,
 $Q_{allow} =$ 1 cfs/acre
Allowable Discharge
 $Q_o = Q_{allow} \times A$
 $Q_o =$ 1.61 cfs
Peak Inflow
 $Q_i = C \times I_{100} \times A$
 $Q_i =$ 8.42 cfs
Runoff Volume
 $V_r = 18,900 \times C \times A$
 $V_r =$ 21,412 cubic feet
Storage Ratio
 $\frac{V_s}{V_r} = 0.206 - 0.15 \ln \left(\frac{Q_o}{Q_i} \right)$
 $\frac{V_s}{V_r} =$ 0.454
Storage Volume
 $V_s = V_r \times \text{Storage Ratio}$
 $V_s =$ 9,728 cubic feet

Design Volumes
 $V_{CPVC} =$ 4,112 cubic feet
 $V_{CPRC} =$ 7,814 cubic feet
 $V_s =$ 9,728 cubic feet
 $V_{provided} =$ 9,728 cubic feet

LEGEND

- OE — EX OH ELECTRIC LINE
- SA — EX SANITARY LINE
- W — EX WATER LINE
- ST — EX STORM LINE
- UE — EX UNDERGROUND ELECTRICAL LINE
- COMM — EX COMMUNICATION LINE
- ⊙ SAN EX SANITARY MANHOLE
- ⊙ ST EX STORM MANHOLE
- ⊙ U EX UTILITY POLE
- ⊙ CB EX CATCH BASIN
- ST — PR STORM
- SS — PR 6" ROOF DRAIN @ 1.0% MIN SLOPE
- SS — PR SANITARY SERVICE
- E — PR UNDERGROUND ELECTRIC
- G — PR GAS SERVICE
- ⊙ CO PR CLEANOUT
- ⊙ PR LIGHT POLE SEE PHOTOMETRIC PLANS
- ⊙ PR WATER VALVE
- PR FIRE HYDRANT (AWWA STANDARD C502)

UTILITY NOTES

- EXISTING ON-SITE SANITARY TO BE EVALUATED PRIOR TO ENGINEERING APPROVAL.
- THE EXISTING SANITARY LEAD SHALL BE CLEANED AND TELEVISED IN THE PRESENCE OF THE ENGINEERING INSPECTOR AND A COPY OF THE VIDEO MUST BE GIVEN TO THE INSPECTOR TO DELIVER TO THE CITY ENGINEER FOR REVIEW AND APPROVAL. IF THE CITY ENGINEER DEEMS THE SANITARY LEAD TO BE IN POOR CONDITION, THE DEVELOPER WILL BE REQUIRED TO REPLACE THE ENTIRE LENGTH UP TO AND INCLUDING THE CONNECTION TO THE CITY OF LIVONIA MAIN USING A ROMAC SADDLE TAP.
- ALL PROPOSED UTILITIES ARE CONSIDERED PRIVATE AND SHALL NOT CONTAIN THE CITY OF LIVONIA LOGO ON THE STRUCTURE COVERS.
- NO CONNECTION RECEIVING STORM WATER, SURFACE WATER OR GROUND WATER SHALL BE MADE TO THE SANITARY SEWER.
- NO FOOTING DRAINS SHALL BE CONNECTED TO THE BUILDING SEWER.
- CONTRACTOR SHALL NOTIFY THE CITY OF LIVONIA 48 HOURS PRIOR TO THE START OF CONSTRUCTION IF THE CONSTRUCTION IS WITHIN THE CITY'S RIGHT-OF-WAY OR EASEMENT.
- DIFFERENTIAL OF EXCAVATION AROUND EXISTING MANHOLES SHALL NOT EXCEED SIX FEET.

DESCRIPTION

NO

DATE

BY

1160 DUBLIN ROAD
SUITE 100
COLUMBUS, OH 43215
TEL: 614.441.4222
FAX: 888.488.7940

PROJECT DATE: 07/09/2025
PROJECT NO: 250206
DRAWN BY: HTKUAR
CHECKED BY: ESP

TECHNICAL SKILL
CREATIVE SPIRIT.

www.MannikSmithGroup.com

PREPARED FOR:

13375 NATIONAL ROAD SW
ETNA, OHIO 43068

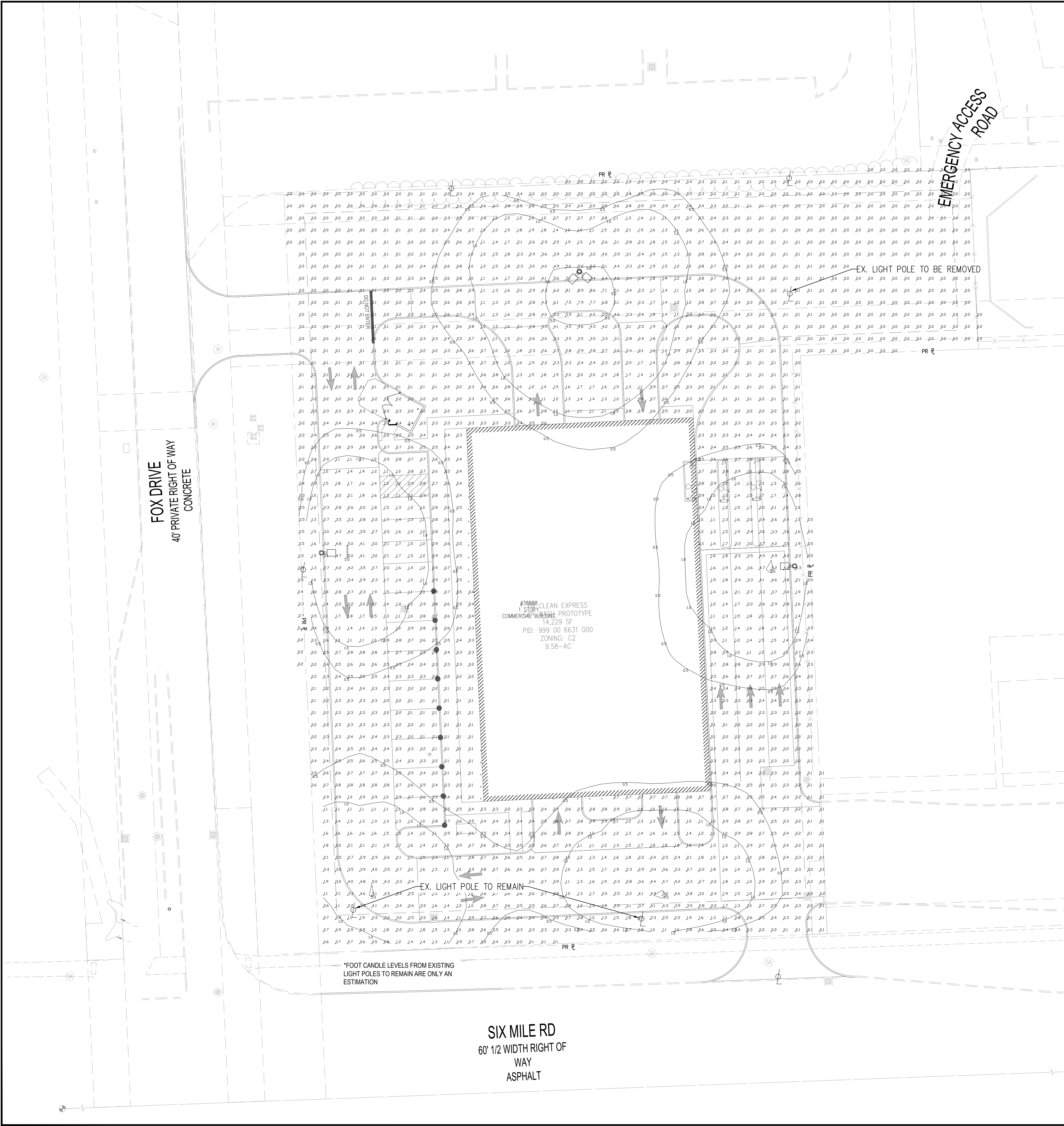
SITE IMPROVEMENT PLAN FOR

CLEAN EXPRESS
AUTO WASH

38888 SIX MILE RD., LIVONIA, MI 48152

DETENTION PLAN

C400



PHOTOMETRIC LEGEND

- DOUBLE POLE MOUNTED SITE LIGHT
- POLE MOUNTED SITE LIGHT
- EXISTING SITE LIGHT TO REMAIN

FOOT CANDLE LEVELS	
LABEL	AVG
PROP LIMITS	0.79
PVMT LIMITS	0.95
PRKG	1.00

LUMINAIRE SCHEDULE						
SYMBOL	QUANTITY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LUMENS PER LAMP	WATTAGE
	2	ACUITY BRANDS	RSX2 LED-P1-30K-R4	RSX2 LED-P1-TYPE 4 WIDE-MVOLT-RPA-WITH EXTERNAL GLARE SHIELD-BLACK	ABSOLUTE	105
	1	ACUITY BRANDS	RSX2 LED-P1-30K-R4	RSX2 LED-P1-TYPE 4 WIDE-MVOLT-RPA-WITH EXTERNAL GLARE SHIELD-BLACK	ABSOLUTE	105

POLE FIXTURE SCHEDULE					
	QUANTITY	CATALOG NUMBER	HEIGHT (FT)	POLE SHAFT SIZE (INXFT)	WALL THICKNESS (IN)
LITHONIA LIGHTING SINGLE FIXTURE	2	RSS 18 4B DBLXD	18' POLE ON A 2' CONCRETE BASE	4.5	0.120
LITHONIA LIGHTING DOUBLE FIXTURE	1	RSS 18 4B DBLXD	18' POLE ON A 2' CONCRETE BASE (1 AT 90° ONE AT 180°)	4.5	0.120

*FOOT CANDLE LEVELS FROM EXISTING LIGHT POLES TO REMAIN ARE ONLY AN ESTIMATION

SIX MILE RD
60' 1/2 WIDTH RIGHT OF WAY
ASPHALT

DESCRIPTION

NO

DATE

BY

1160 DUBLIN ROAD
SUITE 100
COLUMBUS, OH 43215
TEL: 614.441.4222
FAX: 614.441.4222

PROJECT NO: 07090205
PROJECT NAME: 250256
DRAWN BY: HTK/AR
CHECKED BY: ESP

TECHNICAL SKILL:
CREATIVE SPIRIT.

www.MannikSmithGroup.com

PREPARED FOR:

EXPRESS WASH CONCEPTS
13375 NATIONAL ROAD SW
ETNA, OHIO 43068

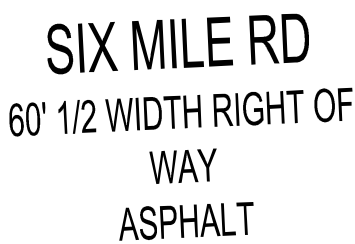
SITE IMPROVEMENT PLAN FOR

CLEAN EXPRESS
AUTO WASH

PHOTOMETRIC PLAN

C600

38686 SIX MILE RD., LIVONIA, MI 48152



1. THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY ON ALL PLANTS AND VEGETATION PROPOSED ON THE LANDSCAPING PLAN. ANY TREES, SHRUBS, GROUND COVER OR OTHER VEGETATION PLANTED AS PART OF THIS PROJECT THAT DO NOT SURVIVE ONE YEAR FROM PLANTING SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH ALL PERTINENT UTILITY COMPANIES THREE WORKING DAYS IN ADVANCE OF ANY DIGGING. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF ANY UTILITIES.

3. REFER TO THE LANDSCAPE PLAN FOR ADDITIONAL NOTES. LANDSCAPE IMPROVEMENTS SHALL CONFORM TO THE LATEST EDITION OF MDOT CONSTRUCTION SPECIFICATIONS (2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION).

4. ALL PLANTING MATERIALS: SHALL BE PLANTED PER MDOT SPECIFICATIONS. EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE BROKEN, LOW HANGING AND OTHER UNDESIRABLE GROWTH TO ENSURE HEALTHY AND SYMMETRICAL NEW GROWTH.

5. PLANTING BEDS, ONE MONTH BEFORE CULTIVATION AND AFTER DAYTIME TEMPERATURES HAVE WARMED TO 60° CONSISTENTLY, TREAT ALL PLANTING BEDS THAT ARE TO BE DEVELOPED IN AREAS OF EXISTING TURF WITH PRE-EMERGENT AND POST-EMERGENT TYPE HERBICIDES. USE A STATE-LICENSED PESTICIDE APPLICATOR TO APPLY THE HERBICIDE. REPEAT HERBICIDE APPLICATION TWO WEEKS LATER AND UNTIL ALL HERBACEOUS MATERIALS HAVE BEEN KILLED. BEFORE PLANTING, TOP DRESS ALL PLANTING BEDS WITH A MINIMUM OF 6 INCHES OF BACKFILL MIX, THEN CULTIVATE PLANTING AREA TO A DEPTH OF 6 INCHES USING A PLOW, DISC, OR ROTO-TILLER.

6. BACKFILL MIX. FOR ALL PLANTINGS, USE BACKFILL MIX CONSISTING OF THE FOLLOWING:

A. ONE PART EXCAVATED SOIL

B. ONE PART TOPSOIL

C. ONE PART EPA RATED CLASS IV COMPOST.

D. A SLOW RELEASE COMMERCIAL FERTILIZER (0-20-20 OR EQUAL) ADDED AT A RATE OF 5 POUNDS PER CUBIC YARD TO THE BACKFILL MIX.

E. IF SOIL AREAS ARE OF HIGH PH (GREATER THAN 6.5), APPLY 1.25 POUNDS OF ELEMENTAL SULFUR PER CUBIC YARD OF BACKFILL MIX.

NOTE: CONTRACTOR SHALL SUPPLY A DETAILED SOIL ANALYSIS PRIOR TO ALL PLANT BED PREPARATION. ANALYSIS SHALL INDICATE SOIL PH, TEXTURE, MAJOR NUTRIENTS, SALTS, ETC. SOIL ANALYSIS SHALL BE FROM A REPUTABLE, INDEPENDENT LAB. SOIL AMENDMENTS SHALL BE INCORPORATED INTO BACKFILL/PLANT MIX AS RECOMMENDED BY THE INDEPENDENT LAB.

7. MULCH. SMOOTH AND SHAPE THE BACKFILL MIX TO FORM A SHOULDER BASIN SLIGHTLY LARGER THAN THE PLANTING HOLE. MULCH ALL PLANTING AREAS, EXCEPT THOSE WITH FLOWERING PERENNIALS, WITH A LAYER OF 2-3" RIVER WASH GRAVEL. PLANTING AREAS WITH FLOWERING PERENNIALS SHALL USE FINELY SHREDDED HARDWOOD BARK OF UNIFORM TEXTURE & SIZE, ABOUT A MIN. OF ONE YEAR. PLANTS GROUPED IN MASSES SHALL HAVE THE ENTIRE CONTIGUOUS PLANTING BED OR ISLAND MULCHED. SMOOTH THE ENTIRE AREA OF THE PLANTING BEDS, MULCH TO A DEPTH OF 3 INCHES. AFTER MULCHING AND BEFORE WATERING, ADD A SLOW RELEASE COMMERCIAL FERTILIZER (12-12-12 OR EQUAL), IN GRANULAR FORM, TO THE TOP OF THE MULCH AT A RATE OF 5 POUNDS PER 1000 SQUARE FEET. DO NOT ALLOW FERTILIZER TO CONTACT THE STEMS, BRANCHES, ROOTS OR LEAVES.

8. PERIOD OF ESTABLISHMENT. BEFORE FINAL INSPECTION, PLACE ALL PLANTS, SEED ALL LAWNS, AND CARE FOR THEM FOR A PERIOD OF ESTABLISHMENT. THE PERIOD OF ESTABLISHMENT BEGINS IMMEDIATELY UPON COMPLETION OF THE PLANTING OPERATIONS AND CONTINUES UNTIL OCTOBER 1. THE MINIMUM PERIOD OF ESTABLISHMENT IS ONE GROWING SEASON, JUNE THROUGH OCTOBER 1. DURING THE PERIOD OF ESTABLISHMENT, FOLLOW STANDARD HORTICULTURAL PRACTICES TO ENSURE THE VIGOR AND GROWTH OF THE TRANSPLANTED MATERIAL. WATER, REMULCH, RESTAKE, GUY, AND CULTIVATE AS NECESSARY. PERFORM AT LEAST TWO WEEDING AND MOWING PROGRAMS (AROUND TREES, GUY STAKES, SHRUBS, AND BED EDGES) OF SUCH NATURE AS TO COMPLETELY REMOVE ALL WEEDS AND MULCHED AREAS OF WEEDS AND GRASSES, BEGINNING WITH THE FIRST PROGRAM ABOUT JUNE AND THE SECOND APPROXIMATELY ONE MONTH OR ABOUT AUGUST 15. THE FIRST MOWER MUST INCLUDE TRIMMING AND THE SECOND APPROXIMATELY ONE MONTH OR ABOUT AUGUST 15. THE ENGINEER WILL INSPECT AND APPROVE THE PLANTING AND SUPPLY THE CONTRACTOR WITH A LIST OF MISSING AND DEAD PLANTS AND THOSE THAT HAVE DIED BACK BEYOND NORMAL PRUNING LINES. REPLANT AS REQUIRED ACCORDING TO THE SPECIFICATIONS OF THE ORIGINAL MATERIAL. REPLACEMENT PLANTS ARE SUBJECT TO A NEW PERIOD OF ESTABLISHMENT. IMMEDIATELY REPLACE PLANTS PLANTED INITIALLY IN THE FALL THAT HAVE DIED BEFORE THE SPRING PLANTING SEASON. CARE FOR THE REPLACEMENT PLANTS DURING THE NEW ESTABLISHMENT PERIOD.

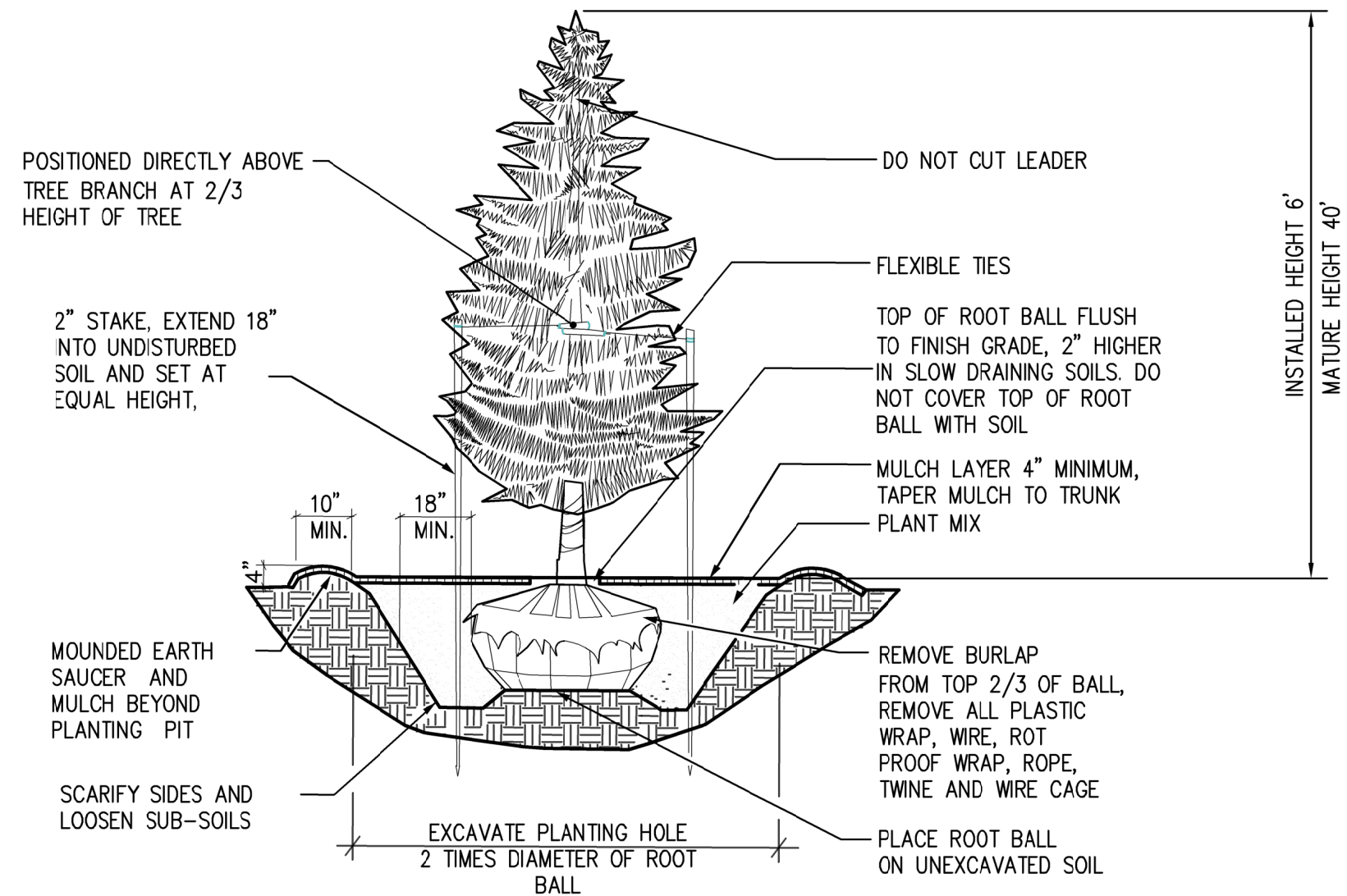
9. RESTORATION OF DISTURBED AREAS FOR NEW LAWN:
ALL DISTURBED AREAS NOT COVERED BY BUILDING, PAVEMENT OR LANDSCAPE PLANTING BEDS SHALL BE PREPARED FOR GRASS SEED AND SEEDED. LOOSEN ROOTS AND WORK THE SOIL AREAS TO A MINIMUM OF 6" DEEP PRIOR TO FINE GRADING AND SEEDING WORK. AREAS TO RECEIVE GRASS SEED SHALL HAVE A MIN. 4" TOPSOIL PLACED, SEEDED AND A STRAW/MULCH BLANKET COVER PLACED OVER THE SEEDED AREAS PER MDOT SPECIFICATIONS; FERTILIZE WITH ONE POUND OF ACTUAL NITROGEN PER 1000 SQUARE FEET WITH A SLOW RELEASE COMMERCIAL STARTER FERTILIZER (LESCO 18-24-12 OR EQUAL).

10. LANDSCAPE TREES, SHRUBS AND PERENNIAL WATERING: THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, DELIVERING, APPLYING, MEASURING AND SCHEDULING A SUFFICIENT AMOUNT OF WATER NECESSARY TO KEEP EACH PLANT IN A HEALTHY GROWING CONDITION THROUGHOUT THE PERIOD OF ESTABLISHMENT. THE CONTRACTOR SHALL APPLY 1" OF WATER PER WEEK TO ALL NEW PLANTS. THE CONTRACTOR SHALL INSTALL & MAINTAIN SUPPLEMENTAL DRIP WATERING TREE BAGS (SUCH AS 20 GALLON TREE GATOR WATER BAG) TO PROVIDE ADEQUATE, SLOW RELEASE OF WATER. WATER BAGS SHALL BE REMOVED AT THE END OF THE SECOND GROWING SEASON.

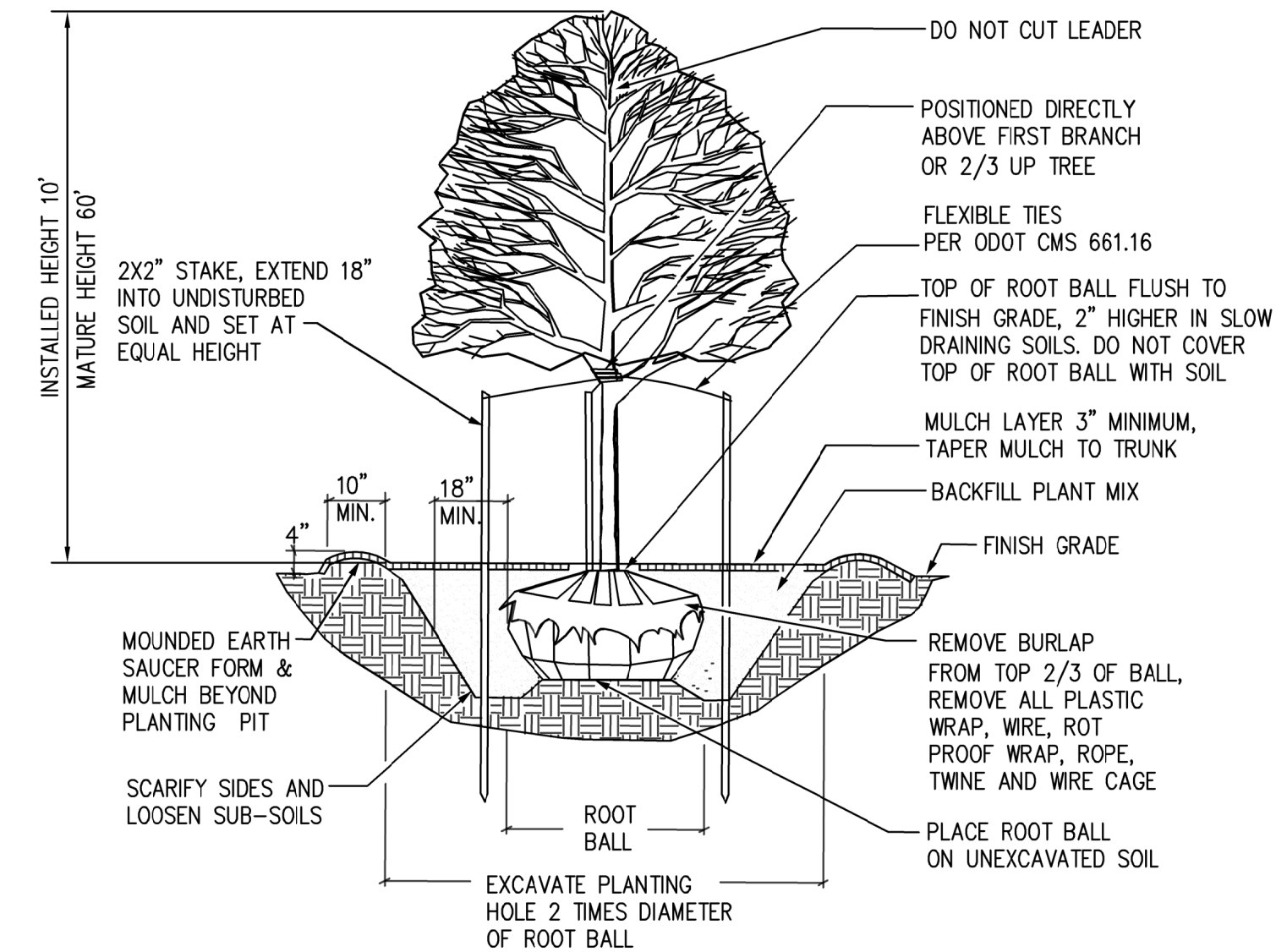
11. TURF GROUNDCOVER (SODDING, SEEDING AND SEED MULCHING):
ALL SEEDING INSTALLATION SHALL CONFORM TO MDOT SPECIFICATIONS AND NOTE 9 ABOVE. SEED AT 5 LBS/1000 SF (220 LB/AC) WITH THE FOLLOWING SEED MIXTURE (CSI GEOTURF SUN & SHADE MIX):

KENTUCKY BLUEGRASS	20%
HARD FESCUE	20%
CHEWING FESCUE	20%
PERENNIAL RYEGRASS	40%

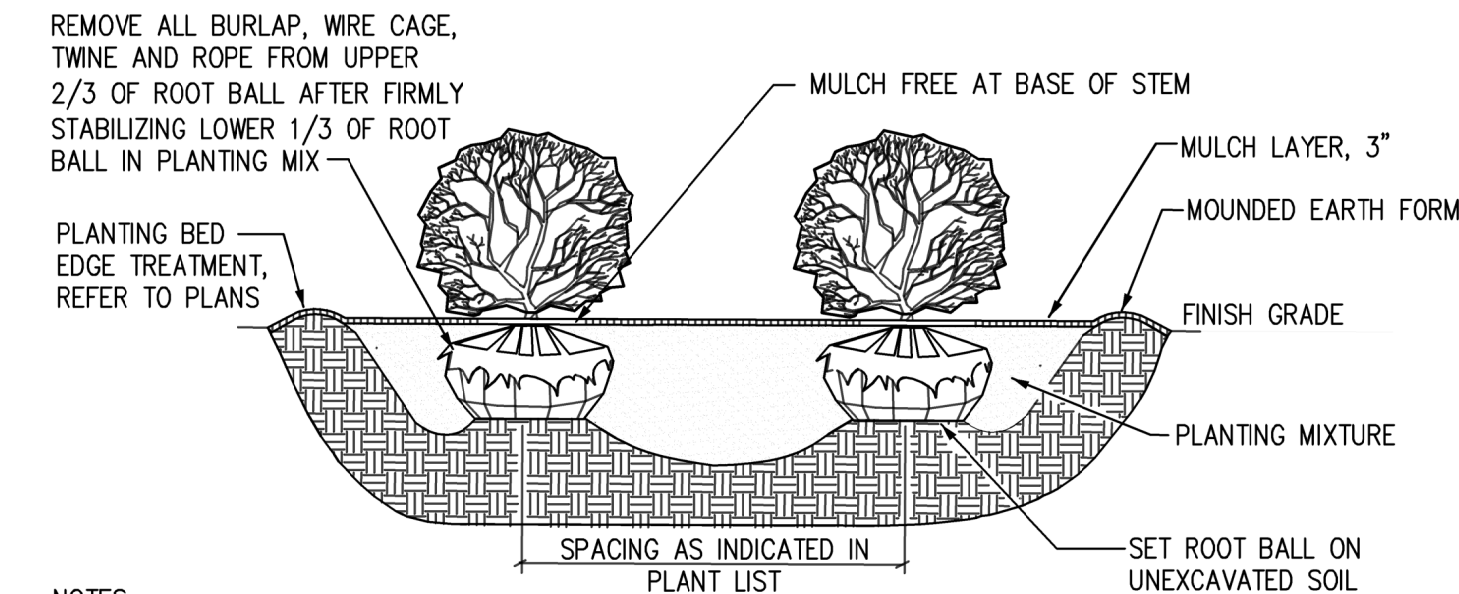
12. PLACE "DEWITT 15 YEAR WEED BARRIER" WOVEN POLYPROPYLENE OR APPROVED EQUAL IN ALL PLANTED BEDS AND AT EACH TREE RING.



NO SCALE



NO SCALE



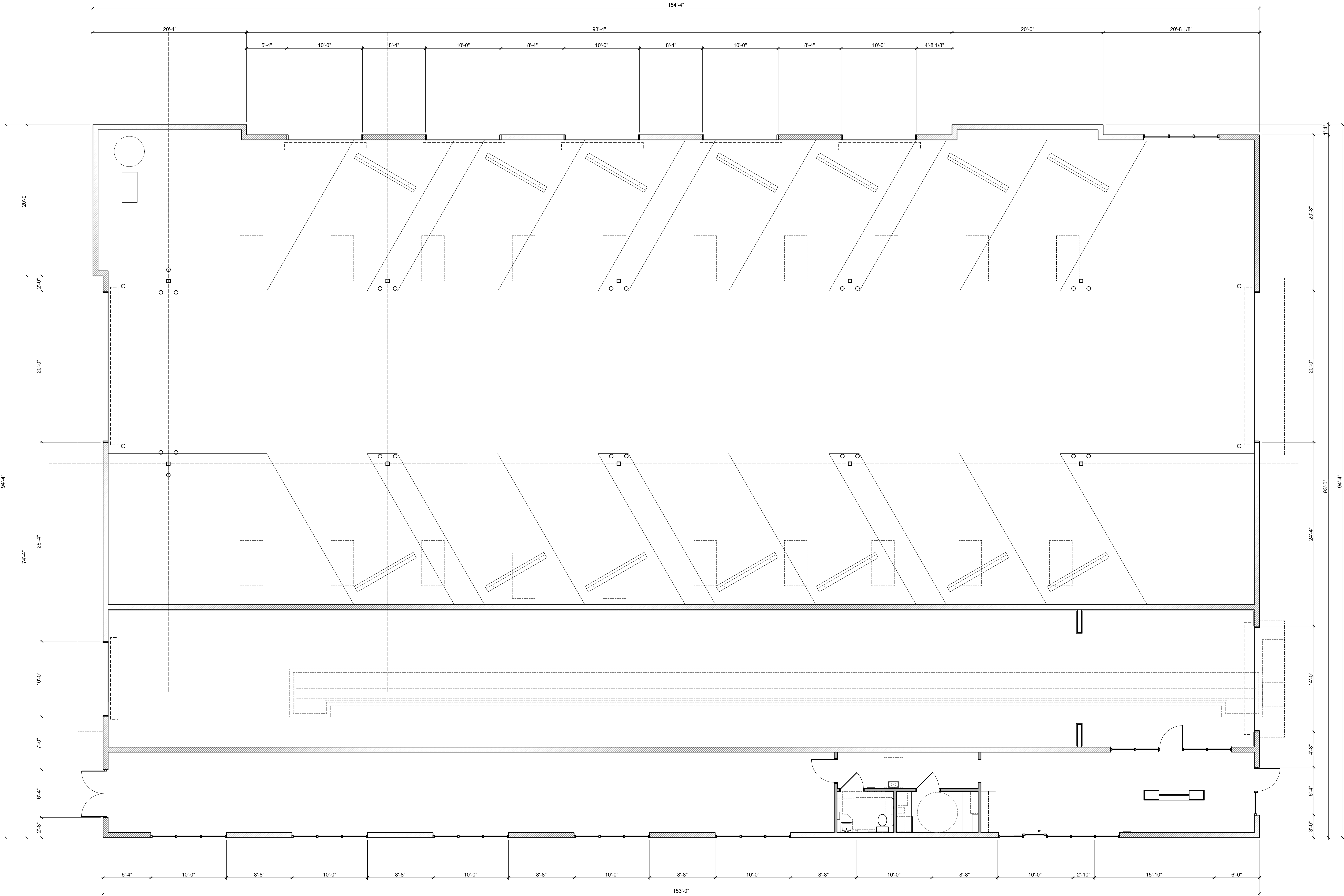
NOTES:

ALL SHRUBS PLANTED IN ROWS OR MASSES SHALL BE MATCHED IN SIZE AND FORM.

SHRUBS SHALL BEAR SAME RELATION TO FINISH GRADE AS THEY BORE TO EXISTING GRADE IN THE PREVIOUSLY PLANTED CONDITION.

NO SCALE

L101	LANDSCAPE NOTES & DETAILS	SITE IMPROVEMENT PLAN FOR CLEAN EXPRESS AUTO WASH 38888 SIX MILE RD, LIVONIA, MI 48152	PREPARED FOR:  EXPRESS WASH CONCEPTS 13375 NATIONAL ROAD SW ETNA, OHIO 43088	 Mannik Smith GROUP www.MannikSmithGroup.com	TECHNICAL SKILL, CREATIVE SPIRIT. PROJECT DATE: 07/09/2025 PROJECT NO: 2500266 DRAWN BY: HTK/JAK CHECKED BY: ESP	1160 DUBLIN ROAD SUITE 100 COLUMBUS, OH 43215 TEL: 614.441.4222 FAX: 888.488.7540	NO. DATE BY DESCRIPTION
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FLOOR PLAN CODED NOTES

- WALL MOUNTED FIRE EXTINGUISHER, EXTINGUISHER TO BE RED ENEMELED FINISH HEAVY DUTY STEEL CYLINDER, UL AND FM APPROVED, ABC MULTI PURPOSE DRY CHEMICAL, 10 LB CAPACITY UL RATED 4A 60B, C, HOSE TYPE, UPRIGHT, SQUEEZE GRIP OPERATION
- INTERIOR WALL LINER PANEL, TYP. @ WASH BAY
- 14'-0" x 8'-0" OVERHEAD DOOR
- 10'-0" x 8'-0" OVERHEAD DOOR
- 20'-0" x 8'-0" OVERHEAD DOOR
- CAR WASH TRENCH, SEE MANUFACTURER'S DRAWINGS
- DECORATIVE AWNING, CENTER OVER WINDOWS / DOORS
- DEDICATED COMMERCIAL GRADE SINK FOR UTILITY SINK
- ANSI COMPLIANT WATER BOTTLE FILLER
- 12" DEEP SHELVEING W/ STANDARDS AND BRACKETS
- WIND WALL, P.T. 2x6 WALL W/ 7/16" OSB SHEATHING & LINER PANEL BOTH SIDES, BUILD WALL TO BOTTOM OF BAR JOISTS.
- TIRE SHINE GRATE, COORDINATE W/ EQUIPMENT SHOP DRAWINGS.
- UNDER COUNTER REFRIGERATOR
- SERVER RACK, SEE SHEET A5-1
- NOT USED
- ALUMINUM STOREFRONT SYSTEM, SEE EXTERIOR ELEVATIONS, PROVIDE 1" INSULATED GLASS
- CORRULATOR, SEE EQUIPMENT SHOP DRAWINGS
- ANSI COMPLIANT STAFF DESK, SEE A5-1
- PROVIDE 2 1/2" METAL Z-FURRING STRIPS @ 24" HORIZONTAL W/ MIN R-13 RIGID INSULATION IN FURRING CAVITIES W/ 5 MIL VAPOR BARRIER
- ANSI COMPLIANT SIGNAGE DESIGNATING UNISEX TOILET ROOM, SEE A5-1
- COFFEE MAKER, SEE INTERIOR ELEVATION
- MICROWAVE, SEE INTERIOR ELEVATION
- ANSI COMPLIANT STACKABLE WASHER / DRYER
- ANSI COMPLIANT SIGNAGE DESIGNATING MAXIMUM OCCUPANCY OF 24 PERSONS
- QUICK-BRICK MASONRY CONSTRUCTION, TYP @ EXTERIOR WALLS.
- ANSI COMPLIANT EXIT SIGNAGE, SEE A5-1
- STORAGE CABINETRY BY OWNER.
- 8" CMU WALL
- ROOF ACCESS LADDER, CENTER BELOW ROOF HATCH ABOVE, SEE DETAIL ON A5-1
- 30"x30" CLEAR LANDING SPACE, CENTERED ON LADDER
- INSTALL SMOOTH, HARD, NON ABSORBANT FRP PANEL, SIM. TO WASH BAY LINER PANEL, FULL HEIGHT OVER THIS WALL.
- PRODUCT DISPLAY RACK PROVIDED BY OWNER.
- VACUUM EQUIPMENT.
- SKYLIGHT ABOVE.
- 6" CONCRETE FILLED PIPE BOLLARD.
- PRECAST CONC. PARKING WHEEL STOP.
- ACCESSIBLE PARKING SIGNAGE.
- VAN ACCESSIBLE PARKING STALL PER ANSI SECTION 502, ANSI COMPLIANT VACUUM TO BE PROVIDED AT THIS STALL.
- 8'-0" WIDE AISLE SPACE MARKED SO AS TO DISCOURAGE PARKING WITHIN IT FOR VAN ACCESSIBLE PARKING PER ANSI 502.2 THROUGH 502.4.4.

WALL LEGEND

- NEW STUD WALL
- NEW 8" FOUNDATION WALL

WALL TYPES SCHEDULE

#	ASSEMBLY DESCRIPTION	HR	NOTES
181	3 5/8" METAL STUDS, @ 16" O.C. 5/8" GYP BD 3" SOUND BATT 4 7/8"	0 HR	PARTIAL HEIGHT PARTITION, TERMINATE GYPSUM BOARD 6" ABOVE FINISH CEILING. BRACE PARTITION TO DECK. ASSEMBLY THICKNESS = 4 7/8"
182	3 5/8" METAL STUDS, @ 16" O.C. 5/8" TYPE 'X' GYP BD 4 7/8"	1 HR	FULL HEIGHT PARTITION, TERMINATE GYPSUM BOARD @ MEZZANINE DECKING. BRACE PARTITION TO DECK. ASSEMBLY THICKNESS = 4 7/8"

#	DATE	ISSUED WITH: CHANGE DESCRIPTION

CLEAN EXPRESS CAR WASH
38888 SIX MILE ROAD
LIVONIA, MI 48152

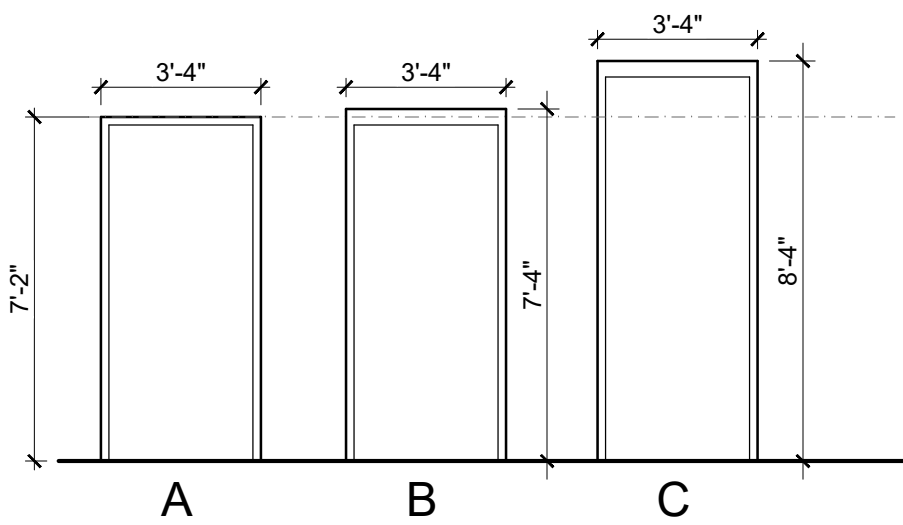
CLEAN
EXPRESS AUTO WASH

SBA
STUDIOS
ARCHITECTURAL DESIGN
614.562.7761 WWW.SBA-STUDIOS.COM

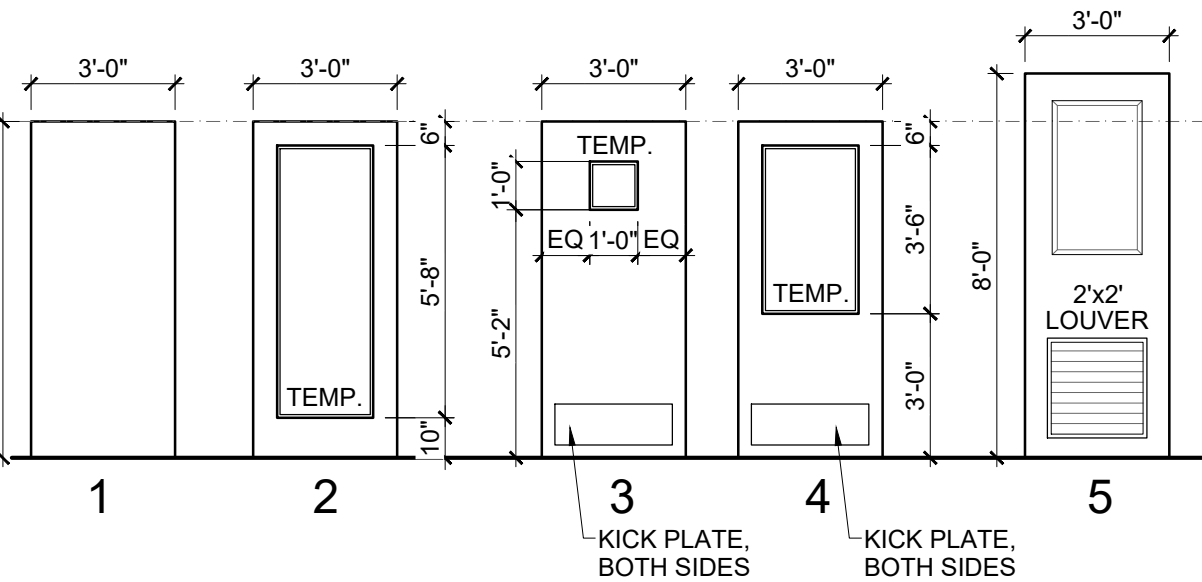
SCALE: 3/16" = 1'-0" (UNO.)
SHEET # / DESCRIPTION
FLOOR PLAN
A1-1
DATE: 07.10.2025
PLANNING COMMISSION
SBA STUDIOS PROJECT # 2025-371

STATE OF MICHIGAN
COUNTY OF LIVINGSTON
PREPARED FOR
SBA STUDIOS
DATE: 07.10.2025
BY: T.D. BAKER
EXPIRATION DATE: 08/05/2026

5 FLOOR PLAN



SCALE: 1/4" = 1'-0"



SCALE: 1/4" = 1'-0"

DOOR										FRAME		REMARKS
NO	ROOM NAME	SIZE	ELEV	MAT	RATING	GLASS	HDWR	ELEV	MAT			
1.01	STAFF	3070	01	H.M.	0-HR	N/A	SET 01	A	H.M.			
1.02	CLOSET	3070	01	H.M.	0-HR	N/A	SET 02	A	H.M.			
1.03	OFFICE	(3) 3070	02	ALUM.	0-HR	TEMP	SET 05	B	ALUM.			CLOSER
1.04	UNISEX	3070	01	H.M.	0-HR	N/A	SET 03	A	H.M.			
1.05A	MECHANICAL	3070	04	H.M.	0-HR	N/A	SET 04	A	H.M.			
1.05B	MECHANICAL	(2) 3080	05	H.M.	0-HR	N/A	SET 05	C	H.M.			
1.05C	MECHANICAL	3070	02	ALUM.	0-HR	N/A	SET 04	B	ALUM.			
1.06	WASH BAY	3070	04	H.M.	0-HR	N/A	SET 04	B	H.M.			CLOSER
1.07A	VACUUMS	3070	01	H.M.	0-HR	N/A	SET 04	B	H.M.			CLOSER
1.07B	VACUUMS	3070	04	H.M.	0-HR	N/A	SET 05	B	H.M.			CLOSER

DOOR GENERAL NOTES

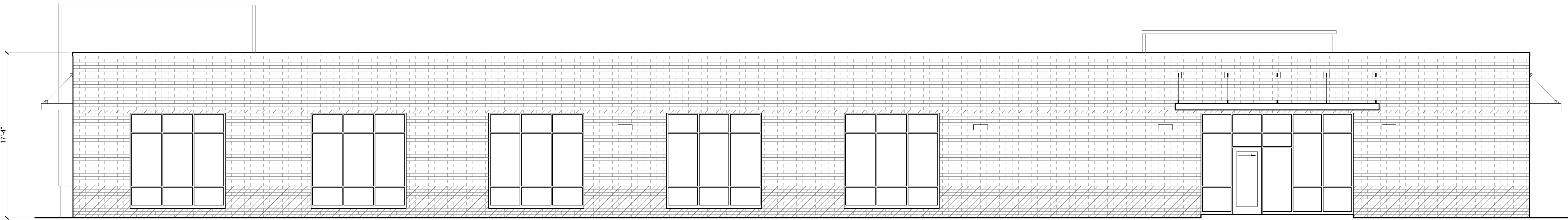
- ALL DOOR HARDWARE TO BE ANSI COMPLIANT LEVER STYLE
- ALL DOOR HARDWARE TO BE MOUNTED BETWEEN 34" - 48" A.F.F.
- ALL GLAZING IN NEW DOORS TO BE TEMPERED
- ALL DOORS TO RECEIVE (3) HINGES
- ALL DOORS TO RECEIVE (3) SILENCERS
- ALL DOORS TO RECEIVE DOOR STOP
- ALL EXTERIOR DOORS TO RECEIVE CLOSER
- ALL EXTERIOR DOORS TO HAVE ANIS COMPLIANT THRESHOLD (1/4" MAX)
- ALL EGRESS DOORS SHALL UNLATCH WITH ONLY ONE OPERATION OF THE DOOR HARDWARE, READILY OPERABLE FROM EGRESS SIDE WITHOUT USE OF A KEY OR SPECIAL KNOWLEDGE AND SHALL NOT REQUIRE TIGHT GRASPING, TIGHT PINCHING OR TWISTING OF THE WRIST TO OPERATE. 2021 MBC 1010.1.9/1010.1.9.1/1010.1.9.5.

DOOR HARDWARE SETS

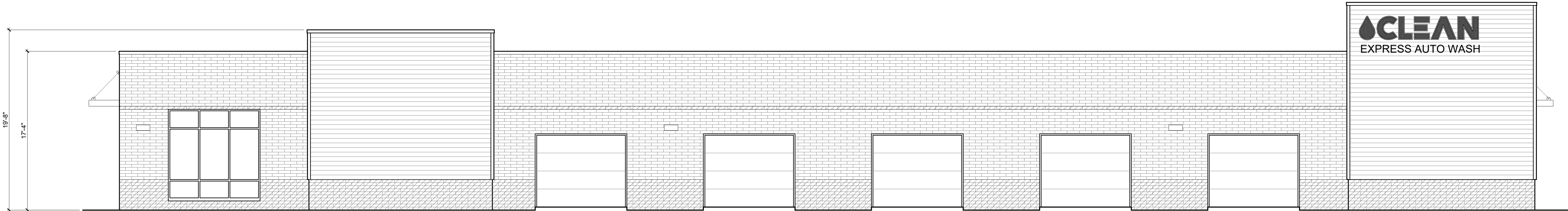
- SET 01: OFFICE LOCKSET
- SET 02: STORAGE LOCKSET
- SET 03: PRIVACY LOCKSET
- SET 04: PASSAGE LOCKSET
- SET 05: EXIT LOCKSET
- SET 06: PUSH / PULL
- KEY ALL DOORS ALIKE

SPACE		FLOOR		WALLS				CLG	REMARKS
NO	ROOM NAME	MAT	BASE	NORTH	EAST	SOUTH	WEST		
1.01	STAFF	WD	VB	PT-1	PT-1	PT-1	PT-1	GYP	NO PAINT BAR JOISTS & ROOF DECK
1.02	CLOSET	WD	VB	PT-1	PT-1	PT-1	PT-1	GYP	
1.03	OFFICE	WD	VB	PT-1	PT-1	PT-1	PT-1	NO	6" VINYL BASE
1.04	UNISEX	WD	VB	PT-1	PT-1	PT-1	WL	NO	PAINT BAR JOISTS & ROOF DECK
1.05	EQUIPMENT	CONC	NO	PT-2	PT-2	PT-2	PT-2	NO	PAINT BAR JOISTS & ROOF DECK
1.06	WASH BAY	CONC	NO	WL	WL	WL	WL	NO	PAINT BAR JOISTS & ROOF DECK
1.07	VACUUMS	CONC	NO	PT-2	PT-2	PT-2	PT-2	NO	PAINT BAR JOISTS & ROOF DECK

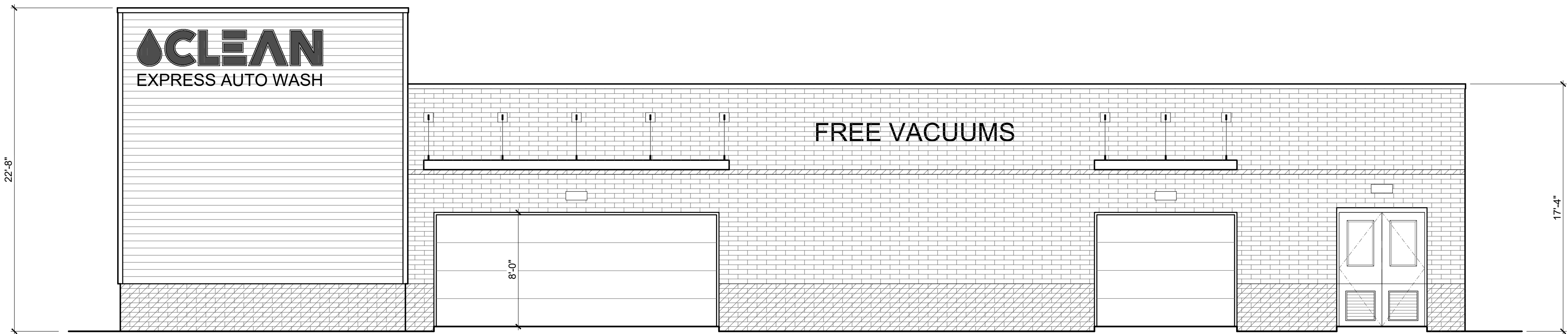
FLOORING	BASE	WALLS		CEILING
WD SIM WOOD FLR NO NO FLOORING	VB VINYL BASE NO NO BASE	PT-1 WHITE PAINT PT-2 BLONDE PAINT SW 6128 WL WALL LINER PANEL NO NO FINISH		GYP GYPSUM BOARD CEILING WL WALL LINER NO NO CEILING
SIM WOOD FLOOR = AXISCOR PRO12 12x24 URBAN CONCRETE				



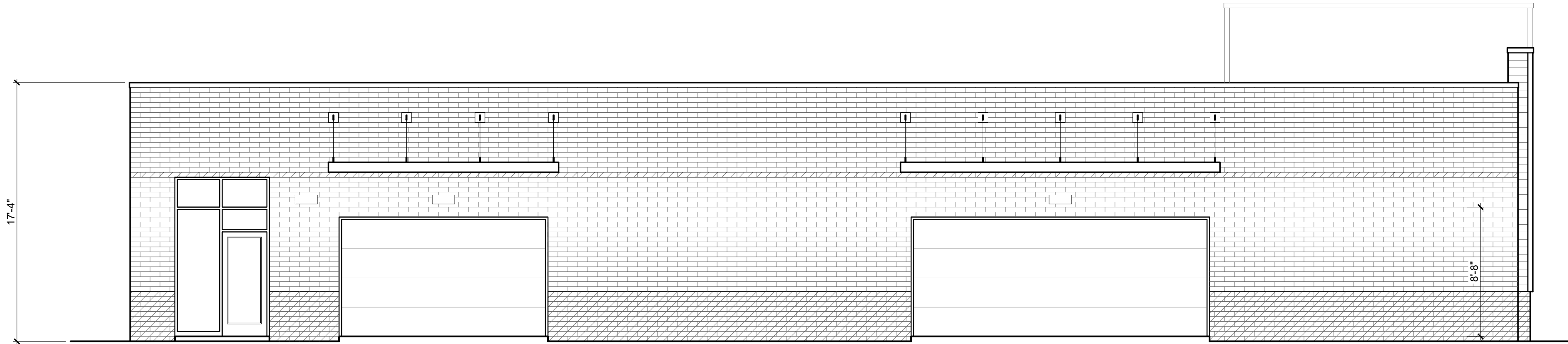
4 SIDE (WEST) ELEVATION



3 SIDE (EAST) ELEVATION



2 REAR (NORTH) ELEVATION



1 ENTRY (SOUTH) ELEVATION

ELEVATION CODED NOTES

1. ALUMINUM STOREFRONT GLAZING SYSTEM. MANUFACTURER TO DESIGN FOR WIND LOAD REQUIREMENTS PER CODE
2. QUIK-BRIK CMU CONSTRUCTION, SEE MATERIALS LEGEND. INSTALL CONTROL JOINTS PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS
3. CONTINUOUS METAL COPING, TYP.
4. 5' SQUARE METAL DOWNSPOUT
5. OVERHEAD DOOR
6. SIGNAGE PROVIDED BY OWNER
7. 1/4\"/>

ELEVATION MATERIAL LEGEND

- QUIK-BRIK (LIGHT FINISH)
- QUIK-BRIK (DARK FINISH)
- NICHIA FIBER CEMENT AWP181 HORIZONTAL SIDING

EXTERIOR MATERIAL NOTES:
1. COLOR OF METAL COPING TO MATCH STOREFRONT SYSTEM COLOR

#	DATE	ISSUED WITH: CHANGE DESCRIPTION

CLEAN EXPRESS CAR WASH
38888 SIX MILE ROAD
LIVONIA, MI 48152

CLEAN
EXPRESS AUTO WASH

SBA
STUDIOS
ARCHITECTURAL DESIGN
614.562.7761 WWW.SBA-STUDIOS.COM

DATE OF REVIEW
07/10/2025
BY
CHRISTOPHER BAKER
SBA ARCHITECT

PREPARED BY
CHRISTOPHER BAKER
SBA ARCHITECT

SCALE: 3/16" = 1'-0" (U.N.O.)
SHEET # / DESCRIPTION
EXTERIOR ELEVATIONS
A2-1
DATE: 07.10.2025
PLANNING COMMISSION
SBA STUDIOS PROJECT # 2025-371

Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and Section 6.07 of the Livonia Zoning Ordinance, as amended, to operate an Auto-Wash Establishment, at 38888 Six Mile Road, located at the N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7.

UNAPPROVED MINUTES

1

MINUTES OF THE 1,234th PUBLIC HEARINGS AND REGULAR MEETING HELD BY THE CITY PLANNING COMMISSION OF THE CITY OF LIVONIA

On Tuesday, August 19, 2025, the City Planning Commission of the City of Livonia held its 1,234th Public Hearing and Regular Meetings in the Livonia City Hall, 33000 Civic Center Drive, Livonia, Michigan.

Mr. Ian Wilshaw, Chairman, called the meeting to order at 7 p.m.

Members present: Patrick Droze David Bongero Sam Caramagno
 Glen Long Peter Ventura Ian Wilshaw

Members absent: Wafa Dinaro

Mr. Jacob Uhazie, Planning Director, and Stephanie Reece, Program Supervisor, were also present.

Chairman Wilshaw informed the audience that if a petition on tonight's agenda involves a rezoning request, this Commission makes a recommendation to the City Council who, in turn, will hold its own public hearing and make the final determination as to whether a petition is approved or denied. The Planning Commission holds the only public hearing on a request for preliminary plat and/or vacating petition. The Commission's recommendation is forwarded to the City Council for the final determination as to whether a plat is accepted or rejected. If a petition requesting a waiver of use or site plan approval is denied tonight, the petitioner has ten days in which to appeal the decision, in writing, to the City Council. Resolutions adopted by the City Planning Commission become effective seven (7) days after the date of adoption. The Planning Commission and the professional staff have reviewed each of these petitions upon their filing. The staff has furnished the Commission with both approving and denying resolutions, which the Commission may, or may not, use depending on the outcome of the proceedings tonight.

ITEM #1 PETITION 2025-07-02-15 Clean Express Car Wash

Mr. Caramagno, Secretary, announced the first item on the agenda, Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and Section 6.07 of the Livonia Zoning Ordinance, as amended, to operate an Auto-Wash Establishment, at 38888 Six Mile Road, located at the N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7.

UNAPPROVED MINUTES

2

Mr. Wilshaw: Mr. Ventura.

Mr. Ventura: My company represents the owner of this land, but not the petitioner. But for that reason, I'm going to recuse myself from the proceedings this evening.

Mr. Wilshaw: Okay, we'll let you step away from the dais. Thank you, Mr. Ventura.

Mr. Wilshaw: Now we'll go to Mr. Uhazie for background information on this petition.

Mr. Uhazie: Thank you, Mr. Chairman, good evening. This is a request to operate an auto wash establishment located on the northeast corner of Fox Drive and Six Mile Road. The petition parcel is L shaped with approximately 207 feet of frontage on Six Mile Road and 311 feet along Fox Drive. The site is the former Buca de Beppo restaurant, which is currently vacant. The parcel size is 1.61 acres. The existing zoning of the subject site is C-2. Adjacent properties are zoned, RUF to the east, which is the cemetery with the parking in front, zoned P. To the north and west is C-1 as part of the Assisted Living Center, and across Six Mile is commercial, zoned C-4. Operating auto wash establishments are allowed as waiver-use under Section 6.07 of the zoning ordinance. Auto wash establishments cannot be located nearer than 150 feet, as measured from any point on the property to any point of a church, public or parochial school or playground. There are neither of those within 150 feet of this property. The proposal includes removing the existing building, including the basement foundation and utilities. The existing Six Mile Road driveway would be removed and moved from the southwest corner to the southeast corner of the property, and a second drive is shown in the northwest corner to access Fox Drive. A new 14,229 square foot auto wash building that measures 23 feet in height at its tallest and about 17 1/2 feet along the rest of the building would be constructed. The proposed building's dimensions would measure 93 feet by 153 feet. The building location will meet both the 15-foot and eight-foot minimum setback requirements. Section 6.07 requires that a building be situated no closer than 35 feet on one side of the property and eight feet to the other. The building will be approximately 60 feet from the west property line and approximately 45 feet from the east property line. The building complies with all minimum required setback regulations. Plans

show three service lanes providing access to the car wash. The lanes commence along the east side of the property maneuvering in a northerly direction and then looping back south to the entrance on the north side of the building. The plan shows stacking for 21 vehicles. Each lane would have a pay station adjacent to the east side of the building, just before turning and entering into the building. Beyond the pay stations, the service lanes tapered to a single 12-foot drive aisle to manage vehicles as they enter the facility. A 12-foot bypass lane is provided after the pay stations, allowing vehicles to exit the site via 24-foot drive onto Fox drive. Vehicles will exit the car wash at the south end of the building and can either turn left to exit the site or make a right onto the two way drive. This would provide access to 13 outdoor parking spaces, nine of which would have proposed outdoor vacuums. There is a second 20-foot entrance to the building on the south end. This allows access to 14 indoor vacuum spaces. There's also a drive to the east that connects to the Trinity House theater. The site plan shows single striped parking. The zoning ordinance requires at least 20 spaces for auto wash establishments. The site plan shows 13 outdoor parking stalls located on the eastern side of the building, and the floor plan shows an additional 14 parking spaces with vacuums, which are located within the building. There is a dumpster enclosure shown in the northwest corner of the building. Details of the enclosed closure are not provided. A single dumpster would need to be consistent with the city's policy of requiring durable, long, lasting, solid panel material and enclosed on three sides by masonry walls that would be at least six feet in height. Additional details are required to determine compliance with the city's sign regulations. The maximum height for a monument sign in the C-2 business district is six feet. The maximum area for a sign in the C-2 business district is 30 square feet. According to section 11.04, no sign shall be permitted at any location that creates any type of safety hazard or visual impairment to pedestrian or vehicular traffic. The submitted floor plan shows three separate portions of the building. There is the car wash bay area, the indoor vacuum section, and then the office, bathrooms and equipment rooms. Elevations show the building with quick brick finish, there would be light finish along the top three quarters, and a dark finish across the bottom quarter. Fiber cement with horizontal siding for the wall with the car wash logo over here. They also have some renderings that will be shown here in a second. The landscape plan shows 37 frontage trees, 30 which are evergreens and seven that are deciduous. There are eight existing trees remaining in the parking lot, and there will be

evergreen and deciduous screening plants along Fox drive. No changes would be provided to the eastern property line. Along the C-2 to RUF, there is an existing wall and fencing. There are eight existing trees along the west property line, the C-2 to C-1 border. The required amount of green belt buffering along the west property line is 10 trees. The site plan provides three more trees along the west property line, satisfying the requirement. The south property line trees are already provided as the south property line is in the Six Mile Road frontage, five trees are required. Seven of the frontage trees are provided, satisfying the requirement. There will be stone mulch planting beds, as well as lawn area with sod. The photometric plan submitted for the site shows foot light candles at or below 0.5. at the property line with adjacent properties. Two existing light poles are scheduled to remain on the property. Three proposed 18-foot lighting fixtures are shown. There is another fixture over the west side of the parking lot. The double lighting fixture is over the 12 foot drive north of the building, providing illumination to the exit of the indoor vacuums and the entrance to the car wash. The average illumination levels on the car wash property appear consistent with the pre-existing ones. As I mentioned, here are some of the renderings that have been provided since our study session. As you can see, there's the light coloring along the top three quarters and then the dark finish along the bottom. The petitioner also submitted a stormwater management plan that shows underground water storage in the southwest corner of the property by Six Mile drive. As part of the petition, they have worked with neighboring property owners, and in the past, there was a traffic study done. The petitioner did submit an example of what was provided from that traffic study, showing a proposed signal layout that they were working with the county to get approval on showing how traffic would be managed at the site. In addition to that, we they also provided a draft letter showing to the neighbors to secure access to Fox Drive. And they're reviewing their ability to shut off the interior lighting after hours. That was shown to be a concern at our study session as well. And that with that, Mr. Chairman, I have some correspondence

Mr. Wilshaw: Sure, if you'd like to read out the correspondence

Mr. Uhazie: The first item is from the Engineering Division, dated July 23, 2025, which reads as follows: *"In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items: 1. The*

subject parcel is assigned the address of #38888 Six Mile Road. Should additional addresses be needed, the Owner will need to contact this Department once approvals have been obtained. 2. The existing parcel is currently serviced by public sanitary sewer, storm sewer and water main. Based on the submitted drawings, we have the following comments: i) Sanitary Sewer: The drawings do not include a basis of design for the proposed sanitary sewer outlet, but we do not believe the change in use will negatively impact the existing system. The developer will be required to clean and televise the existing sanitary sewer lead if it is to be re-used. If the condition is not sufficient for re-use, a new service will need to be installed to the parcel. ii) Water Main: The drawings do not indicate that the existing water service will be re-used for the proposed business, but if that is the intention, the owner will need to determine if the existing service is correctly sized for the proposed use. iii) Storm Sewer: The drawings do not indicate any storm sewer information. Storm sewer design and detention will be required per the Wayne County Storm Water Ordinance. This department will do a full review of the proposed improvements when drawings are submitted for permitting. 3.. Any improvements within the Six Mile Road right-of-way will require approval and permitting from the Wayne County Department of Public Service. Turning movements onto Six Mile Road from the site may be restricted based on comments from Wayne County traffic reviews. 4. We would recommend that the proposed business be required to place sidewalk along the west side of the property (along the Fox Drive frontage) to facilitate pedestrian traffic into the existing (and proposed) businesses through that corridor.” The letter is signed by David W. Lear, P.E., Assistant City Engineer. The next letter is from the Livonia Fire & Rescue Division, dated August 6, 2025, which reads as follows: “This office has reviewed the site plan submitted in connection with a request to construct a commercial building on property located at the above referenced address. We have no objections to this proposal. A further detailed plan review will take place when this division receives an official plan set.” The letter is signed by Brian Kukla, Fire Marshal. The next letter is from the Division of Police, dated July 25, 2025, which reads as follows: “I have reviewed the plans in connection with the petition. I have no objections to the proposal.” The letter is signed by Paul Walters, Sergeant, Traffic Bureau. The next letter is from the Inspection Department, dated July 31, 2025, which reads as follows: “Pursuant to your request, the above-referenced Petition has been reviewed. 1. Signage shall conform to the city’s sign ordinance, or a variance from the Zoning Board of Appeals

would be required. 2. An enclosure of sufficient height to completely screen the dumpster is required on three (3) sides of the waste receptacle, with a solid gate on the fourth side. The height of the enclosure must be not less than six (6) feet or at least one (1) foot above the height of the dumpster, whichever is greater. The enclosure gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass and, when not in use, closed at all times. The enclosure must be constructed of the same or compatible material and colors as the principal building in terms of texture and quality. This Department has no further objections to this Petition” The letter is signed by Jerome Hanna, Director of Inspection. The next letter is from the Treasurer’s Department, dated July 23, 2025, which reads as follows: “All taxes have been paid on this property” The letter is signed by Susie Nash, Treasurer. We also did receive a number of public comments that have been provided to you for review ahead of time to be considered.

- Mr. Wilshaw: We did receive many emails regarding this petition, so instead of reading those all out individually, just note that they are part of our record, and we have had a chance to review them. So, thank you. Is there any questions for the planning staff from any of the commissioners?
- Mr. Bongero: So, there's no new traffic study done?
- Mr. Uhazie: No. They provided one that was done, I believe in 2023.
- Mr. Bongero: That was done by Schoolcraft College?
- Mr. Uhazie: I don't know in what capacity, but yeah, they were the one that's provided it.
- Mr. Bongero: Okay, they are going to put a new traffic light in?
- Mr. Uhazie: I believe there are talks with Wayne County, but that would probably be better question for the petitioner to see where that is actually at in the process.
- Mr. Bongero: Okay, thank you.
- Mr. Wilshaw: Thank you. Mr. Bongero, any other questions for staff?
- Mr. Droze: Thank you, Mr. Chair. Mr. Uhazie, there were several renderings included in the packet, and I guess a couple of them appeared to differ from the site plan. Are those provided as

more of a reference for some of the, you know, the material choices, or, I guess, particularly the differences between the elevation and, I believe design, the architectural site plan and then the rendering?

Mr. Uhazie: So I believe they were as examples more for the covering to give the elevations where the what the petitioner was using, and then the renderings were more for the color palettes.

Mr. Droze: Okay.

Mr. Wilshaw: Thank you. Mr. Droze. Any other questions for staff? Mr. Uhazie, just one question. You mentioned the agreement between this petitioner and the neighbor who owns this strip of property along Fox Drive to get cross access to that road. Is that agreement in place? Or is that just proposed at this time?

Mr. Uhazie: I believe it has been sent to the neighbor, as far as I know, but I do not know the status since then.

Mr. Wilshaw: Okay.

Mr. Uhazie: They seemed confident that it would be something that they could come to work together on, but I've not seen anything that's been finally signed.

Mr. Wilshaw: Okay, all right, thank you. I appreciate you clarifying that for me. If there's no other questions for staff, then the petitioner is in our audience. Feel free to come forward to our podium. I'll ask that you start with your name and address for our record. Good evening.

My name is Jacob Rilett, Mannick Smith Group or the design engineer on this project. Thanks for your presentation, Jacob. I mean, they covered most of the basics of the site plan itself. Little background on Express wash. It's about 125 locations throughout the Midwest, starting in Ohio. They're moving gradually north into Michigan. This will be the third Livonia site that we've done. So you guys are a little familiar with what we do. They're really proud of themselves on, you know, the visual look of their sites, the over exceeding the requirements on landscaping and really working with neighbors and helping improve the whole area, not just their own site. There's a pretty advanced water reclamation system that recycles about 80% of the water used from each wash, so it really minimizes the impact on utilities and all those related things. As far as

stacking, we don't have any concerns about the ability of this site to spilling out into the road or impacting that with backups or anything along those lines. They're capable of cycling through about 100 cars an hour, if need be. So the long backups that you see on some other car wash models just don't happen on this because of the more advanced blower technology. They don't need hand dryers out at the end, slowing things down. It's 90 seconds you're in and you're out. The vacuums are free to the public and open at all times. Well, open during business hours, but that's just a free amenity that's added with the service. As far as the traffic signal proposed, that's something that's been in the works for as I understand it, about two years. Schoolcraft College and HRC have been working on that with the county. The main reason to my knowledge, that it hasn't happened yet is because the existing curb cut of the Buca to pepper site is on the southwest corner, which would really make the signal unviable. And then by going forward with the layout that we provide here, it allows that curb cut on Six Mile to move over to the southeast corner of the site and really allows that traffic signal to go into place. And we believe that it's going to really offset a lot of the traffic concerns that might be had about a car wash coming in here, because car washes are an automated heavy use. As far as a new traffic study, I mean, we didn't have time since the study meeting last week to get a full new traffic study done for this site, but I can provide you some useful numbers and sell you the ITE manual for traffic. For a car wash site, it recommends that you use about 70 trips generated for a peak hour traffic. So that's your peak hour, your most vehicles you're ever going to see is about 70. But for a car wash site, they recommend about a 75% factor of that to be passed by traffic. Car washes are an impulse purchase that you get when you're already out. People aren't leaving their houses to go get a car wash and go back home. So that impact that you're going to see of new trips generated by this site is really only 17-18, at the peak hours of business. And we believe, you know, with the traffic signal going in there, that's going to be an improvement upon the existing condition, and it's going to finally allow for that left turn off of Fox drive on to Six Mile, so we believe that the traffic impact is going to be improved from the current state.

Mr. Wilshaw: Okay, anything else you'd like to tell us about the business and the layout of this business, I think you mentioned that you have sort of a unique design in the sense of compared to the other ones that we've seen in the city with indoor vacuum model.

Mr. Rilett: Yes, the indoor vacuum building is a sort of new prototype concept that they've been working for. We've got three or four sites in development with this, but especially in Michigan, you know, with our lovely winters, you don't want to be outside vacuuming your cars walking around in the freezing cold. This allows for an indoor vacuum bay. After you've gone through the car wash, you are free to, at any point to come into the sort of a hanger bay here and use the vacuums inside. It's heated. The floors are all heated, so you won't have any freezing issues, anything like that. And it's really more of a luxury model of a car wash. It's kind of like the crown jewel of what you would ask for a car wash to be and it kind of is a good...a common concern we see with cities, with these new sites we bring in, is everybody says there's so many car washes. Why do we need more generally, the thought processes, so Express's 120 sites, mostly in Columbus, Detroit area is just underserved as far as car washes. The number of washes per vehicle in this area is significantly lower than you would see in Columbus, and they believe it's kind of created by, you know, when you have these subscription model washes somebody that maybe only washed their car once a month. They come, they like it, they get a subscription. All of a sudden, they're doing it two, three times a week. You can really increase the demand by having these nice systems. The subscription at this location is good at any of our other locations as well. So, people really they'll put these, you know, only a mile away from each other back in Columbus, and they don't see an impact on a loss on the business. They really do support themselves.

Mr. Wilshaw: Okay, is there anything else you'd like to tell us before we get some questions for you?

Mr. Rilett: Fire away.

Mr. Wilshaw: All right, let's see if there's some questions. Any commissioners with questions for the petitioner?

Mr. Droze: Mr. Rilett, at our study session, we talked briefly about some of the adjacent property owners, and I think coordination with them is, you know, seems like that would be an important item for this. Sounds like the Fox Drive is well underway with getting an easement and that access, which I think will help with traffic, but to the property to the east, I think at our initial rapid response meeting several months ago, we talked about how, although it's maybe not documented, it seems like there was some kind of reciprocal parking agreement written down, or maybe not, with

the Trinity house to the east. Has there been any discussion between the property owners about if there's an option for providing some that parking? Because right now, it's, I think it's about 127 spaces. And you know, I think you're taking it down to 13, with multiples being vacuum sites. So, has there been any discussion with the adjacent property owner about how that might be accommodated?

Mr. Rilett: I believe Express has reached out to them. We did dig through sort of the titles and easements, and there's a cross access agreement in place, but there's no written formal shared parking agreement. I know, speaking with the Express representatives, they've got no issue with any of these spaces being used after business hours. We close at 8pm every night. I don't know what time most of their shows are at, but I know they have reached out, or intend to, at least, to them to come up with some sort of formal agreement as far as sharing any of our, you know, we have a lot of open spaces along there. I don't think we'd be able to keep the indoor vacuum bay open all night, but I don't think Express has any issue sharing those outside spaces after business hours.

Mr. Droze: Okay, and then I guess expanding on that, there is a fair amount of open space on the north side of the property. Would that be some sort of arrangement that would be possible to maybe repurpose that for cross access parking, because, really, I mean, they're located between the daycare center and the cemetery, which certainly the later will not be able to move. I guess, if there's any opportunity, is that something that's on the table?

Mr. Rilett: Essentially, so the northern portion of this property had been hauled off in the design, in case the property owner to the north wanted to expand his own parking lot is part of the agreement to get that Fox Drive access. It doesn't seem like that is one of his requests at this time. So there's a chance we could provide extra parking up there. I don't know that would be something that I would have to discuss with Express ownership if we were to create extra parking just for someone else to use, it's...I can't say, I promise you that for them so, but as of right now, that's the reason that north area has been withheld, is just in case it was needed as part of negotiation for the Fox Drive access, because that was a major priority for the traffic signal as well.

Mr. Droze: Okay, and I guess I have one question on the traffic study itself. So, it looks like it was done roughly 2022 2023 is that reflective

of current traffic volumes. I know we had kind of a dip in traffic after COVID, and that rebounded. Is that, I guess, are the findings of that study still valid. And, you know, with obviously, the restaurant has been deducted, but now we're adding this back in, I guess, maybe talk to the validity of the study, and if there could be any additional work needed, what that might look like.

Mr. Rilett: So, we have a traffic engineer from HRC that I believe, worked on the traffic study here, and she could probably speak to that question a lot better than I can. I'm no traffic expert.

Mr. Wilshaw: Thank you. That'd be excellent.

Leah Michaels, HRC. The traffic study you saw was something that HRC had worked with Schoolcraft College on a couple of years ago. So, I do want to make it clear that it does not have the projected traffic volumes from the car wash in there. This study was completed to look at the potential for a new traffic signal at Fox Drive and Six Mile. So, we have been working with Schoolcraft College for the past couple years, as well as some of the engineers from the city and Wayne County to try to get this traffic signal installed. One of the major reasons it hasn't yet is because of the location of the current driveway to the Buca de Pepo property. One of the stipulations from Wayne County roads is that that driveway not be there because it conflicts with some of the turning movements, specifically from Quakertown on the south side. So that's the reason the signal has not gone in yet. This is a signal that is being funded by Schoolcraft College. So, I'm here tonight just to point to if this land were to get redeveloped, we really want that driveway location to be pushed towards the east, so that Schoolcraft College and others can get the traffic signal there. So long answer to that question, but yes, it was done a couple years ago for purposes of the traffic signal.

Mr. Droze: And I guess with that...

Ms. Michaels: Sorry. So, John from Schoolcraft College wanted me to point out that a couple years ago, a signal was warranted there without any additional traffic from some of these developments that have occurred over the past couple of years.

Mr. Droze: Okay. And I guess maybe my last question on that is, if this driveway were to be moved as part of this project, is there anything holding back the signal project at that point? So, if this

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gets approved, the signal could get started. Kind of where I'm looking at it is, the signal is in place before the development opens? Is that realistic?

Ms. Michaels: Yeah, so we have it fully designed. We don't have permits yet. We were kind of waiting on that because we knew a permit wouldn't be issued until the driveway was closed, so we have plans ready to go. It'd just be a matter of getting permits from the county and bidding the project.

Mr. Droze: And fundings in place?

Ms. Michaels: Yep, Schoolcraft College and their group of people have all agreed to fund it.

Mr. Droze: Okay, thank you. I'm good.

Mr. Wilshaw: Ms. Michaels, while you're up here, is there any other questions for our traffic engineer?

Mr. Bongero: Yes. Thank you for coming up tonight. So I know the study that it's two and a half years old. It could never factor in a car wash. Would you even be able to speak to...with this light you think, help manage that traffic adequately with the car wash being there, or you couldn't even answer that? You'd have to do a new study?

Ms. Michaels: It'd be tough to answer. But I do know that the putting a traffic signal at Fox drive there was room for additional traffic, because I know Schoolcraft College had some other developments kind of planned in the area that we knew this traffic signal could absorb some additional traffic in the area. I think anything from this parcel, at least having the driveway go out to Fox drive is a definite improvement. People using the fox drive and then a signal to turn on a six mile is a lot safer than I think the current driveway that's there now.

Mr. Bongero: But you couldn't, without them doing a separate study, there's just no way you could...

Ms. Michaels: Yeah, I can't speak to that. I'm sorry.

Mr. Bongero: Okay. Thank you.

Mr. Wilshaw: Thank you. Mr. Bongero, any other questions for our traffic engineer?

- Mr. Long: Can you speak to the configuration of a signal, I mean, Fox drive, and then the entrance to the subdivision are not aligned. So how does that work? Is there more than one light there? And do they allow them to turn into a green? Do you know how that would work?
- Ms. Michaels: Yep. So, it'd be like a split phase. So when Quaker town received a green light, it would be the only one that had a green light. So everybody exiting Quaker town, and then Fox drive would be a separate phase. So would have a green light at a separate time, and then your Six Mile traffic would go together. So, they would each have separate signals and separate phasing. And quick, I guess I should add Quakertown, and working with the City of Livonia, will be adding a northbound left turn lane, so taking out that median that's there to help improve some of the flow coming off of Quaker town onto Six Mile that was something we've been working with the city engineers on as well.
- Mr. Wilshaw: Thank you. My question was actually very similar. It's just in explaining that this is essentially an offset signal, and both the traffic coming out of Fox drive and Quaker town will both be protected with a dedicated phase as they use their respective directions. Okay, that way there's no conflicts or cars hitting each other. Excellent. Okay, that's the only question I had. Is there any other questions for a traffic engineer? We're gonna let her sit back down. Everyone's good. Mr. Droze?
- Mr. Droze: Maybe one more. Ms. Michaels, I guess your the engineer record for the signal. But has there been any discussion with maybe Wayne County offered it in terms of the operation of the car wash driveway. Would that Six Mile access be right in, right out, or would it permit, like a left turn out of there? Just curious.
- Ms. Michaels: So, I don't know about the car wash specifically. About a year ago, when we were talking about Buca de Pepo, they were requesting that it be right in, right out.
- Mr. Droze: Okay. Thank you.
- Mr. Wilshaw: Thank you, Mr. Bongero: Go ahead,
- Mr. Bongero: How crucial to this traffic management, in your opinion, is that additional access onto Fox Drive. You know what I am saying? That's needed, right? To pull this off. They're going to need that

if they don't, because that's not a guarantee. Yet, they don't have it. They've been talking to them, but they don't have it yet.

Ms. Michaels: For a car wash, yes, I think you definitely need a second

Mr. Bongero: They need that additional. Okay, okay. Thank you.

Mr. Wilshaw: Anyone else? All right, I think for all set, thank you. Ms. Michaels, for coming up. Any other questions for our petitioner?

Mr. Bongero: Just following up on that Fox Street access. What is the holdup of like not having a...

Mr. Rilett: So, the property owner of the north, he was at the study meeting that we had last week. I know the agreement was sent over the day after that meeting. I know it's been signed by the Express side. I don't think there's any hold up, really, at this point, it may have already been signed. Express is handling that. I'm not the engineer, but it's, I mean, we would expect that within the next week to be signed, yeah. I mean, there's been no, there's no resistance to it at this point.

Mr. Bongero: Okay. Thank you

Mr. Wilshaw: Thank you, Mr. Long.

Mr. Long: Thank you. Could you talk about the proposed traffic flow on the site and would exit traffic then...would traffic be forced to exit onto Fox Road? Because that would certainly provide...

Mr. Rilett: Tey would have choices to...so if you've got this like plan up here, I don't know if the audience can see it, but you'd enter in from either Fox or Six mile, and you'd come around the west and south side of the building. You enter into the stacking lanes along the southeast corner. Here you go up. You got three pay station kiosks. There you come around to make the U turn into the tunnel at that north east corner of the building. Come all the way through the wash tunnel. At that point, you're free to leave if you choose to, if you want to wash your car, you're able to make the U turn back into the wash bay on the west side of the building and come out the north side. Or you can use the outdoor vacuums to swing around the south end there. And at that point, it's fully a two way drive around both ends. So you can you're free to either way you come in, you're free to use either exit.

- Mr. Long: I understand, and people are going to do what they do, just like people turn left on Fox. Drive right now, even though...
- Mr. Rilett: But with this they would be allowed to do, right?
- Mr. Long: Would the petitioner be opposed to encouraging people to exit Fox Drive and again, I guess we, we probably would want to see that driveway as a right turn only anyway,
- Mr. Rilett: Yeah. I mean, if no left turn is allowed out of Six Mile, I mean that alone would encourage anybody wanting to go left, to exit Fox drive side.
- Mr. Long: And then there's been discussion, and understandably, you can't speak to the to the ability of the proposed parking to the north to help the theater. But would they be able to get access to that site, or is it all gated out? Does the does the bailout lane get them back there?
- Mr. Rilett: So, the bailout lanes not gated or anything. I'm not sure at night, what would happen with the kiosks, as they be able to access through there, if we were to put something up in that, that northeast sort of square that's kind of isolated from the rest of the project. But, yeah, I mean, I'm sure there'd be some sort of signage in place saying, you know, after hours, you can go through the bailout lanes here and access that area. If we were to add some sort of parking up in that section, we had also initially discussed a cross-access connection with the property the north if they were going to access that, but that, and they ended up just allowing the cut straight to Fox Drive.
- Mr. Long: And then my, my last, hopefully, my last comment or question is, can you talk a little bit more about the water saving technologies that you use now compared to some of the older car washes, and speak to that.
- Mr. Rilett: If you can then get to the utility plan here, it'd be a c400. I believe
- Mr. Uhazie: I'll have to bring it up.
- Mr. Rilett: But in the meantime, I can kind of walk you through it. So, along that underneath the pavement of the vacuum spaces on the west side of the building, you'd have your sanitary leads that lead out from the wash tunnel bay. There's a grease interceptor that captures any, you know, chemical items that get caught up

in that and then It goes through three separate water reclamation tanks that recycle as much water as they can get, about 80% per wash. So each wash uses, I believe it's 30 gallons, so almost all that ends up coming back in.

Adam Meyer, Regional Manager for Express wash. So, on the typical car wash, if you wash it at your house, you use 125 gallons. Our wash is used just over 20.

Mr. Rilett: That's after the recycle. Yep.

Mr. Long: Thank you.

Mr. Wilshaw: Thank you. Mr. Long. Any other questions for our petitioner? Mr. Droze.

Mr. Droze: Yes, the engineering letter mentioned a sidewalk along Fox drive is that within your ability, as part of the agreement to install that or that need to be on your property in a way that might affect your landscaping?

Mr. Rilett: I mean, if it's in the right of way, does Fox drive have a public right of way?

Mr. Droze: Private it looks like? But there's probably some sort of...

Mr. Rilett: That would have to be brought up with the agreement with the neighbor then, I mean, we'd have no problem doing it, but we can't promise that on his behalf. If not, yeah, I mean, we'd be willing to kick it back to our property line. It would just be quite a bit off the road at that point.

Mr. Droze: And then the last question, Jake, if you go to the A2-1 elevation...there you go. So kind of the...by my judgment, the eastern and southern facades are, I guess, a little less inviting than the Western facade. Is there any embellishments or architectural details or windows or what have you that can be added to kind of break up the you know, it's basically just brick and the siding facade. Some of the examples you shared from, I think it was a shaker Ohio rendering had a little more street front character to it. Is that something that could be added to this?

Mr. Rilett: Yeah, I mean, they're able to add sort of the facade over the top, that makes it look nice, or even clean up, sort of with, I'm an architect, to forget all the terms. But yeah, they can. They can spice things up, as far as visuals with, you know, accents on

over doorways or windows. So, a lot of that, that eastern side that you're talking about is the mechanical rooms. So, I don't know, I think they're pretty limited as far as windows is what they can put there.

Mr. Droze: Less so the east side it is more of the southern side. This is the side that people are going to see as they come into Livonia, off the expressway. For the first time. It's again, it's one of these gateway properties that, you know, prefer to have a little more character to it. The one on Plymouth Road. It's narrower, but it feels a little more, you know, with the glass, it just feels a little more consistent with that commercial corridor is this, you know, it's just a lot of brick and two garage doors. So, I guess I just offer, you know, maybe working with planning staff to explore that a little bit.

Mr. Rilett: Yeah. I mean, see that, if that was attached as a condition, I know we could accommodate something there. Yep, I don't know as far as windows, just because I'm not sure. I don't know the structural bones of the building, but I know they can, they can do some stuff with it. Yeah, okay.

Mr. Wilshaw: Is that all, Mr. Droze?

Mr. Droze: That is it.

Mr. Wilshaw: Thank you. All right. Thank you. Any other questions for the petitioner?

Mr. Caramagno: Good evening. I happen to like this rendering of the building compared to the three renderings that you brought to us at the study session. I think this is more tasteful, for sure. Is this proposal a fair rendering of what your what your what this building will look like at the end of the day?

Mr. Rilett: Yes.

Mr. Caramagno: With the enhancements Mr. Droze is talking about, okay. One of my concerns after the meeting last week was the car wash on Farmington Road, just south of Eight Mile road. I drive by there sometimes late at night, and I know we've talked about LED lighting being turned off or not visible, but all the windows that are naturally on a car wash when the lights are on, it looks absolutely terrible. And I see we've got a provision in here to turn them off, and I seen some other language in here that the

car wash will look and see what they can do about it. But to me, that's a big deal those, those green, purple, orange, red lights,

Mr. Meyer: Yeah, so this was brought to my attention on Saturday. On Monday, yesterday, I had switches installed on those lighting systems. As of tonight, it's part of the closing task for those to be shut off.

Mr. Caramagno: They'll be shut right off?

Mr. Meyer: Completely off, and no color.

Mr. Caramagno: And so no colors, they'll be white, like we've got here, or red and purple. No, we're gonna, shut them right down. Beautiful. Good, good.

Mr. Caramagno: My next question for you is, on the on the east side of the property, we talked about the parking for the neighbor, well, that's not your responsibility. They have some sort of a ability to park on the property in the past, and now I see a fence, maybe a concrete fence, on that east side along the cemetery. Are you putting a wall up there? Is that just what it looks like here?

Mr. Rilett: That's just what it looks like. No, that's the existing Yep. No, no screening changes to that side.

Mr. Caramagno: Let's go back to that for a minute. So, the cemetery fence that's all run down there. You're not putting anything up along there. Well, you're just gonna properly run right up to that cemetery fence that's dilapidated, and there'd be nothing there. Thought I saw a rendering here of a fence.

Mr. Rilett: I think there's a small brick wall and a fence, if I'm...

Mr. Uhazie: Currently, there is a brick wall and with like a iron fence above it. Yeah, there's like, a grade change right there.

Mr. Caramagno: Okay, so there's no enhancements to that side of the property?

Mr. Rilett: Not at this time, no.

Mr. Caramagno: So, if you're gonna allow some parking at the back of that property for the theater? Is there a way to pour a sidewalk on that side of the property where they're not walking through your lanes to get to a theater event?

- Mr. Rilett: I think that might be contingent on what the grading in that area looks like. I haven't done a full deep dive on that yet. If there was any way to create some sort of pedestrian access path on that side? Yeah, that's something we could accommodate.
- Mr. Caramagno: Of course, the problems come with it winter time. Who's going to shovel the snow, but it would...if you allowed parking in the back for them. It would allow them to walk down a sidewalk, or someone down a sidewalk, as opposed to walking through your lanes if they had an afternoon show. So, maybe something to look at. That's all I've got.
- Mr. Wilshaw: All right, thank you, Mr. Caramagno. Any other questions for the petitioner. I just have a couple...the write up that we have says that there's going to be nine outdoor vacuums, and I think 14 interior ones. The renderings of course, show many more than that we've already established. I believe that the renderings are not necessarily an accurate representation.
- Mr. Rilett: The renderings are just to show kind of the feel and colors of the site.
- Mr. Wilshaw: Okay. So, my question is, I like the idea of indoor vacuums. That's kind of a game changer. It's new. It's different. It's also takes a lot of the noise that's generated by those and puts it interior to the interior of your building, which is not a bad thing. My question to you then is, do you need the outdoor vacuums?
- Mr. Rilett: So, Express's model, they try to get to 20 on each site. And that's also, it's a nice, you know, sort of eye grabbing, almost advertisement for the fact that you have, hey, there's free vacuums here. It's a nice addition there, as well as, yeah, I mean, if you have a nice day, you don't necessarily need to do it indoors. They're able to cycle through so many cars through so quickly. So that means they do want to have enough vacuum spaces to accommodate those. And if, in case, there was a need for that many at once.
- Mr. Wilshaw: Okay, because it sort of negates the benefit of having that sound moved inside, if you still have them outdoors. But, and I understand the reason why. Well, so to that point, I'm going to ask, how is the noise of the vacuums mitigated? How is that managed?
- Mr. Rilett: So, actually, I have a sound study here for both the blower at the end of the tunnel and the vacuums themselves. So, the way

the vacuum system works is there's a correlator box, if you can see, that will essentially...all the noise is going to come out of that. The vacuums themselves are nearly silent. So those are located on the end of the vacuum rows, I believe on the northwest corner of the building. There, maybe southwest Yep, southwest corner. There that item number five on the southwest corner. So that's your correlator box. And we have those, usually fenced with landscaping, which does dim some of the noise. But I have a sound study here at a distance of 30 feet, you're down to 23 decibels, which is lower than the traffic volume you're going to see on Six Mile road. Anyway, I can pass these around if you want to see them. Okay, but, yeah, I mean, noise concern is relatively low, and especially when you're far away from residential like this site is.

Mr. Wilshaw: So, you're not going to have nine individual vacuum units out there just whirring away there. So, this is a different, more modern version of a vacuum. Okay, that was, that was my one concern I wanted to raise. The other thing is the exterior materials for the most part. We do have two of your locations in this city already. Is it safe to assume that as we look at those two locations that we're looking at similar building materials?

Mr. Rilett: Yes.

Mr. Wilshaw: Do you use the quick brick at these other sites as well?

Mr. Rilett: Yep.

Mr. Wilshaw: Okay, and that's a system that you've had good luck with in terms of...

Mr. Rilett: Yeah, I believe nearly all of the Express projects like that

Mr. Wilshaw: They're all using quick brick, okay. We've had problems in the past with thin brick, you know, systems, but I know they're getting much better. And if you're if you've had experience with them, I'm going to trust that you're... they're going to be good for you, because obviously you don't want your building looking rattier.

Mr. Rilett: Oh yeah, no. I mean, there's 10-year-old buildings in the Columbus area that still look brand new.

Mr. Wilshaw: Okay, great, excellent. That's it for me, for now, is there any other questions from any of my fellow Commissioners?

Mr. Long: Just following up on the vacuums. So, did you call it a correlator box for the outdoor one?

Mr. Rilett: Yeah.

Mr. Long: Is that the same thing? How does the indoor one work? If I go into the indoor am I going to go deaf trying to vacuum my car with it?

Mr. Rilett: They do have correlators that run those to. I believe they're located back in the mechanical room, so they're not out in the room.

Mr. Long: So they're not out in the room. But they're in a mechanical room of the thing. Okay, all right, thank you. Just curiosity thing. Thank you.

Mr. Wilshaw: Thank you. Mr. Long. If there's no other questions from any of our commissioners, no other questions...we've covered that, I'm going to go to our audience. So, we're going to have you sit down for just a few moments. Is there anyone in our audience wishing to speak for or against this item? I'm sure there are. Feel free to come forward to one of our podiums.

Christopher Waterman, 20336 Meadowview, Livonia, MI That's at Eight Mile and I-275, and I am the board Vice President of Trinity House Theater. I've been with the board a little over 10 years. Thank you for hearing us out tonight. We're an all volunteer arts and culture nonprofit, and certainly there are some very pragmatic concerns that we have. Thank you to the Commission for bringing a few of those up tonight, specifically Mr. Droze and Mr. Caramagno, the the parking, the traffic, environmental impact, noise, but we realize that we can't necessarily choose our neighbors. We're a little nonprofit. That being said, I want you to consider that this is the place that you're looking to put a car wash next to. And I'm not, I don't think car washes are the enemy. I don't think these people are the enemy. We realize that, you know, at the end of the day, you need to work with your neighbors. But once again, this is the place that you're considering putting a car wash next to, a place built in 1850 before Livonia was even a city. A place where, in 1856 the third annual Michigan anti-slavery society held their meeting, and the abolitionist and civil rights icon Sojourner Truth was not only in attendance at that meeting, she also spoke and sang a song. This is the place that in 1981 Paul Patton and Trinity Church

members formed together to form a community theater, and for the better part of 20 years, they were a part of offering brave, truthful, necessary works of art for the community. And then over the last 25 years, we've transitioned mostly to live music, and we're known as one of the state's best listening rooms, and we seat about 78 people, so it's a very intimate setting. This is a place where this very night on a Tuesday night, middle of the week, there are approximately 12 to 15 people with guitars for an open mic night to brave the stage and people right from our very community having that opportunity in this building. Car washes aren't the enemy, however, really ask you to consider what you are putting around such a cultural gem, especially in light of things like the Livonia Built proposal not going through and you have something in Livonia that does bring culture. We realize that we're small. We realize that we're hidden, in a sense, sometimes. But we just ask you to really consider is there may be something better, more of a fit, more in concert with Trinity house as a neighbor.

Mr. Wilshaw: Thank you. Thank you for your comments. Mr. Waterman, anyone else wishing to speak on this item? I

Bill Dolunt, resident of Quakertown, 16215 Quakertown, Livonia, MI. I agree with Trinity House as well. I mean, certainly something, maybe other than a car wash. And again, to his point, I'm not against them either, but where that is, again, it just doesn't make a lot of sense to me and a lot of my neighbors who aren't here. But at any rate, that and the traffic, even though you're going to put out that light there, if you guys have seen that, it's just off I-275 and Six Mile exit. So if you actually...you can't see it there, but what is it, maybe 100 yards tops, and we're going to put a driveway even closer to that exit. So those are my concerns. I think you know, especially with Comerica go down and all of that development that could very well spawn something else as well, though, his, to his point, may be a restaurant as well, but whatever that is, I have a hard time with a car wash there. Again, it just doesn't seem to fit.

Mr. Wilshaw: Thank you. Thank you. Mr. Dolunt. Anyone else wishing to speak? There's a gentleman coming forward. Good evening, sir.

William Hurley, 16112 Penn Drive, Livonia, MI. It's kind of cool to be speaking here on this auspicious occasion, the 1,234th 1234 meeting notice. Made that joke. I'm not nearly as eloquent or cogent as the last two speakers, so this will be a bit disjointed, but please bear with me.. I first take a little bit offense to the statement that

we in the Motor City are underserved with car washes, we keep clean automobiles. I can count three within one mile of this proposed location. Seven and Haggerty, Five and Haggerty and Six and Haggerty. Excuse me, I'm not, a great public speaker. Traffic is already a great issue, and well, I do appreciate what the Schoolcraft representative was talking about. If we need that driveway, move like me, my buddies will just go do it so you can get your light without putting a car wash there. A car wash is suburban blight. I don't mean to be rude, serious. You know, Detroit is known like the land of liquor stores. It's not a great vibe. We don't need another car wash. It is esthetically unpleasing. I understand that those gentlemen, they did a great job of trying to make their car wash look good. It still looks like a car wash. I don't see any great driving economic value from it. It's not going to promote a bunch of good jobs for Livonia residents. You know, if the car wash goes in, I guess I hope this is a success. But should it not be? What the hell else are we going to put there after we got to remediate the property, another car wash, at least with the present, you know, building multiple different kind of restaurants go in there. Another business could take it over. It's got options. A car wash is a car wash, and it seems like damn forever. It's not quite a dry cleaner. But and I can appreciate the environmental safeguards that the gentleman were speaking about, it still pollutes. And then, as the gentleman from Trinity House stated, there's a beautiful little cemetery right there. Let's not pollute that. Sorry, I was writing down a lot, as you guys were speaking, I just find it disingenuous to discuss a traffic study saying that a car wash won't increase traffic. I'm sorry I only just learned about this meeting. I would have gotten my own traffic study done. Okay? By its very nature. It needs more traffic to be successful. And then the young lady from Schoolcraft was discussing that when they did their study, that Schoolcraft had expected some developments of its own that it could take on the traffic of Well, I mean, that study doesn't seem to hold any water anymore. If Schoolcraft expected to take on that extra traffic, or assume that extra traffic at this light, which, again, me and my buddies will put in, if you keep out the car wash., If you're going to put the car wash there, this traffic study, I mean, I haven't read it, I'll be honest, doesn't seem to hold much water. I can appreciate the discussion about the noise. I walk my dog past that daily, it would be scared of this car wash. Have you ever driven past a car wash with your windows on and not heard it? I can appreciate the decibel counts quoted. I know nothing about acoustics. Car washes are noisy. I mean, let's put a small airport in why not Livonia airport? There's great potential for this

property beyond a car wash on that corner of Six mile and Haggerty the northeast side, it's of such great value. It seems like a short sale to sell to a car wash. And I could be mistaken. I was talking to my brother about it today, and he said something about a Whole Foods. I have no idea. You put a Whole Foods in there. Let's get a nice ass...let's get a nice restaurant in there to make organic meals. Let's support that little gem of a corner that the gentleman from Trinity house was talking about, this area is about to become. And I say this area because I wrote this down when I was at home on that intersection. That area is becoming more attractive. And I'm sorry, despite the best efforts of Frank Lloyd Wright, you couldn't make a car wash, an attractive place in that area.

Mr. Wilshaw: Mr. Hurley, I'm going to ask if you can try to summarize at this point.

Mr. Hurley: No, that's the end of my points. Sorry, I was writing down a lot as you guys...lastly, I just want to say that the petitioner, or the petitioner's representative, on several occasions, was asked questions. He stated, I'm sure, and there's no resistance without evidence, of these speculative statements, discussion about the Fox Drive driveway, et cetera, I would ask that if these statements are going to be taken as true, that they be in writing before this body, before they be taken at face value. Thank you for letting me ramble.

Mr. Wilshaw: Thank you for your comments. Mr. Hurley,

Lloyd Vandenbrink, involved with Trinity house theater since 1985. As you know or heard, Trinity house is a volunteer run arts organization, and one of Livonia is cultural treasures. For nearly 40 years, it has given residents a place to gather to celebrate the arts in the field, connected as a community. I'm here tonight to respectfully object to the request for a variance of Section 3.0 of the zoning ordinance that would allow a car wash. This code exists to protect the character of our neighborhoods, to ensure appropriate land use and safeguard residents from negative impacts. Car washes bring noise, traffic, chemical runoff and harsh lighting that don't belong next to a cultural landmark or in an already congested corridor. Trinity house already faces challenges with access and adding a high intensity business would only make things worse. A variance should only be granted in cases of true hardship. Business convenience is not a hardship, it's a preference. If granted, this sets a precedence that weakens your zoning commissions or zoning protections

and chips away at the kind of city Livonia wants to be. Trinity House, as I understand it, has faithfully maintained its building, which is owned by the city and enriches our community for decades. Please consider what is at stake for our cultural life and quote and quality of life. I urge you to deny this variance. If Trinity House goes under, the city will be needing to take care of that that property as well. Thank you for your time and your service to the city.

Mr. Wilshaw: Thank you, Mr. Vandenbrink. Anyone else wishing to speak? We have one lady coming forward. As this young lady is coming forward, I just want to explain too, for folks in our audience that haven't been through this process before, just so you understand a little bit better, the planning commission is going to is reviewing this to make a recommendation to City Council. We're going to make an approving or denying recommendation that would then go to City Council. They would hold their own...actually, excuse me, if we make an approving recommendation, it would go to City Council. If we make a denying motion, then the petitioner has a right to appeal to City Council, in which the City Council will ultimately make the final decision on this. So just so you understand, this is a sort of a multi-step process. This is the first step. We're kind of doing the heavy lifting and homework on the site plan, and then the council will see this as well in the future. So, good evening, ma'am.

Eileen McDonnell, 36099 Brookview, Livonia, MI. I agree with all the other speakers that this should be denied. I don't think it's an appropriate thing to have a car wash at the location next to Trinity House and next to the souls that are buried in the cemetery. You also have to take in consideration the people that live in the assisted living facility. I just think it's just too much. And the gentleman that just spoke previously stated about the upcoming developments and the apartments that are going to be put in at Six and Haggerty, you've got all kinds of opportunities to bring in different businesses, restaurants, coffee shops, something but something that's more acceptable for the community. Thank you.

Mr. Wilshaw: Good evening, sir.

Bill Keith, 25131 Midland, Redford, MI. I live in Redford, but volunteer at Trinity House theater. And first, I just want to thank the representatives that have mentioned the concerns of parking at the theater, because it would be easy to miss that. It's a very small building.

It's nice to see that there is possibly some space at the north end of the property where there might be able to be some parking. That's encouraging. I would agree with everybody about car washes. I love car washes. I love when I get my car washed. I love the higher quality car washes that I've been able to use, but Livonia has plenty of them. I was just looking at the All Things Livonia Facebook page, and they put up a new graphic at the top of their page that says, All things Livonia, home of chicken restaurants and car washes. And I know they were kind of poking at this, because there was a lot of comments about this development and the impact on the area, and I just think everybody else has highlighted a lot of the concerns. I would especially be concerned during the construction phase, because we are limited to about 13 spaces right out in front of the theater and the cemetery. And right now, we're fortunate that the children's center that is on the other side is vacant at the moment, so there is some additional parking over there. But if, if ever there were both under construction at the same time, we would be in a world of hurt. We used to have people who would park on the other side of Six Mile in that office building property, right next to, I guess, Quakertown. But that is a risky prospect in and of itself. Trying to cross Six Mile Road to get to the theater. And people used to park down at Comerica property, and would walk down. Not a bad walk, but once that goes under construction, that's going to make that cemetery and that theater property very challenged. But I appreciate you thinking about the theater as you've considered these questions and providing this opportunity to provide input.

Mr. Wilshaw: Thank you, Mr. Keith. Anyone else wishing to speak? I don't see anyone else wishing to speak. Is the petitioner...would you like to come forward and address any particular issues that were raised that you would like to address? Again, we not we don't want to get into a back and forth debate, but if there's any specific concerns that were mentioned that you wanted to address, I'm going to give you that opportunity.

Mr. Rilett: Yeah, I mean specifically the quantity of car washes in the area and the location. I mean, Express doesn't just pick a property and throw something on there willy nilly. I mean, this is a 5 million plus dollar development here. They do quite a bit of market study research about, you know, they don't want to put one right on top of another car wash. That's not a good business model for either party involved. And we feel really confident that this location, as far as demand for car washes, is not overpopulated in the area, especially...quite a few of the car

washes that are nearby are the sorts that are attached to like a mechanic or not quite up to the same business model as this one, and are not always seen as direct competition. So, the amount of washes in the nearby vicinity is not the major concern as far as the viability of this development. And I mean, I do appreciate the concerns of all the Trinity house speakers. I mean, we do not have any intention of being bad neighbors. And I think if you look at either the other two Express car washes that have already opened up in Livonia, they've even done some work, not only on their own property, but cleaning up and esthetic improvements to the neighboring properties as well. I mean, we know it's a car wash, it can only look so nice. But as far as landscaping, and in any way they can, they really go for like, a Disney World level visual aspect, as far as the landscape presentation of the site goes. I mean, as far as environmental concern issues. I mean, they do a very good job collecting and dealing with all that and anything that would be the case that we it all goes out into the sanitary system. They're not, you know, out washing onto any neighboring properties, polluting anything other than just into the sanitary system itself. And then, like the sound study that we passed out indicated especially at the distance away from the neighboring property. We try to keep everything that's loud as far west as possible. Once you get to those distances, the sound impact on the neighboring properties is going to be negligible:

Mr. Wilshaw: Okay. Thank you, Mr. Rilett.

Mr. Meyer: I'd like to add a couple of things on that.

Mr. Wilshaw: Of course, go ahead, sir.

Mr. Meyer: So as far as, like with Trinity, you know, God bless them for what they're doing. I mean, I absolutely great, great cause. But we are a great company for nonprofits in the area. The other two Livonia sites. The first 10 days for both we raised money for cares. Next week, I'll be presenting a check for over \$17,000 to that charity. Us, as a company, we gave away just under \$500,000 last year to local nonprofit companies. This year will be over \$700 and our owner is very big on not going with major charities. We go with small local charities that we can make an impact on. With, Mr. Caramagno, you had brought up the adjacent properties in Livonia. Right when I got there the first day I stopped there. I was not happy with the landscaping with the adjacent properties on both sides, I didn't make that property

owner come in and clean it up. We took the cost. We cleaned up those property lines to make sure it met our standards. I go to these sites twice a week. On my inspections if there is so much as a straw wrapper on the adjacent property, they lose their points for their parking lot. Because we train our staff to clean up that property. We want to be great neighbors. You know, in the Livonia on the Farmington Road, I got there the fence in the back that went around the residential area there, it was dilapidated. We paid to have it fixed. The retaining wall at the Plymouth Road location. It wasn't ever required for it to be painted or have anything done to it. We went in there, we cleaned it up, we painted it, and we made sure it was right. As far as the noise, right off one of our vac producers at our Plymouth Road location, going into Dunkin Donuts. Dunkin Donuts drive through. Is right there. They have no problem using their drive through with our vac producer. So, I mean, we really want to be great neighbors. We do have extremely, extremely high standards. If you go buy one of our facilities, go by our Livonia locations, they are spotless. Now, I know people have a bad image of car washes, but we elevate that to a different level, and you can end up with something far worse if this was turned down. Thank you.

Mr. Wilshaw: Thank you, sir. Appreciate your comments. If there's no other questions.

Mr. Caramagno: Chairman, I did. I did find that picture that I was talking about with that brick wall or concrete wall looking toward the cemetery. You might want to look at that on your renderings here, because it does illustrate just what you talked about, a very clear and good looking eastern front of your property. It doesn't look like that today, and hearing that the wall isn't going to be there, I'll say it doesn't sit well with me, but what you're showing in this picture sits very well with me, so I think you need to look at that and see what you can do with that eastern side that talks right back to your story you just told us. Okay. Thank you.

Mr. Wilshaw: Thank you. Mr. Caramagno, if there's no other questions or comments, I'm going to close the public hearing and a motion is in order.

On a motion by Caramagno, seconded by Long, and unanimously adopted, it was

#08-34-2025 **RESOLVED**, That the City Planning Commission does hereby recommend to the City Council that Petition 2025-07-02-15

submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and Section 6.07 of the Livonia Zoning Ordinance, as amended, to operate an Auto-Wash Establishment, at 38888 Six Mile Road, located at the N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7, be approved subject to the following conditions:

1. That the Site Plan marked Sheet C200 dated July 9, 2025, as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
2. That the Demolition Plan marked Sheet C101 dated July 9, 2025 as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
3. That the Landscape Plan marked Sheets L100 and L101 dated July 9, 2025, as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
4. That the Photometric Plan marked Sheets C600 dated July 9, 2025, as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
5. The Exterior Elevations Plan, identified as A2-1, dated July 10, 2025, prepared by SBA Studios, is approved and shall be adhered to except the south elevation, which shall be enhanced to the satisfaction of the Planning Director.
6. The hours of operation shall be limited to the following: Monday through Saturday from 7:00 a.m. to 8:00 p.m. and Sunday from 8:00 a.m. to 7:00 p.m.
7. All light fixtures shall not exceed a height of twenty feet (20') and shall be aimed and shielded to minimize stray light trespassing across property lines and glaring onto adjacent roadways. All exterior lights shall be turned off or dimmed between 8:00 p.m. and 7:00 a.m.
8. Underground sprinklers shall be installed for all landscaped and sodded areas. All planted materials shall be installed to the satisfaction of the Inspection Department and permanently maintained in a healthy condition.

9. That the site's landscaping shall be permanently maintained in a healthy condition.
10. All disturbed lawn areas, including road rights-of-way, shall be sodded instead of hydroseeding.
11. The three walls of the trash dumpster area shall be constructed out of building materials that complement the building, and the enclosure gates shall consist of opaque and durable steel or composite panels.
12. That a detailed Stormwater Detention plans are submitted to the Engineering Department before construction.
13. Only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals.
14. No LED light band or exposed neon shall be permitted on this site, including, but not limited to, the building or around the windows.
15. The car wash bay lights shall be shut off when closed.
16. Unless approved by the Inspection Department, any type of exterior advertising, such as promotional flags, streamers, or sponsor vehicles designed to attract the attention of passing motorists, shall be prohibited.
17. That sidewalks be added to the site to the satisfaction of the Planning Director.
18. The petitioner shall provide an updated traffic study to City Council to affirm the proposed use would not have a significant negative impact on the area.
19. Approval is contingent upon the Petitioner entering into an agreement with the owners of the adjacent commercial property to the west, allowing the Petitioner access to Fox Drive.
20. The petitioner has documented efforts to work with Trinity House to mitigate parking issues to the satisfaction of the Planning Director.

21. All parking spaces, except the required handicapped spaces, shall be doubled striped at ten feet (10') wide by twenty feet (20') in length as required.
22. Egress onto Six Mile Road shall be restricted to Right in and Right out configuration.
23. The plans referenced in this approving resolution shall be submitted to the Inspection Department with the building permit application(s); and
24. Per Section 13.13 of the Livonia Zoning Ordinance, this approval is valid for one (1) year from the date of approval by the City Council. Unless a building permit is obtained, this approval shall be null and void after the one (1) year period.

FURTHER RESOLVED, That notice of the above hearing was given in accordance with the provisions of Section 13.13 of the Livonia Zoning Ordinance, as amended.

Mr. Wilshaw: Is there any discussion?

Mr. Long: Mr. Chair, I'll offer support, but I would like to offer an amendment to number seven and Mr. Caramagno's, or in the approving resolution, we're all exterior lights shall be turned off or dim between 8pm and. 7:30am I think we need to change that to 7am to be consistent with the hours that we're setting out in in number six, where they're allowed to be open Monday through Saturday, from 7am to 8pm.

Mr. Caramagno: Nice catch. I'm good with it. Okay, thank you so support.

Mr. Wilshaw: All right. Any other comments or questions on the motion. Mr. Droze.

Mr. Droze: Mr. Caramagno, a couple suggested amendments for your consideration. One that a signed and sealed statement from a professional traffic engineer validating that the development essentially will not have adverse impacts under the proposed condition within the traffic study, so essentially loading the proposed use into that traffic study, updating it and providing information to planning and or council. I have a couple more, so I don't know if you want to go one by one.

Mr. Caramagno: That makes sense.

Mr. Droze: The next one is...it feels like having signed approvals from the, first and foremost the Fox Drive, having that in place before it goes to council, because it's, as noted by several, that access is pretty important from a traffic standpoint, I think addresses a lot of the concerns of the community.

Mr. Caramagno: Well discussed and agreed.

Mr. Droze: Okay, the third one. I'm not sure exactly how to say this, but these are not...the traffic signal is a different project from what we're considering tonight, but I know a lot of my concerns would be put at ease if there was assurance traffic signal is in an operational as a condition of the certificate of occupancy. So, I'm not sure if that's something that we can do, but it feels to me like it's important for the project to have that traffic signal up and running. So it's a little complicated from a legal perspective, but...

Mr. Caramagno: It is because the car wash is not putting the signal in. Schoolcraft College is putting the signal in. It sounds like it's well on its way, but I don't know how you tie that back to the car wash.

Mr. Droze: Okay, I can pull that one if necessary.

Mr. Long: I have the same problem. I have that's right there in my notes, yeah, but I don't know how you...

Mr. Wilshaw: Yeah, how do you obligate this petitioner?

Mr. Long: I guess you know what I would rely upon, or what I would...how I resolved it, in my mind was that that's going to be up to council. And by the time it gets to council, hopefully they're far enough along, but I would think that council would take that into consideration as they ultimately approve or deny. So that's how I got past it.

Mr. Droze: Okay, good.

Mr. Droze: And then maybe just the last concern is, you know, this is...as was noted, this is a...it's not a natural resource, but we have a community and resource that's potentially being impacted by this. And you know, it seems to me, before this goes to council, maybe this isn't an item of the approving motion, but I think certainly having done some homework with actual sit down

meetings to talk about this and what can be done, because I think, you know, much like we might see, if a project impacts a portion of a wetland, it has an impact on, you know, the greater natural resource. Cutting off the parking and other access for this existing use, I think it needs to be mitigated, and so some consideration that the applicant engage in a documented way with the Trinity house prior to the council would be my last condition.

Mr. Caramagno: That gives them time to discuss that with them in greater detail. Yeah, I think that's a good, good suggestion.

Mr. Wilshaw: Okay, any other comments on this petition? I do have a number of notes as well. I wanted to make sure everything is covered. I'm going to go through things I'm hearing might be missing. Double stripes parking. I didn't see in the approving resolution, and I believe they're showing single stripe.

Mr. Uhazie: Yes, that should be in there.

Mr. Wilshaw: So if we can get double stripe.

Mr. Caramagno: Sure.

Mr. Wilshaw: Okay, that's just one of our standard things. I have the sidewalks along Fox Drive that were already mentioned, and also working with the Trinity theater property in access or potential parking abatement for them. That's going to be more of a...as noted by Mr. Droze, it's going to have to be a coordinated effort. We can't obligate them to do something, but if they can try their best effort on that the...Is there any feeling about mandating a right turn only on the Six Mile for that exit drive? There was some discussion on that.

Mr. Long: I'm not the maker of the motion. I would be fine with that, though. Also, I even want to see maybe some way finding signs again, pushing everybody, as many people, as possible, out Fox Drive.

Mr. Wilshaw: Encouraging to Fox.

Mr. Long: Encouraging. Again, it's not enforceable, but

Mr. Caramagno: They're nice in theory. Whether or not people listen, is a total, different animal. I'm okay with the right turn coming out of the

driveway, the extra driveway on Six Mile Road. I think that's good.

Mr. Wilshaw: I mean, the alternative would be, you could make the entrance off Six Mile an entrance only, and say no exit, no exiting allowed. So all traffic coming out of those tunnels would have to turn to Fox drive.

Mr. Bongero: We don't even have an agreement with Fox yet, correct?

Mr. Long: But again, council would have the ability to, this is our recommendation to them, so council would be able to rectify that, should they not come to an agreement,

Mr. Wilshaw: Just a thought. I'm throwing it out there.

Mr. Caramagno: I got you. Yeah, so right turn out of the car wash, I'm okay with, although, when the light goes in, it's probably not going to be necessary.

Mr. Wilshaw: Right, because that'd be alleviated.

Mr. Caramagno: Yes.

Mr. Wilshaw: Okay.

Mr. Long: Well, the light won't alleviate left turns out of the car wash. That'll be, still be a problem.

Mr. Caramagno: But you'll slow them down. You'll slow them down as they're coming up to the light. And you probably can make that left.

Mr. Long: You can crawl across. I understand what you're saying, but I still would want that to be right turn only.

Mr. Caramagno: Right turn only. Okay, let's put that in there.

Mr. Wilshaw: It's gonna be right turn only off Six Mile is a recommendation. And then the improvements to the south facing facade of the building. Mr. Doves brought that topic up, seeing that there's some changes to the rendering. I don't know that we really hammered out exactly what those are at this point.

Mr. Caramagno: I would agree with that, and I would say cautiously, adding something to that south side, because I know what I saw at the study session last week was a little wild, and I didn't care for any

of that, so cautiously, adding some features to the south side that make it look a little better.

Mr. Wilshaw: So, to work with the planning staff.

Mr. Caramagno: Yes.

Mr. Wilshaw: there's options, spandrel, glass, other things that could break up that facade. Sound reasonable? Okay, supporters, all right, with that.

Mr. Long: Supporter is, okay with that.

Mr. Wilshaw: I think that covers all of mine. Mr. Uhazie, have you been able to capture?

Mr. Uhazie: Sorry, I think I've got a good record of it.

Mr. Wilshaw: Okay, very good, because there's a number of items suggested. So, I appreciate all that from my colleagues. Is there any other questions on the motion to approve

A roll call vote on the foregoing resolution resulted in the following:

AYES:	Droze, Long, Caramagno, Wilshaw
NAYS:	Bongero
ABSENT:	Dinaro
ABSTAIN:	Ventura

Mr. Wilshaw, Chairman, declared the motion is carried and the foregoing resolution adopted. It will go on to the City Council with an approving resolution.

**CITY OF LIVONIA, MICHIGAN
APPLICATION FOR WAIVER USE APPROVAL**

All applications must be presented in triplicate to the City Clerk, 33000 Civic Center Drive, Livonia, MI 48154-3097. Applications must include property owner's name, address and notarized signature.

For filing fee see below for computation

Date Filed: 7-15-25 Petition 2025-07-02-15
Site Address: 38888 6-Mile Rd Sidwell 999-00-6631-000 Zoning of Property C-2
Requesting Approval To Construct an Automatic Conveyor Carwash
Applicant: Jacob Rilett Business/Company: Mannik & Smith Group
Applicant's Address: 607 Shelby St City: Detroit State: MI Zip Code: 48226
Applicant's Phone # (313) 961-9500 Applicant's Email jrilett@manniksmithgroup.com
Contact Person: Dennis Miller Business/Company: DMC real estate Advisors
Contact's Address: 2600 W Big Beaver Rd. Ste 41 City: Troy State: MI Zip Code: 48084
Contact's Phone # (248) 342-1426 Contact's Email Dennis.Miller@Mkiezi.com

Please provide the following information:

- 1) **Site Plan** showing:
 - property dimensions, including road right-of-way & building setback lines
 - foot print of building(s), including dimensions & square footage
 - all easements, protective walls, sidewalks & existing trees
 - any significant topographic features (existing or proposed)
 - parking layout, including type of surface material, sizes of spaces & aisles
 - method used in calculating parking requirement
 - location of light standards servicing parking lot & cutout showing type & height
 - location of trash receptacle, including description of screening
 - location of signs
- 2) **Detailed Landscape Plan** including:
 - listing or labeling of all planted materials as to type and size
 - areas to be fully irrigated
 - percentage of landscaping provided (15% of total site required)
- 3) **Building Elevation Plan** depicting:
 - architectural quality
 - wall section & detail plan - exterior building materials must be labeled (i.e. brick, thin brick, E.F.I.S.)
 - all visible rooftop mechanical equipment and how they will be screened
- 4) **General Floor Plan** showing:
 - floor layout
 - entrances & exits
 - restaurants are required to illustrate seating arrangement & capacity
- 5) One (1) set of reduced plans (i.e. site, landscape, elevation, floor), a maximum 11" x 17" in size, or digital file in a .pdf format either on CD or emailed to planning@livonia.gov
- 6) **Legal Description** of the property to be considered (Clearly Printed)
- 7) Two (3) completed application forms & three (3) sets of full-size drawings

RECEIVED
JUL 16 2025
CITY OF LIVONIA
PLANNING COMMISSION

You are invited and encouraged to review your proposal with the Planning Department staff. Only one set of preliminary drawings will be necessary for this analysis.

FEE COMPUTATION	\$700.00	(\$400 publication fee plus \$300 base review fee) plus
<u>14,229</u> sq. ft. of new construction x \$20.00 per 1,000 sq. ft. or \$30 per lot or unit for residential construction.		
	Total Amount Due	<u>\$ 1,000</u>

Owner of Property: 38888 Six Mile LLC (LLC 100% owned by Jennifer Doehrer)
Owner's Address: 3717 Vorhies Rd. City: Ann Arbor State: MI Zip Code: 48105
Owner's Phone # 734-218-4888 Owner's Email RDoehrerFCE@outlook.com
Signature of Owner: [Signature] Print Name: Jennifer Doehrer

Subscribed and sworn to before me, a Notary Public in and for the County of Wayne State of MI
on this 15 day of July 20 25

Signature of Notary Susan Wille My commission expires 6/26/27
Acting in the County of Wayne

SUSAN WILLE
NOTARY PUBLIC, STATE OF MICHIGAN
COUNTY OF WAYNE
My Commission Expires 6/26/2027
Acting in the County of Wayne

112 ROOMS

C-4

Hotel
17350
103 Rooms

38910

C-1

C-1

C-2

38888

RUF

Cemetery
38900

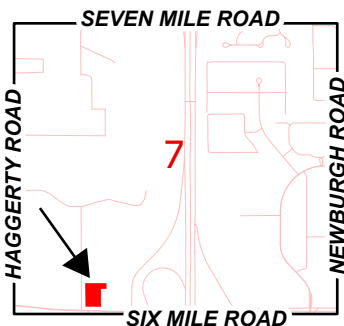
38880

P 38840

38870

FOX DRIVE

SIX MILE ROAD



Address & Zoning Map

Petition 2025-07-02-15
Clean Express Car Wash
38888 Six Mile Road



Not to Scale

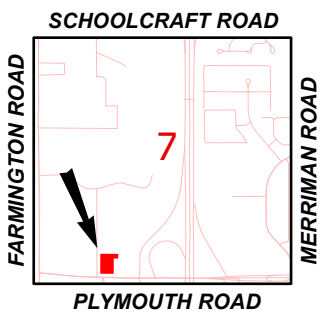


City of Livonia
Planning Department



FOX DRIVE

SIX MILE ROAD



Aerial Map

Petition 2025-07-02-15
Clean Express Car Wash
38888 Six Mile Road



Not to Scale



City of Livonia
Planning Department

PLANNING COMMISSION STAFF NOTES

PUBLIC HEARING

ITEM 1

Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and Section 6.07 of the Livonia Zoning Ordinance, as amended, to operate an Auto-Wash Establishment, at 38888 Six Mile Road, located at the N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7.

August 12, 2025, Study Meeting:

The petitioner proposes to construct a 14,229 square-foot car wash at the former Buca di Beppo Italian Restaurant at 38888 Six Mile Road. The petition site is currently zoned C-2. The City of Livonia's Zoning Ordinance treats car washes as a waiver (special land use) in C-2, General Commercial zones. The subject property measures 1.61 acres in size and is currently vacant. Approving a waiver requires a public hearing and recommendation by the Planning Commission, followed by the approval of the City Council. Section 13.13 of the Livonia Zoning Ordinance establishes the general requirements the Planning Commission uses to review waiver petitions.

The petition parcel is parcel is "L" shaped with 207 feet of frontage on Six Mile Road and approximately 311 feet of frontage on Fox Drive. Adjacent property to the North and West of the petition site is commercial that is used as an assisted living facility, zoned C-1 Local Business. Shared access agreements have not been submitted. To the East, is a cemetery zoned RUF Rural Urban Farm and a parking lot zoned P, Parking. To the South, is commercial property with an office building zoned C-4 High Rise Commercial.

According to the demolition plan, Sheet C101, dated July 31, 2025, the existing building is to be removed including basement, foundation, and all utility services. The existing storm structure, electric pole, light pole, wall, transformer, and gate will be removed. All vegetation will be removed within the limits of disturbance. There will be vegetation removed in the northwest corner of the site for the proposed curb cut onto Fox Drive.

According to Site Plan, Sheet C200 submitted July 31, 2025, the site will be reconfigured to have the ingress from Six Mile Road moved from the southwest corner to the southeast corner of the property. The vacant restaurant building will be demolished and replaced with a brand-new 23-foot, 14,229-square-foot auto wash building. The building's dimensions are 93.0 feet x 153.0 feet. The proposed building will meet both front (15') and rear (8') minimum setback requirements. Section 6.07 requires that a building be situated no closer than 35 feet on one (1) side of the property and eight (8) feet on the other. The building will be approximately sixty feet (60') from the west property line, and approximately forty-

PUBLIC HEARING

ITEM 1 Petition 2025-07-02-15 – Clean Express Car Wash

Page 2

five feet (45') from the east property line. The building complies with all minimum required setback regulations.

The plans show three (3) service lanes providing access to the carwash. The lanes commence along the east side of the property, maneuvering in a northerly direction and then looping back south to the entrance on the north side of the building. All three (3) lanes would provide stacking for a total of twenty-one (21) vehicles. Each lane would have a pay station adjacent to the east side of the building just before turning into entering the building. The point-of-sales kiosks contain digital menu boards and self-serve pay stations. The plans show canopies above the pay kiosks. Automated gates would control vehicle access. Beyond the pay stations, the service lanes taper to form a single 12-foot (12') drive aisle to manage vehicles as they enter the facility. A 12-foot (12') bypass lane is provided after the pay stations, allowing vehicles to exit the site via a 24-foot (24') drive onto Fox Drive.

Vehicles will exit the car wash at the south end of the building and can either turn left to exit the site or make a right turn to a two-way drive, providing access to thirteen (13) parking spaces, nine (9) of them proposed to be nine (9) outdoor vacuum spaces marked by black circles. There is a second twenty-foot (20') entrance into the building on the south end, allowing vehicles to exit on the north end where there are fourteen (14) indoor vacuum spaces as well as for the vacuum arm poles on the site plan.

The proposed parking spaces are single striped. Section 9.03 states all parking spaces shall be clearly marked using double striping. Except for parallel parking, all parking spaces should be clearly striped with four (4) inch wide double lines, twenty-four (24) inches apart, to facilitate movement and to help maintain an orderly parking arrangement. The ordinance requires at least twenty (20) parking spaces for auto wash establishments. The site plan shows thirteen (13) outdoor parking stalls located along the eastern side of the building. The floor plan shows an additional fourteen (14) parking spaces with vacuum attachments are located within the building. The parking does not meet city zoning requirements.

According to the Floor Plan, Sheet A1-1, dated July 10, 2025, there will be three (3) separate portions of the building; the car wash bay, the indoor vacuums, and the office/bathrooms/equipment rooms. The petitioner should label the different portions clearly on the site plan. Elevations show the building built with Quik-Brick, both light finish ($\frac{3}{4}$ top) and dark finish (bottom $\frac{1}{4}$). There will be Nichiha Fiber Cement AWP181 Horizontal siding for the wall with the Car Wash logo.

The landscape plan, dated July 9, 2025, shows thirty-seven (37) frontage trees (thirty (30) Evergreen, and seven (7) Deciduous). There will be eight (8) existing trees remaining in the parking lot, and there will be evergreen and deciduous

screening plants along Fox Drive. No changes will be provided to the eastern property line (C-2 / RUF). The existing property line has a masonry wall and fence. The west property line (C-2 / C-1) already will have eight (8) existing trees. The required amount of greenbelt buffering along the west property line is ten (10) trees. Site plan provides three (3) more trees along the west property line, satisfying the requirement. The south property line trees are already provided as the south property line is the Six Mile Road frontage. Five (5) trees are required, seven (7) of the frontage trees are provided, satisfying the requirement. There will be stone mulch planting beds as well as a lawn area plating with sod.

The petitioner should provide information on site grading and stormwater management. According to Surface and Drainage ordinances in Section 9.10, all off-street parking areas shall be continually maintained in satisfactory condition to be safe, attractive, and free of any hazard, nuisance, or other unsafe conditions. When building permit applications are made, the City Engineering Department will determine the need for detention or water quality treatment structures.

The photometric plan, Sheet C600, submitted July 9, 2025, shows footcandles at or below 0.5 at the property line with adjacent properties. Two (2) existing light poles are scheduled to remain on the property. Three (3) proposed 18-foot (18') lighting fixtures; one single lighting fixture on the east side of the property over the three (3) service lanes. The other single lighting fixture over the west side parking lot. The double-lighting fixture is over the twelve-foot (12') drive north of the building providing illumination to the exit of the indoor vacuums and the entrance to the car wash. The average illumination levels on the car wash property appear consistent with the preexisting ones, including those on the adjoining properties. For these reasons, the Planning Department has no objection to the lighting plan regarding the overall illumination.

A dumpster enclosure is shown at the northwest corner of the building. Details of the enclosure are not provided. A single dumpster would need to be consistent with the City's policy of requiring durable, long-lasting solid panel material. enclosed on three (3) sides by masonry walls that would be 6 feet tall.

Additional details are needed to determine compliance with the city's sign regulations. The maximum height for a monument sign in the C-2 General Business District is six feet (6'). The maximum area for a sign in the C-2 General Business District is thirty (30) square feet. According to Section 11.04, no sign shall be permitted at any location that creates any type of safety hazard or visual impediment to pedestrian or vehicular traffic.

In conclusion, for this car wash to be constructed, the Planning Commission should consider questions to the petitioner regarding proper stormwater management, signage, parking lot striping, dumpster enclosure details, color renderings,

easement onto the west property, and a possible traffic signal at the intersection of Six Mile Road and Fox Drive.

August 19, 2025, Public Hearing Meeting:

After the study session the petitioner provided stormwater detention calculations and added an underground detention system to the preliminary design. The submitted color renderings show a white brick color with quik-brick which is Clean Express Wash's preferred default colors. Other color options are available if the city requires them to adhere to a certain aesthetic standard. The petitioner shared a previously conducted traffic study and signal layout. Clean Express has stated that they are reaching out to the neighboring owners to the east to come to an agreement about allowing the continued use of parking spaces after operation hours. A draft agreement was submitted to narian, the owner of the property to the North/West in order to get access for the curb cut on Fox drive. Finally, Clean Express site operators are reviewing their ability to shut off interior lighting after hours, which they expect to be able to accommodate.

Approving Resolution: The request to construct a new automated auto wash facility at 38888 Six Mile Road is approved, subject to City Council approval and the following conditions:

1. That the **Site Plan** marked Sheet C200 dated July 9, 2025, as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
2. That the **Demolition Plan** marked Sheet C101 dated July 9, 2025 as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
3. That the **Landscape Plan** marked Sheets L100 and L101 dated July 9, 2025, as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
4. That the **Photometric Plan** marked Sheets C600 dated July 9, 2025, as revised, prepared by Mannick Smith Group is hereby approved and shall be adhered to.
5. The **Exterior Elevations Plan**, identified as A2-1, dated July 10, 2025, prepared by SBA Studios, is approved and shall be adhered to.
6. The hours of operation shall be limited to the following: Monday through Saturday from 7:00 a.m. to 8:00 p.m. and Sunday from 8:00 a.m. to 7:00 p.m.

7. All light fixtures shall not exceed a height of twenty feet (20') and shall be aimed and shielded to minimize stray light trespassing across property lines and glaring onto adjacent roadways. All exterior lights shall be turned off or dimmed between 8:00 p.m. and 7:30 a.m.
8. Underground sprinklers shall be installed for all landscaped and sodded areas. All planted materials shall be installed to the satisfaction of the Inspection Department and permanently maintained in a healthy condition.
9. That the site's landscaping shall be permanently maintained in a healthy condition.
10. All disturbed lawn areas, including road rights-of-way, shall be sodded instead of hydroseeding.
11. The three walls of the trash dumpster area shall be constructed out of building materials that complement the building, and the enclosure gates shall consist of opaque and durable steel or composite panels.
12. That a detailed **Stormwater Detention** plans are submitted to the Engineering Department before construction.
13. Only conforming signage is approved with this petition, and any additional signage shall be separately submitted for review and approval by the Zoning Board of Appeals.
14. No LED light band or exposed neon shall be permitted on this site, including, but not limited to, the building or around the windows.
15. The car wash bay lights shall be shut off when closed.
16. Unless approved by the Inspection Department, any type of exterior advertising, such as promotional flags, streamers, or sponsor vehicles designed to attract the attention of passing motorists, shall be prohibited.
17. The plans referenced in this approving resolution shall be submitted to the Inspection Department with the building permit application(s); and
18. Per Section 13.13 of the Livonia Zoning Ordinance, this approval is valid for one (1) year from the date of approval by the City Council. Unless a building permit is obtained, this approval shall be null and void after the one (1) year period.

PUBLIC HEARING

Denying Reasons: The request to construct a new automated auto wash facility at 38888 Six Mile Road is denied for the following reasons:

1. The petitioner has failed to comply with all general standards and requirements provided under Sections 1.02 and 13.13 of the Livonia Vision 21 Zoning Ordinance.
2. The intensity of the proposed use would negatively affect the neighboring properties.
3. The proposed use would unduly tax and conflict with the area's established and normal traffic flow.
4. The proposal significantly impacts adjoining parcels, public services, and community planning efforts; and
5. The petitioner has failed to comply with all the necessary concerns for the safety and welfare of the City and its residents.

PROJECT DESCRIPTION

REDEVELOPMENT OF A PREVIOUS RESTAURANT TO A CARWASH WITH VACUUM STALLS AND ASSOCIATED PARKING. MAXIMUM NUMBER OF EMPLOYEES PER SHIFT WILL BE 7

BENCH MARKS

ALL BENCH MARKS AND ELEVATIONS SHOWN UPON THIS PLAN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

B.M. #1
MAG NAIL IN NORTHEAST FACE OF UTILITY POLE BASE ON SOUTH SIDE OF SIX MILE 85' WEST OF QUAKERTOWN LANE.
ELEV.=737.11' (NAVD 88)

B.M. #2
CHISLED 'X' ON SOUTH SIDE OF STORM MH. ON SOUTH SIDE OF SIX MILE 140' EAST OF QUAKERTOWN LAN
ELEV.=731.60' (NAVD 88)

FLOOD ZONE

THE PROPERTY SHOWN HEREIN LIES WITHIN ZONE X, WHICH ARE AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD HAZARD ZONE, PER NFIP FLOOD INSURANCE RATE MAP 26163C0045E, EFFECTIVE FEBRUARY 02, 2012.

UTILITY CONTACTS

SANITARY & WATER - CITY OF LIVONIA DPW
RYAN FERRELL
12973 FARMINGTON ROAD
LIVONIA, MI 48150-4202
PHONE: 734.466.2614
EMAIL: RFERRELL@LIVONIA.GOV

FIRE - CITY OF LIVONIA FIRE DEPARTMENT
ROBERT JENNISON
FIRE CHIEF
14190 FARMINGTON ROAD
LIVONIA, MI 48154
PHONE: 734.466.2441
AFTER 5:00 PM 734.466.2470

WAYNE COUNTY TRAFFIC SIGNALS:
ERIC LENTZ, P.E.
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FAX: 734.955.2338
EMAIL: ELENITZ@WAYNECOUNTY.COM

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HKMAT KASSEM, P.E.
ASSISTANT DIVISION PERMIT ENGINEER
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FAX: 734.595.6366
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MICHIGAN TAYLOR TSC
ANDREA L. JONES
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JACKSONVILLE, FL 32202
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FAX: 904.306.5037
EMAIL: CHARLIE_MYERS@CSX.COM
EMAERGENCY: 1.800.232.0144

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TERIANN WILLIAMS
6161 HAMILTON BOULEVARD
ALLENTOWN, PA 18106
PHONE: 610.904.4418
EMERGENCY: 800.331.4115

SUNOCO LOGISTICS
JASON ADAMS - PIPELINE INSPECTOR
7155 INKSTER ROAD
TAYLOR, MI 48180-1481
PHONE: 313.969.9478
MOBILE: 313.319.9645

MIDWEST FIBER NETWORKS, LLC
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VICE PRESIDENT, OPERATIONS
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MOBILE: 414.349.3722
EMAIL: MHEBEL@MIDWESTFIBERNETWORKS.COM
WEBSITE: MIDWESTFIBERNETWORKS.COM

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1700 CICOTTE AVENUE, ROOM 111
LINCOLN PARK, MI 48146
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EMAIL: MGO6557@ATT.COM

GAS - CONSUMERS ENERGY
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FAX: 734.513.6266
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ELECTRIC - DTE ENERGY
TRACIE DUNCAN
SUPERVISOR - REGIONAL PLANNING
8001 HADGERTY SOUTH
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EMAIL: TRACIE.DUNCAN@DTEENERGY.COM

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CELL: 248.910.5148
EMAIL: EDAVIS@ICTRANSCO.COM

CHARTER COMMUNICATIONS (FORMERLY SPECTRUM)
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TURNKEY NETWORK SOLUTIONS
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PERMIT COORDINATOR
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FAX: 616.455.9845

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PHONE: 585.697.5193
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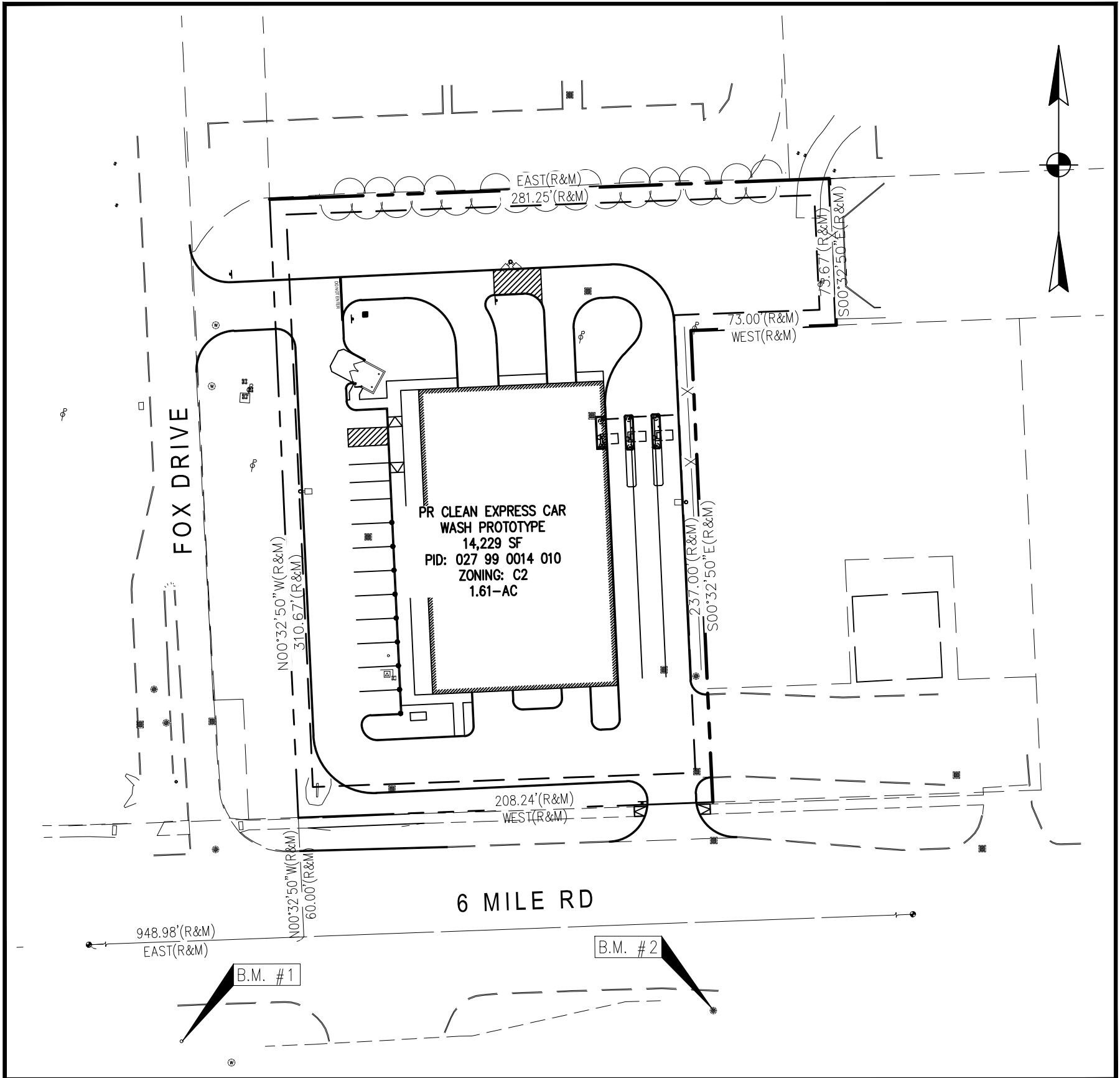
EXTENT SYSTEM, INC.:
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WOW! INTERNET & CABLE
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WOW! INTERNET & CABLE:
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FAX: 248.677.9021
EMAIL: BRUCE.ROACH@WOWINC.COM



INDEX MAP

0 30 60 120
SCALE: 1" = 60'

DESIGN CONSULTANT

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EMAIL: EPIERRE@MANNIKSMITHGROUP.COM

OWNER/DEVELOPER

EXPRESS WASH CONCEPTS
13375 NATIONAL ROAD, SUITE D
ETNA, OHIO 43068
CONTACT: JEFF GILGER
PHONE: (614) 751-9274
EMAIL: JEFF@EXPRESSWASHCONCEPTS.COM

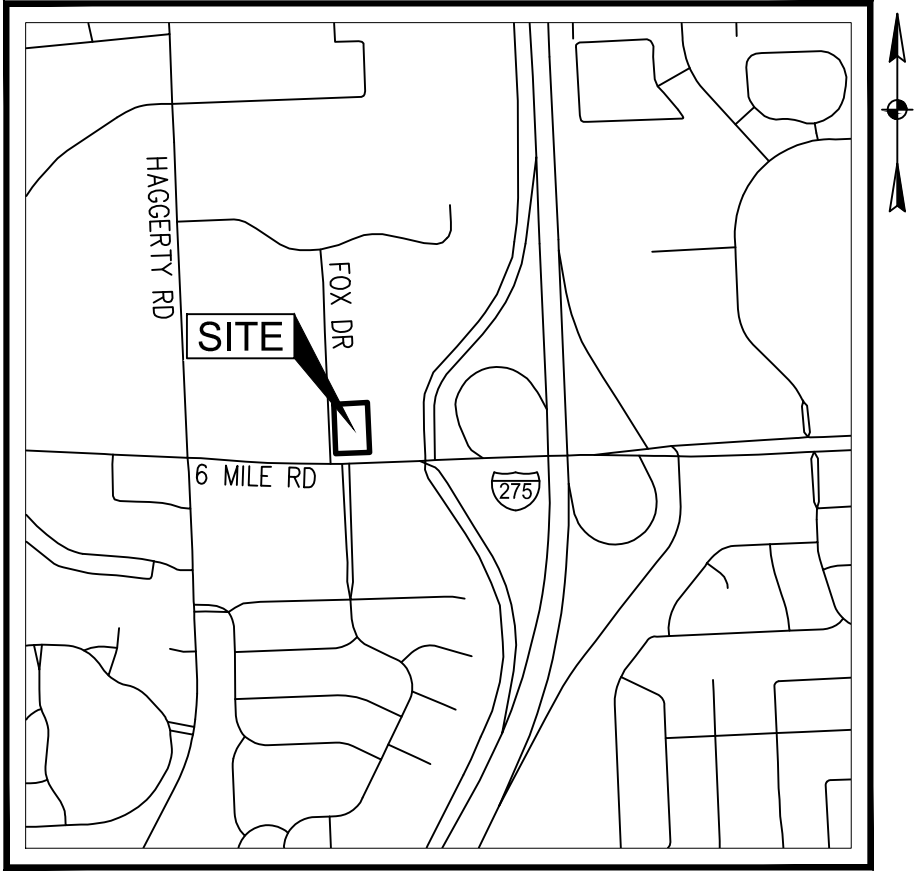
INDEX OF SHEETS

COVER SHEET	C000
GENERAL NOTES	C001
GENERAL DETAILS	C002
EXISTING CONDITIONS	C100
DEMOLITION PLAN	C101
SITE PLAN	C200
PHOTOMETRIC PLAN	C600
LANDSCAPE PLAN	L100
LANDSCAPE DETAILS	L101

LEGAL DESCRIPTION

THE LAND IS DESCRIBED AS FOLLOWS: SITUATED IN THE CITY OF LIVONIA, COUNTY OF WAYNE, STATE OF MICHIGAN FEE PARCELPART OF THE SOUTHWEST FRACTIONAL 1/4 OF SECTION 7, TOWN 1 SOUTH, RANGE 9 EAST, CITY OF LIVONIA, WAYNE COUNTY, MICHIGAN, MORE FULLY DESCRIBED AS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 7; THENCE EAST 948.98 FEET ALONG THE SOUTH LINE OF SAID SECTION 7; THENCE NORTH 00 DEGREES 32 MINUTES 50 SECONDS WEST, 60.00 FEET TO THE POINT OF BEGINNING; THENCE NORTH 00 DEGREES 32 MINUTES 50 SECONDS WEST 310.67 FEET; THENCE EAST 281.25 FEET; THENCE SOUTH 00 DEGREES 32 MINUTES 50 SECONDS EAST, 73.67 FEET; THENCE WEST 73.00 FEET; THENCE SOUTH 00 DEGREES 32 MINUTES 50 SECONDS EAST, 237.00 FEET TO THE NORTH LINE OF SIX MILE ROAD; THENCE WEST 208.24 FEET ALONG SAID RIGHT OF WAY TO THE POINT OF BEGINNING.

PRELIMINARY SITE PLANS FOR
CLEAN EXPRESS CAR WASH
38888 SIX MILE ROAD
LIVONIA, MI 48152



VICINITY MAP
NOT TO SCALE

SITE DATA

PROPERTY INFORMATION:
ADDRESS: 38888 SIX MILE ROAD,
LIVONIA, MI 48152

LOT SIZE: 1.61 AC
PARCEL NUMBERS: 027990014010
ZONING: C-2 GENERAL BUSINESS
PROPOSED USE: CAR WASH

BUILDING SETBACKS:
FRONT: 15' REQUIRED (60' PROVIDED)
SIDE: 8' REQUIRED (70' AND 45')
PROVIDED
REAR: 8' REQUIRED (98' PROVIDED)

BUILDING INFORMATION:
GROSS BUILDING FOOTPRINT AREA: 14,229 SF
BUILDING HEIGHT: 22' 4"

PARKING:
AUTO-WASH ESTABLISHMENTS: AT LEAST
TWENTY (20) PARKING SPACES.

13 EXTERIOR SPACES PROVIDED (1 ADA, 9
VACUUM STALLS, 3 STANDARD) 14 INDOOR
VACUUM SPACES

STACKING:
21 STACKING SPACES PROVIDED

APPROVALS

SIGNATURES BELOW SIGNIFY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROPOSED PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE DESIGN ENGINEER PREPARING THE PLANS.

TITLE	DATE
TITLE	DATE
TITLE	DATE
TITLE	DATE
TITLE	DATE
TITLE	DATE

ENGINEER OF RECORD



TECHNICAL SKILL.
CREATIVE SPIRIT.

CONTACT: EUPONINE PIERRE, P.E.
ADDRESS: 607 SHELBY ST, SUITE 300
DETROIT, MI 48226
PHONE: 269-363-9748
EMAIL: EPIERRE@MANNIKSMITHGROUP.COM

REGISTERED PROFESSIONAL ENGINEER DATE

MICHIGAN
Utility Notification
CENTER

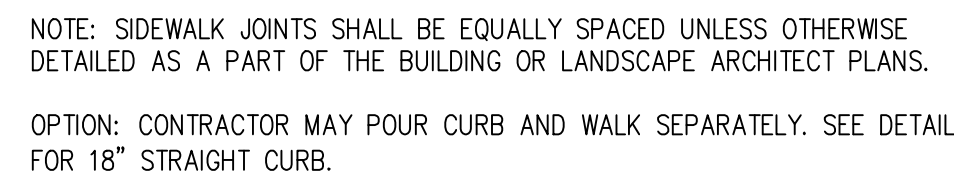
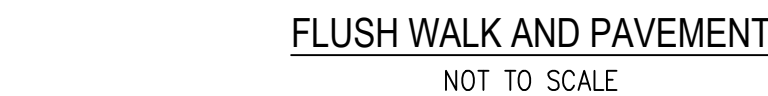
811 or
1-800-482-7171
Know What's Below. Call Before You Dig.



REV	DATE	BY	REVISION DESCRIPTION

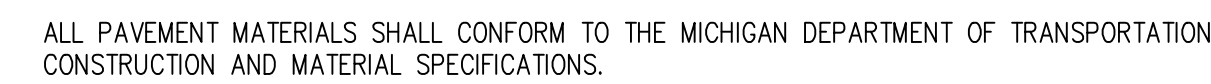
PROJECT DATE: 07/9/2025
PROJECT NO.: 2500286

C000



INTEGRAL WALK AND CURB

NOT TO SCALE

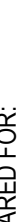


TYPICAL PAVEMENT SECTIONS

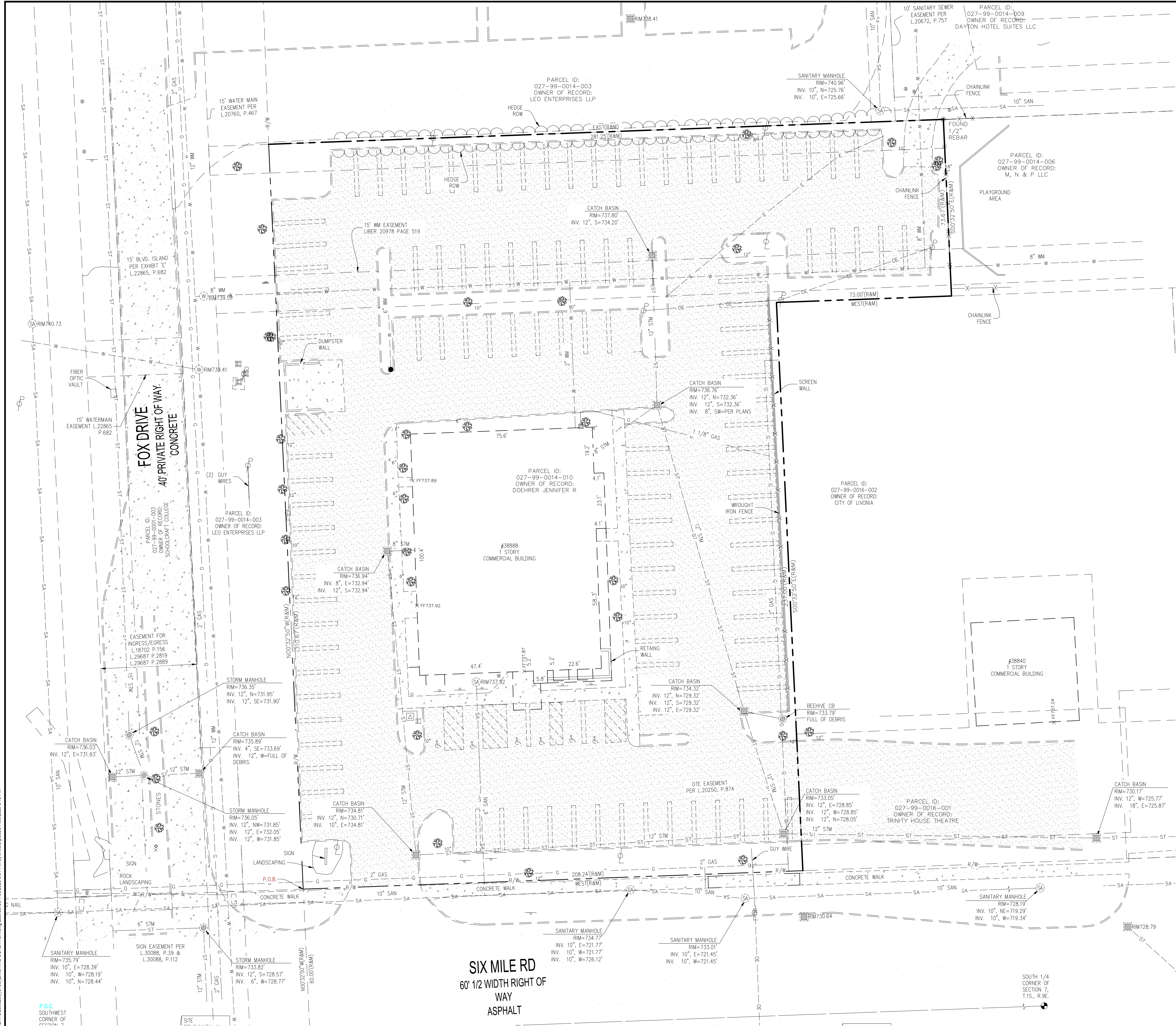
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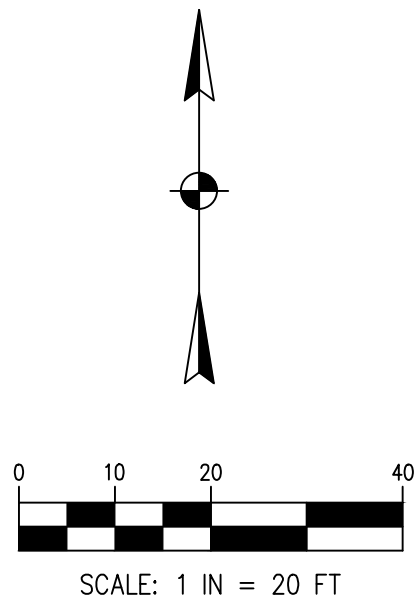
C002	GENERAL DETAILS	SITE IMPROVEMENT PLAN FOR CLEAN EXPRESS AUTO WASH 38888 SIX MILE RD., LIVONIA, MI 48152	PREPARED FOR:  EXPRESS WASH CONCEPTS 13375 NATIONAL ROAD SW ETNA, OHIO 43068	 Mannik Smith GROUP www.MannikSmithGroup.com	TECHNICAL SKILL: CREATIVE SPIRIT:	1160 DUBLIN ROAD SUITE 100 COLUMBUS, OH 43215 TEL: 614.441.4222 FAX: 888-488.7340	PROJECT DATE: 07/09/2025 PROJECT NO: 2500286 DRAWN BY: HTK/JAR CHECKED BY: ESP	<table><thead><tr><th>NO.</th><th>DATE</th><th>BY</th><th>DESCRIPTION</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> 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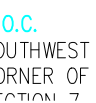


LEGEND

- P — PROPERTY LINE
- R/W — RIGHT-OF-WAY
- ST — STORM
- SA — SANITARY
- COMM — COMMUNICATION
- OE — OVERHEAD ELECTRIC
- UE — UNDERGROUND ELECTRIC
- W — WATER
- G — GAS
- CATCH BASIN
- ⊗ EX STORM MANHOLE
- ⊗ EX SANITARY MANHOLE
- ⊗ EX TREE
- ⊗ EX LIGHT/POWER POLE



C100	EXISTING CONDITIONS	SITE IMPROVEMENT PLAN FOR CLEAN EXPRESS AUTO WASH	PREPARED FOR:  EXPRESS WASH CONCEPTS 13375 NATIONAL ROAD SW ETNA, OHIO 43068	 Mannik Smith GROUP www.MannikSmithGroup.com	TECHNICAL SKILL - CREATIVE SPIRIT.	1160 DUBLIN ROAD SUITE 100 COLUMBUS, OH 43215 TEL: 614.441.4222 FAX: 688.488.7340	NO.	DATE	BY	DESCRIPTION	
						PROJECT DATE: 07/09/2005					
						PROJECT NO: 2300266					
						DRAWN BY: HTK/JAK					
						CHECKED BY: ESP					



FOX DRIVE
PRIVATE RIGHT OF WAY
CONCRETE

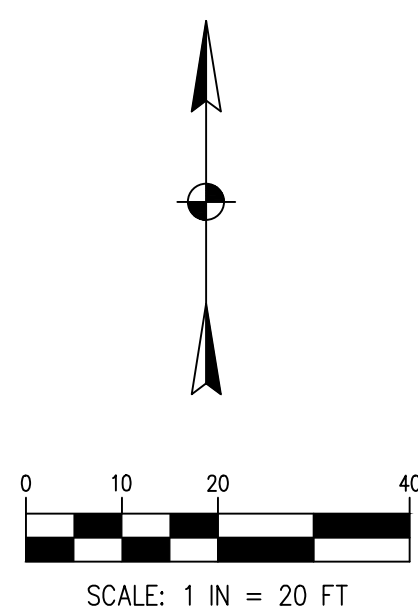
SIX MILE RD
60' 1/2 WIDTH RIGHT OF
WAY
ASPHALT

CODED NOTES

①	EX BUILDING TO BE REMOVED (BY OTHERS) INCLUDING BASEMENT, FOUNDATION AND ALL UTILITY SERVICES
②	EX MENU BOARD TO BE REMOVED
③	EX SPEAKER W/ CANOPY TO BE REMOVED
④	EX SIGN TO BE REMOVED
⑤	EX STORM STRUCTURE TO BE REMOVED
⑥	EX ELECTRIC POLE TO BE RELOCATED
⑦	EX LIGHT POLE TO BE REMOVED
⑧	EX WALL TO BE REMOVED
⑨	EX TRANSFORMER TO BE REMOVED
⑩	EX GATE TO BE REMOVED
⑪	ALL VEGETATION REMOVED WITHIN LIMITS OF DISTURBANCE
⑫	LIMIT OF PAVEMENT REMOVAL SHALL BE TO AN EXISTING JOINT OR STRAIGHT LINE PARALLEL TO EXISTING JOINTS WITHIN THE PROPERTY. NO WORK IS PROPOSED WITHIN THE RIGHT-OF-WAY
⑬	EX SANITARY STRUCTURE TO BE REMOVED

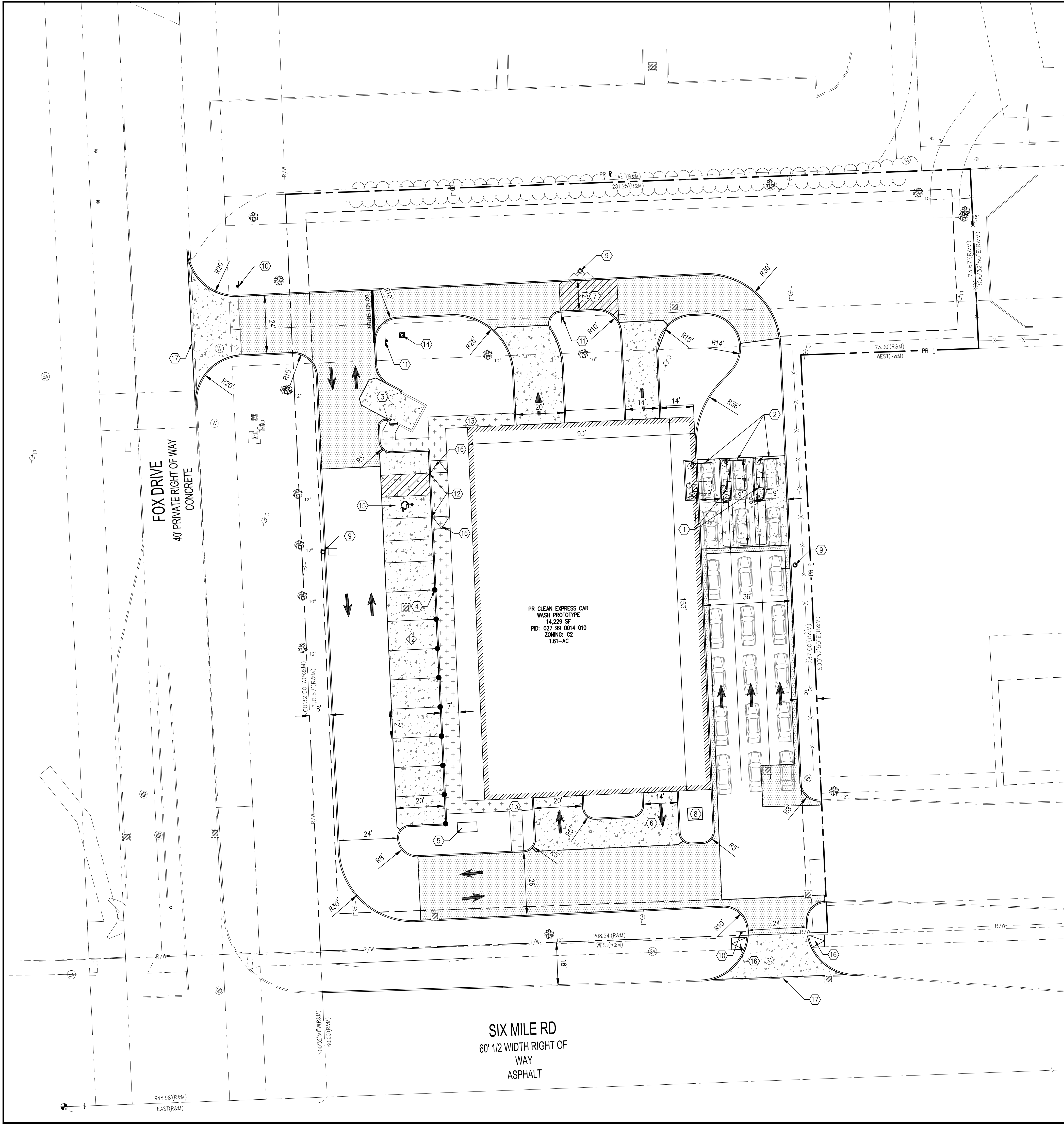
DEMOLITION NOTES

1. EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING. IF CONDITIONS ENCOUNTERED ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
2. SHOULD ANY UNCHARTED, OR INCORRECTLY CHARTED, EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONSULT THE ENGINEER IMMEDIATELY BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA.
3. CONTRACTOR IS RESPONSIBLE FOR RESTORING INADVERTENT SITE DAMAGE TO THE CONDITION PRIOR TO START OF WORK, INCLUDING PAYMENT REPAIR ASSOCIATED WITH UTILITIES SHOWN TO BE REMOVED.
4. CONTRACTOR SHALL MINIMIZE DISRUPTIONS TO ADJOINING PROPERTIES AND SHALL COMPLETE WORK AS SOON AS PRACTICAL. INTERRUPTIONS TO EXISTING UTILITY SERVICES SHALL BE AUTHORIZED AND COORDINATED WITH THE OWNERS, MUNICIPALITY, AND /OR UTILITY COMPANY.
5. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN CONDUCTING GRADING ACTIVITIES IN THE VICINITY OF EXISTING ELECTRIC, FIBER AND TELEPHONE LINES.
6. ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL.
7. ANY WORK/DAMAGE THAT HAPPENS BEYOND THE PROPERTY LINE IS TO BE REPLACED OR REPAIRED AT COST OF THE CONTRACTOR.



C101	DEMOLITION PLAN	SITE IMPROVEMENT PLAN FOR CLEAN EXPRESS AUTO WASH	PREPARED FOR:  EXPRESS WASH CORPORATION 13375 NATIONAL ROAD SW ETNA, OHIO 43086	 Mannik Smith GROUP www.MannikSmithGroup.com	1160 DUBLIN ROAD SUITE 100 COLUMBUS, OH 43215 TEL: 614.441.4222 FAX: 688.488.7340 PROJECT DATE: 07/09/2005 PROJECT NO: 2303266 DRAWN BY: HTK/JAK CHECKED BY: ESP	NO. DATE BY DESCRIPTION
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LEGEND

- EX CONCRETE CURB
- PR CONCRETE CURB
- PR PROPERTY LINE
- PR ASPHALT PAVEMENT
- PR CONCRETE PAVEMENT
- PR 5' SIDEWALK
- PARKING COUNT

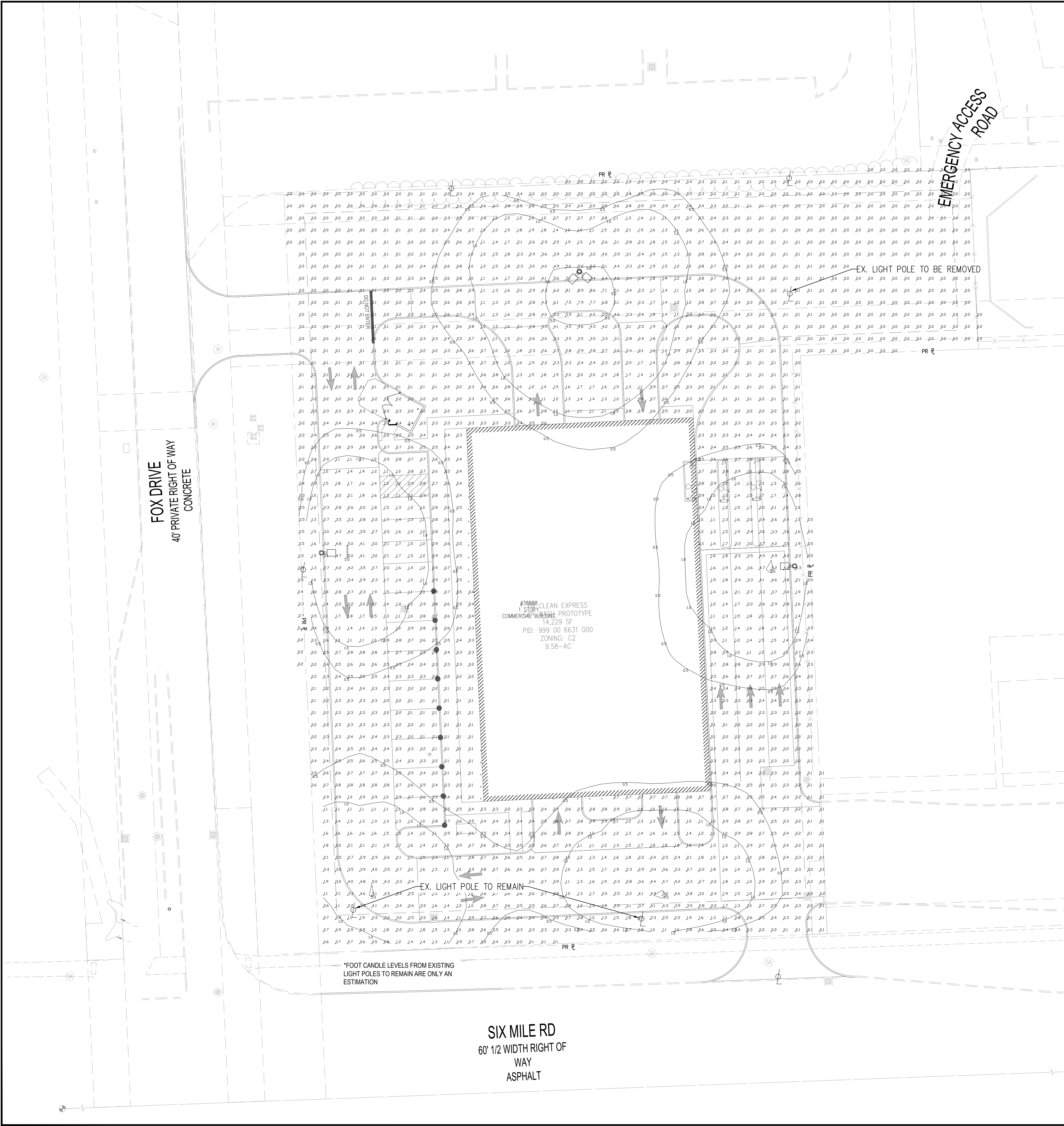
CODED NOTES

- 1 PAY STATION (TYP OF 3)
- 2 CLEARANCE BAR (TYP OF 3)
- 3 8" CONCRETE DUMPSTER PAD
- 4 VACUUM STATION (TYP OF 9)
- 5 VACUUM CORRELATOR
- 6 HEATED CONCRETE PAVEMENT
- 7 ESCAPE LANE
- 8 TRANSFORMER PAD
- 9 PROPOSED LIGHT POLE
- 10 STOP SIGN
- 11 DO NOT ENTER SIGN
- 12 FLUSH WALK AND PAVEMENT
- 13 5' CONCRETE WALK
- 14 FLAGPOLE
- 15 ADA PARKING SPACE
- 16 RAMP
- 17 CURB CUT

NOTES

- 1. SEE PHOTOMETRIC PLAN FOR LIGHT POLE LOCATIONS

NO.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
1160 DUBLIN ROAD SUITE 100 COLUMBUS, OH 43215 TEL: 614.441.4222 FAX: 888.488.7940			
PROJECT DATE: 07/09/2025 PROJECT NO: 250206 DRAWN BY: HTK/AR CHECKED BY: ESP			
TECHNICAL SKILL: CREATIVE SPIRIT.			
Mannik Smith Group www.MannikSmithGroup.com			
PREPARED FOR: EXPRESS WASH CONCEPTS 13375 NATIONAL ROAD SW ETNA, OHIO 43068			
SITE IMPROVEMENT PLAN FOR CLEAN EXPRESS AUTO WASH			
38888 SIX MILE RD., LIVONIA, MI 48152			
SITE PLAN			
C200			



PHOTOMETRIC LEGEND

- DOUBLE POLE MOUNTED SITE LIGHT
- POLE MOUNTED SITE LIGHT
- EXISTING SITE LIGHT TO REMAIN

FOOT CANDLE LEVELS	
LABEL	AVG
PROP LIMITS	0.79
PVMT LIMITS	0.95
PRKG	1.00

LUMINAIRE SCHEDULE						
SYMBOL	QUANTITY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LUMENS PER LAMP	WATTAGE
	2	ACUITY BRANDS	RSX2 LED-P1-30K-R4	RSX2 LED-P1-TYPE 4 WIDE-MVOLT-RPA-WITH EXTERNAL GLARE SHIELD-BLACK	ABSOLUTE	105
	1	ACUITY BRANDS	RSX2 LED-P1-30K-R4	RSX2 LED-P1-TYPE 4 WIDE-MVOLT-RPA-WITH EXTERNAL GLARE SHIELD-BLACK	ABSOLUTE	105

POLE FIXTURE SCHEDULE						
	QUANTITY	CATALOG NUMBER	HEIGHT (FT)	POLE SHAFT SIZE (INXFT)	WALL THICKNESS (IN)	DRILL MOUNTING
LITHONIA LIGHTING SINGLE FIXTURE	2	RSS 18 4B DBLXD	18' POLE ON A 2' CONCRETE BASE	4.5	0.120	DM19
LITHONIA LIGHTING DOUBLE FIXTURE	1	RSS 18 4B DBLXD	18' POLE ON A 2' CONCRETE BASE (1 AT 90° ONE AT 180°)	4.5	0.120	DM28

*FOOT CANDLE LEVELS FROM EXISTING LIGHT POLES TO REMAIN ARE ONLY AN ESTIMATION

SIX MILE RD
60' 1/2 WIDTH RIGHT OF WAY
ASPHALT

DESCRIPTION

NO

DATE

BY

1160 DUBLIN ROAD
SUITE 100
COLUMBUS, OH 43215
TEL: 614.441.4222
FAX: 614.441.4222

PROJECT NO: 07090205
PROJECT NAME: 250256
DRAWN BY: HTK/AR
CHECKED BY: ESP

TECHNICAL SKILL:
CREATIVE SPIRIT.

www.MannikSmithGroup.com

PREPARED FOR:

EXPRESS WASH CONCEPTS
13375 NATIONAL ROAD SW
ETNA, OHIO 43068

SITE IMPROVEMENT PLAN FOR

CLEAN EXPRESS
AUTO WASH

PHOTOMETRIC PLAN

C600

38686 SIX MILE RD., LIVONIA, MI 48152



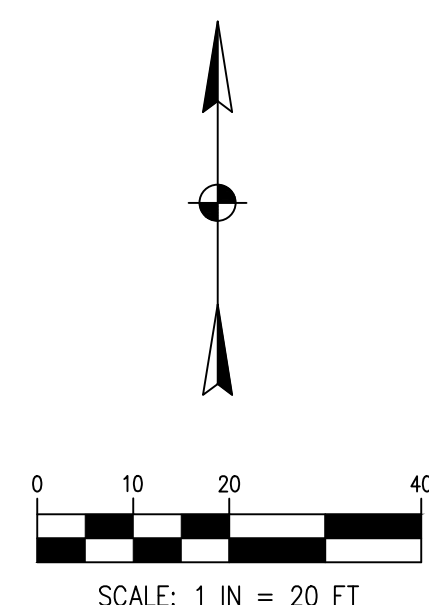


REQUIRED:	PROVIDED:
SECTION 1003 LANDSCAPING DESIGN REQUIREMENTS (1) FRONTAGE LANDSCAPING: WHERE THE SITE ADJUTS A PUBLIC ROAD RIGHT-OF-WAY, THE FOLLOWING FRONTAGE LANDSCAPING SHALL BE PROVIDED IN THE FRONT YARD AREA ADJACENT TO THE ROAD RIGHT-OF-WAY. DECIDUOUS OR EVERGREEN TREE: 1 PER 40 L.F. ORNAMENTAL TREE: 1 PER 100 L.F. SHRUBS: 8 PER 40 L.F.	ROAD FRONTAGE: 208'-24" (DRIVE AISLE)=184' L.F. DECIDUOUS TREES REQUIRED: 1 PER 40 L.F. = 4 PROVIDED: 1 EX AND 3 PR ORNAMENTAL TREES REQUIRED: REQUIRED: 1 PER 100 L.F. = 2 PROVIDED: 2 SHRUBS REQUIRED: REQUIRED: 8 PER 40 L.F. = 37 PROVIDED: 37 (30 EVERGREEN, 7 DECIDUOUS)
(2) PARKING LOT LANDSCAPING: A) PARKING LOT SCREENING: 1) PARKING LOT SCREENING LANDSCAPING. LANDSCAPING SHALL INCLUDE A LANDSCAPED YARD AT LEAST FIVE (5) FEET IN WIDTH CONTAINING AN OPAQUE SCREEN OF LANDSCAPING (EVERGREEN OR DECIDUOUS HEDGE) AT LEAST THREE (3) FEET IN HEIGHT. THE LANDSCAPING SHALL BE PLANTED IN A MANNER WHERE THE LANDSCAPING CAN BE EXPECTED TO PROVIDE AN UNBROKEN VISUAL SCREEN WITHIN THREE (3) YEARS. THE LANDSCAPING SHALL BE LOCATED AT LEAST TWO (2) FEET FROM THE FRONT OF A PARKING SPACE CURB SO AS TO ACCOUNT FOR VEHICLE OVERHANG.	8 EXISTING TREES TO REMAIN AND EVERGREEN/DECIDUOUS SCREENING PLANTINGS PROVIDED ALONG FOX DRIVE
B) PARKING LOT SCREENING. INTERIOR PARKING LOT LANDSCAPING: ALL OFF-STREET PARKING AREAS OF FORTY (40) PARKING SPACES OR MORE MUST HAVE INTERNAL LANDSCAPING.	NOT REQUIRED AS PARKING LOT IS LESS THAN 40 SPACES (13)
(5) SCREEN WALL AND GREENBELT BUFFERING. C-2 DISTRICT ADJACENT TO C-1 AND C-4 DISTRICT (WEST & SOUTH): REQUIRED: A TEN (10) FOOT WIDE BUFFER, WITH ONE (1) TREE PER THIRTY (30) LINEAR FEET. C-2 DISTRICT ADJACENT TO R-U-F DISTRICT (SOUTH) REQUIRED: A SIX (6) FOOT HIGH MASONRY WALL OR OPAQUE FENCE AND/OR A TWENTY (20) FOOT WIDE GREENBELT BUFFER, WITH ONE (1) TREE PER TWENTY (20) LINEAR FEET (MINIMUM OF 50% EVERGREEN TREES), SUBJECT TO CITY COUNCIL REVIEW AND APPROVAL.	C-2/R-U-F (EAST SIDE):180 L.F.20 = MASONRY WALL AND FENCE CURRENTLY EXISTS ALONG EASTERN PROPERTY LINE C-2/C-1 (WEST SIDE):310 L.F.,30 = 10 TREES REQUIRED 8 EXISTING TREES 3 PROPOSED TREES PROVIDED C-2/C-4 (SOUTH) 5 TREES REQUIRED 7 TREES PROVIDED BY ROAD FRONTAGE SCREENING
(6) OPEN SPACE LANDSCAPING ALL REMAINING OPEN AREAS ON THE SITE THAT ARE NOT REQUIRED LANDSCAPING AREAS AS DESCRIBED ELSEWHERE IN THIS ARTICLE SHALL BE PLANTED WITH ONE (1) TREE PER THREE THOUSAND (3,000) SQUARE FEET OF OPEN AREA. ALL OPEN SPACE LANDSCAPING AREAS SHALL BE PLANTED WITH GRASS OR ANOTHER SUITABLE VEGETATIVE GROUND COVER.	OPEN AREA REMAINING: ±12,753 S.F. 5 TREES REQUIRED 28 TREES PROVIDED

ABRV.	QUANTITY	SCIENTIFIC NAME	COMMON NAME	SIZE	REMARKS	TYPE
CC CI	6	CRAEAGUS CRUS-GALLI INERMIS	THORNLESS COCKSPUR HAWTHORN	3" CALIPER	B&B	ORNAMENTAL TREE
CC PT	7	CERCOS CANADENSIS "PINK TRIM"	NORTHERN HERALD REDBUD	2" CALIPER	B&B	ORNAMENTAL TREE
PL AC	2	PLATANUS ACERFOLIA "LIBERTY"	LIBERTY PLANE TREE	3" CALIPER	B&B	DECIDUOUS TREE
FA GF	3	FAGUS GRANDIFLORA	AMERICAN BEECH	3" CALIPER	B&B	DECIDUOUS TREE
BE NI	5	BETULA NIGRA "HERITAGE"	HERITAGE RIVER BIRCH	3" CALIPER	B&B	DECIDUOUS TREE
NY SY	3	NYSSA SYLVATICA "WILDFIRE"	WILDFIRE BLACKGUM	3" CALIPER	B&B	DECIDUOUS TREE
TO NP	23	THUJA OCCIDENTALIS "ART BOE"	NORTH POLE ARBORVITAE	5' HEIGHT	CONTAINER	EVERGREEN TREE
CL AL	30	CLETHRA ALNIFOLIA	SURGATHA CRYSTALINA	1 GALLON	CONTAINER	DECIDUOUS SHRUB
DI LO	39	DIERVILLA LONICERA	NATIVE BUSH HONEYSUCKLE	3 GALLON	CONTAINER	DECIDUOUS SHRUB
RA GM	19	RIBES ALPINUM "GREEN MOUND"	GREEN MOUND ALPINE CURRANT	3 GALLON	CONTAINER	DECIDUOUS SHRUB
CS KE	18	CORNUS SERICEA "KELSEY"	KELSEY DWARF DOGWOOD	3 GALLON	CONTAINER	DECIDUOUS SHRUB
TM WA	32	TAXUS X MEDIA "WARDII"	WARDS YEW	3 GALLON	CONTAINER	EVERGREEN SHRUB
JC NC	45	JUNIPERUS CONFERTA "NICKS COMPACT"	NICKS COMPACT JUNIPER	3 GALLON	CONTAINER	EVERGREEN SHRUB
BU GG	58	BUXUS "GREEN GEM"	GREEN GEM BOXWOOD	3 GALLON	CONTAINER	EVERGREEN SHRUB
DE CE	51	DESCHAMPSIA CESPITOSA	TUFTED HAIL GRASS	1 GALLON	CONTAINER	ORNAMENTAL GRASS
HE BR	97	HEMEROCALLIS "BESS ROSS"	DAYLILY "BESS ROSS"	1 GALLON	CONTAINER	FLOWERING PERENNIAL

LANDSCAPE CONTRACTOR TO PROVIDE DESIGN AND INSTALLATION OF A LANDSCAPE IRRIGATION SYSTEM WHICH COVERS THE ENTIRE SITE PROPERTY. LAWN, TREES AND LANDSCAPE BEDS SHALL BE IRRIGATED ON SEPARATE ZONES. IRRIGATION SYSTEM SHALL INCLUDE A SMART ELECTRONIC CONTROLLER WITH WEATHER SENSOR, RAIN DELAY SEASONAL ADJUST AND WATER BUDGET FEATURES.

A SEPARATE IRRIGATION METER AND BACKFLOW PREVENTOR PER CITY REQUIREMENTS AND ANY PERMITS SHALL BE INCLUDED. PROVIDE COMPLETE IRRIGATION DESIGN DRAWINGS AND SPECS FOR OWNER REVIEW PRIOR TO INSTALLATION. A COMPLETE SINGLE SOURCE IRRIGATION SYSTEM FROM HUNTER, RAINBIRD, OR TORO WILL ONLY BE ACCEPTED.



L100

1. THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY ON ALL PLANTS AND VEGETATION PROPOSED ON THE LANDSCAPING PLAN. ANY TREES, SHRUBS, GROUND COVER OR OTHER VEGETATION PLANTED AS PART OF THIS PROJECT THAT DO NOT SURVIVE ONE YEAR FROM PLANTING SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.

3. REFER TO THE LANDSCAPE PLAN FOR ADDITIONAL NOTES. LANDSCAPE IMPROVEMENTS SHALL CONFORM TO THE LATEST EDITION OF MDOT CONSTRUCTION SPECIFICATIONS (2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION).

5. PLANTING BEDS. ONE MONTH BEFORE CULTIVATION AND AFTER DAYTIME TEMPERATURES HAVE WARMED TO 60° CONSISTENTLY, TREAT ALL PLANTING BEDS THAT ARE TO BE DEVELOPED IN AREAS OF EXISTING TURF WITH PRE-EMERGENT

6. BACKFILL MIX. FOR ALL PLANTINGS, USE BACKFILL MIX CONSISTING OF THE FOLLOWING:

- A. ONE PART EXCAVATED SOIL.
- B. ONE PART TOPSOIL.
- C. ONE PART EPA RATED CLASS IV COMPOST.
- D. A SLOW RELEASE COMMERCIAL FERTILIZER (0-20-20 OR EQUAL) ADDED AT A RATE OF 5 POUNDS PER CUBIC YARD TO THE BACKFILL MIX.
- E. IF SOIL AREAS ARE OF HIGH PH (GREATER THAN 6.5), APPLY 1.25 POUNDS OF ELEMENTAL SULFUR PER CUBIC YARD OF BACKFILL MIX.

NOTE: CONTRACTOR SHALL SUPPLY A DETAILED SOIL ANALYSIS PRIOR TO ALL PLANT BED PREPARATION. ANALYSIS SHALL INCLUDE SOIL PH, TEXTURE, MAJOR NUTRIENTS, SALTS, ETC. SOIL ANALYSIS SHALL BE FROM A REPUTABLE, INDEPENDENT LAB. SOIL AMENDMENTS SHALL BE INCORPORATED INTO BACKFILL/PLANT MIX AS RECOMMENDED BY THE INDEPENDENT LAB.

8. PERIOD OF ESTABLISHMENT. BEFORE FINAL INSPECTION, PLACE ALL PLANTS, SEED ALL LAWNS, AND CARE FOR THEM FOR A PERIOD OF ESTABLISHMENT. THE PERIOD OF ESTABLISHMENT BEGINS IMMEDIATELY UPON COMPLETION OF THE PLANTING OPERATIONS AND CONTINUES UNTIL OCTOBER 1. THE MINIMUM PERIOD OF ESTABLISHMENT IS ONE GROWING SEASON, JUNE THROUGH OCTOBER 1. DURING THE PERIOD OF ESTABLISHMENT, FOLLOW STANDARD HORTICULTURAL PRACTICES TO ENSURE THE VIGOR AND GROWTH OF THE TRANSPLANTED MATERIAL. WATER, REMULCH, RESTAKE, GUY, AND CULTIVATE AS NECESSARY. PERFORM AT LEAST TWO WEEDING AND MOWING PROGRAMS (AROUND TREES, GUY STAKES, SHRUBS, AND BED EDGES) OF SUCH NATURE AS TO COMPLETELY REMOVE ALL WEEDS AND MULCHED AREAS OF WEEDS AND GRASSES, BEGINNING WITH THIS PROGRAM. THE FIRST PROGRAM MUST BE COMPLETED BY THE SECOND APPROXIMATE WEEDING ON OR ABOUT AUGUST 15. THE FIRST MOWING MUST BE DONE WITHOUT JUMPING AND THE SECOND APPROXIMATE WEEDING MUST BE DONE ON OR ABOUT AUGUST 15. THE CONTRACTOR WILL INSPECT AND SUPPLY THE CONTRACTOR WITH A LIST OF MISSING AND DEAD PLANTS AND THOSE THAT HAVE DIED BACK BEYOND NORMAL PRUNING LINES. REPLANT AS REQUIRED ACCORDING TO THE SPECIFICATIONS OF THE ORIGINAL MATERIAL. REPLACEMENT PLANTS ARE SUBJECT TO A NEW PERIOD OF ESTABLISHMENT. IMMEDIATELY REPLACE PLANTS PLANTED INITIALLY IN THE FALL THAT HAVE DIED BEFORE THE SPRING PLANTING SEASON. CARE FOR THE REPLACEMENT PLANTS DURING THE NEW ESTABLISHMENT PERIOD.

10. LANDSCAPE TREES, SHRUBS AND PERENNIAL WATERING: THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, DELIVERING, APPLYING, MEASURING AND SCHEDULING A SUFFICIENT AMOUNT OF WATER NECESSARY TO KEEP EACH PLANT IN A HEALTHY GROWING CONDITION THROUGHOUT THE PERIOD OF ESTABLISHMENT. THE CONTRACTOR SHALL APPLY 1" OF WATER PER WEEK TO ALL NEW PLANTS. THE CONTRACTOR SHALL INSTALL & MAINTAIN SUPPLEMENTAL DRIP WATERING TREE BAGS (SUCH AS 20 GALLON TREE GATOR WATER BAG) TO PROVIDE ADEQUATE, SLOW RELEASE OF WATER. WATER BAGS SHALL BE REMOVED AT THE END OF THE SECOND GROWING SEASON.

12. PLACE "DEWITT 15 YEAR WEED BARRIER" WOVEN POLYPROPYLENE OR APPROVED EQUAL IN ALL PLANTED BEDS AND AT EACH TREE RING.



DECIDUOUS TREE PLANTING DETAIL

NOTES:

SHRUBS SHALL BEAR SAME RELATION TO FINISH GRADE AS THEY BORE TO EXISTING GRADE IN THE PREVIOUSLY PLANTED CONDITION.

NO SCALE

L101	LANDSCAPE NOTES & DETAILS	SITE IMPROVEMENT PLAN FOR CLEAN EXPRESS AUTO WASH 38888 SIX MILE RD, LIVONIA, MI 48152	PREPARED FOR:  EXPRESS WASH CONCEPTS 13375 NATIONAL ROAD SW ETNA, OHIO 43088	 Mannik Smith GROUP www.MannikSmithGroup.com	TECHNICAL SKILL, CREATIVE SPIRIT.	1160 DUBLIN ROAD SUITE 100 COLUMBUS, OH 43215 TEL: 614.441.4222 FAX: 888.488.7540 PROJECT DATE: 07/09/2025 PROJECT NO: 2500286 DRAWN BY: HTK/JAK CHECKED BY: ESP	NO. DATE BY DESCRIPTION
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- ## WALL LEGEND



#	DATE	ISSUED WITH: CHANGE DESCRIPTION



CLEAN
EXPRESS AUTO WASH

The image shows a professional engineer's seal for Brett D. Baker, State of Michigan, License #31072033. The seal is circular with a star around the perimeter. Overlaid on the seal is a large red diagonal watermark that reads "PRELIMINARY" and "FOR DISCUSSION". To the right of the seal is a table with project information.

SCALE: 3/16" = 1'-0" (U.N.O.)
SHEET # / DESCRIPTION
FLOOR PLAN
A1-1
DATE: 07.10.2025
PLANNING COMMISSION
SBA STUDIOS PROJECT # 2025-371

Diagram illustrating five different window configurations (1-5) with dimensions and labels:

- Configuration 1:** 3'-0" wide, 7'-0" high.
- Configuration 2:** 3'-0" wide, 6'-0" high. Opening height: 5'-3". Kick plate height: 1'-0".
- Configuration 3:** 3'-0" wide, 6'-0" high. Opening height: 5'-2". Kick plate height: 1'-0". Opening above kick plate: 1'-0".
- Configuration 4:** 3'-0" wide, 6'-0" high. Opening height: 3'-0". Kick plate height: 1'-0".
- Configuration 5:** 3'-0" wide, 8'-0" high. Opening height: 2'-0". Louver height: 2'-0".

Labels for configurations 3 and 4: "KICK PLATE, BOTH SIDES".

DOOR										FRAME		
NO.	ROOM NAME	SIZE	ELEV	MAT	RATING	GLASS	HDWR	ELEV	MAT	REMARKS		
1.01	STAFF	3070	01	H.M.	0-4R	N/A	SET 01	A	H.M.			
1.02	CLOSET	3070	01	H.M.	0-4R	N/A	SET 02	A	H.M.			
1.03	OFFICE	3) 3070	02	ALUM.	0-4R	TEMP	SET 05	B	ALUM.	CLOSER		
1.04	UNJACK	3070	01	H.M.	0-4R	N/A	SET 03	A	H.M.			
1.05A	MECHANICAL	3070	04	H.M.	0-4R	N/A	SET 06	B	H.M.			
1.05B	MECHANICAL	2) 3080	05	H.M.	0-4R	N/A	SET 05	C	H.M.			
1.06C	MECHANICAL	3070	02	ALUM.	0-4R	N/A	SET 04	B	ALUM.			
1.06	WASH BAY	3070	04	H.M.	0-4R	N/A	SET 04	B	H.M.	CLOSER		
1.07A	VACUUMS	3070	01	H.M.	0-4R	N/A	SET 04	B	H.M.	CLOSER		
1.07B	VACUUMS	3070	04	H.M.	0-4R	N/A	SET 05	B	H.M.	CLOSER		

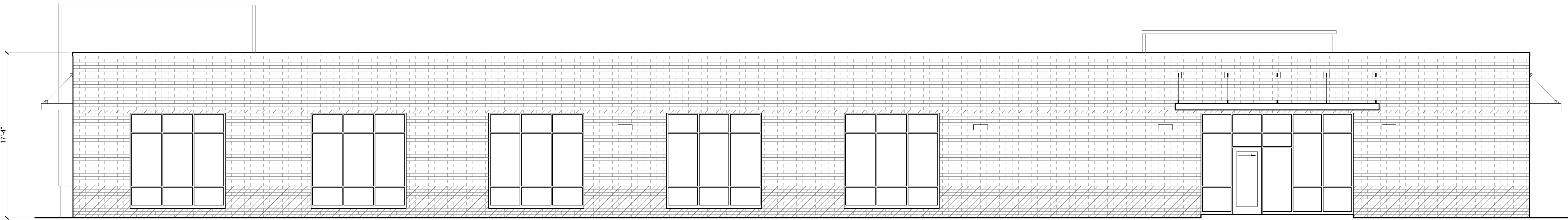
1. ALL DOOR HARDWARE TO BE ANSI COMPLIANT LEVER STYLE
2. ALL DOOR HARDWARE TO BE MOUNTED BETWEEN 34" - 48" A.F.F.
3. ALL GLAZING IN NEW DOORS TO BE TEMPERED
4. ALL DOORS TO RECEIVE (3) HINGES
5. ALL DOORS TO RECEIVE (3) SILENCERS
6. ALL DOORS TO RECEIVE DOOR STOP
7. ALL EXTERIOR DOORS TO RECEIVE CLOSER
8. ALL EXTERIOR DOORS TO HAVE ANSI COMPLIANT THRESHOLD (1/4" MAX)
9. EGRESS DOORS TO BE OPERABLE WITH ONLY ONE OPERATION OF THE DOOR HARDWARE, READILY OPERABLE FROM EGRESS SIDE WITHOUT USE OF A KEY OR SPECIAL KNOWLEDGE AND SHALL NOT REQUIRE TIGHT GRASPING, TWISTING OR EXERCISE OF THE WRIST TO OPERATE. 2021 MBPC 10.1.9/10.1.9.1/10.1.10/1.9.5.

SET 01: OFFICE LOCKSET
SET 02: STORAGE LOCKSET
SET 03: PRIVACY LOCKSET
SET 04: PASSAGE LOCKSET
SET 05: EXIT LOCKSET
SET 06: PUSH / PULL

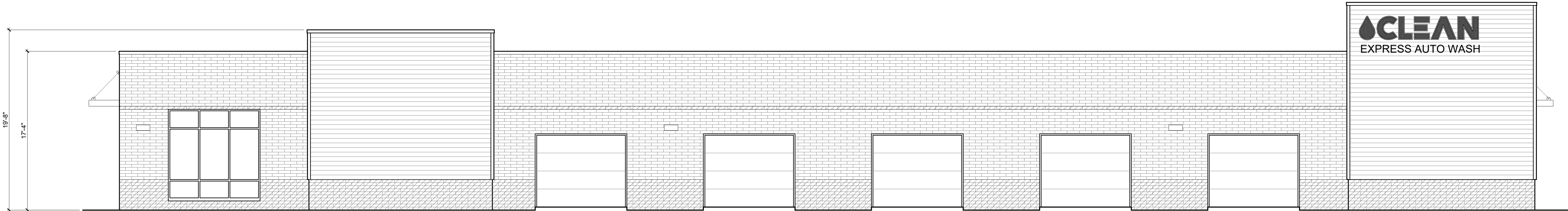
KEY ALL DOORS ALIKE

FLOORING	BASE	WALLS	CEILING
WD SIM WOOD FLR NO FLOORING	VB VINYL BASE NO BASE	PT-1 WHITE PAINT PT-2 BLONDE PAINT SW 6126 WL WALL LINER PANEL NO NO FINISH	GYP GYPSUM BOARD CEILING WL WALL LINER NO NO CEILING
SIM WOOD FLOOR = AXISCOR PRO12 12X24 URBAN CONCRETE			

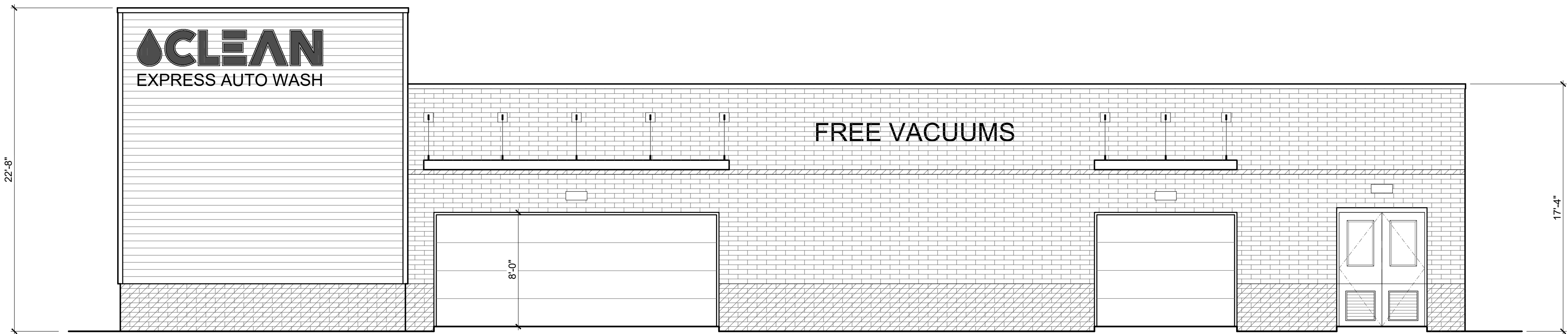
1	FINISH SCHEDULE
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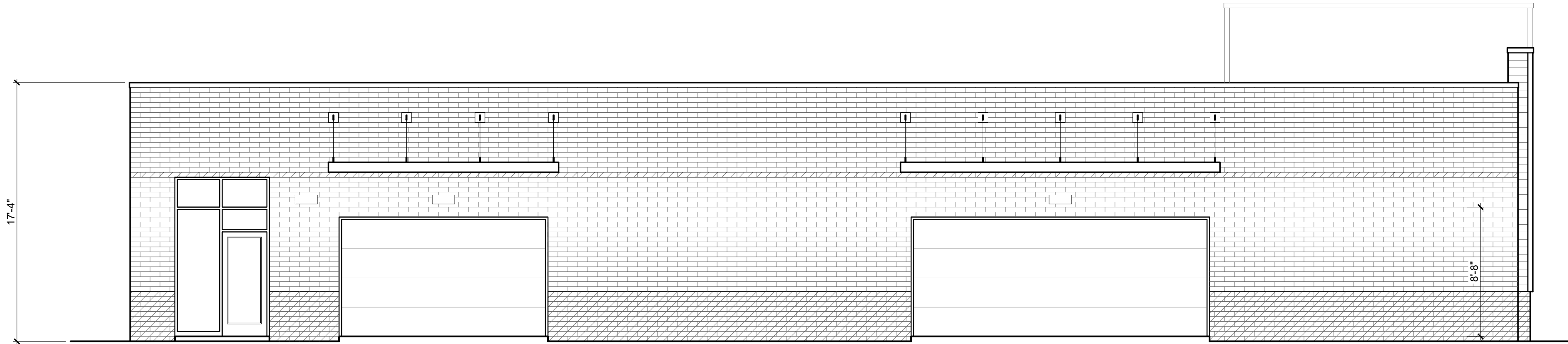
4 SIDE (WEST) ELEVATION



3 SIDE (EAST) ELEVATION



2 REAR (NORTH) ELEVATION



1 ENTRY (SOUTH) ELEVATION

ELEVATION CODED NOTES

1. ALUMINUM STOREFRONT GLAZING SYSTEM. MANUFACTURER TO DESIGN FOR WIND LOAD REQUIREMENTS PER CODE
2. QUIK-BRIK CMU CONSTRUCTION, SEE MATERIALS LEGEND. INSTALL CONTROL JOINTS PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS
3. CONTINUOUS METAL COPING, TYP.
4. 5" SQUARE METAL DOWNSPOUT
5. OVERHEAD DOOR
6. SIGNAGE PROVIDED BY OWNER
7. 1/4" COMPOSITE CORNER TRIM, TYP.
8. GRADE, COORDINATE W/ CIVIL DRAWINGS.
9. PRE-MANUFACTURED ALUMINUM AWNING. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
10. NICHIA FIBER CEMENT AWP181 HORIZONTAL SIDING.
11. MASONRY BAND IN DARK FINISH TO MATCH BASE OF WALL
12. DECORATIVE LIGHT FIXTURE

ELEVATION MATERIAL LEGEND

- QUIK-BRIK (LIGHT FINISH)
- QUIK-BRIK (DARK FINISH)
- NICHIA FIBER CEMENT AWP181 HORIZONTAL SIDING

EXTERIOR MATERIAL NOTES:
1. COLOR OF METAL COPING TO MATCH STOREFRONT SYSTEM COLOR

#	DATE	ISSUED WITH: CHANGE DESCRIPTION

CLEAN EXPRESS CAR WASH
38888 SIX MILE ROAD
LIVONIA, MI 48152

CLEAN
EXPRESS AUTO WASH

SBA
STUDIOS
ARCHITECTURAL DESIGN
614.562.7761 WWW.SBA-STUDIOS.COM



SCALE: 3/16" = 1'-0" (U.N.O.)

SHEET # / DESCRIPTION

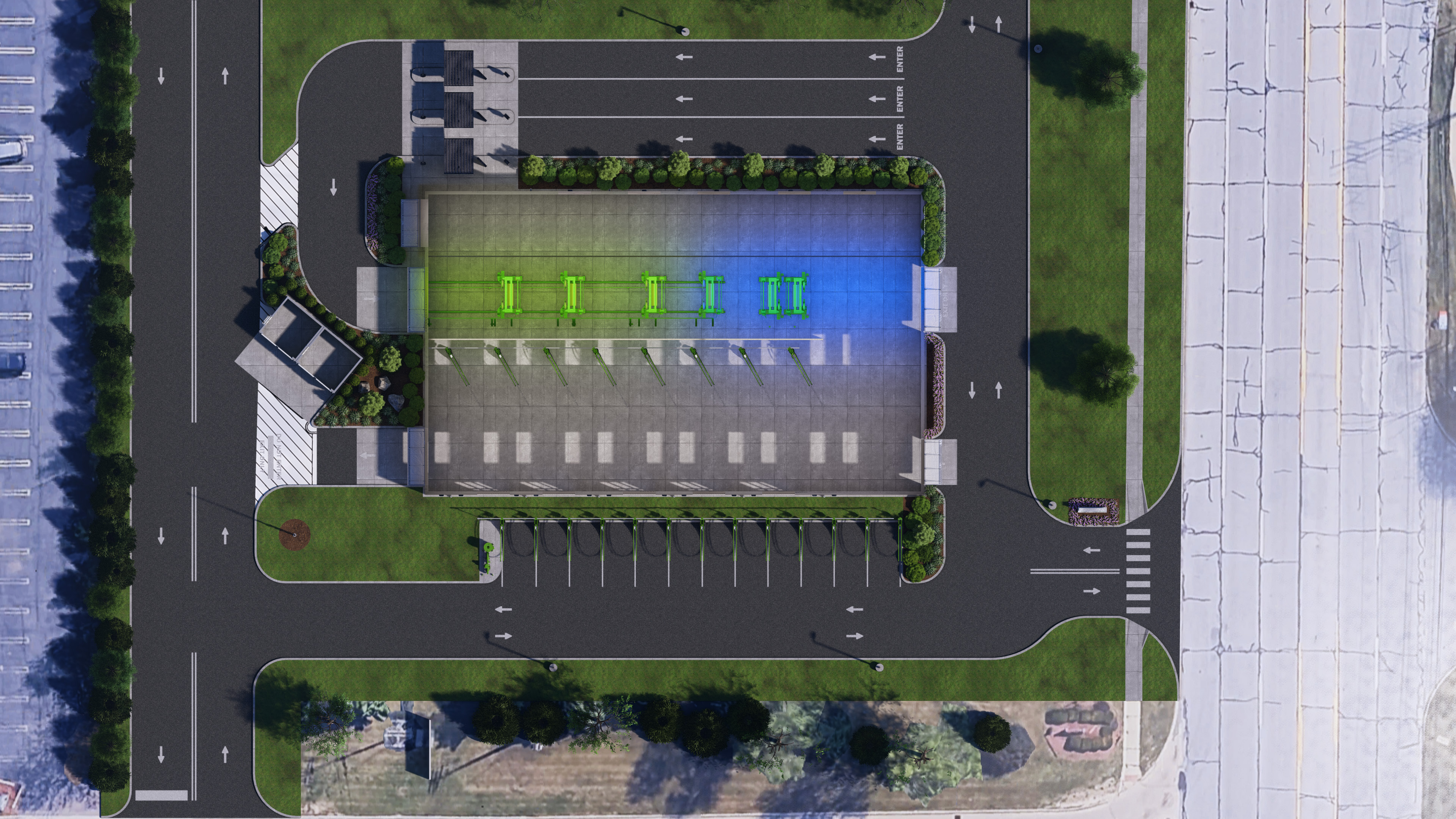
EXTERIOR ELEVATIONS

A2-1

DATE: 07.10.2025

PLANNING COMMISSION

SBA STUDIOS PROJECT # 2025-371





CLEAN
EXPRESS AUTO WASH

FREE VACUUMS

DO NOT ENTER
EXIT ONLY

CLEAN
EXPRESS AUTO WASH





 **CLEAN**
EXPRESS AUTO WASH

FREE VACUUMS



CLEAN

EXPRESS AUTO WASH

WASH THIS WAY

State-of-the-Art Wash Process

FAST FUN HIGH QUALITY

- Fast, 3 minute wash
- FREE vacuums
- Premium EnviroSoft foam brushes
- Biodegradable soaps and waxes
- Extensive water reclamation system
- Great car care products available
- 10+ locations opening in 2021!
- Kid & Pooch approved!
- 100% Satisfaction Guarantee

IN CLEAN WE TRUST

100% SATISFACTION GUARANTEED

CLEAN•EST
Our Signature Wash

\$18
SINGLE

- FOAM SUPER BATH
- SHINE HOT WAX
- TIRE GLOSS
- SUPER DRY

36 MONTHLY UNLIMITED

CLEAN•ER
Protect and Shine

\$12
SINGLE

- UNDERBODY PROTECT
- PAINT CONDITIONER

28 MONTHLY UNLIMITED

CLEAN
Basic Wash and Dry

\$7
SINGLE

- ENVIROSOFT WASH
- DRY

20 MONTHLY UNLIMITED

State-of-the-Art Wash Process

FAST FUN HIGH QUALITY

- Fast, 3 minute wash
- FREE vacuums
- Premium EnviroSoft foam brushes
- Biodegradable soaps and waxes
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IN CLEAN WE TRUST

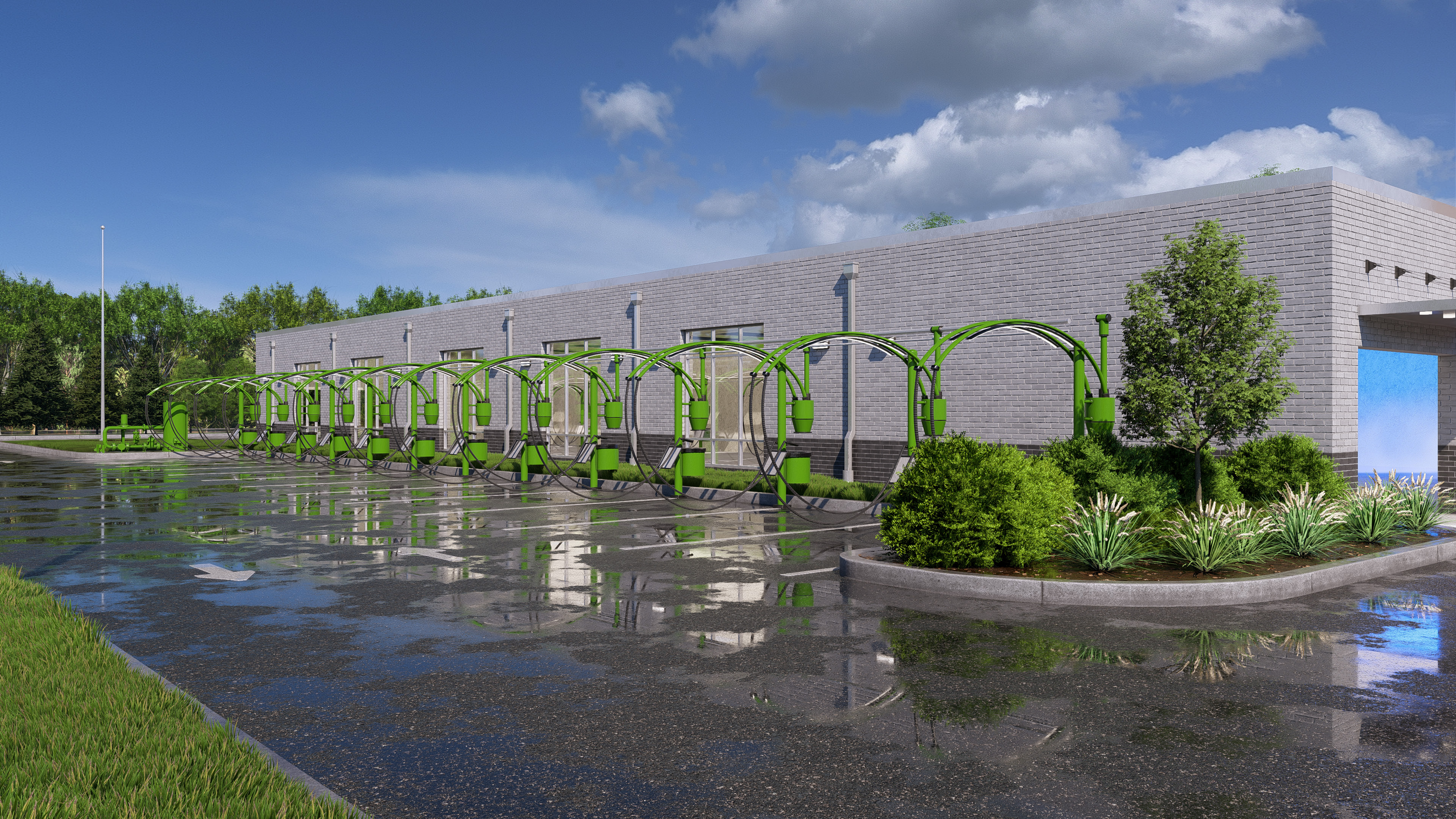
100% SATISFACTION GUARANTEED







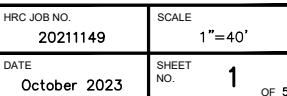
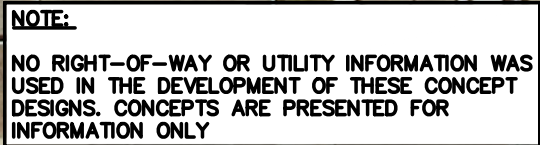






 **CLEAN**
EXPRESS AUTO WASH

FREE VACUUMS





March 27, 2023

Schoolcraft College
18600 Haggerty Rd
Livonia, MI 48152

Attn: John Wright, Construction Manager

Re: Six Mile Rd and Fox Drive Traffic Analysis
Livonia, Michigan

HRC Job No. 20211149

Dear Mr. Wright:

Hubbell, Roth & Clark, Inc. (HRC) has prepared a traffic analysis to determine traffic operations along Six Mile Rd from Haggerty Rd to the I-275 interchange under the scenario that a traffic signal is installed at the intersection of Six Mile Rd & Fox Dr/Quakertown Ln. This analysis is to supplement the findings of the signal warrant analysis performed at this intersection which concluded that a traffic signal is warranted under Warrant 1: Eight-Hour Vehicular Volume, Warrant 2: Four-Hour Vehicular Volume, and Warrant 3: Peak-Hour Vehicular Volume of the Michigan Manual on Uniform Traffic Control Devices (MMUTCD). This same analysis also concluded that a traffic signal at this intersection can improve safety performance and significantly reduce safety risks for SB left-turn movements. The Six Mile Rd & Fox Dr/Quakertown Ln signal warrant analysis is provided in **Attachment A**.

HRC has undertaken the following tasks to perform this study:

- ≡ Examined existing traffic conditions.
- ≡ Collected 24-hour traffic counts for four intersections including classification for pedestrians, bicycles, and heavy vehicles to determine current traffic volumes. Movement counts were collected for the following intersections:
 - Six Mile Rd & Haggerty Rd – signalized
 - Six Mile Rd & SB I-275 Off-Ramp – signalized
 - Six Mile Rd & Fox Dr – unsignalized
 - Six Mile Rd & Quakertown Ln – unsignalized
- ≡ Generated traffic growth rates of area based on recent Traffic Impact Studies (TIS) in the area.
- ≡ Developed traffic models of study area using Synchro 11 software and the techniques outlined in the Highway Capacity Manual (HCM).
- ≡ Conducted peak hour capacity analysis for network during AM, midday, and PM peak hours based on the developed models and HCM guidelines for the following alternatives:
 - Existing traffic volumes
 - Background traffic volumes (existing plus future growth rate for 2024)
 - Proposed traffic signal alternative at 6 Mile Rd & Fox Dr/Quakertown Ln with background traffic
- ≡ Prepared report with findings and recommendations.
- ≡ Meeting to review study findings and recommendations.

Study Area

The study area consists of Six Mile Rd from Haggerty Rd to the I-275 Interchange in the City of Livonia, Wayne County, MI. This corridor is approximately 0.6 miles long and can be characterized as a critical commercial corridor with a large commuter traffic presence throughout the day. Primary intersections along the corridor include the intersections with Haggerty Rd (signalized), Fox Dr (unsignalized), Quakertown Ln (unsignalized), SB I-275 Off-Ramp (signalized), and NB I-275 Off-Ramp (signalized). The location of interest is the intersection of Six Mile Rd & Fox Dr/Quakertown Ln located in the middle of the study corridor. **Figure 1** illustrates the study corridor and study intersections in their entirety.

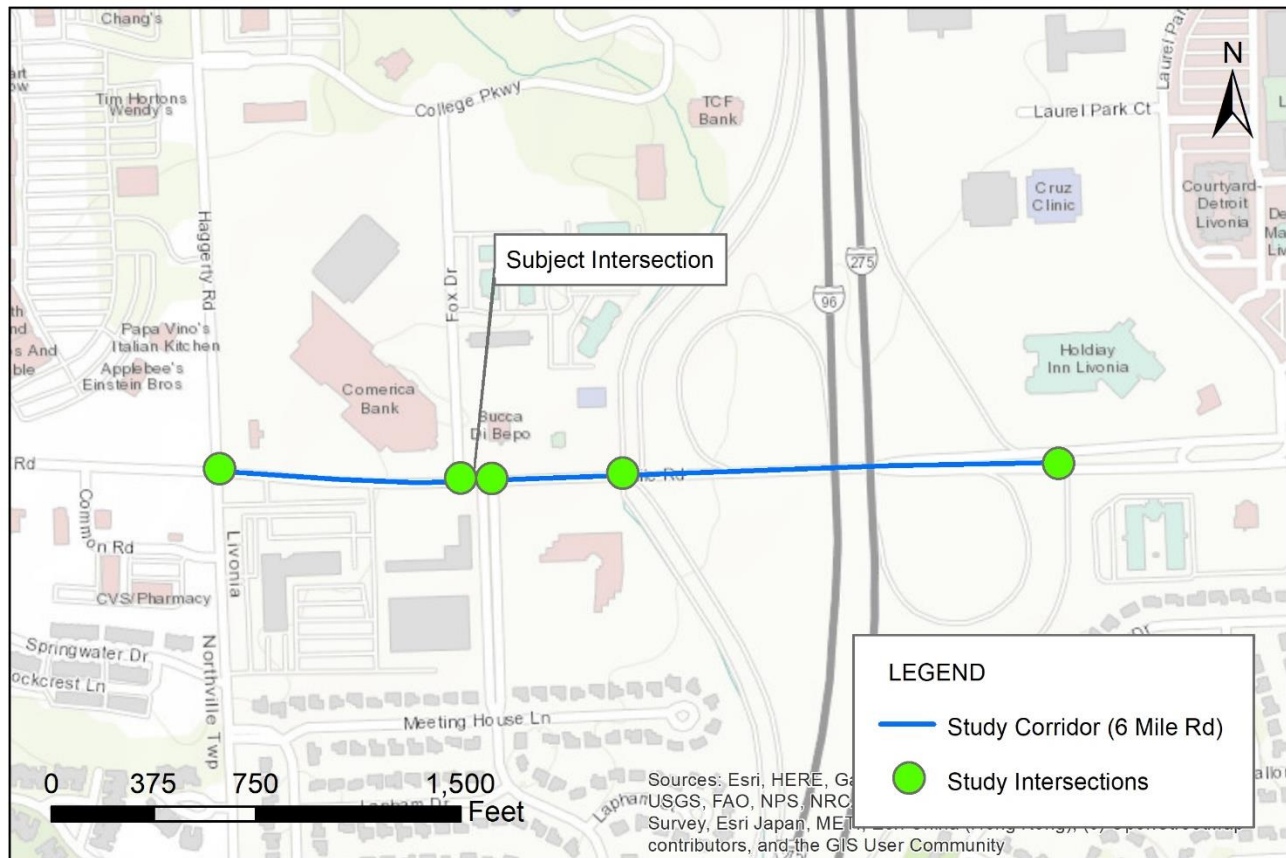


Figure 1: Study Area

The primary study corridor, Six Mile Rd, is an east-west county primary minor arterial. It has a five-lane cross-section with curb and gutter, and a posted speed limit of 45 mph. Haggerty Rd represents the western limit of the study area and similarly is a north-south county primary minor arterial with a five-lane cross-section with curb and gutter, and a posted speed limit of 45 mph. Fox Dr is a north-south private road under the ownership of Schoolcraft College and is the only access point to the Schoolcraft campus from Six Mile Rd. It has a two-lane cross-section with one receiving lane and a SB right only at the intersection with 6 Mile Rd, and a speed limit of 25 mph. Quakertown Ln is a north-south city minor local road with a two-lane cross-section and a posted speed limit of 25 mph. It is a primary access point for the residential subdivision to the south and adjacent commercial developments. Lastly, I-275 is a state trunkline interstate with a posted speed limit of 70 mph. It is a partial cloverleaf interchange at 6 Mile Rd with both SB and NB off-ramps being signalized. I-275 is the eastern limit of the study corridor.

Existing Traffic Volumes

HRC utilized traffic cameras to collect 24-hour turning movement counts on a typical weekday. Turning movement counts (**Attachment A**) were collected for the following intersections:

- ≡ Six Mile Rd & Haggerty Rd – signalized
- ≡ Six Mile Rd & SB I-275 Off-Ramp – signalized
- ≡ Six Mile Rd & Fox Dr – unsignalized
- ≡ Six Mile Rd & Quakertown Ln – unsignalized

This data was utilized in the development and analysis of the traffic models. Traffic volumes for the intersection of Six Mile Rd & NB I-275 Off-Ramp were not collected as this location was determined to be outside the area of influence of the intersection of Six Mile Rd & Fox Dr/Quakertown Ln. Nonetheless, this intersection has been included in the traffic model, with volumes estimated from the collected traffic counts.

Traffic Growth & Trip Characteristics

Future traffic volume projections for the study area are based on growth factors from two recent TIS in this area. These include the 2019 Medical Office Building TIS for Schoolcraft College, and the 2020 Beaumont Livonia TIS for the City of Livonia. The two studies reported a 1% and 0.5% annual regional growth respectively. This study utilizes the 1% more conservative annual growth rate. A future growth factor was developed based on the annual growth rate to project traffic volumes to 2024, which represents the year when a traffic signal could become operational. These projections were based on the following growth factor formula:

$$\text{Growth Factor} = (1 + r)^y$$

Where: r = Annual average growth rate (1 %)
 y = Number of years (i.e. 2)

This formula yielded a future growth factor of 1.02. This value was applied to the existing traffic to project volumes to 2024.

In addition, the proposed alternative includes a new SB left-turn lane at the intersection of Six Mile Rd & Fox Dr. The SB left is currently a prohibited movement. The introduction of the SB left-turn lane is expected to attract additional vehicles which currently utilize the SB left-turn at Six Mile Rd & Haggerty Rd to reach I-275. Consequently, a portion of the vehicles exiting the Schoolcraft College campus at College Pkwy and South Dr which use the intersection of Six Mile Rd & Haggerty Rd to reach to I-275 have been diverted to the intersection of Six Mile Rd & Fox Dr under the proposed alternative.

Capacity Analysis

HRC conducted a capacity analysis of the four intersections in the study area using Synchro 11 and following the procedures outlined in the HCM to assess the performance of each intersection. The intersections include:

- ≡ Six Mile Rd & Haggerty Rd – signalized
- ≡ Six Mile Rd & SB I-275 Off-Ramp – signalized
- ≡ Six Mile Rd & Fox Dr – unsignalized
- ≡ Six Mile Rd & Quakertown Ln – unsignalized

The capacity analysis was conducted for weekday AM peak, midday peak, and PM Peak. Three alternatives were analyzed:

- ≡ Existing traffic volumes
- ≡ Background traffic volumes (existing plus future growth rate for 2024)
- ≡ Proposed traffic signal alternative at 6 Mile Rd & Fox Dr/Quakertown Ln with background traffic

HRC utilized the HCM definitions of signalized and un-signalized intersections in conducting the capacity analysis.

Signalized Intersections

At signalized intersections, the HCM defines level of service (LOS) in terms of control delay. Delay may be measured in the field or it may be estimated. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the volume-to-capacity ratio for the lane group or approach in question. **Table 1** indicates the control delay criteria used for determining LOS for signalized intersections.

Table 1: LOS Criteria for Signalized Intersections

LOS	Control Delay per Vehicle (seconds)
A	≤ 10
B	> 10 to ≤ 20
C	> 20 to ≤ 35
D	> 35 to ≤ 55
E	> 55 to ≤ 80
F	> 80

LOS A describes operations with very low control delay up to 10.0 seconds per vehicle. This occurs when progression is exceptionally favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with control delay in the range of 10.1 to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.

LOS C describes operations with control delay in the range of 20.1 to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

LOS D describes operations with control delay in the range of 35.1 to 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay in the range of 55.1 to 80.0 seconds per vehicle. This is considered to be above the limit of acceptable delay for an urban roadway in the study area. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with control delay in excess of 80.1 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high volume-to-capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Un-Signalized Intersections

At an un-signalized intersection with stop control on the minor approach, LOS F occurs when there are not enough gaps of suitable size to allow a minor-street demand to safely cross through traffic on the major street. This is typically evident from long control delays experienced by minor street traffic and by queuing on the minor approaches. LOS F may also appear in the form of drivers on the minor street selecting smaller than usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. Note that LOS F may not always result in long queues but in

adjustments to normal gap acceptance behavior. For example, this may occur when a left-turning vehicle uses a shorter than normal gap in traffic to complete a left-turn.

At two way stop controlled intersections, the critical movement, often the minor-street left turn, may control the overall performance of the intersection. The lower threshold for LOS F is set at 50 seconds of delay per vehicle. In some cases, the delay equations will predict delays greater than 50 seconds for minor-street movements under very low-volume conditions on the minor street (less than 25 vehicles per hour). A LOS F threshold is reached with a movement capacity of approximately 85 vehicles per hour or less. **Table 2** indicates the control delay criteria used for determining the LOS for un-signalized intersections.

Table 2: LOS Criteria for Un-Signalized Intersections

LOS	Control Delay per Vehicle (seconds)
A	< 10
B	> 10 to < 15
C	> 15 to < 25
D	> 25 to < 35
E	> 35 to < 50
F	> 50

Capacity Analysis

Results of the capacity analysis for all four intersections (signalized and un-signalized) during the AM, midday, and PM peak hours for the three alternatives are provided in **Table 3** through **Table 8** below. The Synchro 11 capacity analysis reports are provided in **Attachment B**.

Table 3: AM Peak Hour LOS Comparison for Signalized Intersections

Intersection	Approach	Movement	Existing		Background		Proposed	
			LOS	Delay	LOS	Delay	LOS	Delay
Six Mile Rd & Haggerty Rd	EB	LT	C	20.4	C	20.6	C	20.5
		TH/RT	C	29.6	C	29.9	C	29.7
	WB	LT	D	40.8	D	40.6	C	33.6
		TH	C	25.7	C	25.8	B	16.7
		RT	C	24.1	C	24.1	A	5.9
	NB	LT	C	23.6	C	23.6	C	23.7
		TH	C	31.6	C	31.7	C	31.7
		RT	C	29.4	C	29.4	C	29.4
	SB	LT	C	27	C	27.3	C	26.7
		TH	C	27.6	C	27.6	C	27.6
		RT	C	26.3	C	26.3	C	26.3
Six Mile Rd & SB I-275	EB	TH	A	9.7	A	9.8	A	9.8
		RT	A	8.6	A	8.6	A	8.6
	WB	TH	A	8.4	A	8.5	A	8.5
		LT	C	29.2	C	29.5	C	29.5
	SB	RT	D	43.4	D	46.4	D	46.4
Six Mile Rd & NB I-275	EB	TH	A	4.5	A	4.6	A	4.6
	WB	TH	A	5.5	A	5.6	A	5.6
	NB	LT/RT	C	32.7	C	32.6	C	32.6
		RT	C	31.8	C	31.8	C	31.8
Six Mile Rd & Fox Dr	EB	LT	na	na	na	na	A	7.2
		TH	na	na	na	na	B	12.6
	WB	TH/RT	na	na	na	na	A	1.2
	SB	LT	na	na	na	na	D	43.1
		RT	na	na	na	na	D	40.5
Six Mile Rd & Quakertown Ln	EB	TH/RT	na	na	na	na	A	4.2
	WB	LT	na	na	na	na	B	13.7
		TH	na	na	na	na	B	12
	NB	LT	na	na	na	na	D	39.4
		RT	na	na	na	na	D	39.5

Table 4: AM Peak Hour LOS Comparison for Unsignalized Intersections

Intersection	Approach	Movement	Existing		Background		Proposed	
			LOS	Delay	LOS	Delay	LOS	Delay
Six Mile Rd & Fox Dr	EB	LT	B	10.9	B	11	na	na
	SB	LT/RT	B	10.8	B	10.8	na	na
Six Mile Rd & Quakertown Ln	WB	LT	B	10.3	B	10.4	na	na
	NB	LT/RT	B	10.3	B	10.3	na	na

Note: Uncontrolled through and/or right only movements at unsignalized intersections are not shown as they report no delay.

Table 5: Off Peak Hour LOS Comparison for Signalized Intersections

Intersection	Approach	Movement	Existing		Background		Proposed	
			LOS	Delay	LOS	Delay	LOS	Delay
Six Mile Rd & Haggerty Rd	EB	LT	C	25.8	C	26.3	C	26.3
		TH/RT	C	30.8	C	30.8	C	30.8
	WB	LT	F	139.5	F	157.1	F	146.8
		TH	C	27.9	C	28.1	C	25.2
		RT	D	44.8	D	42.7	D	45.9
	NB	LT	C	21	C	21.2	C	21.2
		TH	C	31.8	C	32.2	C	32.2
		RT	C	28.7	C	29.3	C	29.1
	SB	LT	F	103.1	F	116.3	F	81.9
		TH	C	25.4	C	25.6	C	25.6
		RT	C	21.3	C	21.3	C	21.3
Six Mile Rd & SB I-275	EB	TH	B	11.4	B	11.8	B	16.8
		RT	B	12	B	12.5	D	52.7
	WB	TH	A	7.4	A	7.5	A	7.5
		LT	C	30.4	C	30.8	C	30.8
	SB	RT	C	30.2	C	31.1	C	31.1
Six Mile Rd & NB I-275	EB	TH	A	4.7	A	4.7	A	2.4
	WB	TH	A	5.2	A	5.3	A	5.3
	NB	LT/RT	C	33	C	33	C	33
		RT	C	31.7	C	31.8	C	31.8
Six Mile Rd & Fox Dr	EB	LT	na	na	na	na	B	12.1
		TH	na	na	na	na	B	14.9
	WB	TH/RT	na	na	na	na	A	1.3
	SB	LT	na	na	na	na	D	36.5
		RT	na	na	na	na	C	33.8
Six Mile Rd & Quakertown Ln	EB	TH/RT	na	na	na	na	A	6.8
	WB	LT	na	na	na	na	C	21.4
		TH	na	na	na	na	B	17.2
	NB	LT	na	na	na	na	C	34.5
		RT	na	na	na	na	C	34.5

Table 6: Off Peak Hour LOS Comparison for Unsignalized Intersections

Intersection	Approach	Movement	Existing		Background		Proposed	
			LOS	Delay	LOS	Delay	LOS	Delay
Six Mile Rd & Fox Dr	EB	LT	B	10.3	B	10.3	na	na
	SB	LT/RT	B	11.3	B	11.3	na	na
Six Mile Rd & Quakertown Ln	WB	LT	B	11.3	B	11.4	na	na
	NB	LT/RT	B	12.6	B	12.7	na	na

Note: Uncontrolled through and/or right only movements at unsignalized intersections are not shown as they report no delay.

Table 7: PM Peak Hour LOS Comparison for Signalized Intersections

Intersection	Approach	Movement	Existing		Background		Proposed	
			LOS	Delay	LOS	Delay	LOS	Delay
Six Mile Rd & Haggerty Rd	EB	LT	C	30.9	C	31.2	C	30.4
		TH/RT	D	44.8	D	46.7	D	41.7
	WB	LT	F	104.9	F	112.5	F	97.5
		TH	D	37.6	D	38.3	C	30.3
		RT	C	30.6	C	30.7	C	32.9
	NB	LT	C	23.6	C	23.8	C	24.9
		TH	C	34.2	C	34.4	C	34.4
		RT	D	35.2	D	36	D	35.2
	SB	LT	D	47.3	D	51.3	D	39.3
		TH	C	30.5	C	30.6	C	31.8
		RT	C	25.4	C	25.3	C	26
Six Mile Rd & SB I-275	EB	TH	B	11.7	B	11.9	B	11.9
		RT	A	9.6	A	9.6	A	9.6
	WB	TH	A	8.8	A	8.9	A	8.9
	SB	LT	C	32.5	C	33	C	33
		RT	F	83.3	F	93.4	F	93.4
Six Mile Rd & NB I-275	EB	TH	A	5.8	A	6	A	6
	WB	TH	A	5.9	A	5.9	A	5.9
	NB	LT/RT	C	32.6	C	32.5	C	32.5
		RT	C	32.3	C	32.2	C	32.2
Six Mile Rd & Fox Dr	EB	LT	na	na	na	na	B	13.6
		TH	na	na	na	na	C	21.5
	WB	TH/RT	na	na	na	na	A	1.4
	SB	LT	na	na	na	na	D	45.3
		RT	na	na	na	na	D	38.3
Six Mile Rd & Quakertown Ln	EB	TH/RT	na	na	na	na	B	12.7
	WB	LT	na	na	na	na	C	29.3
		TH	na	na	na	na	B	14.3
	NB	LT	na	na	na	na	D	39.6
		RT	na	na	na	na	D	39.5

Table 8: PM Peak Hour LOS Comparison for Unsignalized Intersections

Intersection	Approach	Movement	Existing		Background		Proposed	
			LOS	Delay	LOS	Delay	LOS	Delay
Six Mile Rd & Fox Dr	EB	LT	B	11.6	B	11.7	na	na
	SB	LT/RT	B	13.4	B	13.4	na	na
Six Mile Rd & Quakertown Ln	WB	LT	B	13.8	B	14.1	na	na
	NB	LT/RT	B	14.8	C	15.1	na	na

Note: Uncontrolled through and/or right only movements at unsignalized intersections are not shown as they report no delay.

Results of the capacity analysis indicate acceptable LOS for AM peak for the existing, background, and proposed alternative. Unacceptable LOS F is reported during the off peak for the WB left and SB left turn movements at Six Mile Rd & Haggerty Rd for all three alternatives. These LOS F movements indicate lower delay under the proposed alternative as a result of progression improvements on the WB approach, and fewer number of vehicles expecting to use the SB left at this intersection due to the introduction of a SB left-turn lane at Fox Dr. Capacity analysis results for PM peak indicate comparable trends as the off peak with unacceptable LOS F for the WB left and SB right turn movements at Six Mile Rd & Haggerty Rd for all three alternatives. Lower delay is reported for these movements under the proposed alternative.

For all evaluations, the WB approach at Six Mile Rd & Haggerty Rd reports lower levels of delay under the proposed alternative due to improved progression from the proposed signal at Six Mile Rd & Fox Dr/Quakertown Ln. Improved delay is also expected for the SB left-turn movement of this intersection due to the introduction of a SB left-turn lane at Six Mile Rd & Fox Dr. It should be noted that these results were obtained without any signal timing changes to the existing signals. Signal modifications were only made at the intersections of Six Mile Rd & Fox Dr/Quakertown Ln. Additional corridor improvements are possible from signal timing modifications (i.e. splits and offsets) at the existing signals within the study area.

Conclusions and Recommendations

HRC performed a traffic analysis to determine traffic operations along Six Mile Rd from Haggerty Rd to the I-275 interchange under the scenario that a traffic signal is installed at the intersection of Six Mile Rd & Fox Dr/Quakertown Ln. The analysis was performed for the following alternatives:

- ≡ Existing traffic volumes
- ≡ Background traffic volumes (existing plus future growth rate for 2024)
- ≡ Proposed traffic signal alternative at 6 Mile Rd & Fox Dr/Quakertown Ln with background traffic

Results of the capacity analysis indicate unacceptable LOS F for the WB left and SB left movements at Six Mile Rd & Haggerty Rd during off peak period for all alternatives, and unacceptable LOS F for the WB left and SB right movements at Six Mile Rd & Haggerty Rd during PM peak period for all alternatives. All other movements perform at acceptable LOS. In all cases the WB approach at Six Mile Rd & Haggerty Rd reports lower levels of delay under the proposed alternative due to improved progression from the proposed signal at Six Mile Rd & Fox Dr/Quakertown Ln. Lower levels of delay are also expected at the SB left-turn movement of this intersection due to the introduction of a SB left-turn lane at Six Mile Rd & Fox Dr. These results are obtained without signal timing changes at the existing signals. Signal modifications were only made at the intersections of Six Mile Rd & Fox Dr/Quakertown Ln. Additional corridor improvements are possible from signal timing modifications (i.e. splits and offsets) at the existing signals within the study area.

Given the capacity analysis findings, the proposed alternative is recommended for implementation. This alternative consists of the following geometric and operational modifications at the intersection of Six Mile Rd & Fox Dr/Quakertown Ln:

- ≡ Installation of traffic signal. The Fox Dr and Quakertown Ln streets operate split phased under the same signal. Signal is coordinated with the signal at Six Mile Rd & Haggerty Rd, and the I-275 ramp signals when feasible.
- ≡ Installation of SB left-turn lane at Fox Dr.
- ≡ Installation of NB left-turn lane at Quakertown Ln.

A concept design of the proposed modifications at Six Mile Rd & Fox Dr/Quakertown Ln is provided in **Attachment C**.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Gentjan Heqimi, P.E., PTOE, PTP
Project Engineer

GH/lfm

Attachment: A – Signal Warrant with Traffic Volumes
 B – Synchro HCM Reports
 C – Preferred Alternative Concept Design

Enclosure

pc: HRC; L. Michaels, File

ATTACHMENT A – SIGNAL WARRANT with TRAFFIC VOLUMES



Memorandum

To: Angela Matthews

From: Gentjan Heqimi, P.E., PTOE, PP

Date: May 25th, 2022

Subject: Traffic Signal Warrant Analysis
6 Mile Rd and Fox Dr/Quakertown Ln



HRC Job No. 20210940

TRAFFIC SIGNAL WARRANT ANALYSIS

At your request, Hubbell, Roth & Clark, Inc. (HRC) conducted a signal warrant analysis at the intersection of 6 Mile Rd and Fox Dr/Quakertown Ln for existing conditions. The subject intersection is a four-leg stop-controlled on the minor offset intersection located in the City of Livonia, MI. Characteristics of each leg of the intersection are as follows:

- ≡ 6 Mile Rd (East-West) – Five-lane county minor arterial road with a 45 mph speed limit. The WB direction has a dedicated right-turn lane extending west through the intersection to Haggerty Rd.
- ≡ Fox Dr (North) – Two-lane private road with a 25 mph speed limit. No left-turns are allowed out of Fox Dr.
- ≡ Quakertown Ln (South) – Two-lane city local road with a 25 mph speed limit.

The investigation of the need for traffic signal controls at this intersection was based on 24 hours turning movement counts collected on Wednesday February 23, 2022. The evaluation consisted of the analysis of factors for the following warrants:

- ≡ Warrant 1: Eight-Hour Vehicular Volume
- ≡ Warrant 2: Four-Hour Vehicular Volume
- ≡ Warrant 3: Peak Hour Vehicular Volume
- ≡ Warrant 4: Pedestrian Volume
- ≡ Warrant 5: School Crossing
- ≡ Warrant 6: Coordinated Signal System
- ≡ Warrant 7: Crash Experience
- ≡ Warrant 8: Roadway Network
- ≡ Warrant 9: Intersection Near a Grade Crossing

A summary of the traffic warrant analysis for the intersection is shown in **Table 1** below. The warrant analysis and traffic volumes are provided in **Attachment A** and **Attachment B** respectively.

Table 1: Traffic Signal Warrant Analysis Summary for 6 Mile Rd and Fox Dr/Quakertown Ln

Warrant		Is Warrant Met?
Warrant 1: Eight-Hour Vehicular Volume	Condition A	No
	Condition B	Yes
	Condition A & B	N/A
Warrant 2: Four-Hour Vehicular Volume		Yes
Warrant 3: Peak-Hour Vehicular Volume	Condition A	No
	Condition B	Yes
Warrant 4: Pedestrian Volume	Condition A	No
	Condition B	No
Warrant 5: School Crossing		No
Warrant 6: Coordinated Signal System		No
Warrant 7: Crash Experience		No
Warrant 8: Roadway Network		No
Warrant 9: Intersection Near a Grade Crossing		No

The analysis indicates that the intersection meets the following three of the nine traffic signal warrants:

- ≡ Warrant 1: Eight-Hour Vehicular Volume
 - Met under Condition B for ten hours of the day between 7:00 AM – 9:00 AM and 11:00 AM – 7:00 PM
- ≡ Warrant 2: Four-Hour Vehicular Volume
 - Met for five hours of the day between 7:00 AM – 8:00 AM and 3:00 PM and 7:00 PM
- ≡ Warrant 3: Peak-Hour Vehicular Volume
 - Met for Condition B for three hours of the day between 7:00 AM – 8:00 AM and 4:00 PM and 6:00 PM

The signal warrant analysis for existing conditions at the intersection of 6 Mile Rd and Fox Dr/Quakertown Ln indicates that a signal is warranted at this location.

SAFETY EVALUATION

A safety evaluation was performed for the intersection of 6 Mile Rd and Fox Dr/Quakertown Ln in addition to the signal warrant analysis. The safety evaluation was based on an analysis of five years of crash data from 2017 through 2021, and review of conflicting turning movements at Fox Dr based on the collected turning movements counts.

The first part of the safety evaluation involved an analysis of five years of crash data. Crashes were obtained from the Transportation Improvement Association (TIA) Transportation Data Management System (TDMS). Crashes were associated with the intersection if they occurred within 250 feet of the intersection and confirmed with review of individual UD-10 reports. A summary of the crash characteristics for the intersection is provided in **Table 2**.

Table 2: Intersection Crash Characteristics by Crash Type, 2017 – 2021

Crash Type	Total	2017		2018		2019		2020		2021	
		Injury	PDO	Injury	PDO	Injury	PDO	Injury	PDO	Injury	PDO
Angle	8	-	1	-	2	1	2	-	2	-	-
Rear End	8	2	-	1	1	1	2	-	1	-	-
Sideswipe Same	7	1	3	1	1	-	-	-	1	-	-
Single Vehicle	2	-	-	-	1	-	1	-	-	-	-
Total	25	3	4	2	5	2	5	-	4	-	-

A total of 25 crashes occurred at the intersection of 6 Mile Rd and Fox Dr/Quakertown Ln between 2017 and 2021. Two of the crashes were injury type B, four were injury type C, and 19 were property damage only crashes (PDO). There were no fatal or injury type A crashes reported within the time period of analysis. Majority of the crashes were angle crashes, rear end crashes, or sideswipe same crashes. These categories comprised 92% of total crashes with an equal distribution among the three crash categories. The remaining were single vehicle crashes. Review of UD-10 crash reports indicated that 22 of the 25 crashes are susceptible to correction by a traffic signal. The individual crash analysis is as follows:

- ≡ Eight (8) angle crashes resulted from failure to yield when performing a left-turn out of or into Fox Dr and Quakertown. All angle crashes are susceptible to correction by a traffic signal.
- ≡ Eight (8) rear end crashes resulted from failure to stop due to stopped vehicles on center-left turn lane or thru lanes, or congestion upstream and downstream of the intersection. Six (6) of the Eight (8) rear end crashes are susceptible to correction by a traffic signal.
- ≡ Seven (7) sideswipe same crashes resulted from improper lane changing on thru lanes and improper turning maneuvers for Fox Dr and Quakertown Ln. All sideswipe same crashes are susceptible to correction by a traffic signal.
- ≡ Two (2) single vehicle crashes resulted from improper truck turning maneuver or loss of vehicle control. One (1) of the single vehicle crashes is susceptible to correction by a traffic signal.

In addition the crash analysis, conflicting turning movements were reviewed for SB Fox Dr based on the collected turning movement counts. SB Fox Dr has one exiting lane and allows only SB right-turning movements. SB left-turns are currently prohibited and controlled via regulatory signage and road geometric controls. Review of turning movement counts indicated a total of 443 vehicles exiting Fox Dr on a typical day. Of the 443 vehicle, 295 (66.6%) performed a SB right turn. Whereas the remaining 148 or 33.4% performed an illegal SB left-turn. The high rate of illegal SB left-turn maneuvers (1 in 3) in spite of signing and geometric controls pose a considerable safety risk. This rate could become of greater concern once surrounding offices operate at full capacity following recent work related COVID-19 restrictions. The installation of a traffic signal can significantly improve compliance and safety for left-turning maneuvers by provided dedicated and protected SB left-turn operations.

The safety analysis for existing conditions at the intersection of 6 Mile Rd and Fox Dr/Quakertown Ln indicates that a traffic signal can improve overall intersection safety performance and significantly reduce safety risks for SB left-turn maneuvers.

ATTACHMENT A – TRAFFIC SIGNAL WARRANT ANALYSIS

Summary of Warrants			
Spot Number:	Existing - 2022		
Major Street:	6 Mile	Minor Street:	Fox Dr / Quakertown
Intersection:	6 Mile at Fox Dr / Quakertown Ln		
City/Twp:	Livonia		
Date Performed:	4/21/2022	Performed By:	GH
Date Volumes Collected:	2/23/2022		
Warrant		Condition	Is Warrant Met
Data Validation Error			NO
WARRANT 1: Eight-Hour Vehicular Volume			YES
		Condition A	NO
		Condition B	YES
		Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume		(70%)	YES
WARRANT 3: Peak-Hour Vehicular Volume		(70%)	YES
		Condition A	NO
		Condition B	YES
WARRANT 4: Pedestrian Volume		(70%)	NO
		Four Hour	N/A
		Peak Hour	N/A
(Threshold)		HAWK	NO
(Threshold)		RRFB	NO
WARRANT 5: School Crossing			NO
WARRANT 6: Coordinated Signal System			NO
WARRANT 7: Crash Experience			NO
		Condition A	NO
		Condition B	NO
WARRANT 8: Roadway Network			NO
WARRANT 9: Intersection Near a Grade Crossing			#N/A
Issue to Be Addressed by Signalization:			
Congestion and Safety			

ATTACHMENT B – TURNING MOVEMENT COUNTS

Turning Movement Data

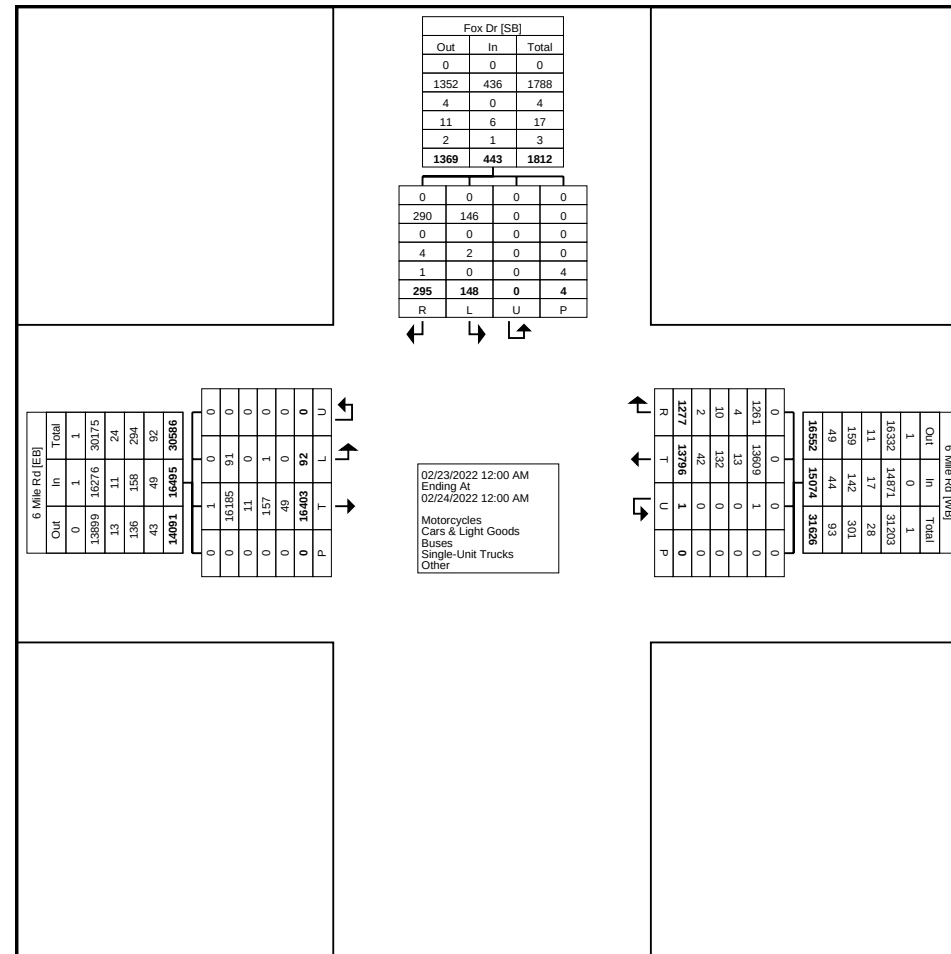
Start Time	6 Mile Rd Eastbound					6 Mile Rd Westbound					Fox Dr Southbound					Int. Total
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
12:00 AM	1	18	0	0	19	15	1	0	0	16	0	1	0	0	1	36
12:15 AM	0	19	0	0	19	10	1	0	0	11	0	0	0	0	0	30
12:30 AM	0	14	0	0	14	9	2	0	0	11	0	0	0	0	0	25
12:45 AM	1	10	0	0	11	14	2	0	0	16	0	0	0	0	0	27
Hourly Total	2	61	0	0	63	48	6	0	0	54	0	1	0	0	1	118
1:00 AM	0	7	0	0	7	6	1	0	0	7	0	0	0	0	0	14
1:15 AM	0	5	0	0	5	3	0	0	0	3	1	0	0	0	1	9
1:30 AM	0	4	0	0	4	1	1	0	0	2	0	0	0	0	0	6
1:45 AM	0	4	0	0	4	5	1	0	0	6	0	0	0	0	0	10
Hourly Total	0	20	0	0	20	15	3	0	0	18	1	0	0	0	1	39
2:00 AM	0	6	0	0	6	5	1	0	0	6	0	0	0	0	0	12
2:15 AM	0	2	0	0	2	4	3	0	0	7	1	0	0	0	1	10
2:30 AM	0	6	0	0	6	6	0	0	0	6	1	0	0	0	1	13
2:45 AM	0	7	0	0	7	10	0	0	0	10	0	0	0	0	0	17
Hourly Total	0	21	0	0	21	25	4	0	0	29	2	0	0	0	2	52
3:00 AM	0	12	0	0	12	2	0	0	0	2	0	0	0	0	0	14
3:15 AM	0	7	0	0	7	2	0	0	0	2	0	0	0	0	0	9
3:30 AM	0	6	0	0	6	7	0	0	0	7	0	0	0	0	0	13
3:45 AM	0	4	0	0	4	9	0	0	0	9	1	1	0	0	2	15
Hourly Total	0	29	0	0	29	20	0	0	0	20	1	1	0	0	2	51
4:00 AM	0	8	0	0	8	9	0	0	0	9	0	0	0	0	0	17
4:15 AM	0	10	0	0	10	12	0	0	0	12	0	1	0	0	1	23
4:30 AM	0	12	0	0	12	22	2	0	0	24	1	0	0	0	1	37
4:45 AM	1	17	0	0	18	15	0	0	0	15	0	1	0	0	1	34
Hourly Total	1	47	0	0	48	58	2	0	0	60	1	2	0	0	3	111
5:00 AM	0	20	0	0	20	17	0	0	0	17	0	0	0	0	0	37
5:15 AM	1	37	0	0	38	39	0	0	0	39	1	1	0	0	2	79
5:30 AM	0	50	0	0	50	80	2	0	0	82	0	0	0	0	0	132
5:45 AM	0	65	0	0	65	105	3	1	0	109	3	2	0	0	5	179
Hourly Total	1	172	0	0	173	241	5	1	0	247	4	3	0	0	7	427
6:00 AM	0	77	0	0	77	59	6	0	0	65	0	2	0	0	2	144
6:15 AM	1	90	0	0	91	76	2	0	0	78	1	2	0	0	3	172
6:30 AM	0	116	0	0	116	124	9	0	0	133	1	2	0	0	3	252
6:45 AM	0	110	0	0	110	140	10	0	0	150	0	4	0	0	4	264
Hourly Total	1	393	0	0	394	399	27	0	0	426	2	10	0	0	12	832
7:00 AM	1	173	0	0	174	96	16	0	0	112	4	2	0	0	6	292

7:15 AM	0	192	0	0	192	171	24	0	0	195	1	4	0	0	5	392
7:30 AM	0	217	0	0	217	191	22	0	0	213	2	6	0	0	8	438
7:45 AM	2	222	0	0	224	249	39	0	0	288	2	7	0	0	9	521
Hourly Total	3	804	0	0	807	707	101	0	0	808	9	19	0	0	28	1643
8:00 AM	3	224	0	0	227	289	25	0	0	314	1	6	0	0	7	548
8:15 AM	1	225	0	0	226	247	32	0	0	279	0	4	0	0	4	509
8:30 AM	1	255	0	0	256	268	30	0	0	298	1	5	0	0	6	560
8:45 AM	1	237	0	0	238	258	26	0	0	284	0	0	0	0	0	522
Hourly Total	6	941	0	0	947	1062	113	0	0	1175	2	15	0	0	17	2139
9:00 AM	3	228	0	0	231	210	23	0	0	233	1	2	0	0	3	467
9:15 AM	2	206	0	0	208	207	21	0	0	228	2	5	0	0	7	443
9:30 AM	0	171	0	0	171	175	23	0	0	198	0	6	0	0	6	375
9:45 AM	0	192	0	0	192	188	24	0	0	212	2	4	0	0	6	410
Hourly Total	5	797	0	0	802	780	91	0	0	871	5	17	0	0	22	1695
10:00 AM	0	223	0	0	223	178	11	0	0	189	3	3	0	0	6	418
10:15 AM	0	219	0	0	219	172	17	0	0	189	0	4	0	0	4	412
10:30 AM	1	210	0	0	211	182	15	0	0	197	1	2	0	0	3	411
10:45 AM	2	244	0	0	246	193	9	0	0	202	1	7	0	0	8	456
Hourly Total	3	896	0	0	899	725	52	0	0	777	5	16	0	0	21	1697
11:00 AM	0	233	0	0	233	179	15	0	0	194	1	4	0	0	5	432
11:15 AM	5	267	0	0	272	190	18	0	0	208	0	7	0	0	7	487
11:30 AM	1	274	0	0	275	235	17	0	0	252	2	6	0	0	8	535
11:45 AM	0	278	0	0	278	260	23	0	0	283	1	2	0	0	3	564
Hourly Total	6	1052	0	0	1058	864	73	0	0	937	4	19	0	0	23	2018
12:00 PM	1	286	0	0	287	232	28	0	0	260	3	4	0	0	7	554
12:15 PM	0	284	0	0	284	237	22	0	0	259	1	8	0	1	9	552
12:30 PM	0	276	0	0	276	250	14	0	0	264	0	4	0	0	4	544
12:45 PM	1	258	0	0	259	250	22	0	0	272	1	0	0	0	1	532
Hourly Total	2	1104	0	0	1106	969	86	0	0	1055	5	16	0	1	21	2182
1:00 PM	1	247	0	0	248	219	13	0	0	232	1	3	0	0	4	484
1:15 PM	1	239	0	0	240	234	16	0	0	250	0	7	0	0	7	497
1:30 PM	2	317	0	0	319	220	18	0	0	238	3	4	0	0	7	564
1:45 PM	0	264	0	0	264	233	18	0	0	251	2	0	0	0	2	517
Hourly Total	4	1067	0	0	1071	906	65	0	0	971	6	14	0	0	20	2062
2:00 PM	1	275	0	0	276	199	10	0	0	209	3	7	0	0	10	495
2:15 PM	0	285	0	0	285	247	12	0	0	259	1	7	0	0	8	552
2:30 PM	5	296	0	0	301	251	20	0	0	271	2	3	0	0	5	577
2:45 PM	2	276	0	0	278	230	20	0	0	250	2	7	0	0	9	537
Hourly Total	8	1132	0	0	1140	927	62	0	0	989	8	24	0	0	32	2161
3:00 PM	2	334	0	0	336	250	16	0	0	266	2	5	0	0	7	609
3:15 PM	4	312	0	0	316	286	8	0	0	294	1	2	0	0	3	613
3:30 PM	0	331	0	0	331	256	18	0	0	274	3	8	0	0	11	616
3:45 PM	1	351	0	0	352	255	12	0	0	267	1	3	0	0	4	623
Hourly Total	7	1328	0	0	1335	1047	54	0	0	1101	7	18	0	0	25	2461
4:00 PM	0	385	0	0	385	233	22	0	0	255	4	9	0	0	13	653
4:15 PM	0	375	0	0	375	248	19	0	0	267	3	5	0	0	8	650
4:30 PM	1	363	0	0	364	277	23	0	0	300	2	5	0	0	7	671
4:45 PM	2	369	0	0	371	319	37	0	0	356	1	7	0	0	8	735
Hourly Total	3	1492	0	0	1495	1077	101	0	0	1178	10	26	0	0	36	2709
5:00 PM	0	369	0	0	369	294	26	0	0	320	3	9	0	1	12	701
5:15 PM	1	366	0	0	367	313	33	0	0	346	3	7	0	1	10	723
5:30 PM	5	342	0	0	347	308	39	0	0	347	6	6	0	0	12	706

5:45 PM	5	326	0	0	331	335	48	0	0	383	1	7	0	0	8	722
Hourly Total	11	1403	0	0	1414	1250	146	0	0	1396	13	29	0	2	42	2852
6:00 PM	2	312	0	0	314	281	31	0	0	312	2	5	0	0	7	633
6:15 PM	2	277	0	0	279	287	29	0	0	316	1	6	0	0	7	602
6:30 PM	2	261	0	0	263	252	29	0	0	281	2	3	0	0	5	549
6:45 PM	2	241	0	0	243	234	25	0	0	259	3	4	0	0	7	509
Hourly Total	8	1091	0	0	1099	1054	114	0	0	1168	8	18	0	0	26	2293
7:00 PM	1	242	0	0	243	195	26	0	0	221	5	6	0	0	11	475
7:15 PM	2	205	0	0	207	159	18	0	0	177	1	3	0	0	4	388
7:30 PM	1	246	0	0	247	169	12	0	0	181	4	7	0	0	11	439
7:45 PM	1	206	0	0	207	122	13	0	0	135	4	6	0	0	10	352
Hourly Total	5	899	0	0	904	645	69	0	0	714	14	22	0	0	36	1654
8:00 PM	3	236	0	0	239	104	10	0	0	114	2	4	0	0	6	359
8:15 PM	1	171	0	0	172	112	15	0	0	127	3	2	0	0	5	304
8:30 PM	2	155	0	0	157	98	14	0	0	112	5	1	0	0	6	275
8:45 PM	1	168	0	0	169	105	13	0	0	118	2	4	0	0	6	293
Hourly Total	7	730	0	0	737	419	52	0	0	471	12	11	0	0	23	1231
9:00 PM	2	191	0	0	193	80	8	0	0	88	2	2	0	0	4	285
9:15 PM	1	164	0	0	165	77	5	0	0	82	3	0	0	1	3	250
9:30 PM	1	105	0	0	106	69	4	0	0	73	2	1	0	0	3	182
9:45 PM	0	98	0	0	98	48	7	0	0	55	5	3	0	0	8	161
Hourly Total	4	558	0	0	562	274	24	0	0	298	12	6	0	1	18	878
10:00 PM	0	115	0	0	115	47	8	0	0	55	2	2	0	0	4	174
10:15 PM	0	52	0	0	52	41	3	0	0	44	2	1	0	0	3	99
10:30 PM	0	68	0	0	68	46	3	0	0	49	3	0	0	0	3	120
10:45 PM	3	44	0	0	47	39	5	0	0	44	2	2	0	0	4	95
Hourly Total	3	279	0	0	282	173	19	0	0	192	9	5	0	0	14	488
11:00 PM	1	36	0	0	37	30	3	0	0	33	5	1	0	0	6	76
11:15 PM	1	24	0	0	25	34	1	0	0	35	3	0	0	0	3	63
11:30 PM	0	12	0	0	12	16	3	0	0	19	0	1	0	0	1	32
11:45 PM	0	15	0	0	15	31	1	0	0	32	0	1	0	0	1	48
Hourly Total	2	87	0	0	89	111	8	0	0	119	8	3	0	0	11	219
Grand Total	92	16403	0	0	16495	13796	1277	1	0	15074	148	295	0	4	443	32012
Approach %	0.6	99.4	0.0	-	-	91.5	8.5	0.0	-	-	33.4	66.6	0.0	-	-	-

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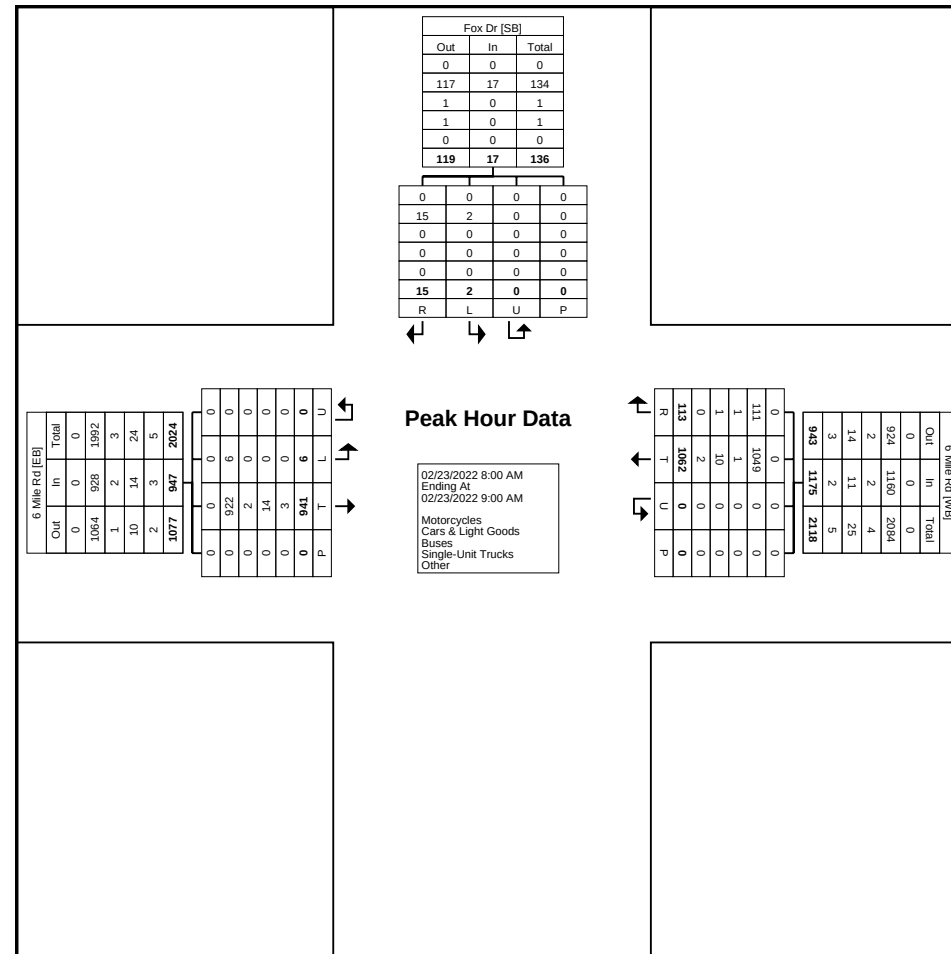
Count Name: 6 Mile Rd and Fox Dr
Site Code:
Start Date: 02/23/2022
Page No: 4



Turning Movement Data Plot

Turning Movement Peak Hour Data (8:00 AM)

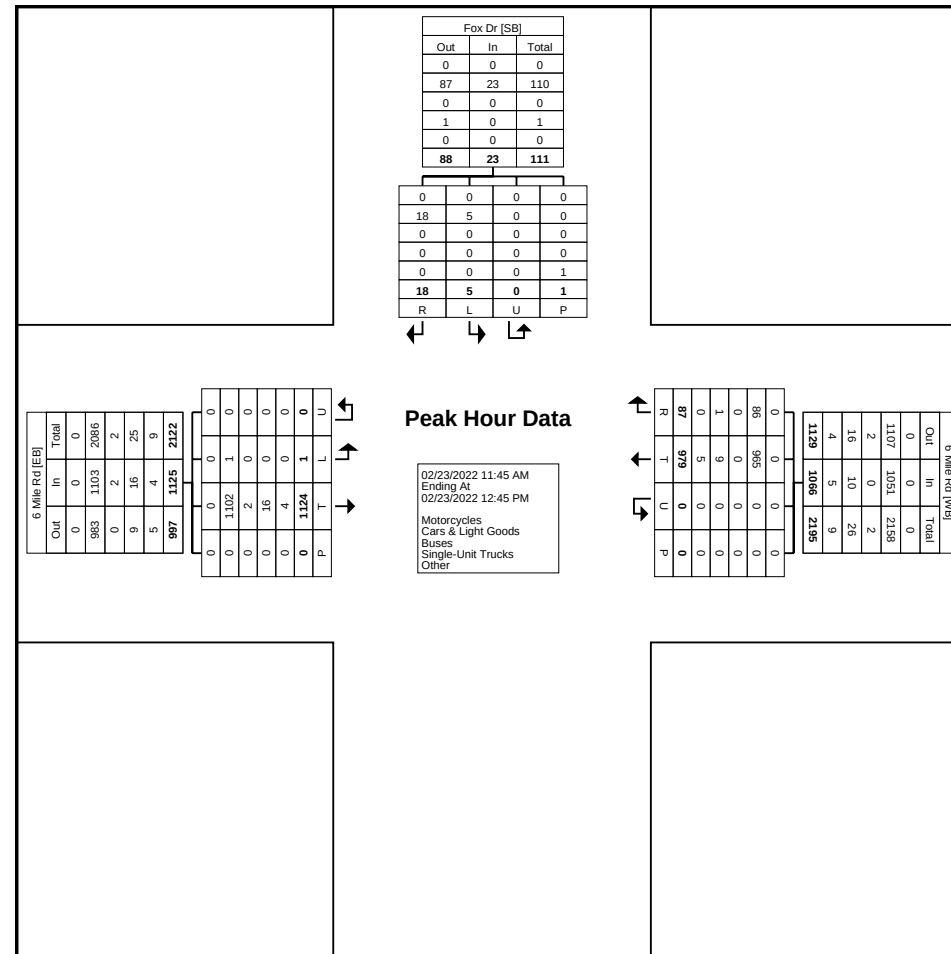
[illegible]



Turning Movement Peak Hour Data Plot (8:00 AM)

Turning Movement Peak Hour Data (11:45 AM)

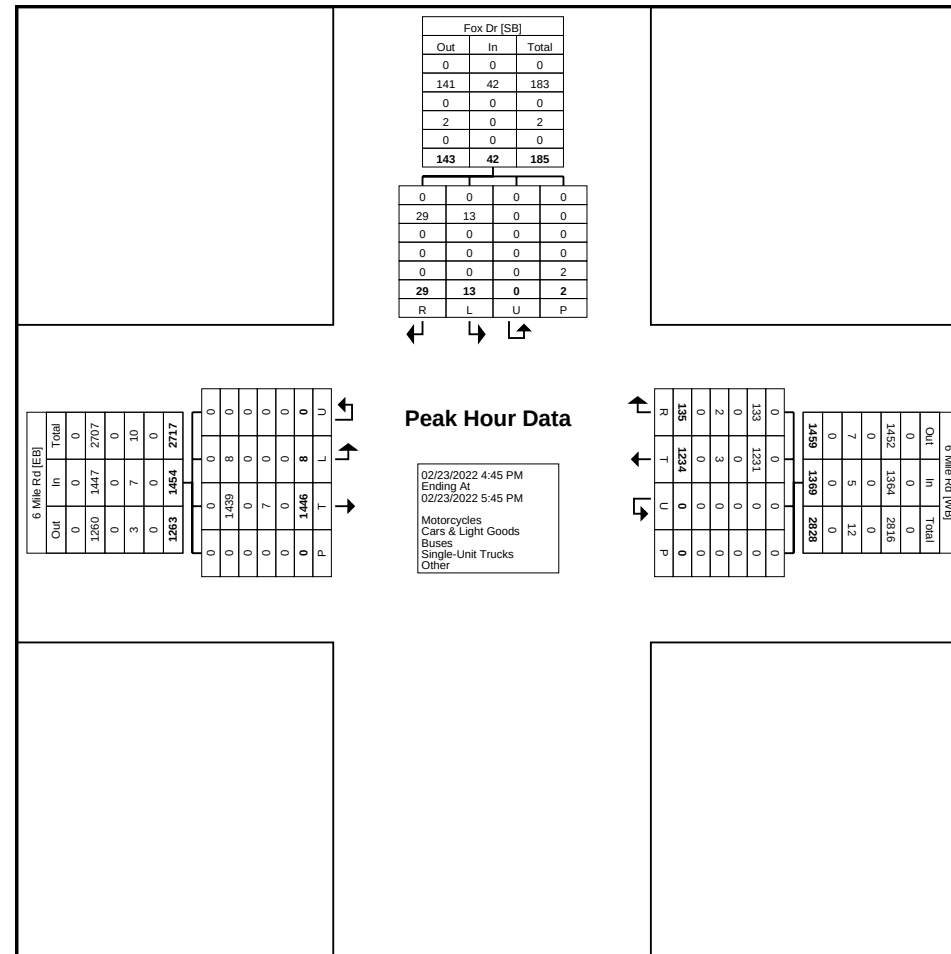
Start Time	6 Mile Rd Eastbound					6 Mile Rd Westbound					Fox Dr Southbound					Int. Total
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
11:45 AM	0	278	0	0	278	260	23	0	0	283	1	2	0	0	3	564
12:00 PM	1	286	0	0	287	232	28	0	0	260	3	4	0	0	7	554
12:15 PM	0	284	0	0	284	237	22	0	0	259	1	8	0	1	9	552
12:30 PM	0	276	0	0	276	250	14	0	0	264	0	4	0	0	4	544
Total	1	1124	0	0	1125	979	87	0	0	1066	5	18	0	1	23	2214
Approach %	0.1	99.9	0.0	-	-	91.8	8.2	0.0	-	-	21.7	78.3	0.0	-	-	-
Total %	0.0	50.8	0.0	-	50.8	44.2	3.9	0.0	-	48.1	0.2	0.8	0.0	-	1.0	-
PHF	0.250	0.983	0.000	-	0.980	0.941	0.777	0.000	-	0.942	0.417	0.563	0.000	-	0.639	0.981
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	1	1102	0	-	1103	965	86	0	-	1051	5	18	0	-	23	2177
% Cars & Light Goods	100.0	98.0	-	-	98.0	98.6	98.9	-	-	98.6	100.0	100.0	-	-	100.0	98.3
Buses	0	2	0	-	2	0	0	0	-	0	0	0	0	-	0	2
% Buses	0.0	0.2	-	-	0.2	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.1
Single-Unit Trucks	0	16	0	-	16	9	1	0	-	10	0	0	0	-	0	26
% Single-Unit Trucks	0.0	1.4	-	-	1.4	0.9	1.1	-	-	0.9	0.0	0.0	-	-	0.0	1.2
Articulated Trucks	0	4	0	-	4	5	0	0	-	5	0	0	0	-	0	9
% Articulated Trucks	0.0	0.4	-	-	0.4	0.5	0.0	-	-	0.5	0.0	0.0	-	-	0.0	0.4
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (11:45 AM)

Turning Movement Peak Hour Data (4:45 PM)

Start Time	6 Mile Rd Eastbound					6 Mile Rd Westbound					Fox Dr Southbound					Int. Total
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
4:45 PM	2	369	0	0	371	319	37	0	0	356	1	7	0	0	8	735
5:00 PM	0	369	0	0	369	294	26	0	0	320	3	9	0	1	12	701
5:15 PM	1	366	0	0	367	313	33	0	0	346	3	7	0	1	10	723
5:30 PM	5	342	0	0	347	308	39	0	0	347	6	6	0	0	12	706
Total	8	1446	0	0	1454	1234	135	0	0	1369	13	29	0	2	42	2865
Approach %	0.6	99.4	0.0	-	-	90.1	9.9	0.0	-	-	31.0	69.0	0.0	-	-	-
Total %	0.3	50.5	0.0	-	50.8	43.1	4.7	0.0	-	47.8	0.5	1.0	0.0	-	1.5	-
PHF	0.400	0.980	0.000	-	0.980	0.967	0.865	0.000	-	0.961	0.542	0.806	0.000	-	0.875	0.974
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	8	1439	0	-	1447	1231	133	0	-	1364	13	29	0	-	42	2853
% Cars & Light Goods	100.0	99.5	-	-	99.5	99.8	98.5	-	-	99.6	100.0	100.0	-	-	100.0	99.6
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	0	7	0	-	7	3	2	0	-	5	0	0	0	-	0	12
% Single-Unit Trucks	0.0	0.5	-	-	0.5	0.2	1.5	-	-	0.4	0.0	0.0	-	-	0.0	0.4
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (4:45 PM)

Turning Movement Data

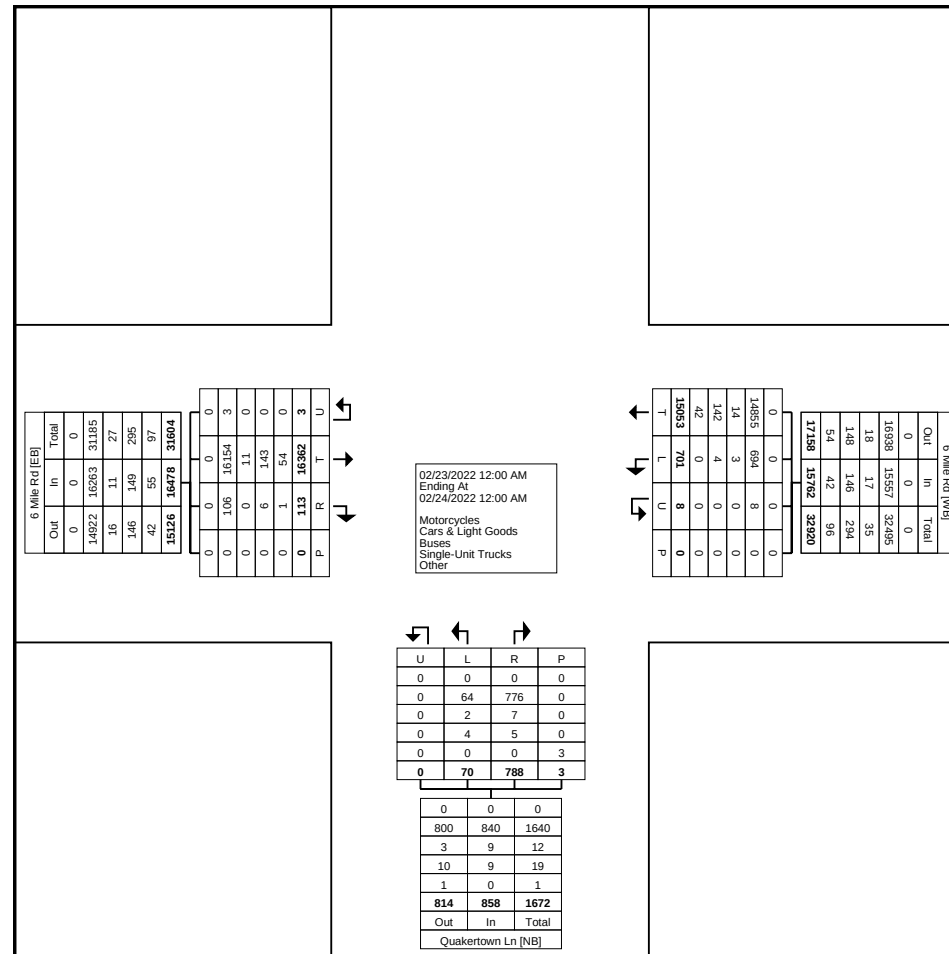
Start Time	6 Mile Rd Eastbound					6 Mile Rd Westbound					Quakertown Ln Northbound					Int. Total
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
12:00 AM	18	0	0	0	18	1	17	0	0	18	0	0	0	0	0	36
12:15 AM	19	0	0	0	19	0	10	0	0	10	0	0	0	0	0	29
12:30 AM	14	0	0	0	14	2	11	0	0	13	0	0	0	0	0	27
12:45 AM	10	0	0	0	10	0	16	0	0	16	0	0	0	0	0	26
Hourly Total	61	0	0	0	61	3	54	0	0	57	0	0	0	0	0	118
1:00 AM	6	1	0	0	7	0	7	0	0	7	0	1	0	0	1	15
1:15 AM	6	0	0	0	6	0	3	0	0	3	0	0	0	0	0	9
1:30 AM	4	0	0	0	4	0	2	0	0	2	0	0	0	0	0	6
1:45 AM	4	0	0	0	4	0	6	0	0	6	0	0	0	0	0	10
Hourly Total	20	1	0	0	21	0	18	0	0	18	0	1	0	0	1	40
2:00 AM	6	0	0	0	6	0	6	0	0	6	0	0	0	0	0	12
2:15 AM	3	0	0	0	3	0	7	0	0	7	0	0	0	0	0	10
2:30 AM	7	0	0	0	7	0	6	0	0	6	0	0	0	0	0	13
2:45 AM	7	0	0	0	7	1	10	0	0	11	0	0	0	0	0	18
Hourly Total	23	0	0	0	23	1	29	0	0	30	0	0	0	0	0	53
3:00 AM	12	0	0	0	12	0	2	0	0	2	0	0	0	0	0	14
3:15 AM	7	0	0	0	7	2	2	0	0	4	0	1	0	0	1	12
3:30 AM	6	0	0	0	6	0	6	0	0	6	1	1	0	0	2	14
3:45 AM	5	0	0	0	5	0	8	0	0	8	0	1	0	0	1	14
Hourly Total	30	0	0	0	30	2	18	0	0	20	1	3	0	0	4	54
4:00 AM	8	0	0	0	8	0	9	0	0	9	0	1	0	0	1	18
4:15 AM	9	0	0	0	9	0	12	0	0	12	0	1	0	0	1	22
4:30 AM	14	0	0	0	14	0	24	0	0	24	0	0	0	0	0	38
4:45 AM	16	0	0	0	16	0	15	0	0	15	0	2	0	0	2	33
Hourly Total	47	0	0	0	47	0	60	0	0	60	0	4	0	0	4	111
5:00 AM	20	0	0	0	20	0	17	0	0	17	0	2	0	0	2	39
5:15 AM	38	0	0	0	38	0	39	0	0	39	0	3	0	0	3	80
5:30 AM	48	0	1	0	49	0	81	0	0	81	0	5	0	0	5	135
5:45 AM	68	0	0	0	68	1	107	0	0	108	0	1	0	0	1	177
Hourly Total	174	0	1	0	175	1	244	0	0	245	0	11	0	0	11	431
6:00 AM	75	2	0	0	77	2	64	0	0	66	0	7	0	0	7	150
6:15 AM	85	0	0	0	85	2	78	0	0	80	0	8	0	0	8	173
6:30 AM	116	1	0	0	117	5	131	0	0	136	1	8	0	0	9	262
6:45 AM	105	3	0	0	108	4	150	0	0	154	1	10	0	0	11	273
Hourly Total	381	6	0	0	387	13	423	0	0	436	2	33	0	0	35	858
7:00 AM	175	1	0	0	176	6	108	0	0	114	3	27	0	0	30	320

7:15 AM	191	1	0	0	192	9	193	0	0	202	0	12	0	0	12	406
7:30 AM	213	4	0	0	217	7	214	0	0	221	0	16	0	0	16	454
7:45 AM	220	3	0	0	223	28	285	0	0	313	0	21	0	0	21	557
Hourly Total	799	9	0	0	808	50	800	0	0	850	3	76	0	0	79	1737
8:00 AM	220	4	0	0	224	15	310	0	0	325	1	14	0	0	15	564
8:15 AM	226	1	0	0	227	24	276	0	0	300	0	11	0	0	11	538
8:30 AM	257	1	0	0	258	14	294	0	0	308	2	11	0	0	13	579
8:45 AM	233	4	0	0	237	23	280	0	0	303	0	14	0	0	14	554
Hourly Total	936	10	0	0	946	76	1160	0	0	1236	3	50	0	0	53	2235
9:00 AM	229	3	0	0	232	23	233	0	0	256	0	8	0	0	8	496
9:15 AM	210	1	0	0	211	15	226	0	0	241	0	9	0	0	9	461
9:30 AM	166	3	0	0	169	11	199	0	0	210	1	17	0	0	18	397
9:45 AM	192	2	0	0	194	12	212	0	0	224	3	4	0	0	7	425
Hourly Total	797	9	0	0	806	61	870	0	0	931	4	38	0	0	42	1779
10:00 AM	224	2	0	0	226	8	188	0	0	196	1	4	0	0	5	427
10:15 AM	221	2	0	0	223	5	187	1	0	193	0	9	0	0	9	425
10:30 AM	209	0	0	0	209	2	194	2	0	198	0	11	0	0	11	418
10:45 AM	244	1	1	0	246	10	200	0	0	210	2	19	0	0	21	477
Hourly Total	898	5	1	0	904	25	769	3	0	797	3	43	0	0	46	1747
11:00 AM	230	3	0	0	233	8	192	0	0	200	3	14	0	0	17	450
11:15 AM	271	0	0	0	271	11	204	1	0	216	3	11	0	0	14	501
11:30 AM	270	1	0	0	271	7	261	1	0	269	1	10	0	0	11	551
11:45 AM	279	2	0	0	281	8	289	0	0	297	1	14	0	0	15	593
Hourly Total	1050	6	0	0	1056	34	946	2	0	982	8	49	0	0	57	2095
12:00 PM	288	0	0	0	288	11	258	1	0	270	1	14	0	0	15	573
12:15 PM	282	2	0	0	284	9	262	0	0	271	1	12	0	0	13	568
12:30 PM	273	4	0	0	277	14	266	0	0	280	2	18	0	0	20	577
12:45 PM	259	2	0	0	261	10	273	0	0	283	2	4	0	0	6	550
Hourly Total	1102	8	0	0	1110	44	1059	1	0	1104	6	48	0	0	54	2268
1:00 PM	248	3	0	0	251	9	238	0	0	247	1	12	0	0	13	511
1:15 PM	236	2	0	0	238	6	250	0	0	256	4	15	0	0	19	513
1:30 PM	321	2	0	0	323	13	236	0	0	249	5	6	0	0	11	583
1:45 PM	266	6	0	0	272	12	303	0	0	315	1	10	0	0	11	598
Hourly Total	1071	13	0	0	1084	40	1027	0	0	1067	11	43	0	0	54	2205
2:00 PM	275	1	0	0	276	6	210	0	0	216	0	10	0	0	10	502
2:15 PM	287	1	0	0	288	11	257	0	0	268	2	14	0	0	16	572
2:30 PM	291	3	0	0	294	17	263	0	0	280	2	13	0	0	15	589
2:45 PM	280	1	0	0	281	11	253	0	0	264	0	12	0	0	12	557
Hourly Total	1133	6	0	0	1139	45	983	0	0	1028	4	49	0	0	53	2220
3:00 PM	316	3	0	0	319	19	264	0	0	283	2	7	0	0	9	611
3:15 PM	302	1	0	0	303	13	293	0	0	306	1	13	0	0	14	623
3:30 PM	318	0	0	0	318	17	272	0	0	289	1	22	0	0	23	630
3:45 PM	327	2	0	0	329	10	268	0	0	278	0	17	0	0	17	624
Hourly Total	1263	6	0	0	1269	59	1097	0	0	1156	4	59	0	0	63	2488
4:00 PM	383	3	0	0	386	12	253	0	0	265	0	24	0	0	24	675
4:15 PM	380	3	0	0	383	16	264	0	0	280	1	14	0	0	15	678
4:30 PM	361	4	0	0	365	13	295	0	0	308	1	24	0	0	25	698
4:45 PM	371	2	0	0	373	15	350	1	0	366	1	18	0	0	19	758
Hourly Total	1495	12	0	0	1507	56	1162	1	0	1219	3	80	0	0	83	2809
5:00 PM	370	1	0	0	371	18	317	0	0	335	2	28	0	0	30	736
5:15 PM	368	0	0	0	368	15	340	0	0	355	3	22	0	0	25	748
5:30 PM	347	1	0	0	348	13	347	0	0	360	2	14	0	0	16	724

5:45 PM	322	1	0	0	323	14	385	0	0	399	0	17	0	0	17	739
Hourly Total	1407	3	0	0	1410	60	1389	0	0	1449	7	81	0	0	88	2947
6:00 PM	316	0	0	0	316	14	309	0	0	323	2	13	0	3	15	654
6:15 PM	274	1	0	0	275	14	316	0	0	330	2	17	0	0	19	624
6:30 PM	263	3	0	0	266	11	285	0	0	296	3	15	0	0	18	580
6:45 PM	240	2	0	0	242	8	265	0	0	273	2	12	0	0	14	529
Hourly Total	1093	6	0	0	1099	47	1175	0	0	1222	9	57	0	3	66	2387
7:00 PM	238	2	0	0	240	10	219	0	0	229	0	14	0	0	14	483
7:15 PM	207	0	0	0	207	15	173	0	0	188	0	8	0	0	8	403
7:30 PM	246	2	0	0	248	4	178	0	0	182	0	5	0	0	5	435
7:45 PM	206	4	0	0	210	3	135	1	0	139	0	4	0	0	4	353
Hourly Total	897	8	0	0	905	32	705	1	0	738	0	31	0	0	31	1674
8:00 PM	235	1	0	0	236	6	112	0	0	118	1	3	0	0	4	358
8:15 PM	173	1	0	0	174	2	127	0	0	129	0	6	0	0	6	309
8:30 PM	159	1	0	0	160	6	111	0	0	117	0	2	0	0	2	279
8:45 PM	170	0	0	0	170	2	115	0	0	117	0	3	0	0	3	290
Hourly Total	737	3	0	0	740	16	465	0	0	481	1	14	0	0	15	1236
9:00 PM	193	0	0	0	193	5	86	0	0	91	1	4	0	0	5	289
9:15 PM	164	1	0	0	165	9	82	0	0	91	0	0	0	0	0	256
9:30 PM	106	0	0	0	106	5	70	0	0	75	0	4	0	0	4	185
9:45 PM	101	0	0	0	101	0	55	0	0	55	0	2	0	0	2	158
Hourly Total	564	1	0	0	565	19	293	0	0	312	1	10	0	0	11	888
10:00 PM	115	1	0	0	116	7	55	0	0	62	0	2	0	0	2	180
10:15 PM	55	0	0	0	55	1	44	0	0	45	0	1	0	0	1	101
10:30 PM	70	0	1	0	71	1	47	0	0	48	0	1	0	0	1	120
10:45 PM	46	0	0	0	46	5	42	0	0	47	0	1	0	0	1	94
Hourly Total	286	1	1	0	288	14	188	0	0	202	0	5	0	0	5	495
11:00 PM	42	0	0	0	42	1	33	0	0	34	0	1	0	0	1	77
11:15 PM	28	0	0	0	28	0	35	0	0	35	0	0	0	0	0	63
11:30 PM	13	0	0	0	13	1	20	0	0	21	0	1	0	0	1	35
11:45 PM	15	0	0	0	15	1	31	0	0	32	0	1	0	0	1	48
Hourly Total	98	0	0	0	98	3	119	0	0	122	0	3	0	0	3	223
Grand Total	16362	113	3	0	16478	701	15053	8	0	15762	70	788	0	3	858	33098
Approach %	99.3	0.7	0.0	-	-	4.4	95.5	0.1	-	-	8.2	91.8	0.0	-	-	-
Total %	49.4	0.3	0.0	-	49.8	2.1	45.5	0.0	-	47.6	0.2	2.4	0.0	-	2.6	-
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	16154	106	3	-	16263	694	14855	8	-	15557	64	776	0	-	840	32660
% Cars & Light Goods	98.7	93.8	100.0	-	98.7	99.0	98.7	100.0	-	98.7	91.4	98.5	-	-	97.9	98.7
Buses	11	0	0	-	11	3	14	0	-	17	2	7	0	-	9	37
% Buses	0.1	0.0	0.0	-	0.1	0.4	0.1	0.0	-	0.1	2.9	0.9	-	-	1.0	0.1
Single-Unit Trucks	143	6	0	-	149	4	142	0	-	146	4	5	0	-	9	304
% Single-Unit Trucks	0.9	5.3	0.0	-	0.9	0.6	0.9	0.0	-	0.9	5.7	0.6	-	-	1.0	0.9
Articulated Trucks	54	1	0	-	55	0	42	0	-	42	0	0	0	-	0	97
% Articulated Trucks	0.3	0.9	0.0	-	0.3	0.0	0.3	0.0	-	0.3	0.0	0.0	-	-	0.0	0.3
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Bloomfield Hills, Michigan, United States 48302
248.454.6300 jhankin@hrcengr.com

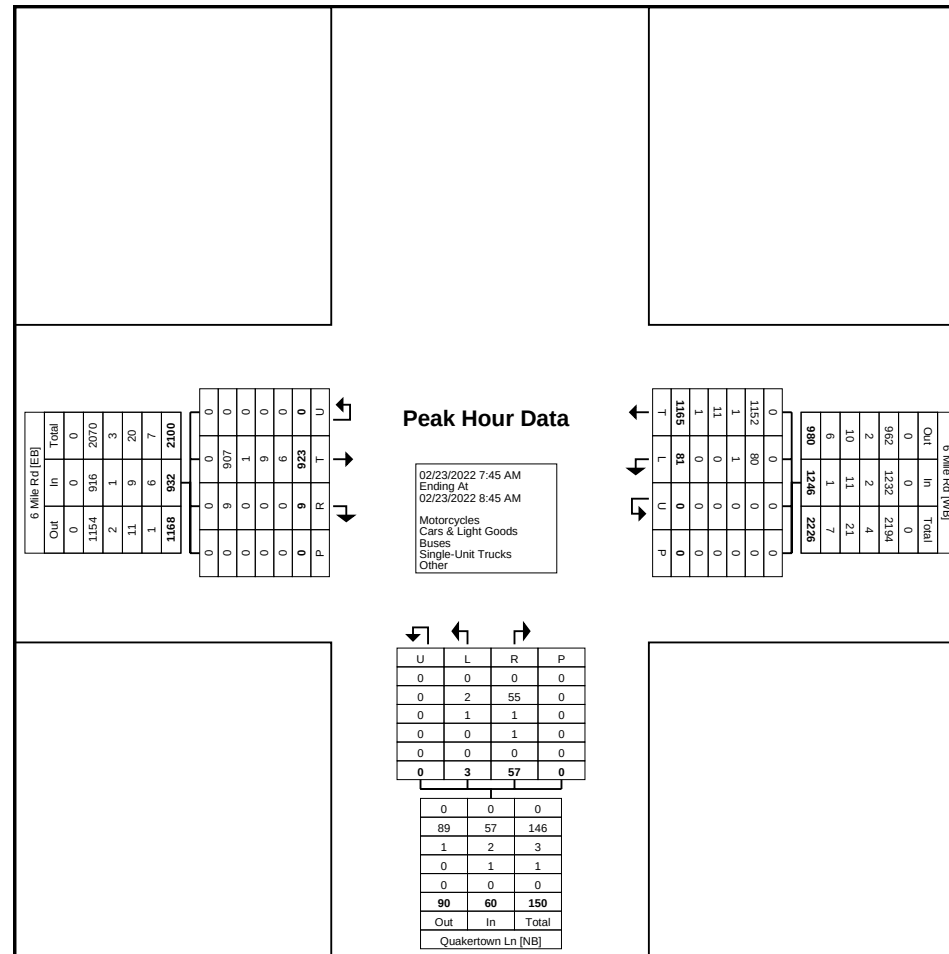
Count Name: 6 Mile Rd and Quakertown Ln
Site Code:
Start Date: 02/23/2022
Page No: 4



Turning Movement Data Plot

Turning Movement Peak Hour Data (7:45 AM)

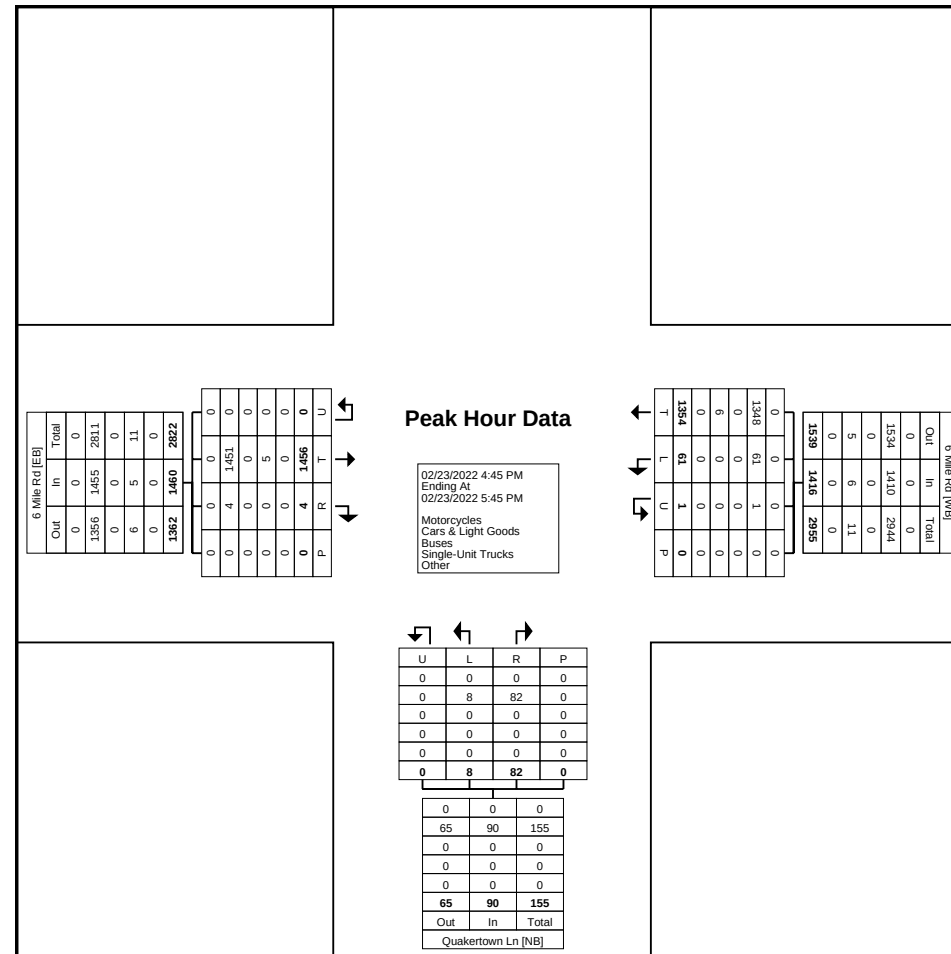
[illegible]



Turning Movement Peak Hour Data Plot (7:45 AM)

Turning Movement Peak Hour Data (4:45 PM)

[illegible]



Turning Movement Peak Hour Data Plot (4:45 PM)

ATTACHMENT B – SYNCHRO HCM REPORTS

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

Existing
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	560	49	269	400	296	64	315	255	127	188	92
Future Volume (vph)	139	560	49	269	400	296	64	315	255	127	188	92
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1837	3754		1818	3762	1683	1817	3762	1683	1818	3762	1660
Flt Permitted	0.46	1.00		0.24	1.00	1.00	0.63	1.00	1.00	0.51	1.00	1.00
Satd. Flow (perm)	887	3754		459	3762	1683	1200	3762	1683	981	3762	1660
Peak-hour factor, PHF	0.86	0.86	0.86	0.95	0.95	0.95	0.94	0.94	0.94	0.95	0.95	0.95
Adj. Flow (vph)	162	651	57	283	421	312	68	335	271	134	198	97
RTOR Reduction (vph)	0	6	0	0	0	218	0	0	212	0	0	73
Lane Group Flow (vph)	162	702	0	283	421	94	68	335	59	134	198	24
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	2			6		2	4		8	8		4
Actuated Green, G (s)	37.8	27.1		37.8	27.1	27.1	27.0	19.7	19.7	27.0	22.1	22.1
Effective Green, g (s)	37.8	27.1		37.8	27.1	27.1	27.0	19.7	19.7	27.0	22.1	22.1
Actuated g/C Ratio	0.42	0.30		0.42	0.30	0.30	0.30	0.22	0.22	0.30	0.25	0.25
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	485	1130		354	1132	506	393	823	368	362	923	407
v/s Ratio Prot	0.04	0.19		c0.09	0.11		0.01	c0.09		c0.03	0.05	
v/s Ratio Perm	0.10			c0.24		0.06	0.04		0.04	0.08		0.01
v/c Ratio	0.33	0.62		0.80	0.37	0.19	0.17	0.41	0.16	0.37	0.21	0.06
Uniform Delay, d1	19.9	27.0		28.8	24.8	23.3	23.4	30.1	28.5	26.3	27.0	26.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.6		11.9	0.9	0.8	0.2	1.5	0.9	0.6	0.5	0.3
Delay (s)	20.4	29.6		40.8	25.7	24.1	23.6	31.6	29.4	27.0	27.6	26.3
Level of Service	C	C		D	C	C	C	C	C	C	C	C
Approach Delay (s)		27.9			29.4			29.9			27.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			28.7									
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			90.0									
Intersection Capacity Utilization			81.3%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Existing
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑					↗		↗
Traffic Volume (vph)	0	712	279	0	828	0	0	0	0	255	0	432
Future Volume (vph)	0	712	279	0	828	0	0	0	0	255	0	432
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3637	1627		3673					1818		1627
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3637	1627		3673					1818		1627
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	757	297	0	900	0	0	0	0	277	0	470
RTOR Reduction (vph)	0	0	127	0	0	0	0	0	0	0	0	99
Lane Group Flow (vph)	0	757	170	0	900	0	0	0	0	277	0	371
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2082	931		2102					499		447
v/s Ratio Prot		0.21			0.25					0.15		
v/s Ratio Perm			0.10									0.23
v/c Ratio		0.36	0.18		0.43					0.56		0.83
Uniform Delay, d1		9.2	8.2		9.7					24.8		27.2
Progression Factor		1.00	1.00		0.80					1.00		1.00
Incremental Delay, d2		0.5	0.4		0.6					4.4		16.2
Delay (s)		9.7	8.6		8.4					29.2		43.4
Level of Service		A	A		A					C		D
Approach Delay (s)		9.4			8.4			0.0			38.1	
Approach LOS		A			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			17.0									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			80.0							12.2		
Intersection Capacity Utilization			73.7%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

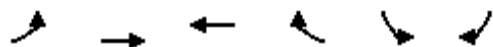
Existing
AM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↘↘	↗
Traffic Volume (vph)	967	0	0	600	228	100
Future Volume (vph)	967	0	0	600	228	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3762			5406	3643	1532
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3762			5406	3643	1532
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1029	0	0	652	248	109
RTOR Reduction (vph)	0	0	0	0	5	34
Lane Group Flow (vph)	1029	0	0	652	254	64
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	52.4			52.4	11.1	11.1
Effective Green, g (s)	52.4			52.4	11.1	11.1
Actuated g/C Ratio	0.65			0.65	0.14	0.14
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2464			3540	505	212
v/s Ratio Prot	c0.27			0.12	c0.07	
v/s Ratio Perm						0.04
v/c Ratio	0.42			0.18	0.50	0.30
Uniform Delay, d1	6.6			5.4	31.9	31.0
Progression Factor	0.62			1.00	1.00	1.00
Incremental Delay, d2	0.5			0.1	0.8	0.8
Delay (s)	4.5			5.5	32.7	31.8
Level of Service	A			A	C	C
Approach Delay (s)	4.5			5.5	32.4	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			9.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.43			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	16.5
Intersection Capacity Utilization			46.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr

Existing
AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↰	↱↱	↱↱↱		↰		
Traffic Volume (veh/h)	6	941	1069	113	2	15	
Future Volume (Veh/h)	6	941	1069	113	2	15	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.93	0.93	0.94	0.94	0.61	0.61	
Hourly flow rate (vph)	6	1012	1137	120	3	25	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		TWLT	TL				
Median storage veh		2	2				
Upstream signal (ft)		874	657				
pX, platoon unblocked	0.95				0.88	0.95	
vC, conflicting volume	1257				1715	439	
vC1, stage 1 conf vol					1197		
vC2, stage 2 conf vol					518		
vCu, unblocked vol	1070				1163	204	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)	2.2				3.5	3.3	
p0 queue free %	99				99	97	
cM capacity (veh/h)	618				289	764	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	6	506	506	455	455	347	28
Volume Left	6	0	0	0	0	0	3
Volume Right	0	0	0	0	0	120	25
cSH	618	1700	1700	1700	1700	1700	650
Volume to Capacity	0.01	0.30	0.30	0.27	0.27	0.20	0.04
Queue Length 95th (ft)	1	0	0	0	0	0	3
Control Delay (s)	10.9	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS	B						B
Approach Delay (s)	0.1			0.0			10.8
Approach LOS							B
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			34.7%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Existing
AM Peak

	→	↘	↙	←	↖	↗	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↘	↑↑↑	↘		
Traffic Volume (veh/h)	934	9	81	1179	3	57	
Future Volume (Veh/h)	934	9	81	1179	3	57	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.90	0.90	0.95	0.95	0.72	0.72	
Hourly flow rate (vph)	1038	10	85	1241	4	79	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLT			TWLT			
Median storage (veh)	2			2			
Upstream signal (ft)	982			549			
pX, platoon unblocked			0.85		0.89	0.85	
vC, conflicting volume			1048		1627	524	
vC1, stage 1 conf vol					1043		
vC2, stage 2 conf vol					584		
vCu, unblocked vol			711		999	96	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			89		99	90	
cM capacity (veh/h)			760		354	808	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	692	356	85	414	414	414	83
Volume Left	0	0	85	0	0	0	4
Volume Right	0	10	0	0	0	0	79
cSH	1700	1700	760	1700	1700	1700	761
Volume to Capacity	0.41	0.21	0.11	0.24	0.24	0.24	0.11
Queue Length 95th (ft)	0	0	9	0	0	0	9
Control Delay (s)	0.0	0.0	10.3	0.0	0.0	0.0	10.3
Lane LOS			B				B
Approach Delay (s)	0.0		0.7				10.3
Approach LOS							B
Intersection Summary							
Average Delay			0.7				
Intersection Capacity Utilization			42.6%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

Existing
OFF Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	460	80	272	375	325	77	543	302	344	480	120
Future Volume (vph)	150	460	80	272	375	325	77	543	302	344	480	120
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1818	3679		1818	3762	1683	1818	3762	1662	1818	3762	1683
Flt Permitted	0.44	1.00		0.30	1.00	1.00	0.38	1.00	1.00	0.25	1.00	1.00
Satd. Flow (perm)	839	3679		568	3762	1683	723	3762	1662	472	3762	1683
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.92	0.92	0.92
Adj. Flow (vph)	161	495	86	313	431	374	92	646	360	374	522	130
RTOR Reduction (vph)	0	18	0	0	0	270	0	0	183	0	0	93
Lane Group Flow (vph)	161	563	0	313	431	104	92	646	177	374	522	37
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	2			6		2	4		8	8		4
Actuated Green, G (s)	25.1	19.4		25.1	19.4	19.4	29.7	19.7	19.7	29.7	22.7	22.7
Effective Green, g (s)	25.1	19.4		25.1	19.4	19.4	29.7	19.7	19.7	29.7	22.7	22.7
Actuated g/C Ratio	0.31	0.24		0.31	0.24	0.24	0.37	0.25	0.25	0.37	0.28	0.28
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	332	892		267	912	408	364	926	409	343	1067	477
v/s Ratio Prot	0.03	0.15		c0.08	0.11		0.02	0.17		c0.14	0.14	
v/s Ratio Perm	0.12			c0.28		0.06	0.07		0.11	c0.27		0.02
v/c Ratio	0.48	0.63		1.17	0.47	0.25	0.25	0.70	0.43	1.09	0.49	0.08
Uniform Delay, d1	24.7	27.1		29.6	25.9	24.5	20.6	27.4	25.4	28.1	23.8	21.0
Progression Factor	1.00	1.00		1.07	1.01	1.77	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	3.4		107.8	1.6	1.4	0.4	4.3	3.3	75.0	1.6	0.3
Delay (s)	25.8	30.5		139.5	27.9	44.8	21.0	31.8	28.7	103.1	25.4	21.3
Level of Service	C	C		F	C	D	C	C	C	F	C	C
Approach Delay (s)		29.5			64.8			29.9			53.2	
Approach LOS		C			E			C			D	
Intersection Summary												
HCM 2000 Control Delay			45.6									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			80.0									Sum of lost time (s) 25.2
Intersection Capacity Utilization			93.8%									ICU Level of Service F
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Existing
OFF Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑					↗		↗
Traffic Volume (vph)	0	897	302	0	791	0	0	0	0	266	0	326
Future Volume (vph)	0	897	302	0	791	0	0	0	0	266	0	326
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3637	1627		3673					1818		1627
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3637	1627		3673					1818		1627
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	0	944	318	0	860	0	0	0	0	299	0	366
RTOR Reduction (vph)	0	0	136	0	0	0	0	0	0	0	0	109
Lane Group Flow (vph)	0	944	182	0	860	0	0	0	0	299	0	257
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2082	931		2102					499		447
v/s Ratio Prot		c0.26			0.23					c0.16		
v/s Ratio Perm			0.11									0.16
v/c Ratio		0.45	0.20		0.41					0.60		0.57
Uniform Delay, d1		9.9	8.2		9.5					25.2		25.0
Progression Factor		1.10	1.41		0.72					1.00		1.00
Incremental Delay, d2		0.5	0.3		0.6					5.2		5.3
Delay (s)		11.4	12.0		7.4					30.4		30.2
Level of Service		B	B		A					C		C
Approach Delay (s)		11.5			7.4			0.0			30.3	
Approach LOS		B			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			14.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)				12.2		
Intersection Capacity Utilization			67.5%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

Existing
OFF Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1163	0	0	591	200	100
Future Volume (vph)	1163	0	0	591	200	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3762			5406	3641	1532
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3762			5406	3641	1532
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1224	0	0	642	217	109
RTOR Reduction (vph)	0	0	0	0	5	54
Lane Group Flow (vph)	1224	0	0	642	223	44
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	53.1			53.1	10.4	10.4
Effective Green, g (s)	53.1			53.1	10.4	10.4
Actuated g/C Ratio	0.66			0.66	0.13	0.13
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2497			3588	473	199
v/s Ratio Prot	c0.33			0.12	c0.06	
v/s Ratio Perm						0.03
v/c Ratio	0.49			0.18	0.47	0.22
Uniform Delay, d1	6.7			5.1	32.3	31.2
Progression Factor	0.61			1.00	1.00	1.00
Incremental Delay, d2	0.6			0.1	0.7	0.6
Delay (s)	4.7			5.2	33.0	31.7
Level of Service	A			A	C	C
Approach Delay (s)	4.7			5.2	32.6	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			9.0		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.49			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	16.5
Intersection Capacity Utilization			50.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr

Existing
OFF Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	1	1144	993	87	5	18	
Future Volume (Veh/h)	1	1144	993	87	5	18	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.95	0.95	0.94	0.94	0.64	0.64	
Hourly flow rate (vph)	1	1204	1056	93	8	28	
Pedestrians					1		
Lane Width (ft)					12.0		
Walking Speed (ft/s)					3.5		
Percent Blockage					0		
Right turn flare (veh)							
Median type		TWLT	TWLT				
Median storage veh)		2	2				
Upstream signal (ft)		874	657				
pX, platoon unblocked	0.94				0.92	0.94	
vC, conflicting volume	1150				1708	400	
vC1, stage 1 conf vol					1104		
vC2, stage 2 conf vol					604		
vCu, unblocked vol	950				1228	154	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				97	97	
cM capacity (veh/h)	684				316	821	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	1	602	602	422	422	304	36
Volume Left	1	0	0	0	0	0	8
Volume Right	0	0	0	0	0	93	28
cSH	684	1700	1700	1700	1700	1700	606
Volume to Capacity	0.00	0.35	0.35	0.25	0.25	0.18	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	5
Control Delay (s)	10.3	0.0	0.0	0.0	0.0	0.0	11.3
Lane LOS	B						B
Approach Delay (s)	0.0			0.0			11.3
Approach LOS							B
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			40.0%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Existing
OFF Peak

	→	↘	↙	←	↖	↗	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↘	↑↑↑	↘		
Traffic Volume (veh/h)	1141	8	42	1075	5	58	
Future Volume (Veh/h)	1141	8	42	1075	5	58	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.95	0.95	0.94	0.94	0.79	0.79	
Hourly flow rate (vph)	1201	8	45	1144	6	73	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL			TWLTL			
Median storage (veh)	2			2			
Upstream signal (ft)	982			549			
pX, platoon unblocked			0.90		0.93	0.90	
vC, conflicting volume			1209		1676	604	
vC1, stage 1 conf vol					1205		
vC2, stage 2 conf vol					471		
vCu, unblocked vol			1004		1143	331	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			93		98	88	
cM capacity (veh/h)			621		277	602	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	801	408	45	381	381	381	79
Volume Left	0	0	45	0	0	0	6
Volume Right	0	8	0	0	0	0	73
cSH	1700	1700	621	1700	1700	1700	553
Volume to Capacity	0.47	0.24	0.07	0.22	0.22	0.22	0.14
Queue Length 95th (ft)	0	0	6	0	0	0	12
Control Delay (s)	0.0	0.0	11.3	0.0	0.0	0.0	12.6
Lane LOS			B				B
Approach Delay (s)	0.0		0.4				12.6
Approach LOS							B
Intersection Summary							
Average Delay			0.6				
Intersection Capacity Utilization			43.5%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

Existing
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	617	48	308	550	378	87	448	397	387	505	127
Future Volume (vph)	128	617	48	308	550	378	87	448	397	387	505	127
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1837	3758		1837	3800	1700	1837	3800	1700	1837	3800	1700
Flt Permitted	0.25	1.00		0.21	1.00	1.00	0.34	1.00	1.00	0.36	1.00	1.00
Satd. Flow (perm)	492	3758		397	3800	1700	658	3800	1700	697	3800	1700
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	135	649	51	324	579	398	92	472	418	407	532	134
RTOR Reduction (vph)	0	6	0	0	0	312	0	0	237	0	0	99
Lane Group Flow (vph)	135	694	0	324	579	86	92	472	181	407	532	35
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	2			6		2	4		8	8		4
Actuated Green, G (s)	30.2	19.5		30.2	19.5	19.5	34.6	19.7	19.7	34.6	23.6	23.6
Effective Green, g (s)	30.2	19.5		30.2	19.5	19.5	34.6	19.7	19.7	34.6	23.6	23.6
Actuated g/C Ratio	0.34	0.22		0.34	0.22	0.22	0.38	0.22	0.22	0.38	0.26	0.26
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	324	814		304	823	368	397	831	372	456	996	445
v/s Ratio Prot	0.05	0.18		c0.13	0.15		0.03	0.12		c0.15	0.14	
v/s Ratio Perm	0.09			c0.23		0.05	0.06		0.11	c0.20		0.02
v/c Ratio	0.42	0.85		1.07	0.70	0.23	0.23	0.57	0.49	0.89	0.53	0.08
Uniform Delay, d1	30.0	33.9		34.8	32.6	29.1	23.3	31.4	30.7	28.0	28.5	25.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	11.0		70.1	5.0	1.5	0.3	2.8	4.5	19.3	2.1	0.3
Delay (s)	30.9	44.8		104.9	37.6	30.6	23.6	34.2	35.2	47.3	30.5	25.4
Level of Service	C	D		F	D	C	C	C	D	D	C	C
Approach Delay (s)		42.6			52.2			33.6			36.2	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			41.8				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			25.2		
Intersection Capacity Utilization			87.0%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Existing
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑					↗		↗
Traffic Volume (vph)	0	1092	448	0	950	0	0	0	0	299	0	487
Future Volume (vph)	0	1092	448	0	950	0	0	0	0	299	0	487
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3673	1643		3673					1837		1643
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3673	1643		3673					1837		1643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Adj. Flow (vph)	0	1162	477	0	1011	0	0	0	0	336	0	547
RTOR Reduction (vph)	0	0	204	0	0	0	0	0	0	0	0	76
Lane Group Flow (vph)	0	1162	273	0	1011	0	0	0	0	336	0	471
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2102	940		2102					505		451
v/s Ratio Prot		0.32			0.28					0.18		
v/s Ratio Perm			0.17									0.29
v/c Ratio		0.55	0.29		0.48					0.67		1.04
Uniform Delay, d1		10.7	8.8		10.1					25.7		29.0
Progression Factor		1.00	1.00		0.80					1.00		1.00
Incremental Delay, d2		1.1	0.8		0.8					6.8		54.3
Delay (s)		11.7	9.6		8.8					32.5		83.3
Level of Service		B	A		A					C		F
Approach Delay (s)		11.1			8.8			0.0			64.0	
Approach LOS		B			A			A			E	
Intersection Summary												
HCM 2000 Control Delay			23.7									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			80.0							12.2		
Intersection Capacity Utilization			77.0%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

Existing
PM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1391	0	0	700	250	100
Future Volume (vph)	1391	0	0	700	250	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3800			5460	3681	1547
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3800			5460	3681	1547
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Adj. Flow (vph)	1480	0	0	745	272	109
RTOR Reduction (vph)	0	0	0	0	5	7
Lane Group Flow (vph)	1480	0	0	745	278	91
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	51.9			51.9	11.6	11.6
Effective Green, g (s)	51.9			51.9	11.6	11.6
Actuated g/C Ratio	0.65			0.65	0.14	0.14
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2465			3542	533	224
v/s Ratio Prot	c0.39			0.14	c0.08	
v/s Ratio Perm						0.06
v/c Ratio	0.60			0.21	0.52	0.41
Uniform Delay, d1	8.1			5.7	31.6	31.1
Progression Factor	0.61			1.00	1.00	1.00
Incremental Delay, d2	0.9			0.1	0.9	1.2
Delay (s)	5.8			5.9	32.6	32.3
Level of Service	A			A	C	C
Approach Delay (s)	5.8			5.9	32.5	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			9.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	16.5
Intersection Capacity Utilization			58.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr

Existing
PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	8	1449	1249	135	13	29	
Future Volume (Veh/h)	8	1449	1249	135	13	29	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.88	0.88	
Hourly flow rate (vph)	8	1525	1315	142	15	33	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL		TWLTL				
Median storage veh	2		2				
Upstream signal (ft)	874		657				
pX, platoon unblocked	0.91				0.87	0.91	
vC, conflicting volume	1457				2164	509	
vC1, stage 1 conf vol					1386		
vC2, stage 2 conf vol					778		
vCu, unblocked vol	1164				1436	125	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)	2.2				3.5	3.3	
p0 queue free %	99				94	96	
cM capacity (veh/h)	554				247	829	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	8	762	762	526	526	405	48
Volume Left	8	0	0	0	0	0	15
Volume Right	0	0	0	0	0	142	33
cSH	554	1700	1700	1700	1700	1700	477
Volume to Capacity	0.01	0.45	0.45	0.31	0.31	0.24	0.10
Queue Length 95th (ft)	1	0	0	0	0	0	8
Control Delay (s)	11.6	0.0	0.0	0.0	0.0	0.0	13.4
Lane LOS	B						B
Approach Delay (s)	0.1			0.0			13.4
Approach LOS							B
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			48.1%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Existing
PM Peak

	→	↘	↙	←	↖	↗	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↘	↑↑↑	↘		
Traffic Volume (veh/h)	1458	4	61	1376	8	82	
Future Volume (Veh/h)	1458	4	61	1376	8	82	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.75	0.75	
Hourly flow rate (vph)	1535	4	64	1448	11	109	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLT			TWLT			
Median storage (veh)	2			2			
Upstream signal (ft)	982			549			
pX, platoon unblocked			0.83		0.88	0.83	
vC, conflicting volume			1539		2148	770	
vC1, stage 1 conf vol					1537		
vC2, stage 2 conf vol					611		
vCu, unblocked vol			1237		1353	308	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			86		94	81	
cM capacity (veh/h)			472		193	575	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	1023	516	64	483	483	483	120
Volume Left	0	0	64	0	0	0	11
Volume Right	0	4	0	0	0	0	109
cSH	1700	1700	472	1700	1700	1700	487
Volume to Capacity	0.60	0.30	0.14	0.28	0.28	0.28	0.25
Queue Length 95th (ft)	0	0	12	0	0	0	24
Control Delay (s)	0.0	0.0	13.8	0.0	0.0	0.0	14.8
Lane LOS			B				B
Approach Delay (s)	0.0		0.6				14.8
Approach LOS							B
Intersection Summary							
Average Delay			0.8				
Intersection Capacity Utilization			57.0%		ICU Level of Service		B
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

Background (2024)

AM Peak

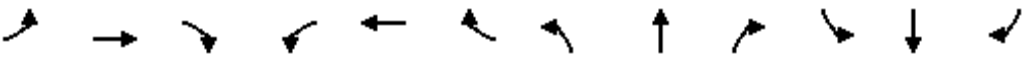
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	560	49	269	400	296	64	315	255	127	188	92
Future Volume (vph)	139	560	49	269	400	296	64	315	255	127	188	92
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1837	3754		1818	3762	1683	1817	3762	1683	1818	3762	1660
Flt Permitted	0.45	1.00		0.23	1.00	1.00	0.62	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	873	3754		441	3762	1683	1195	3762	1683	965	3762	1660
Peak-hour factor, PHF	0.86	0.86	0.86	0.95	0.95	0.95	0.94	0.94	0.94	0.95	0.95	0.95
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	165	664	58	289	429	318	69	342	277	136	202	99
RTOR Reduction (vph)	0	6	0	0	0	222	0	0	216	0	0	75
Lane Group Flow (vph)	165	716	0	289	429	96	69	342	61	136	202	24
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	2			6		2	4		8	8		4
Actuated Green, G (s)	37.8	27.1		37.8	27.1	27.1	27.0	19.7	19.7	27.0	22.1	22.1
Effective Green, g (s)	37.8	27.1		37.8	27.1	27.1	27.0	19.7	19.7	27.0	22.1	22.1
Actuated g/C Ratio	0.42	0.30		0.42	0.30	0.30	0.30	0.22	0.22	0.30	0.25	0.25
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	481	1130		348	1132	506	392	823	368	358	923	407
v/s Ratio Prot	0.04	0.19		c0.10	0.11		0.01	c0.09		c0.03	0.05	
v/s Ratio Perm	0.10			c0.25		0.06	0.04		0.04	0.08		0.01
v/c Ratio	0.34	0.63		0.83	0.38	0.19	0.18	0.42	0.16	0.38	0.22	0.06
Uniform Delay, d1	20.2	27.2		29.2	24.8	23.3	23.4	30.2	28.5	26.6	27.1	26.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.7		15.4	1.0	0.8	0.2	1.5	1.0	0.7	0.5	0.3
Delay (s)	20.6	29.9		44.6	25.8	24.1	23.6	31.7	29.4	27.3	27.6	26.3
Level of Service	C	C		D	C	C	C	C	C	C	C	C
Approach Delay (s)		28.1			30.5			30.0			27.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			29.2									
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			90.0									
Intersection Capacity Utilization			82.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Background (2024)

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑					↘		↗
Traffic Volume (vph)	0	712	279	0	828	0	0	0	0	255	0	432
Future Volume (vph)	0	712	279	0	828	0	0	0	0	255	0	432
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3637	1627		3673					1818		1627
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3637	1627		3673					1818		1627
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	0	773	303	0	918	0	0	0	0	283	0	479
RTOR Reduction (vph)	0	0	130	0	0	0	0	0	0	0	0	95
Lane Group Flow (vph)	0	773	173	0	918	0	0	0	0	283	0	384
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2082	931		2102					499		447
v/s Ratio Prot		0.21			c0.25					0.16		
v/s Ratio Perm			0.11									c0.24
v/c Ratio		0.37	0.19		0.44					0.57		0.86
Uniform Delay, d1		9.3	8.2		9.7					24.9		27.5
Progression Factor		1.00	1.00		0.80					1.00		1.00
Incremental Delay, d2		0.5	0.4		0.7					4.6		18.9
Delay (s)		9.8	8.6		8.5					29.5		46.4
Level of Service		A	A		A					C		D
Approach Delay (s)		9.5			8.5			0.0			40.2	
Approach LOS		A			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			17.6									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			80.0							12.2		
Intersection Capacity Utilization			74.3%									ICU Level of Service D
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

Background (2024)
AM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↖↗	↗
Traffic Volume (vph)	967	0	0	600	228	100
Future Volume (vph)	967	0	0	600	228	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3762			5406	3643	1532
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3762			5406	3643	1532
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1049	0	0	665	253	111
RTOR Reduction (vph)	0	0	0	0	5	33
Lane Group Flow (vph)	1049	0	0	665	259	67
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	52.3			52.3	11.2	11.2
Effective Green, g (s)	52.3			52.3	11.2	11.2
Actuated g/C Ratio	0.65			0.65	0.14	0.14
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2459			3534	510	214
v/s Ratio Prot	c0.28			0.12	c0.07	
v/s Ratio Perm						0.04
v/c Ratio	0.43			0.19	0.51	0.31
Uniform Delay, d1	6.7			5.5	31.8	30.9
Progression Factor	0.62			1.00	1.00	1.00
Incremental Delay, d2	0.5			0.1	0.8	0.8
Delay (s)	4.6			5.6	32.6	31.8
Level of Service	A			A	C	C
Approach Delay (s)	4.6			5.6	32.4	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			9.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.44			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	16.5
Intersection Capacity Utilization			47.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr

Background (2024)
AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations			 				
Traffic Volume (veh/h)	6	941	1069	113	2	15	
Future Volume (Veh/h)	6	941	1069	113	2	15	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.93	0.93	0.94	0.94	0.61	0.61	
Hourly flow rate (vph)	7	1032	1160	123	3	25	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		TWLT	TWLT				
Median storage veh		2	2				
Upstream signal (ft)		874	657				
pX, platoon unblocked	0.94				0.88	0.94	
vC, conflicting volume	1283				1752	448	
vC1, stage 1 conf vol					1222		
vC2, stage 2 conf vol					530		
vCu, unblocked vol	1083				1173	196	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)	2.2				3.5	3.3	
p0 queue free %	99				99	97	
cM capacity (veh/h)	608				284	771	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	7	516	516	464	464	355	28
Volume Left	7	0	0	0	0	0	3
Volume Right	0	0	0	0	0	123	25
cSH	608	1700	1700	1700	1700	1700	651
Volume to Capacity	0.01	0.30	0.30	0.27	0.27	0.21	0.04
Queue Length 95th (ft)	1	0	0	0	0	0	3
Control Delay (s)	11.0	0.0	0.0	0.0	0.0	0.0	10.8
Lane LOS	B						B
Approach Delay (s)	0.1			0.0			10.8
Approach LOS							B
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			35.2%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Background (2024)
AM Peak

	→	↘	↙	←	↖	↗	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↘	↑↑↑	↘		
Traffic Volume (veh/h)	934	9	81	1179	3	57	
Future Volume (Veh/h)	934	9	81	1179	3	57	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.90	0.90	0.95	0.95	0.72	0.72	
Hourly flow rate (vph)	1059	10	87	1266	4	81	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLT			TWLT			
Median storage (veh)	2			2			
Upstream signal (ft)	982			549			
pX, platoon unblocked			0.85		0.88	0.85	
vC, conflicting volume			1069		1660	534	
vC1, stage 1 conf vol					1064		
vC2, stage 2 conf vol					596		
vCu, unblocked vol			724		1004	94	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			88		99	90	
cM capacity (veh/h)			747		348	806	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	706	363	87	422	422	422	85
Volume Left	0	0	87	0	0	0	4
Volume Right	0	10	0	0	0	0	81
cSH	1700	1700	747	1700	1700	1700	759
Volume to Capacity	0.42	0.21	0.12	0.25	0.25	0.25	0.11
Queue Length 95th (ft)	0	0	10	0	0	0	9
Control Delay (s)	0.0	0.0	10.4	0.0	0.0	0.0	10.3
Lane LOS			B				B
Approach Delay (s)	0.0		0.7				10.3
Approach LOS							B
Intersection Summary							
Average Delay			0.7				
Intersection Capacity Utilization			43.2%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

Background (2024)

OFF Peak

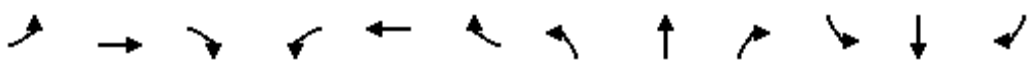
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	460	80	272	375	325	77	543	302	344	480	120
Future Volume (vph)	150	460	80	272	375	325	77	543	302	344	480	120
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1818	3679		1818	3762	1683	1818	3762	1662	1818	3762	1683
Flt Permitted	0.43	1.00		0.29	1.00	1.00	0.37	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	821	3679		549	3762	1683	707	3762	1662	453	3762	1683
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	165	505	88	319	440	381	94	659	367	381	532	133
RTOR Reduction (vph)	0	18	0	0	0	267	0	0	179	0	0	95
Lane Group Flow (vph)	165	575	0	319	440	114	94	659	188	381	532	38
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	2			6		2	4		8	8		4
Actuated Green, G (s)	25.1	19.4		25.1	19.4	19.4	29.7	19.7	19.7	29.7	22.7	22.7
Effective Green, g (s)	25.1	19.4		25.1	19.4	19.4	29.7	19.7	19.7	29.7	22.7	22.7
Actuated g/C Ratio	0.31	0.24		0.31	0.24	0.24	0.37	0.25	0.25	0.37	0.28	0.28
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	328	892		262	912	408	359	926	409	338	1067	477
v/s Ratio Prot	0.04	0.16		c0.09	0.12		0.02	0.18		c0.14	0.14	
v/s Ratio Perm	0.12			c0.29		0.07	0.07		0.11	c0.28		0.02
v/c Ratio	0.50	0.64		1.22	0.48	0.28	0.26	0.71	0.46	1.13	0.50	0.08
Uniform Delay, d1	25.0	27.2		29.7	26.0	24.6	20.9	27.6	25.6	28.3	23.9	21.0
Progression Factor	1.00	1.00		1.07	1.02	1.67	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	3.6		125.3	1.7	1.5	0.4	4.6	3.7	88.0	1.7	0.3
Delay (s)	26.3	30.8		157.1	28.1	42.7	21.2	32.2	29.3	116.3	25.6	21.3
Level of Service	C	C		F	C	D	C	C	C	F	C	C
Approach Delay (s)		29.8			69.1			30.3			58.1	
Approach LOS		C			E			C			E	
Intersection Summary												
HCM 2000 Control Delay			48.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.17									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)				25.2		
Intersection Capacity Utilization			94.7%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Background (2024)

OFF Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑					↘		↗
Traffic Volume (vph)	0	897	302	0	791	0	0	0	0	266	0	326
Future Volume (vph)	0	897	302	0	791	0	0	0	0	266	0	326
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3637	1627		3673					1818		1627
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3637	1627		3673					1818		1627
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	0	963	324	0	877	0	0	0	0	305	0	374
RTOR Reduction (vph)	0	0	139	0	0	0	0	0	0	0	0	105
Lane Group Flow (vph)	0	963	185	0	877	0	0	0	0	305	0	269
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2082	931		2102					499		447
v/s Ratio Prot		c0.26			0.24					c0.17		
v/s Ratio Perm			0.11									0.17
v/c Ratio		0.46	0.20		0.42					0.61		0.60
Uniform Delay, d1		9.9	8.3		9.6					25.3		25.2
Progression Factor		1.11	1.48		0.72					1.00		1.00
Incremental Delay, d2		0.5	0.3		0.6					5.5		5.9
Delay (s)		11.5	12.5		7.5					30.8		31.1
Level of Service		B	B		A					C		C
Approach Delay (s)		11.8			7.5			0.0			30.9	
Approach LOS		B			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			15.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)				12.2		
Intersection Capacity Utilization			67.9%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

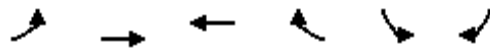
Background (2024)
OFF Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↘↘	↗
Traffic Volume (vph)	1163	0	0	591	200	100
Future Volume (vph)	1163	0	0	591	200	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3762			5406	3641	1532
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3762			5406	3641	1532
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1249	0	0	655	222	111
RTOR Reduction (vph)	0	0	0	0	5	50
Lane Group Flow (vph)	1249	0	0	655	228	50
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	53.0			53.0	10.5	10.5
Effective Green, g (s)	53.0			53.0	10.5	10.5
Actuated g/C Ratio	0.66			0.66	0.13	0.13
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2492			3581	477	201
v/s Ratio Prot	c0.33			0.12	c0.06	
v/s Ratio Perm						0.03
v/c Ratio	0.50			0.18	0.48	0.25
Uniform Delay, d1	6.8			5.2	32.2	31.2
Progression Factor	0.60			1.00	1.00	1.00
Incremental Delay, d2	0.6			0.1	0.8	0.6
Delay (s)	4.7			5.3	33.0	31.8
Level of Service	A			A	C	C
Approach Delay (s)	4.7			5.3	32.6	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			9.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	16.5
Intersection Capacity Utilization			51.4%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr

Background (2024)
OFF Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	1	1144	993	87	5	18	
Future Volume (Veh/h)	1	1144	993	87	5	18	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.95	0.95	0.94	0.94	0.64	0.64	
Hourly flow rate (vph)	1	1228	1078	94	8	29	
Pedestrians					1		
Lane Width (ft)					12.0		
Walking Speed (ft/s)					3.5		
Percent Blockage					0		
Right turn flare (veh)							
Median type		TWLT	TL				
Median storage veh)		2	2				
Upstream signal (ft)		874	657				
pX, platoon unblocked	0.94				0.92	0.94	
vC, conflicting volume	1173				1742	407	
vC1, stage 1 conf vol					1126		
vC2, stage 2 conf vol					616		
vCu, unblocked vol	961				1238	146	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)	2.2				3.5	3.3	
p0 queue free %	100				97	96	
cM capacity (veh/h)	674				312	827	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	1	614	614	431	431	310	37
Volume Left	1	0	0	0	0	0	8
Volume Right	0	0	0	0	0	94	29
cSH	674	1700	1700	1700	1700	1700	609
Volume to Capacity	0.00	0.36	0.36	0.25	0.25	0.18	0.06
Queue Length 95th (ft)	0	0	0	0	0	0	5
Control Delay (s)	10.3	0.0	0.0	0.0	0.0	0.0	11.3
Lane LOS	B						B
Approach Delay (s)	0.0			0.0			11.3
Approach LOS							B
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			40.6%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Background (2024)
OFF Peak

	→	↘	↙	←	↖	↗	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↘	↑↑↑	↘		
Traffic Volume (veh/h)	1141	8	42	1075	5	58	
Future Volume (Veh/h)	1141	8	42	1075	5	58	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.95	0.95	0.94	0.94	0.79	0.79	
Hourly flow rate (vph)	1225	9	46	1166	6	75	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLT			TWLT			
Median storage (veh)	2			2			
Upstream signal (ft)	982			549			
pX, platoon unblocked			0.89		0.93	0.89	
vC, conflicting volume			1234		1710	617	
vC1, stage 1 conf vol					1230		
vC2, stage 2 conf vol					481		
vCu, unblocked vol			1023		1154	333	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			92		98	87	
cM capacity (veh/h)			608		270	598	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	817	417	46	389	389	389	81
Volume Left	0	0	46	0	0	0	6
Volume Right	0	9	0	0	0	0	75
cSH	1700	1700	608	1700	1700	1700	548
Volume to Capacity	0.48	0.25	0.08	0.23	0.23	0.23	0.15
Queue Length 95th (ft)	0	0	6	0	0	0	13
Control Delay (s)	0.0	0.0	11.4	0.0	0.0	0.0	12.7
Lane LOS			B				B
Approach Delay (s)	0.0		0.4				12.7
Approach LOS							B
Intersection Summary							
Average Delay			0.6				
Intersection Capacity Utilization			44.2%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

Background (2024)

PM Peak

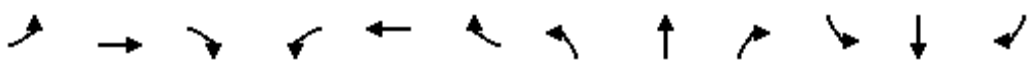
													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	128	617	48	308	550	378	87	448	397	387	505	127	
Future Volume (vph)	128	617	48	308	550	378	87	448	397	387	505	127	
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12	
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1837	3758		1837	3800	1700	1837	3800	1700	1837	3800	1700	
Flt Permitted	0.24	1.00		0.21	1.00	1.00	0.33	1.00	1.00	0.35	1.00	1.00	
Satd. Flow (perm)	468	3758		399	3800	1700	643	3800	1700	679	3800	1700	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	
Adj. Flow (vph)	137	662	52	331	591	406	93	481	426	416	542	136	
RTOR Reduction (vph)	0	6	0	0	0	318	0	0	234	0	0	100	
Lane Group Flow (vph)	137	708	0	331	591	88	93	481	192	416	542	36	
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm	
Protected Phases	1	6		5	2		3	8		7	4		
Permitted Phases	2			6		2	4		8	8		4	
Actuated Green, G (s)	30.1	19.4		30.1	19.4	19.4	34.7	19.7	19.7	34.7	23.7	23.7	
Effective Green, g (s)	30.1	19.4		30.1	19.4	19.4	34.7	19.7	19.7	34.7	23.7	23.7	
Actuated g/C Ratio	0.33	0.22		0.33	0.22	0.22	0.39	0.22	0.22	0.39	0.26	0.26	
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2	
Lane Grp Cap (vph)	319	810		304	819	366	393	831	372	454	1000	447	
v/s Ratio Prot	0.05	0.19		c0.13	0.16		0.03	0.13		c0.15	0.14		
v/s Ratio Perm	0.09			c0.23		0.05	0.06		0.11	c0.20		0.02	
v/c Ratio	0.43	0.87		1.09	0.72	0.24	0.24	0.58	0.52	0.92	0.54	0.08	
Uniform Delay, d1	30.2	34.1		35.1	32.8	29.2	23.5	31.4	30.9	28.3	28.5	24.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	12.6		77.4	5.5	1.5	0.3	2.9	5.0	23.0	2.1	0.4	
Delay (s)	31.2	46.7		112.5	38.3	30.7	23.8	34.4	36.0	51.3	30.6	25.3	
Level of Service	C	D		F	D	C	C	C	D	D	C	C	
Approach Delay (s)		44.2			54.5			34.1			37.8		
Approach LOS		D			D			C			D		
Intersection Summary													
HCM 2000 Control Delay			43.4		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.99										
Actuated Cycle Length (s)			90.0		Sum of lost time (s)					25.2			
Intersection Capacity Utilization			88.3%		ICU Level of Service					E			
Analysis Period (min)			15										
c Critical Lane Group													

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Background (2024)

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑					↘		↗
Traffic Volume (vph)	0	1092	448	0	950	0	0	0	0	299	0	487
Future Volume (vph)	0	1092	448	0	950	0	0	0	0	299	0	487
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3673	1643		3673					1837		1643
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3673	1643		3673					1837		1643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	0	1185	486	0	1031	0	0	0	0	343	0	558
RTOR Reduction (vph)	0	0	208	0	0	0	0	0	0	0	0	73
Lane Group Flow (vph)	0	1185	278	0	1031	0	0	0	0	343	0	486
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2102	940		2102					505		451
v/s Ratio Prot		c0.32			0.28					0.19		
v/s Ratio Perm			0.17									c0.30
v/c Ratio		0.56	0.30		0.49					0.68		1.08
Uniform Delay, d1		10.8	8.8		10.2					25.9		29.0
Progression Factor		1.00	1.00		0.80					1.00		1.00
Incremental Delay, d2		1.1	0.8		0.8					7.2		64.4
Delay (s)		11.9	9.6		8.9					33.0		93.4
Level of Service		B	A		A					C		F
Approach Delay (s)		11.2			8.9			0.0			70.4	
Approach LOS		B			A			A			E	
Intersection Summary												
HCM 2000 Control Delay			25.4									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			80.0							12.2		
Intersection Capacity Utilization			77.6%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

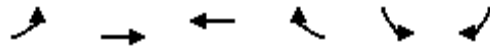
Background (2024)
PM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↖↖↖	↗
Traffic Volume (vph)	1391	0	0	700	250	100
Future Volume (vph)	1391	0	0	700	250	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3800			5460	3681	1547
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3800			5460	3681	1547
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1509	0	0	760	277	111
RTOR Reduction (vph)	0	0	0	0	5	7
Lane Group Flow (vph)	1509	0	0	760	283	93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	51.8			51.8	11.7	11.7
Effective Green, g (s)	51.8			51.8	11.7	11.7
Actuated g/C Ratio	0.65			0.65	0.15	0.15
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2460			3535	538	226
v/s Ratio Prot	c0.40			0.14	c0.08	
v/s Ratio Perm						0.06
v/c Ratio	0.61			0.21	0.53	0.41
Uniform Delay, d1	8.2			5.8	31.6	31.0
Progression Factor	0.61			1.00	1.00	1.00
Incremental Delay, d2	0.9			0.1	0.9	1.2
Delay (s)	6.0			5.9	32.5	32.2
Level of Service	A			A	C	C
Approach Delay (s)	6.0			5.9	32.4	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			9.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	16.5
Intersection Capacity Utilization			58.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr

Background (2024)
PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations							
Traffic Volume (veh/h)	8	1449	1249	135	13	29	
Future Volume (Veh/h)	8	1449	1249	135	13	29	
Sign Control		Free	Free		Stop		
Grade		0%	0%		0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.88	0.88	
Hourly flow rate (vph)	9	1556	1341	145	15	34	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		TWLT	TL				
Median storage veh)		2	2				
Upstream signal (ft)		874	657				
pX, platoon unblocked	0.91				0.87	0.91	
vC, conflicting volume	1486				2210	520	
vC1, stage 1 conf vol					1414		
vC2, stage 2 conf vol					796		
vCu, unblocked vol	1179				1450	113	
tC, single (s)	4.1				6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)	2.2				3.5	3.3	
p0 queue free %	98				94	96	
cM capacity (veh/h)	544				242	839	
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	SB 1
Volume Total	9	778	778	536	536	413	49
Volume Left	9	0	0	0	0	0	15
Volume Right	0	0	0	0	0	145	34
cSH	544	1700	1700	1700	1700	1700	477
Volume to Capacity	0.02	0.46	0.46	0.32	0.32	0.24	0.10
Queue Length 95th (ft)	1	0	0	0	0	0	9
Control Delay (s)	11.7	0.0	0.0	0.0	0.0	0.0	13.4
Lane LOS	B						B
Approach Delay (s)	0.1			0.0			13.4
Approach LOS							B
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			48.8%		ICU Level of Service		A
Analysis Period (min)			15				

HCM Unsignalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Background (2024)
PM Peak

	→	↘	↙	←	↖	↗	
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑		↘	↑↑↑	↘		
Traffic Volume (veh/h)	1458	4	61	1376	8	82	
Future Volume (Veh/h)	1458	4	61	1376	8	82	
Sign Control	Free			Free	Stop		
Grade	0%			0%	0%		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.75	0.75	
Hourly flow rate (vph)	1565	4	65	1477	11	112	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	TWLTL		TWLTL				
Median storage (veh)	2		2				
Upstream signal (ft)	982		549				
pX, platoon unblocked			0.82		0.88	0.82	
vC, conflicting volume			1569		2189	784	
vC1, stage 1 conf vol					1567		
vC2, stage 2 conf vol					622		
vCu, unblocked vol			1264		1366	312	
tC, single (s)			4.1		6.8	6.9	
tC, 2 stage (s)					5.8		
tF (s)			2.2		3.5	3.3	
p0 queue free %			86		94	80	
cM capacity (veh/h)			459		186	568	
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	WB 4	NB 1
Volume Total	1043	526	65	492	492	492	123
Volume Left	0	0	65	0	0	0	11
Volume Right	0	4	0	0	0	0	112
cSH	1700	1700	459	1700	1700	1700	480
Volume to Capacity	0.61	0.31	0.14	0.29	0.29	0.29	0.26
Queue Length 95th (ft)	0	0	12	0	0	0	25
Control Delay (s)	0.0	0.0	14.1	0.0	0.0	0.0	15.1
Lane LOS			B				C
Approach Delay (s)	0.0		0.6				15.1
Approach LOS							C
Intersection Summary							
Average Delay			0.9				
Intersection Capacity Utilization			57.9%		ICU Level of Service		B
Analysis Period (min)			15				

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

Alternative (2024)
AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	560	49	269	400	296	64	315	255	110	188	92
Future Volume (vph)	139	560	49	269	400	296	64	315	255	110	188	92
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1837	3754		1818	3762	1683	1817	3762	1683	1818	3762	1660
Flt Permitted	0.45	1.00		0.23	1.00	1.00	0.62	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	874	3754		443	3762	1683	1195	3762	1683	965	3762	1660
Peak-hour factor, PHF	0.86	0.86	0.86	0.95	0.95	0.95	0.94	0.94	0.94	0.95	0.95	0.95
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	165	664	58	289	429	318	69	342	277	118	202	99
RTOR Reduction (vph)	0	6	0	0	0	222	0	0	216	0	0	75
Lane Group Flow (vph)	165	716	0	289	429	96	69	342	61	118	202	24
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	2			6		2	4		8	8		4
Actuated Green, G (s)	37.9	27.2		37.9	27.2	27.2	26.9	19.7	19.7	26.9	22.1	22.1
Effective Green, g (s)	37.9	27.2		37.9	27.2	27.2	26.9	19.7	19.7	26.9	22.1	22.1
Actuated g/C Ratio	0.42	0.30		0.42	0.30	0.30	0.30	0.22	0.22	0.30	0.25	0.25
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	482	1134		350	1136	508	390	823	368	356	923	407
v/s Ratio Prot	0.04	0.19		c0.10	0.11		0.01	c0.09		c0.03	0.05	
v/s Ratio Perm	0.10			c0.25		0.06	0.04		0.04	0.07		0.01
v/c Ratio	0.34	0.63		0.83	0.38	0.19	0.18	0.42	0.16	0.33	0.22	0.06
Uniform Delay, d1	20.1	27.1		29.2	24.7	23.2	23.5	30.2	28.5	26.1	27.1	26.0
Progression Factor	1.00	1.00		0.67	0.64	0.22	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.7		14.0	0.9	0.8	0.2	1.5	1.0	0.6	0.5	0.3
Delay (s)	20.5	29.7		33.6	16.7	5.9	23.7	31.7	29.4	26.7	27.6	26.3
Level of Service	C	C		C	B	A	C	C	C	C	C	C
Approach Delay (s)		28.0			18.1			30.0			27.0	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.0			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			25.2			
Intersection Capacity Utilization			82.0%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr (PB)

Alternative (2024)
AM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	6	941	1069	113	20	15
Future Volume (vph)	6	941	1069	113	20	15
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12
Total Lost time (s)	7.9	7.9	7.9		6.1	6.1
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1818	3762	5328		1900	1700
Flt Permitted	0.17	1.00	1.00		0.95	1.00
Satd. Flow (perm)	333	3762	5328		1900	1700
Peak-hour factor, PHF	0.93	0.93	0.94	0.94	0.61	0.61
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	7	1032	1160	123	33	25
RTOR Reduction (vph)	0	0	11	0	0	24
Lane Group Flow (vph)	7	1032	1272	0	33	1
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	43.1	41.9	50.1		4.7	4.7
Effective Green, g (s)	43.1	41.9	50.1		4.7	4.7
Actuated g/C Ratio	0.48	0.47	0.56		0.05	0.05
Clearance Time (s)	7.9	7.9	7.9		6.1	6.1
Vehicle Extension (s)	3.0	0.2	0.2		3.0	3.0
Lane Grp Cap (vph)	179	1751	2965		99	88
v/s Ratio Prot	c0.00	c0.27	c0.24		c0.02	
v/s Ratio Perm	0.02					0.00
v/c Ratio	0.04	0.59	0.43		0.33	0.01
Uniform Delay, d1	15.9	17.7	11.6		41.1	40.5
Progression Factor	0.45	0.64	0.06		1.00	1.00
Incremental Delay, d2	0.1	1.3	0.4		2.0	0.1
Delay (s)	7.2	12.6	1.2		43.1	40.5
Level of Service	A	B	A		D	D
Approach Delay (s)		12.6	1.2		42.0	
Approach LOS		B	A		D	
Intersection Summary						
HCM 2000 Control Delay			7.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.44			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	28.0
Intersection Capacity Utilization			42.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Alternative (2024)
AM Peak

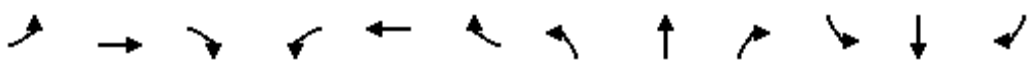
	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑↑	↘	↗
Traffic Volume (vph)	934	9	81	1179	3	57
Future Volume (vph)	934	9	81	1179	3	57
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width	12	12	11	12	12	12
Total Lost time (s)	7.9		7.9	7.9	6.1	6.1
Lane Util. Factor	0.95		1.00	0.91	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3757		1818	5406	1900	1700
Flt Permitted	1.00		0.19	1.00	0.95	1.00
Satd. Flow (perm)	3757		368	5406	1900	1700
Peak-hour factor, PHF	0.90	0.90	0.95	0.95	0.72	0.72
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1059	10	87	1266	4	81
RTOR Reduction (vph)	1	0	0	0	0	76
Lane Group Flow (vph)	1068	0	87	1266	4	5
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases			2			8
Actuated Green, G (s)	41.9		59.2	50.1	6.0	6.0
Effective Green, g (s)	41.9		59.2	50.1	6.0	6.0
Actuated g/C Ratio	0.47		0.66	0.56	0.07	0.07
Clearance Time (s)	7.9		7.9	7.9	6.1	6.1
Vehicle Extension (s)	0.2		3.0	0.2	3.0	3.0
Lane Grp Cap (vph)	1749		393	3009	126	113
v/s Ratio Prot	c0.28		c0.02	0.23	0.00	
v/s Ratio Perm			0.12			c0.00
v/c Ratio	0.61		0.22	0.42	0.03	0.05
Uniform Delay, d1	18.0		13.4	11.5	39.3	39.3
Progression Factor	0.15		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5		0.3	0.4	0.1	0.2
Delay (s)	4.2		13.7	12.0	39.4	39.5
Level of Service	A		B	B	D	D
Approach Delay (s)	4.2			12.1	39.5	
Approach LOS	A			B	D	
Intersection Summary						
HCM 2000 Control Delay			9.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	28.0
Intersection Capacity Utilization			53.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Alternative (2024)

AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑					↘		↗
Traffic Volume (vph)	0	712	279	0	828	0	0	0	0	255	0	432
Future Volume (vph)	0	712	279	0	828	0	0	0	0	255	0	432
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3637	1627		3673					1818		1627
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3637	1627		3673					1818		1627
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	0	773	303	0	918	0	0	0	0	283	0	479
RTOR Reduction (vph)	0	0	130	0	0	0	0	0	0	0	0	95
Lane Group Flow (vph)	0	773	173	0	918	0	0	0	0	283	0	384
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2082	931		2102					499		447
v/s Ratio Prot		0.21			c0.25					0.16		
v/s Ratio Perm			0.11									c0.24
v/c Ratio		0.37	0.19		0.44					0.57		0.86
Uniform Delay, d1		9.3	8.2		9.7					24.9		27.5
Progression Factor		1.00	1.00		0.80					1.00		1.00
Incremental Delay, d2		0.5	0.4		0.7					4.6		18.9
Delay (s)		9.8	8.6		8.5					29.5		46.4
Level of Service		A	A		A					C		D
Approach Delay (s)		9.5			8.5			0.0			40.2	
Approach LOS		A			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			17.6									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			80.0							12.2		
Intersection Capacity Utilization			74.3%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

Alternative (2024)
AM Peak

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	967	0	0	600	228	100
Future Volume (vph)	967	0	0	600	228	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3762			5406	3643	1532
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3762			5406	3643	1532
Peak-hour factor, PHF	0.94	0.94	0.92	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1049	0	0	665	253	111
RTOR Reduction (vph)	0	0	0	0	5	33
Lane Group Flow (vph)	1049	0	0	665	259	67
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	52.3			52.3	11.2	11.2
Effective Green, g (s)	52.3			52.3	11.2	11.2
Actuated g/C Ratio	0.65			0.65	0.14	0.14
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2459			3534	510	214
v/s Ratio Prot	c0.28			0.12	c0.07	
v/s Ratio Perm						0.04
v/c Ratio	0.43			0.19	0.51	0.31
Uniform Delay, d1	6.7			5.5	31.8	30.9
Progression Factor	0.62			1.00	1.00	1.00
Incremental Delay, d2	0.5			0.1	0.8	0.8
Delay (s)	4.6			5.6	32.6	31.8
Level of Service	A			A	C	C
Approach Delay (s)	4.6			5.6	32.4	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay	9.8			HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio	0.44					
Actuated Cycle Length (s)	80.0			Sum of lost time (s)		16.5
Intersection Capacity Utilization	47.0%			ICU Level of Service		A
Analysis Period (min)	15					
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

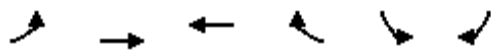
Alternative (2024)
OFF Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	460	80	272	375	325	77	543	302	310	480	120
Future Volume (vph)	150	460	80	272	375	325	77	543	302	310	480	120
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1818	3679		1818	3762	1683	1818	3762	1662	1818	3762	1683
Flt Permitted	0.43	1.00		0.29	1.00	1.00	0.37	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	821	3679		549	3762	1683	707	3762	1662	453	3762	1683
Peak-hour factor, PHF	0.93	0.93	0.93	0.87	0.87	0.87	0.84	0.84	0.84	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	165	505	88	319	440	381	94	659	367	344	532	133
RTOR Reduction (vph)	0	18	0	0	0	267	0	0	183	0	0	95
Lane Group Flow (vph)	165	575	0	319	440	114	94	659	184	344	532	38
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	2			6		2	4		8	8		4
Actuated Green, G (s)	25.1	19.4		25.1	19.4	19.4	29.7	19.7	19.7	29.7	22.7	22.7
Effective Green, g (s)	25.1	19.4		25.1	19.4	19.4	29.7	19.7	19.7	29.7	22.7	22.7
Actuated g/C Ratio	0.31	0.24		0.31	0.24	0.24	0.37	0.25	0.25	0.37	0.28	0.28
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	328	892		262	912	408	359	926	409	338	1067	477
v/s Ratio Prot	0.04	0.16		c0.09	0.12		0.02	0.18		c0.13	0.14	
v/s Ratio Perm	0.12			c0.29		0.07	0.07		0.11	c0.25		0.02
v/c Ratio	0.50	0.64		1.22	0.48	0.28	0.26	0.71	0.45	1.02	0.50	0.08
Uniform Delay, d1	25.0	27.2		29.7	26.0	24.6	20.9	27.6	25.6	28.3	23.9	21.0
Progression Factor	1.00	1.00		0.68	0.90	1.80	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	3.6		126.5	1.8	1.6	0.4	4.6	3.5	53.5	1.7	0.3
Delay (s)	26.3	30.8		146.8	25.2	45.9	21.2	32.2	29.1	81.9	25.6	21.3
Level of Service	C	C		F	C	D	C	C	C	F	C	C
Approach Delay (s)		29.8			66.2			30.3			44.2	
Approach LOS		C			E			C			D	
Intersection Summary												
HCM 2000 Control Delay			43.8									
HCM 2000 Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			80.0									
Intersection Capacity Utilization			92.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr (PB)

Alternative (2024)
OFF Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	1144	993	87	39	18
Future Volume (vph)	1	1144	993	87	39	18
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12
Total Lost time (s)	7.9	7.9	7.9		6.1	6.1
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1818	3762	5331		1900	1700
Flt Permitted	0.19	1.00	1.00		0.95	1.00
Satd. Flow (perm)	369	3762	5331		1900	1700
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.64	0.64
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1	1228	1078	94	62	29
RTOR Reduction (vph)	0	0	10	0	0	27
Lane Group Flow (vph)	1	1228	1162	0	62	2
Confl. Peds. (#/hr)	1			1		
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	33.9	32.7	38.2		6.6	6.6
Effective Green, g (s)	33.9	32.7	38.2		6.6	6.6
Actuated g/C Ratio	0.42	0.41	0.48		0.08	0.08
Clearance Time (s)	7.9	7.9	7.9		6.1	6.1
Vehicle Extension (s)	3.0	0.2	0.2		3.0	3.0
Lane Grp Cap (vph)	178	1537	2545		156	140
v/s Ratio Prot	c0.00	c0.33	0.22		c0.03	
v/s Ratio Perm	0.00					0.00
v/c Ratio	0.01	0.80	0.46		0.40	0.02
Uniform Delay, d1	16.5	20.8	14.0		34.8	33.7
Progression Factor	0.74	0.57	0.06		1.00	1.00
Incremental Delay, d2	0.0	3.0	0.6		1.7	0.0
Delay (s)	12.1	14.9	1.3		36.5	33.8
Level of Service	B	B	A		D	C
Approach Delay (s)		14.9	1.3		35.6	
Approach LOS		B	A		D	
Intersection Summary						
HCM 2000 Control Delay			9.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.55			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	28.0
Intersection Capacity Utilization			48.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Alternative (2024)
OFF Peak

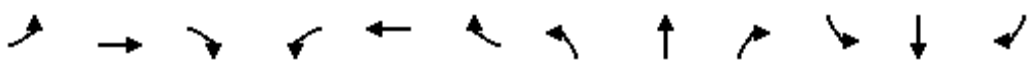
	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑↑	↘	↗
Traffic Volume (vph)	1141	8	42	1075	5	58
Future Volume (vph)	1141	8	42	1075	5	58
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width	12	12	11	12	12	12
Total Lost time (s)	7.9		7.9	7.9	6.1	6.1
Lane Util. Factor	0.95		1.00	0.91	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3758		1818	5406	1900	1700
Flt Permitted	1.00		0.12	1.00	0.95	1.00
Satd. Flow (perm)	3758		220	5406	1900	1700
Peak-hour factor, PHF	0.95	0.95	0.94	0.94	0.79	0.79
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1225	9	46	1166	6	75
RTOR Reduction (vph)	1	0	0	0	0	69
Lane Group Flow (vph)	1233	0	46	1166	6	6
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases			2			8
Actuated Green, G (s)	32.7		44.9	38.2	6.0	6.0
Effective Green, g (s)	32.7		44.9	38.2	6.0	6.0
Actuated g/C Ratio	0.41		0.56	0.48	0.08	0.08
Clearance Time (s)	7.9		7.9	7.9	6.1	6.1
Vehicle Extension (s)	0.2		3.0	0.2	3.0	3.0
Lane Grp Cap (vph)	1536		257	2581	142	127
v/s Ratio Prot	c0.33		c0.01	0.22	0.00	
v/s Ratio Perm			0.09			c0.00
v/c Ratio	0.80		0.18	0.45	0.04	0.04
Uniform Delay, d1	20.8		20.3	13.9	34.3	34.3
Progression Factor	0.15		1.04	1.20	1.00	1.00
Incremental Delay, d2	3.7		0.3	0.5	0.1	0.1
Delay (s)	6.8		21.4	17.2	34.5	34.5
Level of Service	A		C	B	C	C
Approach Delay (s)	6.8			17.3	34.5	
Approach LOS	A			B	C	
Intersection Summary						
HCM 2000 Control Delay			12.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.53			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	28.0
Intersection Capacity Utilization			51.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Alternative (2024)

OFF Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗		↑↑					↘		↗
Traffic Volume (vph)	0	897	302	0	791	0	0	0	0	266	0	326
Future Volume (vph)	0	897	302	0	791	0	0	0	0	266	0	326
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3637	1627		3673					1818		1627
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3637	1627		3673					1818		1627
Peak-hour factor, PHF	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	0.89	0.89	0.89
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	0	963	324	0	877	0	0	0	0	305	0	374
RTOR Reduction (vph)	0	0	139	0	0	0	0	0	0	0	0	105
Lane Group Flow (vph)	0	963	185	0	877	0	0	0	0	305	0	269
Heavy Vehicles (%)	1%	1%	1%	0%	0%	0%	0%	0%	0%	1%	1%	1%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2082	931		2102					499		447
v/s Ratio Prot		c0.26			0.24					c0.17		
v/s Ratio Perm			0.11									0.17
v/c Ratio		0.46	0.20		0.42					0.61		0.60
Uniform Delay, d1		9.9	8.3		9.6					25.3		25.2
Progression Factor		1.63	6.34		0.72					1.00		1.00
Incremental Delay, d2		0.6	0.4		0.6					5.5		5.9
Delay (s)		16.8	52.7		7.5					30.8		31.1
Level of Service		B	D		A					C		C
Approach Delay (s)		25.8			7.5			0.0			30.9	
Approach LOS		C			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			21.4									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.51									
Actuated Cycle Length (s)			80.0							12.2		
Intersection Capacity Utilization			67.9%									ICU Level of Service C
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

Alternative (2024)
OFF Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↘↘	↗
Traffic Volume (vph)	1163	0	0	591	200	100
Future Volume (vph)	1163	0	0	591	200	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3762			5406	3641	1532
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3762			5406	3641	1532
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1249	0	0	655	222	111
RTOR Reduction (vph)	0	0	0	0	5	50
Lane Group Flow (vph)	1249	0	0	655	228	50
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	53.0			53.0	10.5	10.5
Effective Green, g (s)	53.0			53.0	10.5	10.5
Actuated g/C Ratio	0.66			0.66	0.13	0.13
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2492			3581	477	201
v/s Ratio Prot	c0.33			0.12	c0.06	
v/s Ratio Perm						0.03
v/c Ratio	0.50			0.18	0.48	0.25
Uniform Delay, d1	6.8			5.2	32.2	31.2
Progression Factor	0.26			1.00	1.00	1.00
Incremental Delay, d2	0.6			0.1	0.8	0.6
Delay (s)	2.4			5.3	33.0	31.8
Level of Service	A			A	C	C
Approach Delay (s)	2.4			5.3	32.6	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay		7.8		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.50				
Actuated Cycle Length (s)		80.0		Sum of lost time (s)		16.5
Intersection Capacity Utilization		51.4%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

813: Haggerty Rd (PB) & 6 Mile Rd (PB)

Alternative (2024)
PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	617	48	308	550	378	87	448	397	326	505	127
Future Volume (vph)	128	617	48	308	550	378	87	448	397	326	505	127
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12	11	12	12	11	12	12
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1837	3758		1837	3800	1700	1837	3800	1700	1837	3800	1700
Flt Permitted	0.26	1.00		0.19	1.00	1.00	0.32	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	499	3758		375	3800	1700	626	3800	1700	679	3800	1700
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	137	662	52	331	591	406	93	481	426	350	542	136
RTOR Reduction (vph)	0	6	0	0	0	313	0	0	246	0	0	102
Lane Group Flow (vph)	137	708	0	331	591	93	93	481	180	350	542	34
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type	D.P+P	NA		D.P+P	NA	Perm	D.P+P	NA	Perm	D.P+P	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	2			6		2	4		8	8		4
Actuated Green, G (s)	31.3	20.6		31.3	20.6	20.6	33.5	19.7	19.7	33.5	22.7	22.7
Effective Green, g (s)	31.3	20.6		31.3	20.6	20.6	33.5	19.7	19.7	33.5	22.7	22.7
Actuated g/C Ratio	0.35	0.23		0.35	0.23	0.23	0.37	0.22	0.22	0.37	0.25	0.25
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Vehicle Extension (s)	3.0	0.2		3.0	0.2	0.2	3.0	0.2	0.2	3.0	0.2	0.2
Lane Grp Cap (vph)	332	860		304	869	389	378	831	372	430	958	428
v/s Ratio Prot	0.05	0.19		c0.13	0.16		0.03	0.13		c0.12	0.14	
v/s Ratio Perm	0.09			c0.25		0.05	0.06		0.11	c0.18		0.02
v/c Ratio	0.41	0.82		1.09	0.68	0.24	0.25	0.58	0.48	0.81	0.57	0.08
Uniform Delay, d1	29.5	33.0		34.4	31.7	28.3	24.6	31.4	30.7	28.1	29.4	25.7
Progression Factor	1.00	1.00		0.64	0.83	1.11	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	8.8		75.5	4.0	1.3	0.3	2.9	4.4	11.2	2.4	0.4
Delay (s)	30.4	41.7		97.5	30.3	32.9	24.9	34.4	35.2	39.3	31.8	26.0
Level of Service	C	D		F	C	C	C	C	D	D	C	C
Approach Delay (s)		39.9			47.9			33.8			33.6	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			39.4									
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			90.0									
Intersection Capacity Utilization			85.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1001: 6 Mile Rd & Fox Dr (PB)

Alternative (2024)
PM Peak



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	1449	1249	135	74	29
Future Volume (vph)	8	1449	1249	135	74	29
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width	11	12	12	11	12	12
Total Lost time (s)	7.9	7.9	7.9		6.1	6.1
Lane Util. Factor	1.00	0.95	0.91		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1837	3800	5380		1900	1700
Flt Permitted	0.12	1.00	1.00		0.95	1.00
Satd. Flow (perm)	234	3800	5380		1900	1700
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.88	0.88
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	9	1556	1341	145	86	34
RTOR Reduction (vph)	0	0	12	0	0	31
Lane Group Flow (vph)	9	1556	1474	0	86	3
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	pm+pt	NA	NA		Prot	Perm
Protected Phases	1	6	2		4	
Permitted Phases	6					4
Actuated Green, G (s)	40.6	39.4	47.6		7.1	7.1
Effective Green, g (s)	40.6	39.4	47.6		7.1	7.1
Actuated g/C Ratio	0.45	0.44	0.53		0.08	0.08
Clearance Time (s)	7.9	7.9	7.9		6.1	6.1
Vehicle Extension (s)	3.0	0.2	0.2		3.0	3.0
Lane Grp Cap (vph)	126	1663	2845		149	134
v/s Ratio Prot	c0.00	c0.41	c0.27		c0.05	
v/s Ratio Perm	0.03					0.00
v/c Ratio	0.07	0.94	0.52		0.58	0.02
Uniform Delay, d1	20.5	24.1	13.8		40.0	38.2
Progression Factor	0.65	0.54	0.05		1.00	1.00
Incremental Delay, d2	0.2	8.5	0.6		5.3	0.1
Delay (s)	13.6	21.5	1.4		45.3	38.3
Level of Service	B	C	A		D	D
Approach Delay (s)		21.5	1.4		43.3	
Approach LOS		C	A		D	
Intersection Summary						
HCM 2000 Control Delay			12.9		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.68			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	28.0
Intersection Capacity Utilization			56.3%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1002: Quakertown Ln & 6 Mile Rd

Alternative (2024)
PM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑↑	↘	↗
Traffic Volume (vph)	1458	4	61	1376	8	82
Future Volume (vph)	1458	4	61	1376	8	82
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Lane Width	12	12	11	12	12	12
Total Lost time (s)	7.9		7.9	7.9	6.1	6.1
Lane Util. Factor	0.95		1.00	0.91	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3799		1837	5460	1900	1700
Flt Permitted	1.00		0.08	1.00	0.95	1.00
Satd. Flow (perm)	3799		163	5460	1900	1700
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.75	0.75
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1565	4	65	1477	11	112
RTOR Reduction (vph)	0	0	0	0	0	104
Lane Group Flow (vph)	1569	0	65	1477	11	8
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	6		5	2	8	
Permitted Phases			2			8
Actuated Green, G (s)	39.4		56.7	47.6	6.1	6.1
Effective Green, g (s)	39.4		56.7	47.6	6.1	6.1
Actuated g/C Ratio	0.44		0.63	0.53	0.07	0.07
Clearance Time (s)	7.9		7.9	7.9	6.1	6.1
Vehicle Extension (s)	0.2		3.0	0.2	3.0	3.0
Lane Grp Cap (vph)	1663		277	2887	128	115
v/s Ratio Prot	c0.41		c0.02	c0.27	c0.01	
v/s Ratio Perm			0.12			0.00
v/c Ratio	0.94		0.23	0.51	0.09	0.07
Uniform Delay, d1	24.2		28.9	13.7	39.3	39.3
Progression Factor	0.15		1.00	1.00	1.00	1.00
Incremental Delay, d2	9.0		0.4	0.7	0.3	0.2
Delay (s)	12.7		29.3	14.3	39.6	39.5
Level of Service	B		C	B	D	D
Approach Delay (s)	12.7			15.0	39.5	
Approach LOS	B			B	D	
Intersection Summary						
HCM 2000 Control Delay			14.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.65			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	28.0
Intersection Capacity Utilization			66.6%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

1485: I-275 SB On-Ramp/I-275 SB Off-Ramp & 6 Mile Rd

Alternative (2024)

PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↑		↑↑					↑		↑
Traffic Volume (vph)	0	1092	448	0	950	0	0	0	0	299	0	487
Future Volume (vph)	0	1092	448	0	950	0	0	0	0	299	0	487
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Lane Width	12	11	11	12	11	11	12	12	12	11	12	11
Total Lost time (s)		6.0	6.0		6.0					6.2		6.2
Lane Util. Factor		0.95	1.00		0.95					1.00		1.00
Frt		1.00	0.85		1.00					1.00		0.85
Flt Protected		1.00	1.00		1.00					0.95		1.00
Satd. Flow (prot)		3673	1643		3673					1837		1643
Flt Permitted		1.00	1.00		1.00					0.95		1.00
Satd. Flow (perm)		3673	1643		3673					1837		1643
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.89	0.89	0.89
Growth Factor (vph)	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	0	1185	486	0	1031	0	0	0	0	343	0	558
RTOR Reduction (vph)	0	0	208	0	0	0	0	0	0	0	0	73
Lane Group Flow (vph)	0	1185	278	0	1031	0	0	0	0	343	0	486
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Turn Type		NA	Perm		NA					Prot		Perm
Protected Phases		2			2					4		
Permitted Phases			2									4
Actuated Green, G (s)		45.8	45.8		45.8					22.0		22.0
Effective Green, g (s)		45.8	45.8		45.8					22.0		22.0
Actuated g/C Ratio		0.57	0.57		0.57					0.28		0.28
Clearance Time (s)		6.0	6.0		6.0					6.2		6.2
Lane Grp Cap (vph)		2102	940		2102					505		451
v/s Ratio Prot		c0.32			0.28					0.19		
v/s Ratio Perm			0.17									c0.30
v/c Ratio		0.56	0.30		0.49					0.68		1.08
Uniform Delay, d1		10.8	8.8		10.2					25.9		29.0
Progression Factor		1.00	1.00		0.80					1.00		1.00
Incremental Delay, d2		1.1	0.8		0.8					7.2		64.4
Delay (s)		11.9	9.6		8.9					33.0		93.4
Level of Service		B	A		A					C		F
Approach Delay (s)		11.2			8.9			0.0			70.4	
Approach LOS		B			A			A			E	
Intersection Summary												
HCM 2000 Control Delay			25.4									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			80.0							12.2		
Intersection Capacity Utilization			77.6%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

1678: I-275 NB Off-Ramp & 6 Mile Rd

Alternative (2024)
PM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑	↘↘↘	↗
Traffic Volume (vph)	1391	0	0	700	250	100
Future Volume (vph)	1391	0	0	700	250	100
Ideal Flow (vphpl)	2000	2000	2000	2000	2000	2000
Total Lost time (s)	6.4			6.4	10.1	10.1
Lane Util. Factor	0.95			0.91	0.97	0.91
Frt	1.00			1.00	0.99	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	3800			5460	3681	1547
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	3800			5460	3681	1547
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.92	0.92
Growth Factor (vph)	102%	102%	102%	102%	102%	102%
Adj. Flow (vph)	1509	0	0	760	277	111
RTOR Reduction (vph)	0	0	0	0	5	7
Lane Group Flow (vph)	1509	0	0	760	283	93
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	4	
Permitted Phases						4
Actuated Green, G (s)	51.8			51.8	11.7	11.7
Effective Green, g (s)	51.8			51.8	11.7	11.7
Actuated g/C Ratio	0.65			0.65	0.15	0.15
Clearance Time (s)	6.4			6.4	10.1	10.1
Vehicle Extension (s)	0.2			0.2	3.0	3.0
Lane Grp Cap (vph)	2460			3535	538	226
v/s Ratio Prot	c0.40			0.14	c0.08	
v/s Ratio Perm						0.06
v/c Ratio	0.61			0.21	0.53	0.41
Uniform Delay, d1	8.2			5.8	31.6	31.0
Progression Factor	0.61			1.00	1.00	1.00
Incremental Delay, d2	0.9			0.1	0.9	1.2
Delay (s)	6.0			5.9	32.5	32.2
Level of Service	A			A	C	C
Approach Delay (s)	6.0			5.9	32.4	
Approach LOS	A			A	C	
Intersection Summary						
HCM 2000 Control Delay			9.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			80.0		Sum of lost time (s)	16.5
Intersection Capacity Utilization			58.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

ATTACHMENT C – PREFERRED ALTERNATIVE CONCEPT DESIGN



HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

555 HULET DRIVE
BLOOMFIELD HILLS, MICH.

P.O. BOX 824
48303 - 0824

PHONE: (248) 454-6300
FAX (1st. Floor): (248) 454-6312
FAX (2nd. Floor): (248) 454-6359



WEB SITE: <http://www.hrcengr.com>

[illegible]

3/1/2022	ISSUED FOR INFORMATION ONLY
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DESIGNED GH

DRAWN	HFA
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CHECKED

APPROVED

CITY OF LIVONIA

SCHOOLCRAFT TIS CONCEPTUAL ALTERNATIVES

6 MILE RD
FOX DR & QUAKERTOWN LN
CONCEPT ALTERNATIVE 1
SIGNAL

HRC JOB NO.
20211149

SCALE
1"=40'

DATE
June 2022

SHEET NO. 1 OF 5

38888 Six Mile, LLC

3717 Vorhies Road
Ann Arbor, MI 48105

August __, 2025

Narain Raisinghani
Leo Enterprises, LLP
899 Island Court
Northville, MI 48167

Dear Mr. Raisinghani:

This letter sets forth the proposal of 38888 Six Mile, LLC (“38888”) to exchange with Leo Enterprises, LLP (“Leo”) certain parcels of land adjacent to the property of 38888 located at 38888 Six Mile Road, Livonia, Michigan.

38888 purposes to transfer to Leo a strip of land across the north 40ft of its property, the dimensions of which are approximately 280ft x 40ft in exchange for the strip of land to the immediate West of its property owned by Leo the dimension of which are approximately 271ft x 40ft, being the property East of Fox Drive and North of Six Mile Road immediately adjacent to the West boundary of 38888 property. Each of these parcel would be subject to existing easements of record.

Additional terms between the parties will include, but are not limited to:

- the assisted living monument sign will remain at the intersection of Six Mile and Fox Drive;
- the parcel that Leo is to receive in the land swap will be engineered as part of the development by Clean Express Auto Wash so that the parcel meets the City’s storm water requirements. This requirement is contingent on Clean Express Auto Wash obtaining all necessary approvals and actually moving forward with the lease and development of the site;
- Consideration to Leo for entering into this agreement is subject to negotiation.

This letter of intent shall be governed by and construed under the laws of the State of Michigan. This letter of intent is not legally binding and is subject to: (a) the parties entering into a definitive agreement; (b) obtaining all necessary consents, both governmental and private as necessary; (c) completion of a survey of the parcels to be exchanged, acceptable to the parties.

If this letter of intent is acceptable, please indicate by signing below.

Very truly yours,

Jennifer R. Doehrer,
Sole Member

AGREED & ACCEPTED:

Leo Enterprises, LLP

By: _____
Narain Raisinghani,
Partner

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
City Engineer

DAVID W. LEAR, P.E.
Assistant City Engineer



MAUREEN MILLER BROSNAN
MAYOR

DONALD R. ROHRAFF
Director of Public Works

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150-4202
(734) 466-2571
FAX: (734) 466-2195

November 1, 2023

Mr. John Wright
Construction Manager
18600 Haggerty Road
Livonia, MI 48152-2696

Re: Traffic Signal Modernization at 6 Mile Road / Fox Drive & Quakertown Lane

Dear Mr. Wright,

This letter is being provided as a follow up to our meeting held on October 10, 2023 with Schoolcraft College in their efforts to construct a traffic modernization signal at 6 Mile Road at Fox Drive and Quakertown.

The City of Livonia is committed to working with Wayne County, Schoolcraft College and invested stakeholders based on Hubbell, Roth & Clark, Inc (HRC) drawing dated June 2022 and improving safety improvements in this corridor. MDOT has been working on I-275 for the past 3 years along with the improvements to the 6 Mile Road bridge (2022 and most recently) and looking forward to its completion in 2024 on I-275.

We are committed to provide removal of the greenbelt area and placement of new concrete pavement and aggregate base to accommodate the new left turn lane on Quakertown Lane under our jurisdiction at our cost. This work would be added to our annual repair program with one of the contractor's performing our concrete road improvements at the appropriate time. Quakertown Lane is under the City of Livonia's road jurisdiction.

If you have any questions concerning this change or the estimate, please contact our office at (734) 466-2080.

Sincerely,

Todd J. Zilincik, P.E.
City Engineer

tjz

cc: Mark Taormina – Planning & Economic Director



October 25, 2023

Schoolcraft College
18600 Haggerty Rd
Livonia, MI 48152

Attn: John Wright, Construction Manager
Re: Anticipated Benefits
Six Mile Rd and Fox Dr / Quakertown Ln Traffic Signal

HRC Job No. 20230293

Dear Mr. Wright

The following list provides several anticipated transportation related benefits resulting from the installation of a traffic signal at the intersection of Six Mile Rd and Fox Dr / Quakertown Ln:

- ≡ Significant safety improvements related to several factors including but not limited to:
 - Reduce the likelihood of angle crashes, which are among the crash types most likely to result in a fatality or serious injury. There were 8 angle crashes between 2017 to 2021 at this intersection. All 8 angle crashes can be corrected by a traffic signal.
 - Eliminate illegal and unsafe left-turning movements by providing dedicated left-turn lanes and left-turn signal timing phases. On a typical day, approximately 450 vehicles exit Fox Dr. Of these, 150 vehicles or 33 percent perform an illegal and unsafe SB left-turn maneuver which poses a considerable safety risk for all motorists. The proposed traffic signal eliminates this risk by providing a dedicated and protected left-turn lane and signal.
 - Improved gaps for all turning movements. On a typical day, approximately 3,500 vehicles perform either a left-turn or right-turn at this intersection. Many, and in particular the left-turners, do not have adequate gaps due to the relatively high traffic volume along Six Mile Rd. A traffic signal improves these gaps by providing dedicated and protected signal timing phases for the minor approaches and left-turning movements.
 - Improve the overall safety of all road users by maintaining safe flow of traffic, especially for all road users on the minor approaches, those performing left-turns, and pedestrians. There were 25 total crashes resulting in 7 injuries and 18 property damages between 2017 to 2021 at this intersection. Of the 25 crashes, 22 or 88 percent can be corrected by a traffic signal.
- ≡ Reduced congestion and improved traffic flow of select movements via improved corridor progression and traffic signal timings. This is supported by the results of the March 2023 traffic operations analysis.
- ≡ Provide a safe crossing for nonmotorized users wanting to cross Six Mile Rd. Currently, nonmotorized users must cross five lanes of uncontrolled traffic flow along Six Mile Rd. A traffic signal corrects this condition by providing a safe and dedicated pedestrian phase and crossing on Six Mile Rd.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Gentjan Heqimi, P.E., PTOE, PTP
Project Engineer

pc: HRC; L. Michaels; File

STANDARD PLANS		
CONSTRUCTION OF THE FOLLOWING ITEMS, WHERE CALLED FOR ON THE PLANS, WILL BE CONSTRUCTED ACCORDING TO MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD PLANS AS INDICATED.		
REQUIRED ON THIS PROJECT	ITEMS OF WORK	STANDARD PLAN NUMBERS
X	DRAINAGE STRUCTURES	R-1-G
X	CURB RAMP AND DETECTABLE WARNING DETAILS	R-28-K
X	DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS	R-29-J
X	TRANSVERSE PAVEMENT JOINTS (PLAIN CONCRETE PAVEMENT)	R-39-K
X	LONGITUDINAL PAVEMENT JOINTS	R-41-H
X	TYPICAL JOINT LAYOUT FOR CONCRETE PAVEMENT	R-42-F
X	LOCATION OF TRANSVERSE JOINTS IN PLAIN CONCRETE PAVEMENT	R-43-J
X	UTILITY TRENCHES	R-83-C
X	SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E

* SEE MDOT SPECIAL DETAIL

TRAFFIC AND SAFETY STANDARD PLANS		
CONSTRUCTION OF THE FOLLOWING ITEMS, WHERE CALLED FOR ON THE PLANS, WILL BE CONSTRUCTED ACCORDING TO MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD PLANS AS INDICATED.		
REQUIRED ON THIS PROJECT	ITEMS OF WORK	STANDARD PLAN NUMBERS
X	GROUND DRIVEN SIGN SUPPORTS FOR TEMP. SIGNS	WZD-100-A
X	TEMPORARY TRAFFIC CONTROL DEVICES	WZD-125-E

* SEE MDOT SPECIAL DETAIL

STANDARD PLANS		
WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.		
REQUIRED ON THIS PROJECT	ITEMS OF WORK	STANDARD PLAN NUMBERS
PAVEMENT MARKINGS		
X	PAVEMENT ARROW AND MESSAGE DETAILS	PAVE-900-G
X	LONGITUDINAL LINE TYPES AND PLACEMENT	PAVE-905-E
X	PAVEMENT MARKINGS FOR NON-SIGNALIZED INTERSECTIONS	PAVE-930-D
X	LEFT TURN LANE MARKINGS	PAVE-935-E
X	RIGHT TURN LANE AND ISLAND PAVEMENT MARKINGS	PAVE-940-D
X	INTERSECTION, STOP BAR, AND CROSSWALK MARKINGS	PAVE-945-D
STATEWIDE TRAFFIC SIGNALS		
X	SPAN WIRE TS ON STEEL AND WOOD POLES	SIG-010-A *
X	TS STRAIN POLE LOADING TABLE AND DESIGN CRITERIA	SIG-020-A *
X	6 ANCHOR BOLT TRAFFIC SIGNAL STRAIN POLE AND COUPLING DETAILS	SIG-021-A *
X	STEEL TRUSS BRACKETS	SIG-060-A *
X	GLOBAL POSITIONING SYSTEM (GPS) MODULE	SIG-120-A *
X	SECONDARY SERVICE/DISCONNECT FOR STEEL POLES	SIG-201-A *
X	LIGHTING PROTECTION DETAIL	SIG-231-A *
X	HANDHOLE- PRECAST, POLYMER CONCRETE	SIG-240-A *
X	CONDUIT (DIRECT BURIAL/ENCASED)	SIG-250-A *
X	TRAFFIC SIGNAL BACKPLATES	SIG-304-A *
X	PEDESTAL MOUNTED SIGNAL DISPLAYS	SIG-330-A *
X	PEDESTAL MOUNTING DETAILS FOR SIGNALS	SIG-331-A *
X	POLE MOUNTED SIGNAL DISPLAYS	SIG-340-A *
X	POLE MOUNTING DETAILS FOR SIGNALS	SIG-341-A *
X	BACK BRACKET SIGNAL DISPLAYS	SIG-342-A *
X	PEDESTRIAN PUSH BUTTON DETAILS	SIG-400-A *
X	VIDEO DETECTION CAMERA	SIG-430-A *
WAYNE COUNTY TRAFFIC SIGNALS		
X	GENERAL NOTE SHEETS FOR SIGNAL CONTRACTS	Notes-Wayne County
X	COLOR CODE WIRING / EQUIPMENT GROUNDING	WC-026A*
X	COLOR CODE FOR WIRING CONNECTING SIGNAL LAMPS	WC-026B*
X	PEDESTAL FOUNDATION & SIGNAL MOUNTING DETAILS	WC-028B*
X	TYPICAL POLE MTD PEDESTRIAN SIGNALS	WC-029C*
X	SPAN WIRE MOUNTED TS BRACKET ASSEMBLY	WC-030A*
X	BASE MTD TS CONTROLLER CABINET/FDN	WC-045A*
X	SPAN WIRE JUNCTION BOX	WC-408A*
SIGNING		
X	STANDARD SIGN INSTALLATIONS	SIGN-100-G
X	ROADSIDE SIGN LOCATIONS & SUPPORT SPACING	SIGN-120-E
X	SIGN SUPPORT SELECTION CHARTS	SIGN-150-D
X	STEEL POSTS	SIGN-200-E
X	MISCELLANEOUS SIGN CONNECTION DETAILS	SIGN-740-B

* Denotes Special Detail

SCHOOLCRAFT COLLEGE

CITY OF LIVONIA

SIX MILE ROAD AND FOX DRIVE/QUAKERTOWN LANE

INTERSECTION IMPROVEMENTS

(PLANS FOR SIX MILE ROAD AND FOX DRIVE)

SCHOOLCRAFT COLLEGE No. SC 23MM13

HRC JOB No. 20230293



CITY OF LIVONIA

NO SCALE

HRC
HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

555 HULEY DRIVE
BLOOMFIELD HILLS, MICH.

PHONE: (248) 454-6300
FAX (1st. Floor): (248) 454-6312
FAX (2nd. Floor): (248) 454-6359

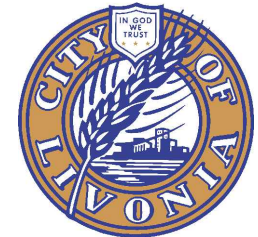
WEB SITE: www.hrcengr.com

P.O. BOX 824
48303 - 0824



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CITY COUNCIL
COUNCIL PRESIDENT:
BRANDON McCULLOUGH

COUNCIL VICE PRESIDENT:
MARTH PTASHNIK

COUNCIL MEMBERS:
CARRIE BUDZINSKI
ROB GJONAJ
JIM JOLLY
SCOTT MORGAN
LAURA TOY

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MAUREEN BROSNAN

CITY CLERK:
LORI MILLER

CITY TREASURER:
SUSAN NASH

DIRECTOR OF PUBLIC WORKS:
DONALD ROHRAFF

CITY ENGINEER:
TODD ZILINCIAK, P.E.

TRAFFIC VOLUMES (ADT)

	2024	2044
SIX MILE ROAD	31,700	38,700
FOX DRIVE	1,800	2,300
QUAKERTON LANE	1,700	2,100

	-	-
	-	-
	-	-
	-	-
	-	-
	-	-
	-	-
	-	-
2/16/24	ISSUED FOR WAYNE COUNTY PERMIT	
1/30/24	OWNER FINAL REVIEW	
DATE	ADDITIONS AND/OR REVISIONS	

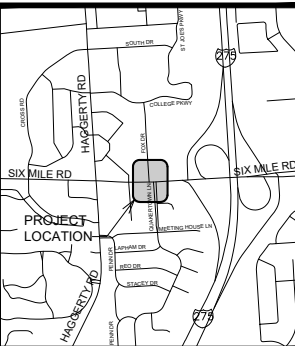
- ALL TRAFFIC CONTROL DEVICES INCLUDING SIGNS, BARRICADES, VERTICAL PANELS, DRUMS, WARNING LIGHTS, ARROW BOARDS, AND CHANGEABLE MESSAGE SIGNS SHALL MEET THE "ACCEPTABLE" REQUIREMENTS OF AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA), "QUALITY STANDARD FOR WORK ZONE TRAFFIC CONTROL DEVICES - CURRENT EDITION". COPIES OF THIS PUBLICATION ARE AVAILABLE DIRECTLY FROM ATSSA. ALL TRAFFIC CONTROL DEVICES SHALL BE IN LIKE-NEW CONDITION.
2. SIGN LOCATIONS AND DISTANCES BETWEEN SIGNS SHALL BE FIELD REVIEWED BY THE ENGINEER BEFORE INSTALLATION TO ASSURE APPROPRIATE PLACEMENT. THE LOCATION OF THE CONSTRUCTION SIGNING SHALL BE CLEARLY MARKED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF ONE WEEK IN ADVANCE OF THE NEED FOR REVIEW. THIS WORK WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE PROJECT.
3. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AND THE 2020 MDOT STANDARD SPECIFICATION FOR CONSTRUCTION. ALL CONSTRUCTION SIGNING SHALL BE BLACK LETTERS ON FLORESCENT ORANGE BACKGROUND UNLESS SPECIFIED OTHERWISE.
4. THE CONTRACTOR SHALL NOT BEGIN ANY CONSTRUCTION OPERATIONS ON THE PROJECT UNTIL ALL CONSTRUCTION SIGNING AND TRAFFIC CONTROL DEVICES ARE IN PLACE.
5. ALL TRAFFIC SIGNS WITHIN THE PROJECT WILL BE RELOCATED BY THE CONTRACTOR FOR EACH STAGE OF CONSTRUCTION AS APPLICABLE. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN ALL TRAFFIC CONTROL DEVICES WITHIN THE PROJECT LIMITS. ANY TRAFFIC CONTROL DEVICES DAMAGED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
6. SPECIAL SIGNS INDICATING THE START DATE OF THE CONSTRUCTION PROJECT AND/OR THE START DATE OF A ROAD CLOSURE SHALL BE POSTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE.
7. AS DIRECTED BY THE TRAFFIC OPERATION ENGINEER, THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ANY ADDITIONAL SIGNS, BARRICADES AND LIGHTS WITHIN THE PROJECT TO PROTECT THE TRAFFIC AND WORK AREA.
8. THE CONTRACTOR SHALL PLACE A MINIMUM OF EIGHT SANDBAGS ON CONTRACTOR FURNISHED TYPE III BARRICADES TO PREVENT MOVEMENT. ALL TYPE III BARRICADES SHALL BE DOUBLE SIDED.
9. ALL SIGNS PLACED IN CONJUNCTION WITH A TYPE III BARRICADE SHALL BE PLACED ON SEPARATE SUPPORTS IMMEDIATELY BEHIND AND ABOVE THE TYPE III BARRICADE. THESE SIGNS SHALL BE INSTALLED ON TEMPORARY SUPPORTS. THE CONTRACTOR SHALL PLACE A MINIMUM OF EIGHT SANDBAGS ON THESE SIGNS TO PREVENT MOVEMENT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COVERING AND UNCOVERING ALL CONSTRUCTION SIGNS AS NEEDED FOR THE PROPER MAINTENANCE OF TRAFFIC THROUGHOUT THE CONSTRUCTION AREA.
11. CONSTRUCTION SIGNING MOUNTED ON PORTABLE SUPPORTS SHOULD NOT BE USED FOR A DURATION OF MORE THAN FOURTEEN (14) DAYS. OTHERWISE, SIGNS SHALL BE GROUND MOUNTED ON 3 LB U-CHANNEL POSTS WHEN POSSIBLE. THE FOLLOWING SIGNS MAY BE PLACED ON TEMPORARY SUPPORTS: SIGNS PLACED IN CONJUNCTION WITH THE TYPE III BARRICADES, SIGNS PLACED FOR SIDEWALK CLOSURE, AND SIGNS WITHIN THE CLOSED PORTION OF ROADWAY ITSELF. THE CONTRACTOR SHALL INSTALL ONE FLASHER ON ANY CONSTRUCTION SIGN THAT IS INSTALLED ON TEMPORARY SUPPORTS.
12. TRAFFIC CONTROL SIGNS SHALL BE REMOVED, SALVAGED, RELOCATED AND MAINTAINED BY THE CONTRACTOR AS INDICATED ON THE PLANS. THIS WORK MAY BE REQUIRED MULTIPLE TIMES DURING THE PROJECT TO ACCOMMODATE CONSTRUCTION OPERATIONS. THIS WORK SHALL BE PERFORMED ON THE SAME DAY OF A CHANGE IN OPERATIONS REQUIRING THE SIGN WORK AS DETERMINED AND/OR APPROVED BY THE PROJECT ENGINEER. UPON COMPLETION OF THE PROJECT, PERMANENT TRAFFIC CONTROL SIGNS WILL BE RELOCATED OR REPLACED IN THEIR PROPER POSITION BY THE CONTRACTOR AS INDICATED ON THE PLANS. THE SIGN REMOVAL, SALVAGING, RELOCATING, INSTALLATION AND RELATED WORK WILL BE PAID FOR WITH THE APPROPRIATE PAY ITEM, AT THE CONTRACT UNIT PRICES EACH TIME THE WORK IS DETERMINED TO BE NECESSARY BY THE PROJECT ENGINEER TO ACCOMMODATE CONSTRUCTION OPERATIONS.
13. TRAFFIC CHANNELING DEVICES (PLASTIC BARRELS) FURNISHED BY THE CONTRACTOR FOR WORK PROTECTION SHALL BE COATED WITH REFLECTORIZED MATERIAL AS PER SPECIAL DETAIL WZD-125. SPACING SHALL ADHERE TO THE 2020 MMUTCD OR AS NOTED ON PLANS.
14. ANY OTHER SIGNS WHICH THE CONTRACTOR MAY BE REQUIRED TO FURNISH SHALL CONFORM TO THE 2011 MMUTCD.
15. ACCESS MUST BE MAINTAINED TO ALL DRIVEWAYS AT ALL TIMES UNLESS NOTED IN THE PLANS OR DIRECTED OTHERWISE BY THE ENGINEER. IF AN AREA HAS MORE THAN ONE (1) DRIVEWAY FOR ACCESS, ONE DRIVEWAY MAY BE CLOSED FOR CONSTRUCTION.
16. ACCESS MUST BE MAINTAINED TO ALL BUSINESSES, SCHOOLS CHURCHES AT ALL TIME UNLESS NOTED IN THE PLANS OR DIRECTED OTHERWISE BY THE ENGINEER.
17. IF TEMPORARY DRIVEWAY CLOSURES ARE REQUIRED, CLOSURE SHALL BE FOR MINIMUM AMOUNT OF TIME TO MINIMIZE DISRUPTIONS.
18. IN ALL CASES, THE CONTRACTOR SHALL PROVIDE REASONABLE ACCESS AND REASONABLE FACILITIES FOR LOCAL TRAFFIC TO PROPERTIES WITHIN THE PROJECT BY MEANS APPROVED BY THE ENGINEER.
19. PEDESTRIAN TYPE II BARRICADES SHALL BE PLACED AT ALL POSSIBLE ENTRY POINTS WHERE SIDEWALK IS CLOSED, UNLESS DIRECTED OTHERWISE BY THE ENGINEER. SIDEWALK CLOSURE SIGNS AND PEDESTRIAN SIGNS SHALL BE PLACED AT LOCATIONS PER THE 2011 MMUTCD AND AS DIRECTED BY THE ENGINEER.
20. R9-9 "SIDEWALK CLOSED" SIGNS SHALL BE INSTALLED BEHIND TYPE II BARRICADES ON SEPARATE SUPPORTS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
21. TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE ANY EXISTING CONFLICTING PAVEMENT MARKING PRIOR TO INSTALLING TEMPORARY PAVEMENT MARKINGS AS INDICATED IN PLANS.
22. REMOVAL AND INSTALLATION OF PERMANENT PAVEMENT MARKINGS WITHIN PROJECT CONSTRUCTION LIMITS ARE ACCOUNTED FOR IN THE PROJECT PAVEMENT MARKINGS AND PERMANENT SIGNING PLANS. REMOVAL AND INSTALLATION OF PERMANENT PAVEMENT MARKING QUANTITIES SHOWN IN THIS PLAN SHEET ARE FOR THE MAINTENANCE OF TRAFFIC TRANSITION AREAS OUTSIDE OF THE PROJECT CONSTRUCTION LIMITS.
23. ALL DISTURBED PAVEMENT MARKINGS SHALL BE REPLACED IN-KIND AS DIRECTED BY THE ENGINEER.
24. TEMPORARY TRAFFIC LANES, WHEN APPLICABLE, SHALL BE A MINIMUM OF 11' WIDE UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
25. PLASTIC DRUMS SPACING SHALL BE AS FOLLOWS:
 - 25.1. PARALLEL AREA ON ANY ROAD = SPEED LIMIT
 - 25.2. TAPER AREA = 25 FT
 - 25.3. LATERAL APPROACH = 10 FT
 - 25.4. INTERSECTION ARC = 10 FT
26. ALL WORK SHALL BE COORDINATED WITH SCHOOLCRAFT COLLEGE. CONTACT JOHN WRIGHT AT 734-462-4407 FOR PROJECT COORDINATION.
27. ALL WORK SHALL BE COORDINATED WITH CITY OF LIVONIA. CONTACT TODD ZILINCK AT 734-466-2561 FOR PROJECT COORDINATION.
28. ALL WORK SHALL BE COORDINATED WITH ANY WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES, MICHIGAN DEPARTMENT OF TRANSPORTATION, OR LOCAL AGENCY CONSTRUCTION WORK IN THE AREA.

1. CONSTRUCTION AT FOX DR AND QUAKERTOWN LN MAY OCCUR AT DIFFERENT TIMES AND AS DIFFERENT PROJECTS. CONTRACTOR SHALL ENSURE COORDINATION FOR MAINTAINING TRAFFIC IN ANY SCENARIO.
2. CONSTRUCTION AT FOX DR SHALL BE PERFORMED AS A FULL ROAD CLOSURE. THE ADJACENT SIX MILE RD OUTSIDE LANE MAY BE CLOSED TO SUPPORT CONSTRUCTION ACTIVITIES AT FOX DR. ANY SUCH LANE CLOSURE SHALL BE FOR A MINIMUM TIME AS DETERMINED BY ENGINEER AND PER MDT TYPICAL 4123A-M-NFW-1LC-(R).
3. CONSTRUCTION AT QUAKERTOWN LN SHALL BE PERFORMED BY CLOSURE OF THE NB APPROACH. THE SB APPROACH SHALL REMAIN OPEN TO TRAFFIC WITH A MINIMUM 11 FEET WIDE LANE. THE ADJACENT SIX MILE RD OUTSIDE LANE MAY BE CLOSED TO SUPPORT CONSTRUCTION ACTIVITIES AT QUAKERTOWN LN. ANY SUCH LANE CLOSURE SHALL BE FOR A MINIMUM TIME AS DETERMINED BY ENGINEER AND PER MDT TYPICAL 4123A-M-NFW-1LC-(R).
4. SIDEWALK CONSTRUCTION SHALL BE PERFORMED IN TWO STAGES:
 - 4.1. DURING STAGE 1, ONLY SIDEWALK SOUTH OF SIX MILE RD SHALL BE CONSTRUCTED. SIDEWALK NORTH OF SIX MILE RD SHALL REMAIN OPEN TO TRAFFIC. CONTRACTOR SHALL ALTERNATE SIDEWALK CONSTRUCTION DURING STAGE 1 SO THAT ONE PEDESTRIAN DIRECTION OF TRAVEL IS MAINTAINED AT ALL TIMES. ALL CONSTRUCTION SIGNS SHALL BE ADJUSTED ACCORDINGLY.
 - 4.2. DURING STAGE 2, ONLY SIDEWALK NORTH OF SIX MILE RD SHALL BE CONSTRUCTED. SIDEWALK SOUTH OF SIX MILE RD SHALL REMAIN OPEN TO TRAFFIC.

PAY ITEM	QTY	UNIT
Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	40	Ea
Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	40	Ea
Pedestrian Type II Barricade, Temp	20	Ea
Channelizing Device, 42 inch, Fluorescent, Furn	100	Ea
Channelizing Device, 42 inch, Fluorescent, Oper	100	Ea
Lighted Arrow, Type C, Furn	2	Ea
Lighted Arrow, Type C, Oper	2	Ea
Minor Traf Devices	1	LS
Plastic Drum, Fluorescent, Furn	100	Ea
Plastic Drum, Fluorescent, Oper	100	Ea
Sign Cover	20	Ea
Sign, Portable, Changeable Message, Furn	2	Ea
Sign, Portable, Changeable Message, Oper	2	Ea
Sign, Type B, Temp, Prismatic, Furn	540	Sft
Sign, Type B, Temp, Prismatic, Oper	540	Sft
Sign, Type B, Temp, Prismatic, Spec, Furn	190	Sft
Sign, Type B, Temp, Prismatic, Spec, Oper	190	Sft
Traffic Regulator Control	1	LS




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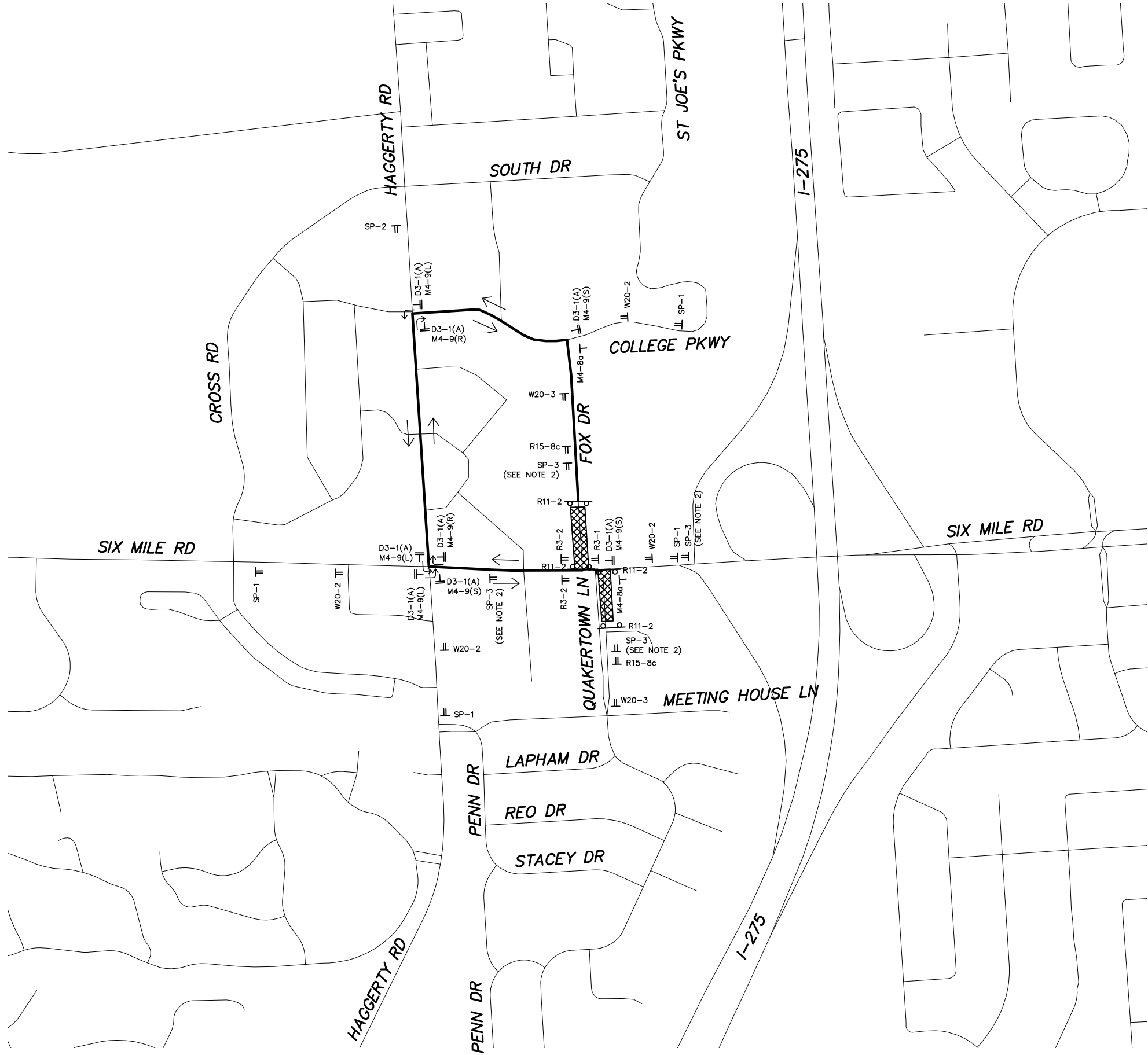
**SCHOOLCRAFT COLLEGE
CITY OF LIVONIA**

**SIX MILE RD AND FOX DR /
QUAKERTOWN LN
INTERSECTION
IMPROVEMENTS**

SC 23MM13

MAINTENANCE OF TRAFFIC NOTE SHEET

HRC JOB NO. 20230293	SCALE N.T.S.
DATE January 2024	SHEET NO. 4 of 24



FOX DR
D3-1A
(36"x12")



M4-9(L)
(30"x24")



M4-9(R)
(30"x24")



M4-9(S)
(30"x24")



M4-8a
(24"x18")



R3-1
(36"x36")



R3-2
(36"x36")

FOX DR CLOSED
AT SIX MILE RD
FOLLOW DETOUR

SP-1
(72"x36")

FOX DR CLOSED
AT SIX MILE RD
SEEK ALTERNATE ROUTE

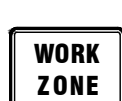
SP-2
(84"x36")



W20-2
(48"x48")



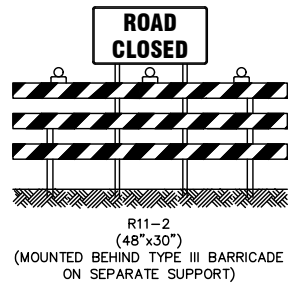
W20-3
(48"x48")



R15-8c
(48"x48")



SP-1
WITH ORANGE FLAGS
(48"x48")



R11-2
(48"x30")
(MOUNTED BEHIND TYPE III BARRICADE
ON SEPARATE SUPPORT)

NOTES:

- ALL CONSTRUCTION SIGN PLACEMENT FOR ANY CONSTRUCTION ACTIVITIES SHALL BE COORDINATED TO AVOID DUPLICATION, AND PROVIDE CORRECT SIGN PLACEMENT AND SPACING.
- SP-1 SHALL BE DISPLAYED FOR TWO WEEKS FOLLOWING SIGNAL ACTIVATION ONLY, AFTER WHICH IT SHALL BE REMOVED.

LEGEND

- WORK AREA
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- DETOUR ROUTE
- TRAFFIC FLOW ARROW

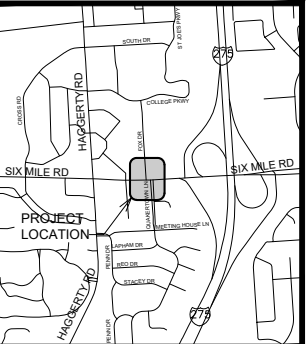
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W20-8
(24"x18")

- NOTES:
1. ALL CONSTRUCTION SIGN PLACEMENT FOR ANY CONSTRUCTION ACTIVITIES SHALL BE COORDINATED TO AVOID DUPLICATION, AND PROVIDE CORRECT SIGN PLACEMENT AND SPACING.
 2. PLACE PEDESTRIAN TYPE II BARRICADES AT ALL POSSIBLE ENTRY POINTS WHERE SIDEWALK IS CLOSED.
 3. STAGE 1 APPLIES ONLY TO SIDEWALK CONSTRUCTION. ONLY SIDEWALK SOUTH OF SIX MILE RD SHALL BE CONSTRUCTED DURING STAGE 1. SIDEWALK NORTH OF SIX MILE RD SHALL REMAIN OPEN TO TRAFFIC.
 4. CONTRACTOR SHALL ALTERNATE SIDEWALK CONSTRUCTION DURING STAGE 1 SO THAT ONE PEDESTRIAN DIRECTION OF TRAVEL IS MAINTAINED AT ALL TIMES. ALL CONSTRUCTION SIGNS SHALL BE ADJUSTED ACCORDINGLY.

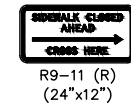
← TRAFFIC FLOW ARROW

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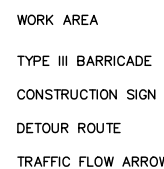


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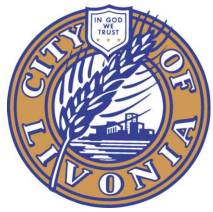
SHEET
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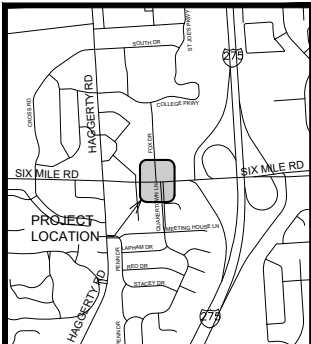
- ### LEGEND



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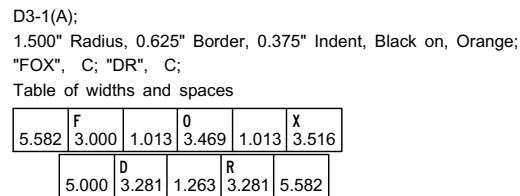
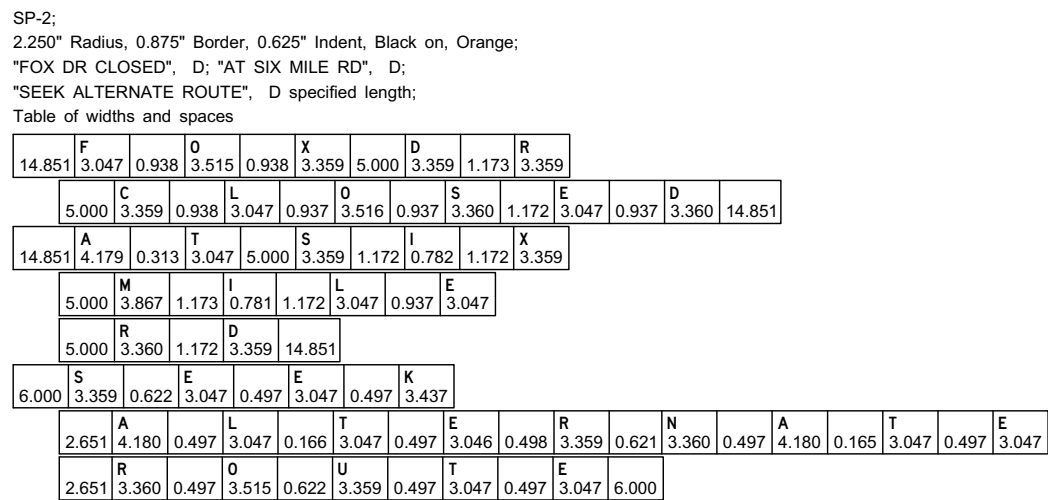
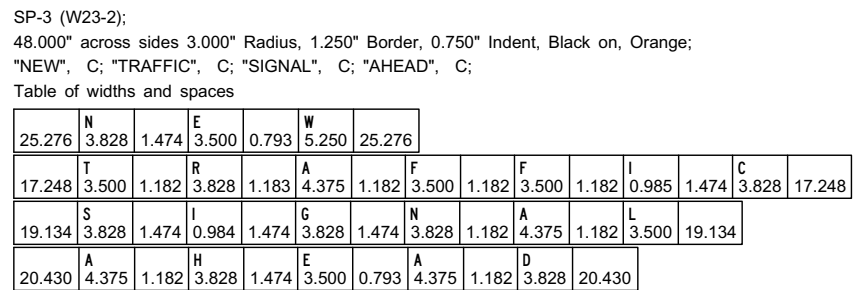
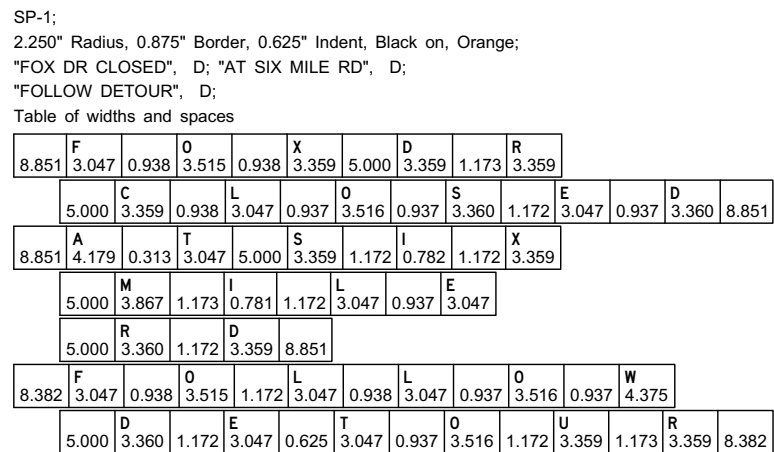


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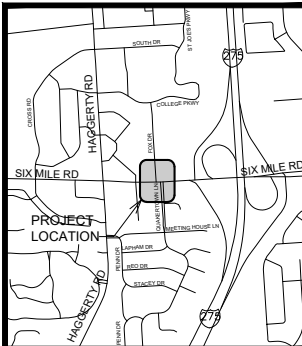


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DATE January 2024	SHEET NO. 7 of 24
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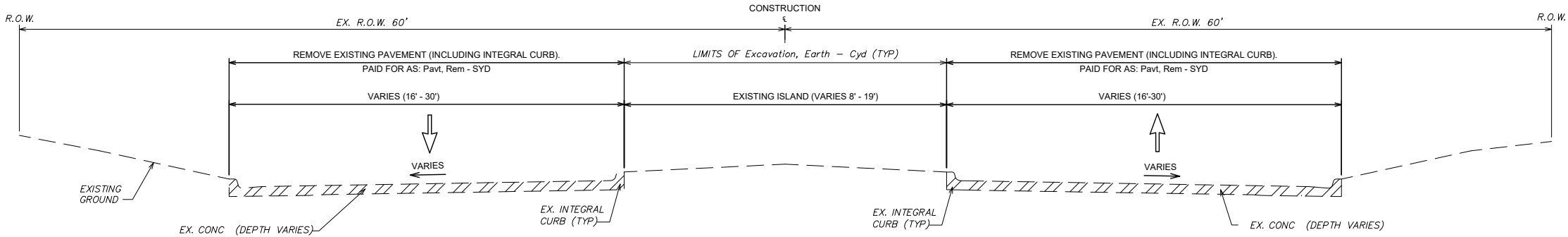
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CITY OF LIVONIA**

**SIX MILE RD AND FOX DR /
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INTERSECTION
IMPROVEMENTS**

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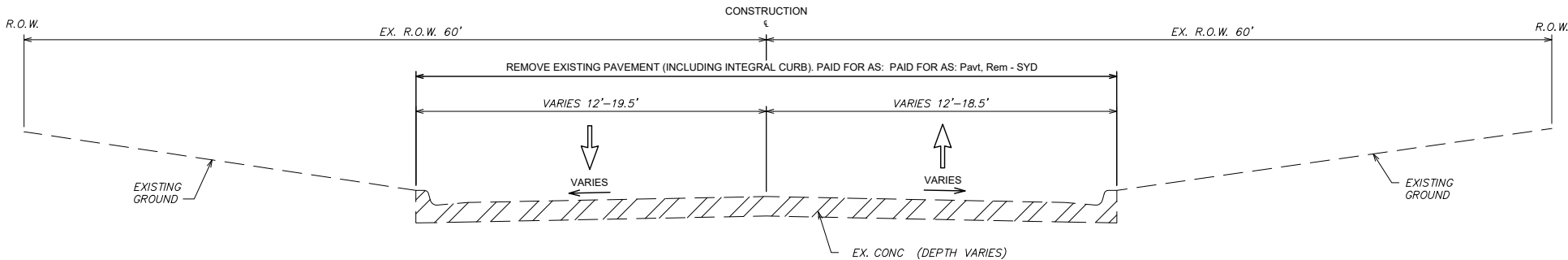
MAINTENANCE OF TRAFFIC SPECIAL DETAILS

HRC JOB NO. 20230293	SCALE N.T.S.
DATE January 2024	SHEET NO. 8 of 24



EXISTING FOX DR - BOULEVARD TYPICAL SECTION

NO SCALE
TO APPLY: P.O.B. (221+35) TO STA. 221+71



EXISTING FOX DR - TYPICAL SECTION

NO SCALE
TO APPLY: STA. 221+71 TO P.O.E (STA. 222+83)

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CONSULTING ENGINEERS SINCE 1915
555 HULET DRIVE P.O. BOX 824
BLOOMFIELD HILLS, MICH. 48303 - 0824
PHONE: (248) 454-6300
FAX (1st. Floor): (248) 454-6312
FAX (2nd. Floor): (248) 454-6359
WEB SITE: www.hrcengr.com

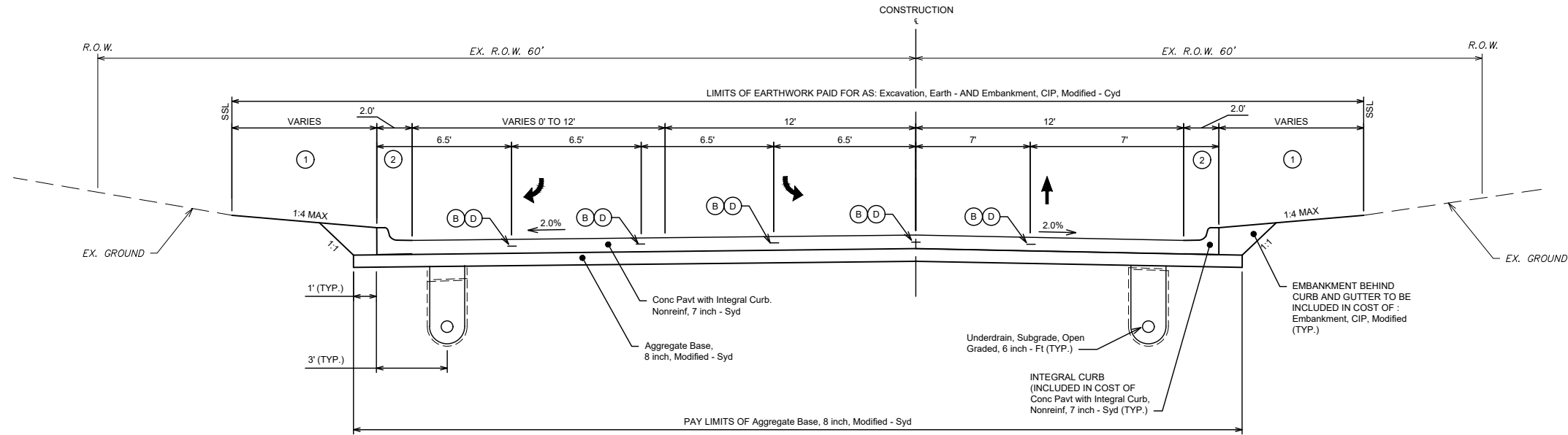
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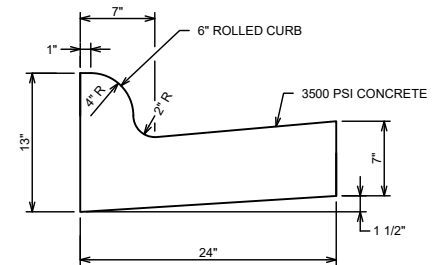
TYPICAL SECTIONS

HRC JOB NO. 20230293	SCALE NOT TO SCALE
DATE February 2024	SHEET NO. 9 of 24

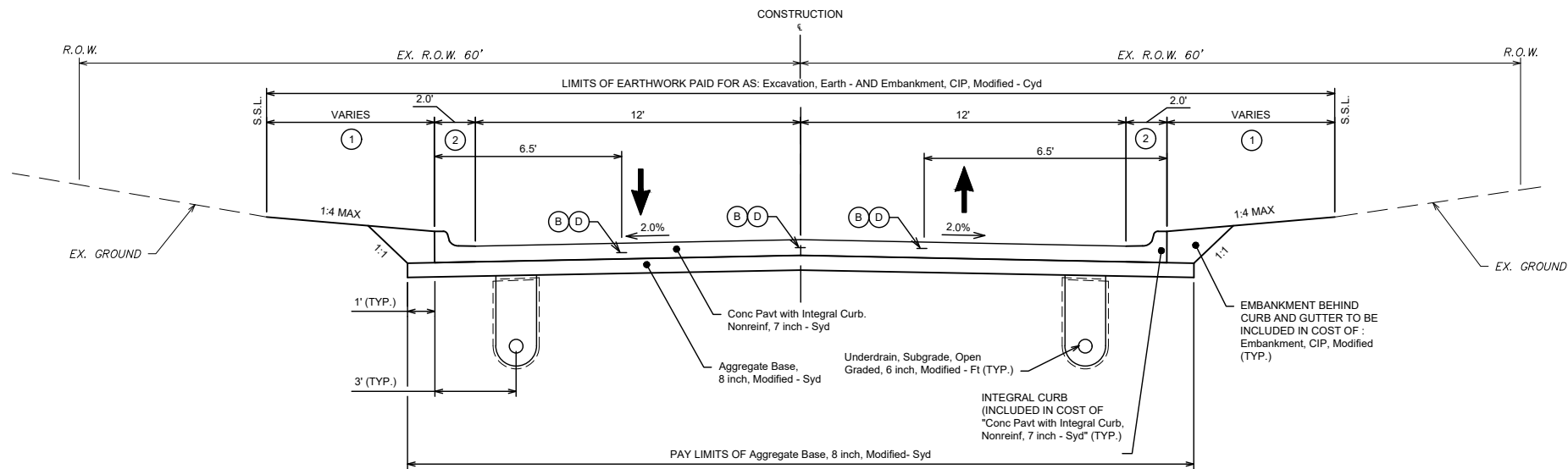


PROPOSED LEFT TURN LANE TYP SECTION

TO APPLY: P.O.B. (221+35) TO STA. 221+71



6" ROLLED CONCRETE CURB AND GUTTER
NO SCALE



PROPOSED TYPICAL SECTION

NO SCALE

TO APPLY: STA. 221+71 TO P.O.E (STA. 222+83)

JOINT LEGEND

- (B) Longitudinal Bulkhead Joint OR
- (D) Longitudinal Lane Tie Joint

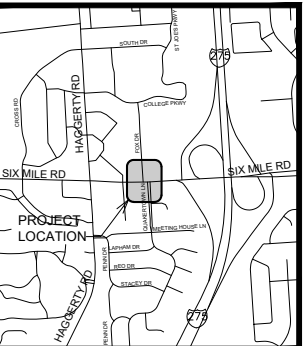
- (1) ROADSIDE RESTORATION TO BE INCLUDED IN THE FOLLOWING PAY ITEM: Sodding, Modified - Syd
- (2) SEE DETAIL "6" ROLLED CONCRETE CURB AND GUTTER"

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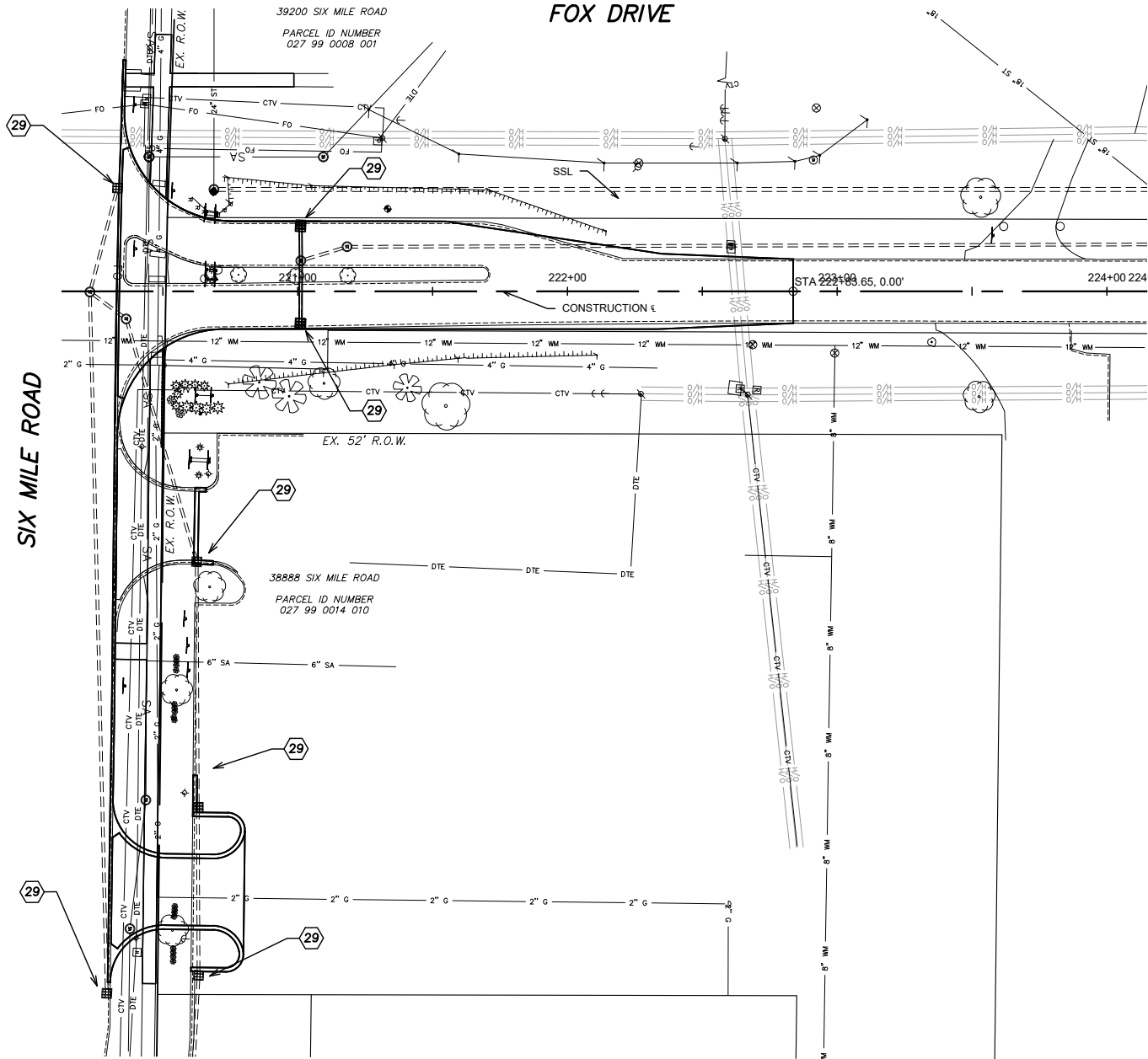
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TYPICAL SECTIONS

HRC JOB NO. 20230293	SCALE NOT TO SCALE
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SESC NOTES

GENERAL NOTES

1. ALL SOIL EROSION AND SEDIMENTATION CONTROL (SESC) ITEMS SHALL BE IN ACCORDANCE WITH MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE MDOT SOIL EROSION AND SEDIMENTATION CONTROL MANUAL. IN ADDITION, THE CONTRACTOR SHALL FOLLOW ANY LOCAL SESC RULES AND REGULATIONS.
2. SEDIMENTATION FROM EROSIONS OF THE WORK SITE SHALL BE CONTAINED ON SITE AND NOT ALLOWED TO COLLECT IN ANY ADJACENT AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, PONDS AND WETLANDS. THE CONTRACTOR SHALL CONDUCT WORK IN A MANNER SUCH THAT ALL SOIL, FUELS, OILS, BITUMINOUS MATERIALS, CHEMICALS, SANITARY SEWAGE, AND OTHER HARMFUL MATERIALS, RESULTING FROM THE CONSTRUCTION OF THE PROJECT, ARE CONFINED WITHIN PROJECT LIMITS AND PREVENTED FROM ENTERING WATERCOURSES, RIVERS, LAKES, RESERVOIRS, OR GROUND WATER.
3. STAGE THE WORK AS SHOWN IN PLANS OR DIRECTED BY THE ENGINEER TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH. THE CONTRACTOR SHALL PRESERVE NATURAL VEGETATION AS MUCH AS POSSIBLE AND CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BARREN DURING CONSTRUCTION. THE CONTRACTOR WILL ONLY BE ALLOWED TO DISTURB ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT THAT ARE WITHIN THE GRADING LIMITS. AREAS OUTSIDE THE GRADING LIMITS MUST BE RESTORED AND WILL NOT BE PAID FOR SEPARATELY.
4. THE CONTRACTOR SHALL INSPECT SESC MEASURES DAILY TO ENSURE THEIR EFFECTIVENESS AND WHEN NECESSARY, IMMEDIATELY REPAIR OR INSTALL ADDITIONAL CONTROLS. THE CONTRACTOR SHALL REMOVE SEDIMENT COLLECTED IN CULVERTS AND SUMPS OF ALL DRAINAGE STRUCTURES CONSTRUCTED WITH THE PROJECT WHEN SUCH SEDIMENT EXCEEDS HALF OF THE SUMP DEPTH OR CULVERT DIAMETER. THE ENGINEER WILL INSPECT CULVERTS, SUMPS, AND ALL SESC ITEMS AFTER STORMS AND DIRECT THE CONTRACTOR TO CLEAN OUT CULVERTS, SUMPS, AND ALL SESC ITEMS. CLEARING CULVERTS AND SUMPS FOR SEDIMENTATION CONTROL IS CONSIDERED MAINTENANCE AND WILL NOT BE PAID FOR SEPARATELY.
5. ALL TEMPORARY SESC DEVICES SHALL BE PERIODICALLY MAINTAINED AND CLEANED OF ALL ACCUMULATED SEDIMENT TO ENSURE THEY REMAIN OPERATIONAL UNTIL ALL DISRUPTED AREAS ARE PERMANENTLY STABILIZED, AT WHICH TIME, THEY SHALL BE REMOVED.

6. PERMANENT SESC MEASURES FOR ANY DISTURBED AREA SHALL BE COMPLETED WITHIN FIVE DAYS AFTER FINAL GRADING OF THE SECTION OR ANY PORTION THEREOF. THE CONTRACTOR WILL MAINTAIN AND REPAIR PERMANENT RESTORATION ITEMS UNTIL FINAL ROAD ACCEPTANCE.
7. ALL AREAS TEMPORARILY STABILIZED DURING THE NON-GROWING SEASON SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING THE COMMENCEMENT OF THE NEXT PLANTING SEASON. ALL STRAW OR HAY MULCH SHALL BE REMOVED OR DEEPLY INCORPORATED INTO THE SOIL BEFORE PROVIDING PERMANENT STABILIZATION. DORMANT SEEDING IS ALSO RECOMMENDED FOR EARLY SPRING GROWTH.
8. IN ADDITION TO SESC MEASURES, CONSTRUCT BARRIERS TO PROTECT CRITICAL EROSION AREAS AND TO PREVENT UNWANTED ACCESS BY VEHICLES, EQUIPMENT, AND PEDESTRIANS. POTENTIAL AREAS THAT MAY NEED BARRIERS ARE HIGHLY ERODIBLE AREAS SUCH AS, TREE CANOPIES, SEDIMENT AND RETENTION PONDS, COFFERDAMS, BARREN LAND, AND SLOPES GREATER THAN 1:3.
9. IF RUNOFF OCCURS FROM SOIL STOCKPILES, SEDIMENT CONTROL FENCING WILL BE PLACED AT THE BASE OF THE STOCKPILE TO RETAIN SOIL, OR AS DIRECTED BY THE ENGINEER.
10. MINIMIZE DUST AND THE TRACKING OF LOOSE MATERIALS FROM THE CONSTRUCTION WORK SITE ONTO PUBLIC ROADWAYS AND INTO THE WATERS OF THE STATE. ANY MATERIALS TRACKED ONTO PUBLIC ROADWAYS SHALL BE REMOVED AS SOON AS POSSIBLE AS FOLLOWED AND PAID FOR IN THE PAVEMENT CLEANING SPECIAL PROVISION.
11. TURF ESTABLISHMENT IS THE RESPONSIBILITY OF THE CONTRACTOR AS SPECIFIED IN THE TURF ESTABLISHMENT SPECIAL PROVISION.
12. FOR FINAL PROJECT ACCEPTANCE AND SESC PERMIT CLOSING, THE REMOVAL OF TEMPORARY SESC MEASURES, CONSTRUCTION OF PERMANENT SESC MEASURES, AND 90 PERCENT VEGETATIVE GROWTH ON DISTURBED AREAS ARE REQUIRED. IN ADDITION, PAVEMENT, DITCHES, GUTTERS, CATCH BASINS, AND STORM SEWERS MUST BE FREE OF ACCUMULATED SEDIMENT.

13. MEASUREMENT AND PAYMENT:
 - A. PAYMENT FOR THE SESC ITEMS WILL INCLUDE FURNISHING, PLACING, MAINTAINING AND REMOVING THESE ITEMS AS REQUIRED, IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS OR AS SPECIFIED. MAINTENANCE OR REMOVAL OF THE TEMPORARY SESC ITEMS WILL NOT BE PAID FOR SEPARATELY.
 - B. REMOVAL AND DISPOSAL OF ACCUMULATED SEDIMENT OR DEBRIS WILL NOT BE PAID FOR SEPARATELY.
 - C. THE COST OF PROJECT CLEANUP IS INCLUDED IN THE CONTRACT UNIT PRICES FOR OTHER RELEVANT PAY ITEMS.

TYPICAL CONSTRUCTION SEQUENCE

1. REMOVE STUMPS AND CLEAR PRIOR TO INSTALLING SESC ITEMS, IF APPLICABLE.
2. PRIOR TO GRUBBING, STRIPPING TOP SURFACE, EARTH EXCAVATION, OR GRADING, ALL SESC ITEMS MUST BE IN PLACES SHOWN ON THE PLANS. THEY INCLUDE BUT NOT LIMITED TO THE FOLLOWING.
 - A. INSTALL GEOTEXTILE SILT FENCE TO PROTECT LAKES, WETLANDS, RIVERS, DITCHES, LOW LANDS AND AREAS DISTURBED.
 - B. WHERE PRACTICAL, PROTECT DISTURBED AREAS WITH TEMPORARY OR PERMANENT VEGETATIVE COVER.
 - C. PROTECT EXISTING AND NEW CATCH BASINS AND INLETS WITH APPROVED INLET FILTER PROTECTION. WHEN CLOGGING OCCURS, THE CONTRACTOR WILL CLEAN FILTER AND INSTALL NEW ONES AS NEEDED.
3. IMMEDIATELY AFTER INSTALLING STORM SEWER, INSTALL FABRIC DROPS AT INLETS AND CATCH BASINS, AND RIP RAP AT END SECTION OUTFALLS AS SHOWN ON THE PLANS.
4. CLEAR ALL ACCUMULATED SILT AND SEDIMENT PERIODICALLY AND AFTER STORM EVENTS TO MAINTAIN THE EFFECTIVENESS OF THE CONTROL MEASURES.

CONSTRUCTION QUANTITIES		
PAY ITEM	QTY	UNIT
Erosion Control, Inlet Protection, Fabric Drop	7	Ea

LEGEND

- INLET PROTECTION
- SLOPE STAKE LINE (SSL)

NOTICE:
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HUBBELL, ROTH & CLARK, INC

CONSULTING ENGINEERS SINCE 1915

555 HULET DRIVE
BLOOMFIELD HILLS, MICH.

P.O. BOX 824
48303 - 0824

PHONE: (248) 454-6300
FAX (1st Floor): (248) 454-6312
FAX (2nd Floor): (248) 454-6359

WEB SITE: www.hrcengr.com

02-16-2024	ISSUED FOR WAYNE COUNTY PERMIT
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SCHOOLCRAFT COLLEGE
CITY OF LIVONIA

SIX MILE RD AND FOX DR /
QUAKERTOWN LN
INTERSECTION
IMPROVEMENTS
SC 23MM13

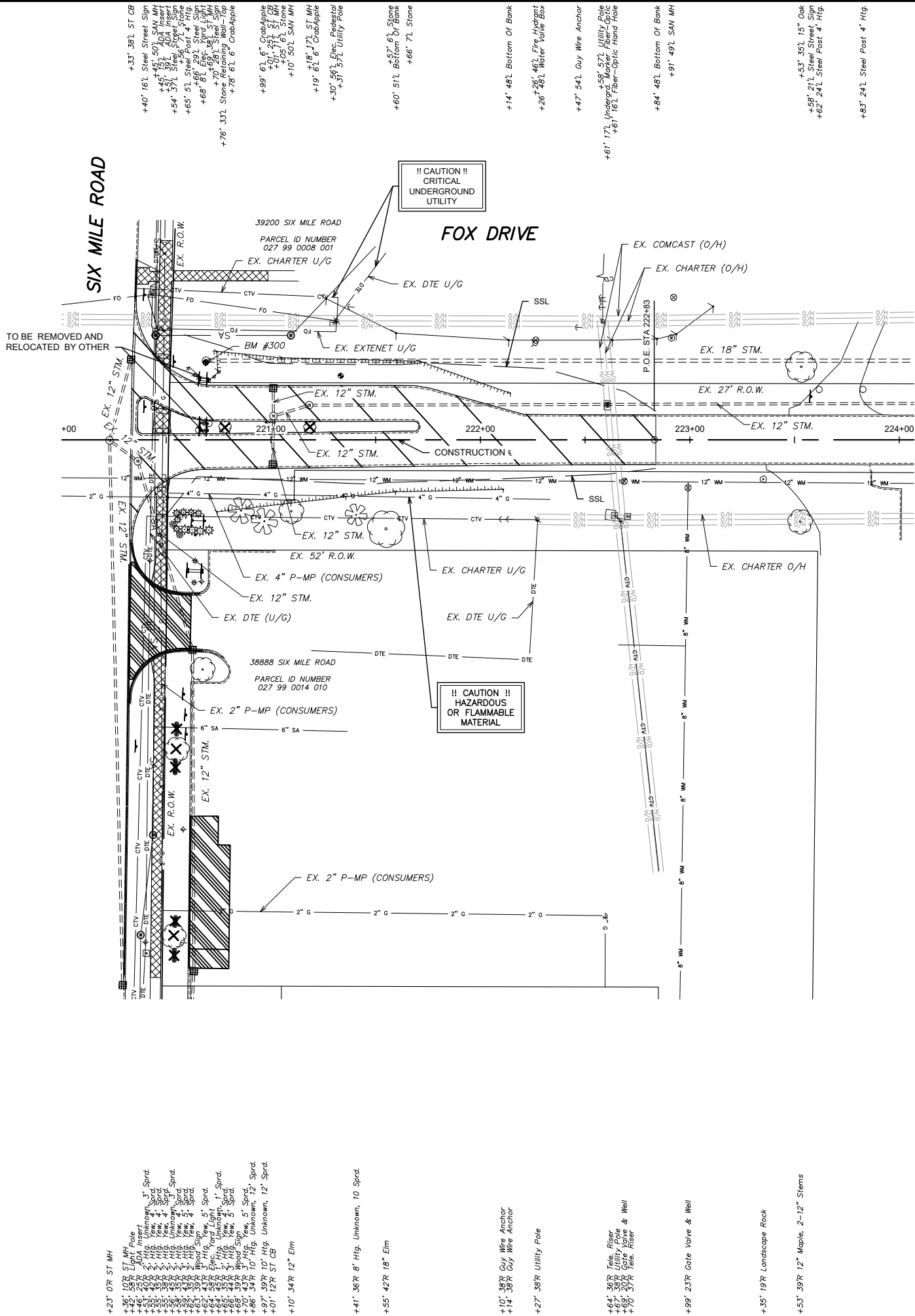
SOIL EROSION AND
SEDIMENTATION CONTROL
FOX DRIVE
P.O.B. TO P.O.E.

HRC JOB NO.
20230293

SCALE
1" = 30'

DATE
February 2024

SHEET NO.
14 of 24



BENCHMARK		
BM. #	DESCRIPTION	ELEV.
300	E RIM ST MANHOLE @ NW CORNER OF 6 MILE AND FOX DRIVE.	739.22

REMOVAL QUANTITIES - FOX DR		
PAY ITEM	QTY	UNIT
Tree, Rem, 6 inch to 18 inch	3	Ea
Curb , Rem	22	Ft
Masonry and Conc Structure, Rem	1	Cyd
Pavt, Rem	284	Syd
Sidewalk, Rem	21	Syd
Excavation, Earth	325	Cyd

LEGEND

Pavt Repr, Remove, Patching

Sidewalk, Rem

HMA, Surface, Rem

XXXXXXXXXXXX

Curb, Rem

(R)

REMOVALS

X

TREE/SHRUB/STUMP REMOVAL

SLOPE STAKE LINE (SSL)

DRIVEWAY REMOVAL QUANTITIES - THIS SHEET (FOR INFORMATION ONLY)		
DRIVE/ APPROACH	GRADING LIMITS*	HMA Surface, Rem
		Syd
	EX CURB	253

*GRADING LIMITS MEASURED FROM CONSTRUCTION CENTERLINE

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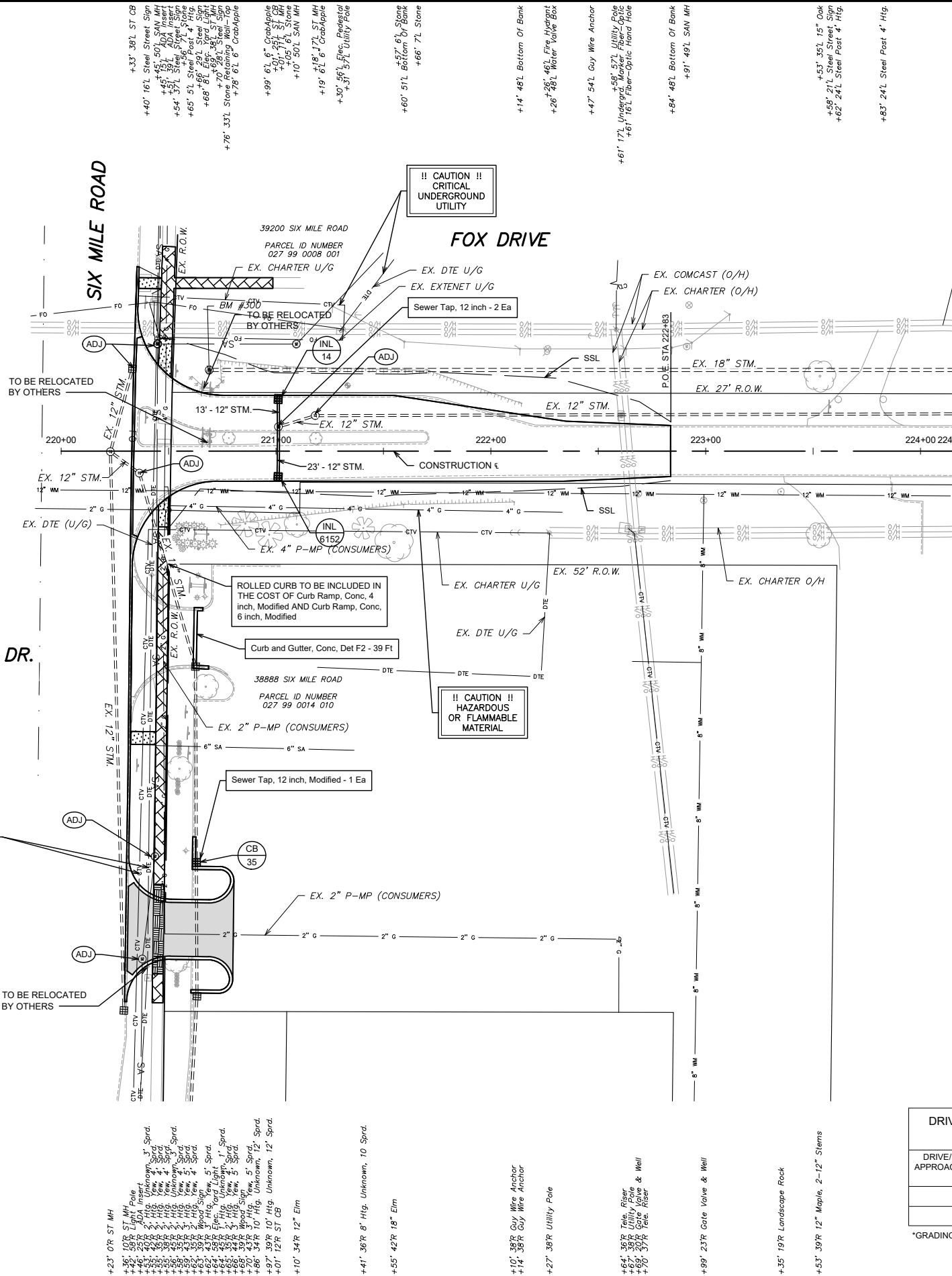
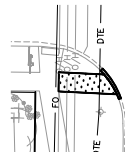


SCHOOLCRAFT COLLEGE
CITY OF LIVONIA
SIX MILE RD AND FOX DR /
QUAKERTOWN LN
INTERSECTIONS
IMPROVEMENTS
SC 23MM13

REMOVAL PLAN
FOX DRIVE
P.O.B. TO P.O.E.

HRC JOB NO. 20230293	SCALE 1" = 30'
DATE February 2024	SHEET NO. 15 of 24

QUAKERTOWN DR.



STRUCTURE SCHEDULE				
STR. NO.	STATION/OFFSET	STR. DIA.	STR. TYPE	COVER TYPE
14	221+01, 25' L	2'	INL	S
15	221+01, 12' R	2'	INL	S
35	220+63, 192' R	4'	CB	S

STRUCTURE ADJUST					
TYPE	OWNER	STATION OFFSET	EX. RIM	PR. RIM	COVER
STM	DPW	220+36, 10' R	733.90	734.03	EX
SAN	DPW	220+38, 236' R	733.06	732.00	EX
SAN	DPW	220+44, 189' R	734.83	732.97	EX
SAN	DPW	220+45, 50' L	735.87	735.23	EX
STM	DPW	221+01, 11' L	736.09	735.97	EX
STM	DPW	221+18, 17' L	736.46	736.31	EX

DRIVEWAY CONSTRUCTION QUANTITIES - THIS SHEET (FOR INFORMATION ONLY)					
DRIVE/ APPROACH	GRADING LIMITS*	PROPOSE D GRADE - BEFORE WALK (IS PRESENT)	PROPOSED GRADE - AFTER WALK	Misc HMA Approach	Agg Base, 9 inch, Modified
				Ton	Syd
	EX CURB	5.69%	8.69%	60	235

*GRADING LIMITS MEASURED FROM CURB LINE

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BENCHMARK		
BM. #	DESCRIPTION	ELEV.
300	E RIM ST MANHOLE @ NW CORNER OF 6 MILE AND FOX DRIVE.	739.22

CONSTRUCTION QUANTITIES		
PAY ITEM	QTY	UNIT
Exploratory Investigation, Vertical	25	Ft
Embankment, CIP, Modified	120	Cyd
Aggregate Base, 6 inch, Modified	54	Syd
Aggregate Base, 8 inch, Modified	1125	Syd
Aggregate Base, 9 inch, Modified	235	Syd
Sewer Tap, 12 inch	1	Ea
Video Taping Sewer and Culv Pipe	36	Ft
Sewer, CI IV, 12 inch, Tr Det B, Modified	36	Ft
Dr Structure, Tap, 12 inch	3	Ea
Dr Structure Cover, Adj	3	Ea
San Structure Cover, Adj	3	Ea
Inlet A, Cover (S)	2	Ea
Dr Structure, 48 inch dia, Cover (S), Modified	1	Ea
Underdrain, Subgrade, Open-Graded, 6 inch, Special	672	Ft
Misc HMA, Hand Patching	10	Ton
Misc HMA Approach	60	Ton
Conc Pavt with Integral Curb, Nonreinf, 7 inch	1070	Syd
Curb Detail C, Spec	141	Ft
Curb Detail B, Spec	189	Ft
Curb and Gutter, Conc, Det F2	203	Ft
Detectable Warning Surface	15	Ft
Curb Ramp Opening, Conc	44	Ft
Sidewalk, Conc, 4 inch, Modified	1383	Sft
Sidewalk, Conc, 8 inch, Modified	220	Sft
Curb Ramp, Conc, 4 inch, Modified	168	Sft
Curb Ramp, Conc, 6 inch, Modified	182	Sft
Sodding, Modified	1050	Syd

- LEGEND
- MAINLINE PAVING
 - Misc HMA Approach
 - Sidewalk, Conc, 8 inch, Modified
 - Sidewalk, Conc, 4 inch, Modified
 - Curb Ramp
 - ADJ ADJUST STRUCTURE
 - SLOPE STAKE LINE (SSL)



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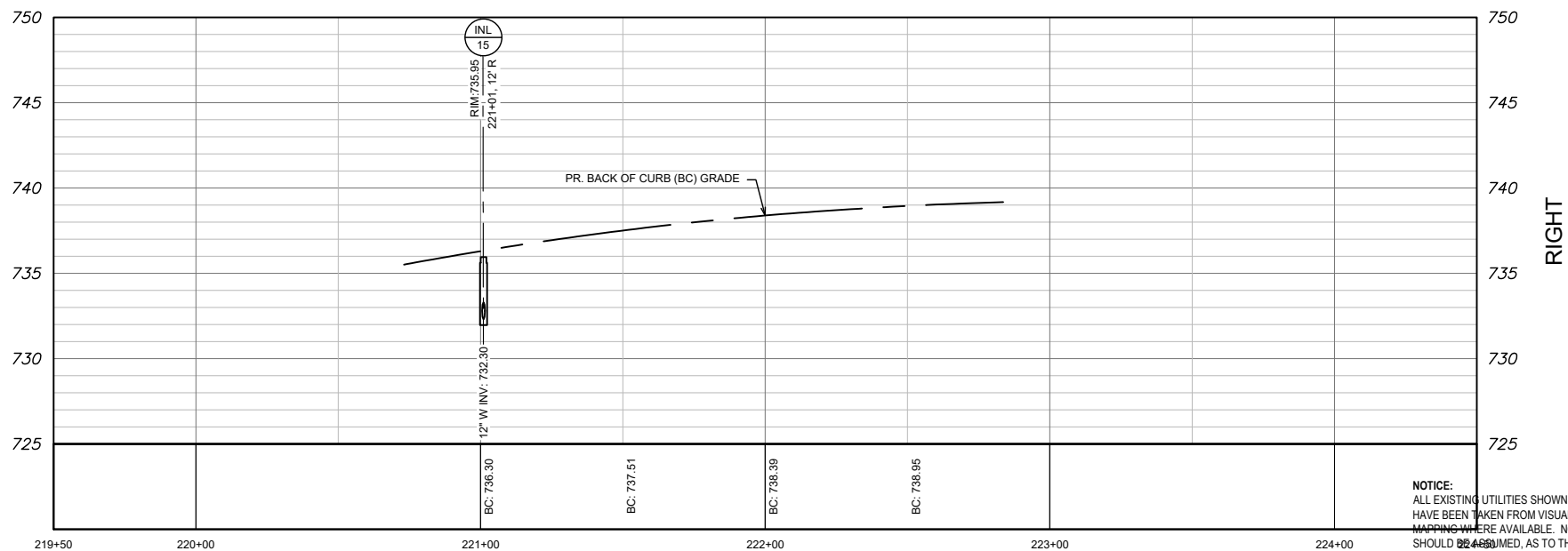
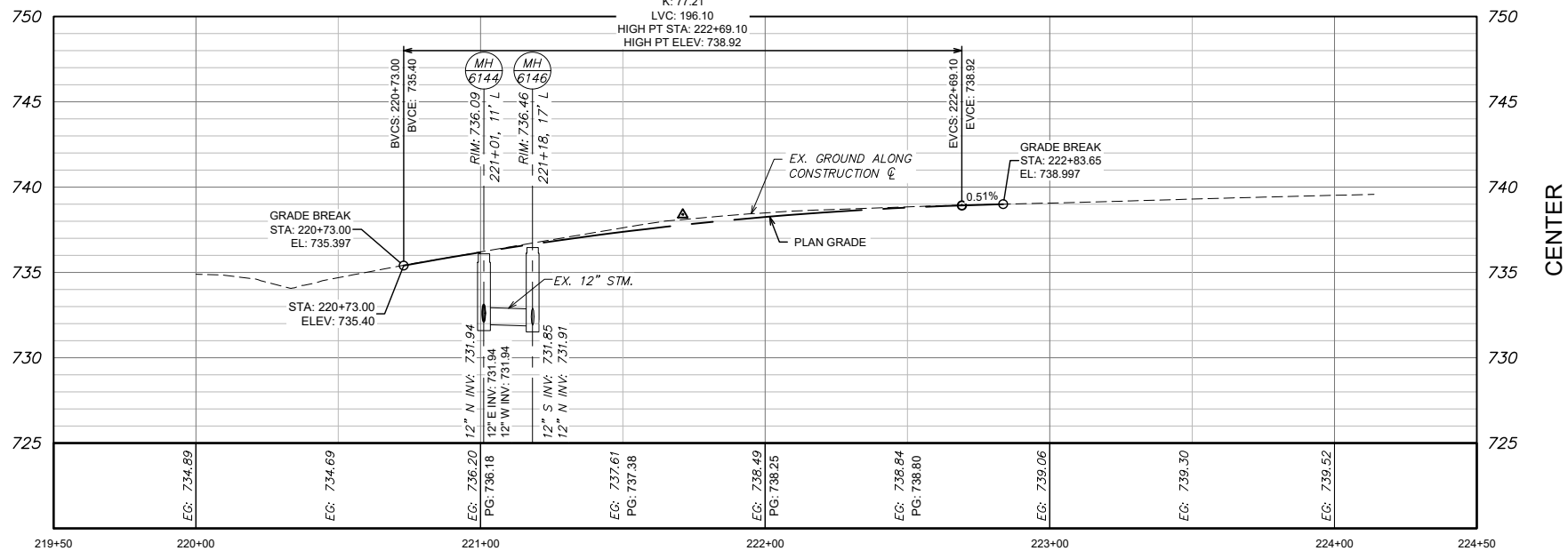
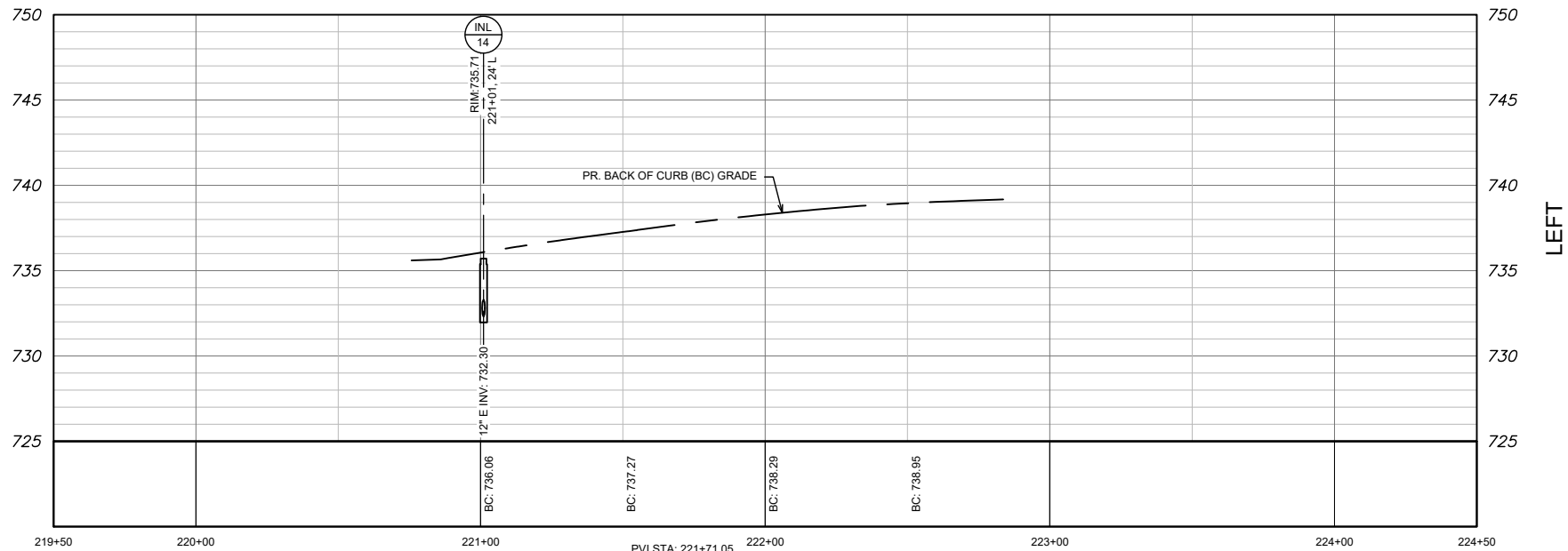


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CITY OF LIVONIA

SIX MILE RD AND FOX DR /
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CONSTRUCTION PLAN
FOX DRIVE
P.O.B. TO P.O.E.

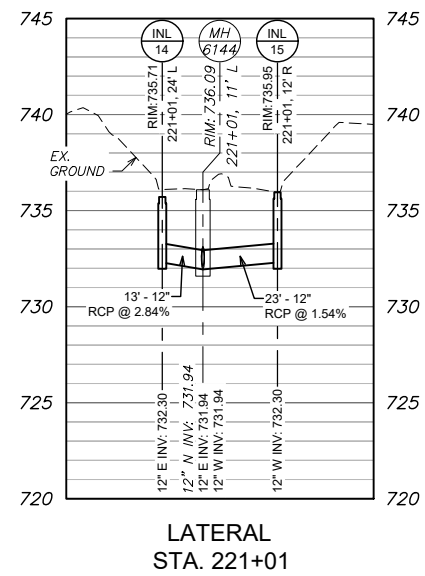
HRC JOB NO. 20230293	SCALE 1" = 30'
DATE February 2024	SHEET NO. 16 of 24



LEFT

CENTER

RIGHT



LATERAL
STA. 221+01

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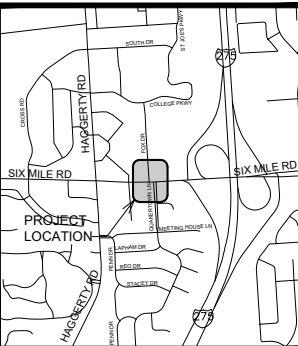


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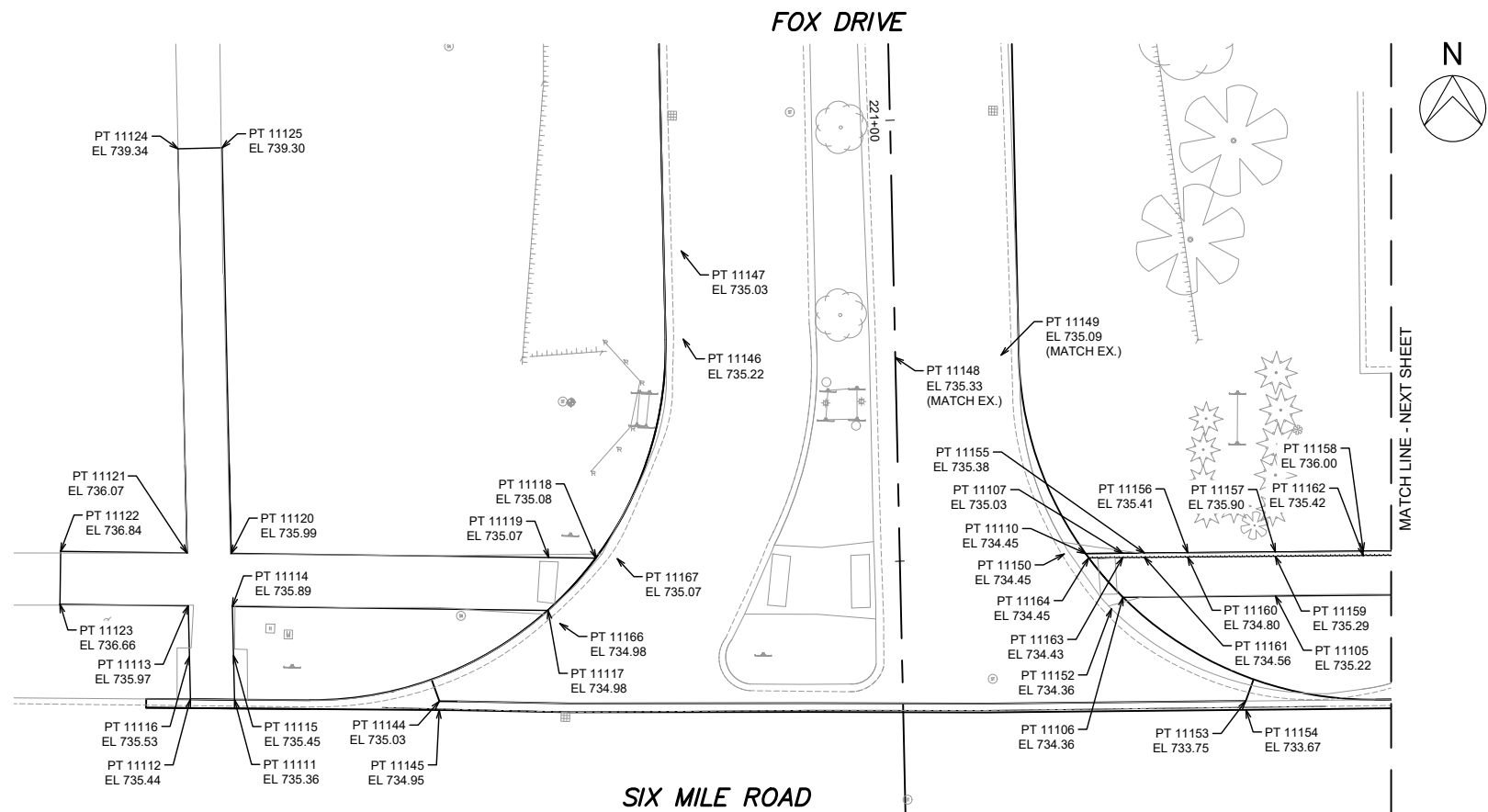
SCHOOLCRAFT COLLEGE
CITY OF LIVONIA
**SIX MILE RD AND FOX DR /
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CONSTRUCTION PROFILE
FOX DRIVE
P.O.B. TO P.O.E.

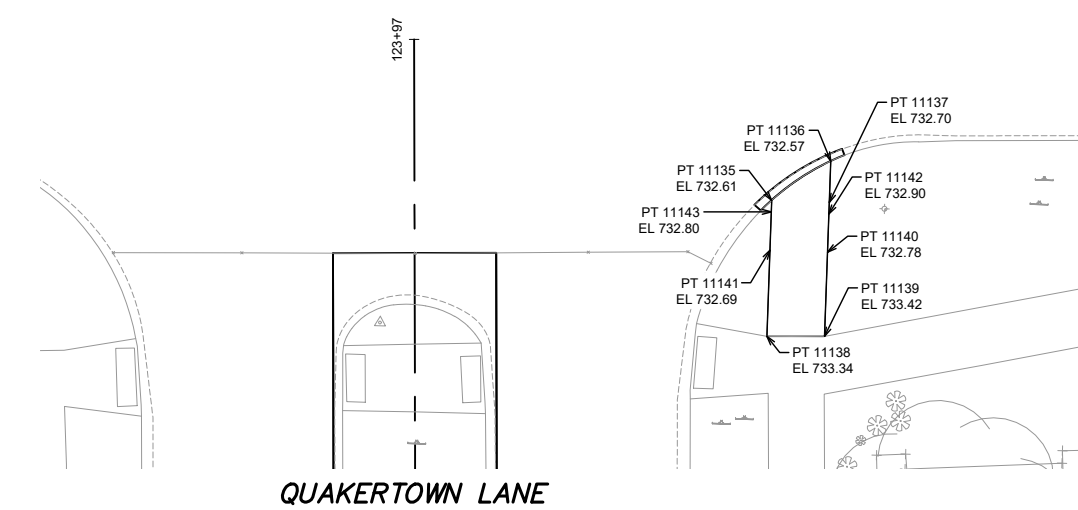
HRC JOB NO. 20230293	SCALE 1" = 30'
DATE January 2024	SHEET NO. 17 of 24



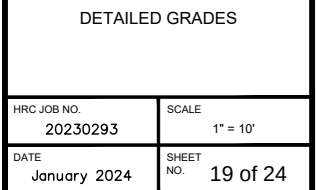
PROJECT NO. 20230293	SCALE 1" = 10'
DATE January 2024	SHEET NO. 18 of 24

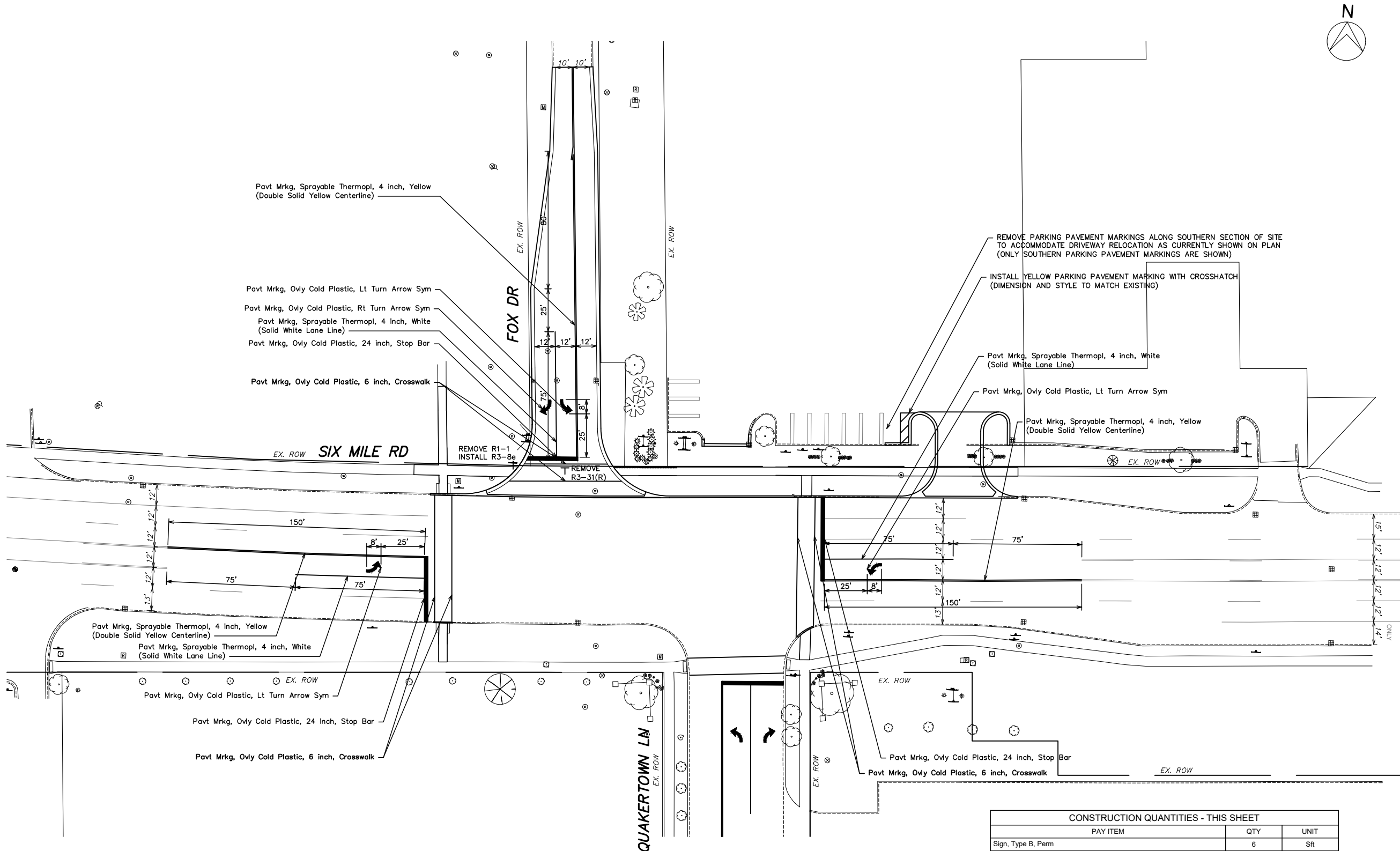


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MISS DIG/UNDERGROUND UTILITY NOTIFICATION
FOR THE PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CONTACT MISS DIG SYSTEM, INC. BY PHONE AT 811 OR 800-482-7171 OR VIA THE WEB AT EITHER ELOCATE.MISSDIG.ORG FOR WEEKEND ADDRESS OR RTE.MISSDIG.ORG, A MINIMUM OF 3 BUSINESS DAYS PRIOR TO EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.

IF PLAN INFORMATION INDICATES AN EXISTING UNDERGROUND UTILITY IS OR WILL BE OUT OF SERVICE WITHIN THE LIMITS OF THIS CONTRACT, THE CONTRACTOR IS CAUTIONED TO TREAT SUCH A LINE AS IF IT WERE STILL IN SERVICE AND NOTIFY "MISS DIG" WHEN WORKING IN THE AREA OF THE OUT OF SERVICE FACILITY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PROPERLY IDENTIFIED EXISTING WATER MAINS AND/OR EXISTING SEWERS DURING THE CONSTRUCTION OF THIS PROJECT.

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES (DPS): 734-858-2780

CONTACT WAYNE COUNTY SEVEN WORKING DAYS PRIOR TO START OF CONSTRUCTION AND SEVEN WORKING DAYS PRIOR TO SIGNAL ACTIVATION.

CONTRACTOR SHALL DELIVER WHERE REQUIRED TO THE APPROPRIATE MAINTAINING AGENCY, THE T.S. CABINET AND CONTROLLER FOR SET UP AND TIMING. CONTRACTOR SHALL PICK-UP CABINET FROM THE APPROPRIATE MAINTAINING AGENCY WHEN READY FOR INSTALLATION.

ALL TREE TRIMMING REQUIRED TO CLEAR NEW OR SALVAGED STREET TRAFFIC SIGNAL POLES AND TRAFFIC SIGNAL UNITS SHALL BE INCLUDED IN THE PAY ITEM & NO EXTRA PAYMENT SHALL BE MADE.

EXISTING O.H. & T.S. FACILITIES ARE NOT NECESSARILY SHOWN ON PLANS.

PROPOSED T.S. SHALL BE PUT INTO OPERATION AT TIME OF REMOVAL OF EXISTING T.S. FACILITIES. CONTRACTOR SHALL NOTIFY WAYNE COUNTY DPS IF UNABLE TO MAINTAIN T.S. IN AN OPERABLE CONDITION AT ALL TIMES.

A MINIMUM CLEARANCE OF 3'-6" HORIZONTAL & 1'-0" VERTICAL MUST BE MAINTAINED BETWEEN PROPOSED FACILITIES & EXISTING U.G. WATER FACILITIES.

DISPOSAL OF ALL TRAFFIC SIGNAL EQUIPMENT IS INCLUDED IN THE REMOVAL PAY ITEMS AND SHALL ALSO INCLUDE THE FOLLOWING:

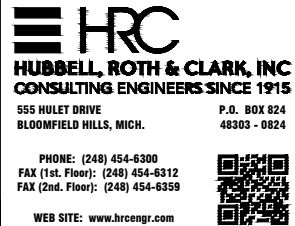
- NOTIFICATION TO WAYNE COUNTY DPS THAT TRAFFIC SIGNAL EQUIPMENT IS BEING REMOVED.
- TEMPORARY STORAGE OF EQUIPMENT IN A DUMPSTER ON SITE (OR AS DIRECTED BY THE ENGINEER) ALLOWING WAYNE COUNTY DPS 48 HOURS TO SALVAGE ANY EQUIPMENT.
- PROPER DISPOSAL OF ANY EQUIPMENT CONTAINING ENVIRONMENTALLY SENSITIVE MATERIALS (MERCURY RELAY SWITCHES FOR EXAMPLE)
- DISABLING OR DESTRUCTION OF ALL REMAINING EQUIPMENT TO THE SATISFACTION OF THE ENGINEER SUCH THAT IT CANNOT BE REUSED OR RESOLD.
- PROPER DISPOSAL OF ALL REMAINING EQUIPMENT.

NO CHANGES FROM PLANS IN LOCATION OF SUPPORTING STRUCTURES, SIGNAL HEAD PLACEMENT, OR TRAFFIC SIGNAL EQUIPMENT WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF ENGINEER AND WAYNE COUNTY DPS.

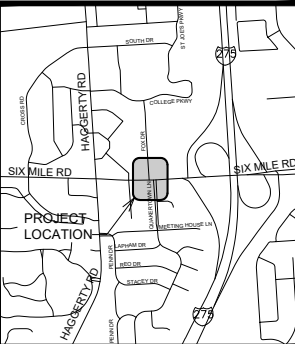
THE CURRENT BASIS OF ACCEPTANCE FOR THIS MATERIAL IS NOW PART OF THE MDOT QPL (QUALIFIED PRODUCT LIST). THIS CAN BE FOUND IN THE MATERIALS ACCEPTANCE REQUIREMENTS TABLE, PUBLISHED IN THE MQAP AND REPEATED FOR CONVENIENCE IN THE MATERIALS SOURCE GUIDE.

CONTRACTOR MUST INSTALL A CONTINUOUS FLEXIBLE NON-METALLIC TUBING (INNERDUCT) FOR LOW VOLTAGE COMMUNICATION TYPE CABLE FROM THE DEVICE TO THE CONTROLLER CABINET. INNERDUCT IS NOT REQUIRED IF COMMUNICATION CABLE IS 600V RATED.

ENSURE EACH TRAFFIC SIGNAL HEAD ASSEMBLY HAS ITS OWN LANDING POINT WITH ALL NEUTRALS CONNECTED TOGETHER WITH A METAL TYPE JUMPER.



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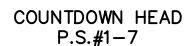
TRAFFIC SIGNAL NOTE SHEET

HRC JOB NO. 20230293	SCALE N.T.S.
DATE February 2024	SHEET NO. 21 of 24

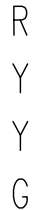
HRC JOB NO. 20230293	SCALE N.T.S.
DATE December 2023	SHEET NO. 22 of 24

NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS.
PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS.

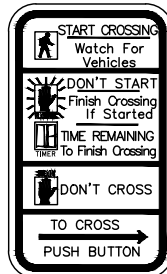


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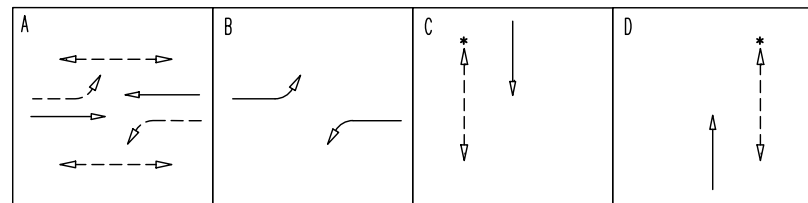


G

FACING SOUTH T.S.#2
FACING NORTH T.S.#9



PHASING DIAGRAM



*IF CALLED

CONSTRUCTION QUANTITIES - THIS SHEET

NO	PAY ITEM	QTY	UNIT
1	Hh, Round	4	Ea
2	Hh, Round, 3 foot dia	1	Ea
3	Serv Disconnect	1	Ea
4	Controller, NEMA, ATC Type, Modified	1	Ea
5	Controller Fdn, Base Mtd	1	Ea
6	Global Positioning System Module	1	Ea
7	Pedestal, Alum	4	Ea
8	Pedestal, Fdn	4	Ea
9	Pushbutton and Sign	4	Ea
10	Span Wire Tether	3	Ea
11	Cabinet, NEMA Type	1	Ea
12	TS, One Way Span Wire Mtd (LED)	8	Ea
13	TS, One Way Span Wire Mtd, FYA (LED)	2	Ea
14	TS, 4th Level, LTGA (LED)	2	Ea
15	TS, Pedestrian, One Way Bracket Arm Mtd (LED) Countdown	3	Ea
16	TS, Pedestrian, One Way Pedestal Mtd (LED) Countdown	3	Ea
17	TS, Pedestrian, Two Way Pedestal Mtd (LED) Countdown	1	Ea
18	Bracket, Truss, With 18 Foot Arm	4	Ea
19	Video Traf Detection System	1	Ea
20	Video Traf Detection Camera	4	Ea
21	Junction Box, Span Wire	4	Ea
22	Strain Pole, Steel, 6 bolt, Size 1	3	Ea
23	Strain Pole, Steel, 6 bolt, Size 2	1	Ea
24	Strain Pole Fdn, 6 Bolt	46.5	Ft
25	Span Wire, Box	1	Ea
26	Backplate, TS	10	Ea
	Conduit, Directional Bore, 2, 3 inch	100	Ft
	Conduit, DB, 1, 1 1/2 inch	180	Ft
	Conduit, DB, 2, 3 inch	120	Ft
	Conduit, DB, 3, 3 inch	30	Ft
	Conduit, DB, 4, 3 inch	30	Ft
	Cable, Sec, 600V, 1, 3/C#6	150	Ft

PUSHBUTTON LOCATIONS SHALL BE FIELD VERIFIED AND OPTIMIZED FOR ADA COMPLIANCE. LOCATIONS SHALL BE APPROVED BY FIELD ENGINEER.

ADA ACCESSIBILITY CRITERIA:

1. PUSHBUTTON MUST BE NO MORE THAN 24" FROM EDGE OF SIDEWALK (REACH).
2. PUSHBUTTON MUST BE IN THE MIDDLE OF A 4' MINIMUM LONG SECTION OF SIDEWALK (LANDING) WITH A SLOPE OF NO MORE THAN 2%.
3. PUSHBUTTON MUST FACE INTERSECTION AND BE PARALLEL TO CROSSWALK DIRECTION OR AS DIRECTED BY ENGINEER.

APPROACH SPEEDS:

NB	25 MPH
SB	25 MPH
EB	45 MPH
WB	45 MPH

SIGNAL INSTALL

SCALE: 1" = 20' (34"x22")
SCALE: 1" = 40' (17"x11")

CONTACT MELISSA MOWRER OF DTE ENERGY AT
586-457-0186 FOR ELECTRIC SERVICE
CONNECTION 30 DAYS PRIOR TO TRAFFIC SIGNAL
INSTALLATION.

CONTACT ERIC LENTZ OF WAYNE COUNTY DPS
AT 734-955-2161 30 DAYS PRIOR TO TRAFFIC
SIGNAL INSTALL FOR COORDINATION ON TRAFFIC
SIGNAL INSTALL AND SIGNAL TIMING.

CONDUIT REQUIREMENTS (UNLESS OTHERWISE INDICATED)

CONTROLLER FDN. TO 3' H.H. —————	4-3" & 1-1 1/2"
STRAIN POLE FDN. TO 3' H.H. —————	4-3" & 1-1 1/2"
STRAIN POLE FDN. TO H.H. —————	3-3" & 1-1 1/2"
PEDESTAL FDN. TO H.H. —————	1-1 1/2"
H.H. TO H.H. —————	AS INDICATED

ALL SPAN WIRE MTD. TRAFFIC
SIGNALS WITH BACKPLATES
SHALL BE BOTTOM TETHERED.

UNDERGROUND WORK SHALL
BE COORDINATED WITH ROAD
AND SIDEWALK CONSTRUCTION

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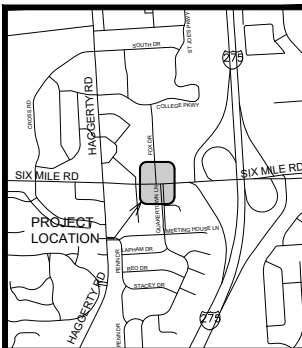
555 HULET DRIVE
BLOOMFIELD HILLS, MICH. P.O. BOX 824
48303 - 0824

PHONE: (248) 454-6300
FAX (1st. Floor): (248) 454-6312
FAX (2nd. Floor): (248) 454-6355

WEB SITE: www.hrcengr.com

[illegible]

02-16-2024	ISSUED FOR WAYNE COUNTY PERMIT
01-31-2024	OWNER FINAL REVIEW
DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	GH
DRAWN	GH
CHECKED	LFM
APPROVED	LFM



SCHOOLCRAFT COLLEGE
CITY OF LIVONIA

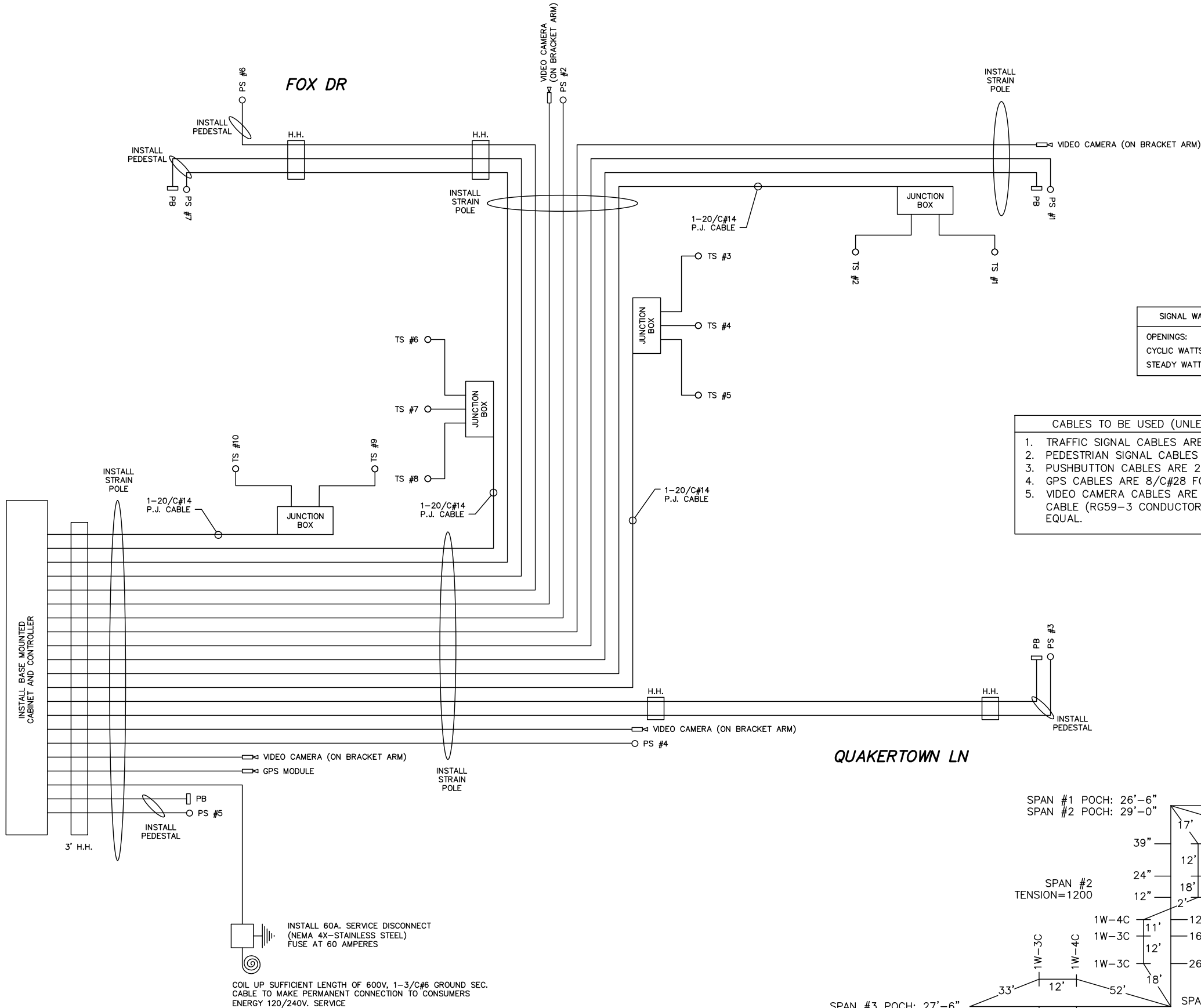
SIX MILE RD AND FOX DR / QUAKERTOWN LN INTERSECTION IMPROVEMENTS

SC 23MM13

TRAFFIC SIGNAL INSTALL PLAN

HRC JOB NO. 20230293	SCALE 1" = 20'
DATE February 2024	SHEET NO. 23 of 24

SIX MILE RD



SIGNAL WATTAGE	
OPENINGS:	48
CYCLIC WATTS:	530
STEADY WATTS:	0

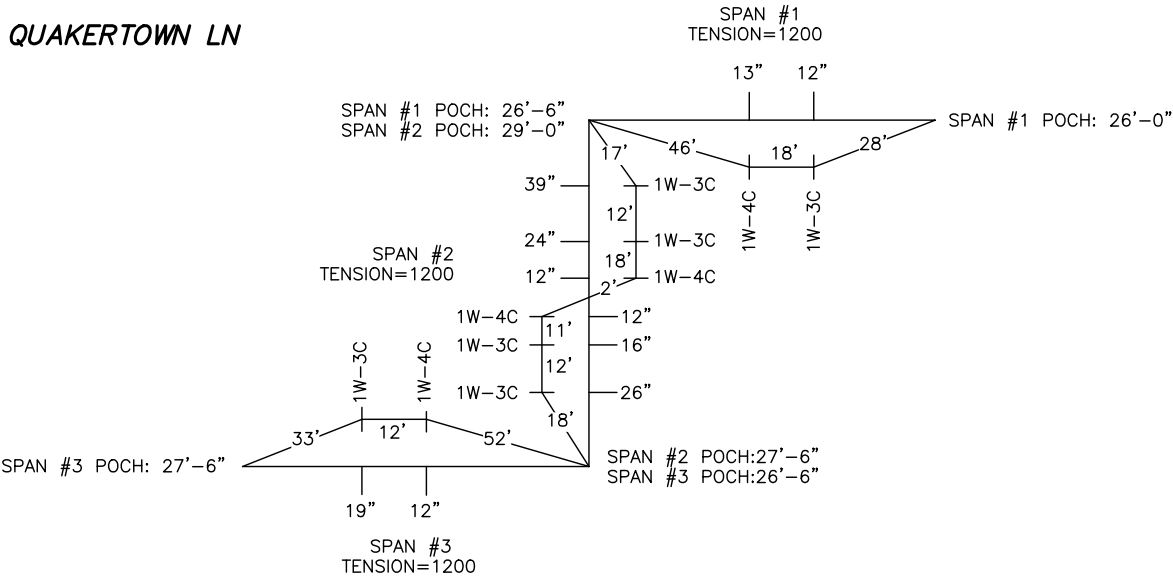
- CABLES TO BE USED (UNLESS OTHERWISE INDICATED)
1. TRAFFIC SIGNAL CABLES ARE 7/C#14 P.J.
 2. PEDESTRIAN SIGNAL CABLES ARE 7/C#14 P.J.
 3. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED P.J.
 4. GPS CABLES ARE 8/C#28 FOIL SHIELDED P.J.
 5. VIDEO CAMERA CABLES ARE COMBINATION POWER/COAXIAL CABLE (RG59-3 CONDUCTOR 16 AWG) OR APPROVED EQUAL.

INSTALL 60A. SERVICE DISCONNECT
(NEMA 4X-STAINLESS STEEL)
FUSE AT 60 AMPERES

COIL UP SUFFICIENT LENGTH OF 600V, 1-3/C#6 GROUND SEC.
CABLE TO MAKE PERMANENT CONNECTION TO CONSUMERS
ENERGY 120/240V. SERVICE

CABLE INSTALL DIAGRAM
NOT TO SCALE

QUAKERTOWN LN



SPAN CALCULATIONS
NOT TO SCALE



HRC
HUBBELL, ROTH & CLARK, INC
CONSULTING ENGINEERS SINCE 1915

555 HULET DRIVE
BLOOMFIELD HILLS, MICH.

P.O. BOX 824
48303 - 0824

PHONE: (248) 454-6300
FAX (1st Floor): (248) 454-6312
FAX (2nd Floor): (248) 454-6359

WEB SITE: www.hrcengr.com

02-16-2024	ISSUED FOR WAYNE COUNTY PERMIT
01-31-2024	OWNER FINAL REVIEW
DATE	ADDITIONS AND/OR REVISIONS
DESIGNED	GH
DRAWN	GH
CHECKED	LFM
APPROVED	LFM



SCHOOLCRAFT COLLEGE
CITY OF LIVONIA

**SIX MILE RD AND FOX DR /
QUAKERTOWN LN
INTERSECTION
IMPROVEMENTS**

SC 23MM13

TRAFFIC SIGNAL
CABLE INSTALL DIAGRAM

HRC JOB NO. 20230293	SCALE N.T.S.
DATE January 2024	SHEET NO. 24 of 24

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

TODD J. ZILINCIK, P.E.
CITY ENGINEER

DAVID W. LEAR, P.E.
ASST. CITY ENGINEER



MAUREEN MILLER BROSNAN
MAYOR

DONALD R ROHRAFF
DIRECTOR OF PUBLIC WORKS

12973 FARMINGTON ROAD
LIVONIA, MICHIGAN 48150
(734) 466-2571
FAX: (734) 466-2195

July 23, 2025

Mr. Kristoffer Canty
Planner IV
City of Livonia

Re: Petition 2025-07-02-15 – #38888 Six Mile Road (Clean Express Car Wash)

Dear Mr. Canty:

In accordance with your request, the Engineering Division has reviewed the above referenced petition. We have no objections to the proposed waiver use at this time, but would like to note the following items:

1. The subject parcel is assigned the address of **#38888 Six Mile Road**. Should additional addresses be needed, the Owner will need to contact this Department once approvals have been obtained.
2. The existing parcel is currently serviced by public sanitary sewer, storm sewer and water main. Based on the submitted drawings, we have the following comments:
 - i) Sanitary Sewer: The drawings do not include a basis of design for the proposed sanitary sewer outlet, but we do not believe the change in use will negatively impact the existing system. The developer will be required to clean and televise the existing sanitary sewer lead if it is to be re-used. If the condition is not sufficient for re-use, a new service will need to be installed to the parcel.
 - ii) Water Main: The drawings do not indicate that the existing water service will be re-used for the proposed business, but if that is the intention, the owner will need to determine if the existing service is correctly sized for the proposed use.
 - iii) Storm Sewer: The drawings do not indicate any storm sewer information. Storm sewer design and detention will be required per the Wayne County

Storm Water Ordinance. This department will do a full review of the proposed improvements when drawings are submitted for permitting.

3. Any improvements within the Six Mile Road right-of-way will require approval and permitting from the Wayne County Department of Public Service. Turning movements onto Six Mile Road from the site may be restricted based on comments from Wayne County traffic reviews.
4. We would recommend that the proposed business be required to place sidewalk along the west side of the property (along the Fox Drive frontage) to facilitate pedestrian traffic into the existing (and proposed) businesses through that corridor.

Should you have any additional questions on this matter, please feel free to contact myself at (734) 466-2608 or the City Engineer, Mr. Todd Zilincik at (734) 466-2561. If you would prefer, you can e-mail either of us at dlear@livonia.gov or tzilincik@livonia.gov.

Sincerely,



David W. Lear, P.E.
Assistant City Engineer

cc: 2025 Petition File

DEPARTMENT OF PUBLIC SAFETY
LIVONIA FIRE & RESCUE

ROBERT JENNISON
FIRE CHIEF



MAUREEN MILLER BROSNAN
MAYOR

14910 FARMINGTON ROAD
LIVONIA, MICHIGAN 48154-5419
734-466-2444
734-466-2082 fax

DATE: August 6, 2025
TO: Kristoffer Canty, Planner IV
FROM: Livonia Fire Prevention Division
SUBJECT: Petition # 2025-07-02-15 Clean Express Car Wash 38888 Six Mile Rd.

This office has reviewed the site plan submitted in connection with a request to construct a commercial building on property located at the above referenced address.

We have no objections to this proposal.

A further detailed plan review will take place when this division receives an official plan set.

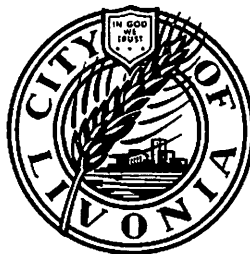
Sincerely,

Brian R. Kukla

Brian R. Kukla
Fire Marshal

**DEPARTMENT OF PUBLIC SAFETY
DIVISION OF POLICE**

THOMAS GORALSKI
CHIEF OF POLICE



MAUREEN MILLER BROSNAN
MAYOR

15050 Farmington Road
Livonia, Michigan 48154-5499
(734) 466-2470
FAX: (734) 261-2265

July 25th 2025

Mr. Kristoffer Canty
City of Livonia Planning Dept
33000 Civic Center Drive
Livonia, MI 48154

Re: Petition 2025-07-02-15 – 38888 Six Mile Road

Mr. Canty,

I have reviewed the plans in connection with the petition. I have no objections to the proposals.

Please feel free to contact me, should you have any questions.

Sincerely,

FOR THE CHIEF OF POLICE,

Paul Walters, Sergeant
Traffic Bureau
(734) 466-2107

INSPECTION DEPARTMENT

BUILDING
HEATING
PLUMBING
ELECTRICAL
ZONING
ENVIRONMENTAL PROTECTION
ORDINANCE ENFORCEMENT



MAUREEN MILLER BROSNAN
MAYOR

JEROME A. HANNA
DIRECTOR

33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3097
(734) 466-2580
FAX: (734) 466-2095

Date: July 31, 2025

To: Kristoffer Canty

From: Jerome Hanna

RE: Petition 2025-07-02-15 - 38888 Six Mile Road

Pursuant to your request, the above-referenced Petition has been reviewed.

1. Signage shall conform to the city's sign ordinance, or a variance from the Zoning Board of Appeals would be required.
2. An *enclosure* of sufficient height to completely screen the *dumpster* is required on three (3) sides of the waste receptacle, with a solid gate on the fourth side. The height of the *enclosure* must be not less than six (6) feet or at least one (1) foot above the height of the *dumpster*, whichever is greater. The *enclosure* gates shall be of solid panel steel construction or durable, long-lasting solid panel fiberglass and, when not in use, closed at all times. The *enclosure* must be constructed of the same or compatible material and colors as the principal building in terms of texture and quality.

This Department has no further objections to this Petition.

I trust this provides the requested information.

Jerome Hanna

Jerome Hanna
Director of Inspection

OFFICE OF THE TREASURER

SUSAN M. NASH
CITY TREASURER



33000 CIVIC CENTER DRIVE
LIVONIA, MICHIGAN 48154-3060
(734) 466-2245
FAX: (734) 421-7230

July 23, 2025

RE: 38888 Six Mile Rd

Attention: planning Commissioners

All taxes have been paid on this property.

If you have any further questions, please contact me

Thank you

Susan Nash
Livonia City Treasurer

Quakertown car wash no please

From Ahlam a <aalsuway01@gmail.com>

Date Sat 8/9/2025 4:42 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
Ahlam alsuwayni
Quakertown Resident

Petition 2025-07-02-15

From Jim Armbruster <jalarm@hotmail.com>

Date Fri 8/8/2025 10:51 AM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
James Armbruster
Quakertown Resident
Sent from my iPhone

Petition 2025-07-02-15

From Leslie Armbruster <legoarm@hotmail.com>

Date Fri 8/8/2025 6:29 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
Leslie Armbruster

vacant Buca di Beppo site on 6 Mile Rd

From K Babcock <auntkia@hotmail.com>

Date Fri 8/8/2025 3:21 PM

To Planning <Planning@Livonia.gov>

I'm writing a as a long time Livonia resident transplant regarding the consideration of another automatic carwash - specifically at the Six Mile & 275 area referened above.

I'm writing to request the permit be denied. This area is congested enough with traffic and the intention of putting more residential/businesses in that area that's already under construction will make it even more congested. perhaps a quick site visit at rush hour would be appropriate before any decisions are made...

IT IS NOT NEEDED OR WANTED, especially in this area.

For the Commission's information, there are NINE automatic carwashes in the city boundaries of Livonia. NINE.

4 of these carwashes are on Plymouth Road between Newberg Road and Inkster;

3 are on 5 Mile Road between Haggarty and Inkster;

1 is at Middlebelt and SEven Mile Road;

1 is at Farmington and 8 Mile Road.

And it seems that I recall seeing another going up somewhere on the northend of town but can't recall where exactly.

If you need assistance with math - that is 9 automatic carwashes. If there is another currently being built - that would be TEN in the city limits.

The citizens in this town do not think that another automatic carwash is an especially wise decision, nor is it needed or wanted - and especially at THIS location! How about focusing on maybe supporting small local owned business rather than another chain business that has no ties to the community beyond taking money.

Sincerely
Kendra Babcock

Opinion on car wash (6 mile and Quakertown)

From Caza, Ion <ion.caza@accenture.com>

Date Mon 8/18/2025 7:40 PM

To Planning <Planning@Livonia.gov>

Our family is completely opposed to the car wash on Quakertown and 6 Mile replacing Buca di Beppo. That is the worst intersection to exit out of Quakertown and enter into, it will make traffic much worse for the residents in that subdivision. Among other things, the gas station at the corner already has a car wash. A car wash makes absolutely no sense in that zoning setting and it would definitely decrease the appeal of the area with such a low grade industrial establishment.

Ion Caza and family

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Opposition to Proposed Car Wash at Buca di Beppo Site

From Ion Caza <ion@ATEX.US>

Date Mon 8/18/2025 8:46 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Planning Commission / Zoning Board / City Council,

I am writing as a Quakertown resident to formally express my opposition to the proposed development of a commercial car wash at the former Buca di Beppo site. My objections are based on the following substantive concerns:

1. Traffic and Safety Impacts

The area surrounding the proposed site already experiences significant traffic congestion. Even during non-peak hours, ingress and egress from the adjacent subdivision is difficult. Locating a high-traffic commercial use, such as a car wash, directly across from the subdivision entrance will further impede safe access for residents and exacerbate existing congestion issues.

2. Lack of Demonstrated Community Need

The surrounding area is already served by multiple car wash facilities within a reasonable distance. The addition of another facility provides no tangible community benefit, while creating unnecessary commercial redundancy.

3. Negative Community Impacts and Obsolescence

Beyond traffic concerns, the introduction of another car wash at this location risks adding visual and functional obsolescence to the neighborhood. Such a development is inconsistent with maintaining the character, accessibility, and livability of the surrounding residential community.

For these reasons, I respectfully urge the Commission to **deny the petition** for the proposed car wash at this location.

Thank you for your time and careful consideration.

Respectfully submitted,

Ion Caza

Quakertown Resident

Petition 2025-07-02-15

From Lynda Cox <mortlyn@sbcglobal.net>

Date Fri 8/8/2025 3:42 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
Steven & Lynda Cox

Bucca Site Proposal

From Tiffany Damesworth <tiffany.pupa@gmail.com>

Date Sun 8/3/2025 10:40 AM

To Planning <Planning@Livonia.gov>

Hello,

I live at 14416 Knolson St. I am unable to attend the public meeting regarding the Bucca site, but would like to voice that I do not wish to see anymore car washes in Livonia, especially at this property. Additionally I do not wish for any gas stations or chicken restaurants.

Best,
Tiffany Damesworth

Car wash 6 mile

From danette . <danette@siwicki.us>

Date Sat 8/2/2025 7:49 AM

To Planning <Planning@Livonia.gov>

There are enough carwashes in Livonia. Please do not put another car wash at 6 mile and Haggerty. There is already one there at the mobile gas station. You wouldn't approve the wonderful gas station that could have been at 8 mile in Newburgh. The last thing we need is another car wash please do not approve it.

Danette

Sent from my iPhone

From: [Nowicki, Janice](#)
To: [Reece, Stephanie](#)
Subject: FW: Online Form Submittal: Planning Inquires
Date: Tuesday, August 19, 2025 9:37:18 AM

Stephanie,

Below is another planning email – can I send this one your way as well?

Janice

Janice Nowicki

Executive Assistant to the Mayor
City of Livonia | Mayor's Office
(734) 466-2206
jnowicki@livonia.gov

From: noreply@civicplus.com <noreply@civicplus.com>
Sent: Monday, August 18, 2025 9:19 PM
To: support <support@livonia.gov>
Subject: Online Form Submittal: Planning Inquires

Planning Inquires

This form is for any questions, comments, or concerns you may have for the City in regards to planning. If you leave contact information, the City will reply within 2 business days. If this is an emergency, please dial 9-1-1.

First Name	judy
Last Name	farrell
Address	tedandjudyardrell@yahoo.com
Email Address	tedandjudyardrell@yahoo.com
Phone Number	7344642955
Describe your issue, concern, or question.	My husband and I live in Quakertown Sub Division and oppose the area of Buca Di Beppo on six-mile road to be used for a car wash.
Date of Concern	8/18/2025
Attachment (Optional)	<i>Field not completed.</i>

Email not displaying correctly? [View it in your browser.](#)

Car Wash at the Old Buca di Pepe Site

From ff4492@aol.com <ff4492@aol.com>

Date Thu 8/14/2025 3:46 PM

To Planning <Planning@Livonia.gov>

I live in the Quakertown Subdivision. It is already a nightmare trying to get out of the sub on both Haggerty and 6 Mile Rd due to traffic. There are already many cutting through the subdivision thinking they will be avoiding 6 mile traffic and get on Haggerty. They go the wrong way when they leave the green building across from the proposed site to avoid having to go to 6 Mile. I have gotten close to getting hitting more than once because they think I am going to turn into the green building and they are in that lane facing the wrong direction and they dart out in front but I am trying to go straight and get to my house.

Why are you making Livonia the laughing stock for Car Washes and Chicken places. Enough is enough already. Can't you do better than that???

We DO NOT NEED A CAR WAS ON 6 Mile between I275 and Haggerty. There is already going to be too much traffic based on what you already approved.
Please say NO!!!!

I275 exits at 6 mile, WE DO NOT NEED ANY MORE TRAFFIC. We already have a lot of traffic from both the northbound exit and the southbound exit.

We already have more than enough traffic going east and west on 6 Mile. WE DO NOT NEED MORE TRAFFIC.

Traffic is going to and from all of the commercial establishments on Haggerty road. WE DO NOT NEED MORE TRAFFIC.--The residents of Northville are trying to get to and from their homes WE DO NOT NEED MORE TRAFFIC.

We now have lights at both I-275 exits and one at Haggerty and 6 mile road do you really think adding another light at the intersection of Quakertown at 6 mile road will solve any problems with traffic?? It will only increase back ups and time to travel--DO WE NEED ANOTHER LIGHT WHEN WE ALREADY HAVE 3 WITHIN 1/4 MILE--WE DO NOT NEED MORE TRAFFIC AND CONGESTION.

We already will be getting more traffic than we can handle by the approval of Whole Foods, Starbuck, LA Fitness etc, etc etc. WE DO NOT NEED MORE TRAFFIC.

2. There will be a lot more accidents if this goes through and heaven help the city of Livonia if someone is injured or dies--if this were to happen the city of Livonia will be sued and the burden of payment for loss of life or serious injury will fall on the city of Livonia and in the discovery process our objections will be heard by the attorneys as they are all saved and will be presented in court.

Please use common sense, I am sure you would not want all this congestion if you lived here. Livonia does not need anymore car washes. Please do better for the city of Livonia and bring in a better solution to the empty space. NO CAR WASHES OR CHICKEN PLACES PLEASE.

Thank you.
Fran Fields
16012 Swathore Ct N
Livonia MI 48154

Opposition to Petition 2025-07-02-15 Clean Express Car Wash

From Dorothy Gowen <dgowen09@gmail.com>

Date Mon 8/11/2025 4:24 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Dorothy K. Gowen
39022 Lapham - Livonia

Strong Opposition to Proposed Car Wash on Six Mile near Haggerty

From Matt Hanchon <matthewhanchon@gmail.com>

Date Sun 8/10/2025 9:25 PM

To Planning <Planning@Livonia.gov>

To Whom It May Concern,

I am writing to express my strong opposition to the proposed car wash on Six Mile at the old Buca diBeppo location. I am extremely concerned about the negative impact it would have on our local community.

The increased traffic and noise would disrupt my neighborhood and create safety risks for pedestrians, especially children. Additionally, the environmental impact of water usage, chemical runoff, and light pollution would be harmful to our local ecosystem and quality of life.

With the development that is already under construction now at the north east corner of Six Mile and Haggerty, this proposed car wash will exponentially cause daily disruption to our quality of life.

We have enough car washes close by already in Livonia. I urge you to reject this proposal and preserve the character, safety, and environmental health of our community.

Sincerely,
Matthew Hanchon
Quakertown Resident

Car Wash at Fox Dr and 6 mile

From Nicole Henriksen <nhenriksen7@yahoo.com>

Date Fri 8/8/2025 2:47 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

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There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
Nicole Henriksen

Sent from my iPhone

Resident Feedback re: Car Wash Petition 2025-07-02-15

From Ruth Hooper <rthhooper@yahoo.com>

Date Tue 8/19/2025 4:02 PM

To Planning <Planning@Livonia.gov>

Good Afternoon, Please see below message (originally sent from Noreen Racette). As a member of Quakertown, I share the same feelings and urge the Commission to decline Petition 2025-07-02-15 (scheduled for review as part of tonight's public hearing meeting at 7pm.

Thank you.

Ruth Hooper
16441 Penn Drive
(248) 720-8814

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Petition 2025-07-02-15

From Monica Iskra <monica@teamiskrasells.com>

Date Fri 8/8/2025 2:06 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Monica Iskra
734.718.7377

Sent from my iPhone

Car wash petition

From gordonjank@cs.com <gordonjank@cs.com>

Date Mon 8/18/2025 9:06 PM

To Planning <Planning@Livonia.gov>

My vote goes against another car wash in Livonia. The one at Levan and 5- mile is quite sufficient.
Please do not approve this initiative.

Thank you
Gordon Jankowski
16014 Penn
Livonia, Michigan 48154

[Sent from the all new AOL app for iOS](#)

Hassan kabalan opposition to Petition 2025-07-02-15

From Hassan Kabalan <hassan_kab@hotmail.com>

Date Sat 8/9/2025 6:59 AM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
Hassan kabalan

Opposition to Petition 2025-07-02-15 - Clean Express Car Wash

From Kim Kadau <kmmkdu@gmail.com>

Date Mon 8/4/2025 11:46 AM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate and Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. 1/4 of section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the traffic congestion situation worse. Many vehicles make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these already existing safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already plenty of car washes within proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is completely unnecessary and will only negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your time and consideration.

Sincerely,

Kim Kadau
Quakertown Subdivision Resident
kmmkdu@gmail.com

Proposed Car Wash on Six Mile at Quakertown Lane

From Mike Kelley <mike.kelley0513@gmail.com>

Date Sat 8/2/2025 4:03 PM

To Planning <Planning@Livonia.gov>

I am opposed to the request to put a car wash on the former Buca di Beppo site on Six Mile Rd at Quakertown Lane.

The traffic is very congested at that intersection. You can't currently turn east on Six Mile out of the Buca di Beppo parking lot. It is also impossible to turn west out of the Quakertown Subdivision, right across Six Mile Rd..

Adding a car wash to that area is not a good idea. There is currently a car wash one mile away at Five Mile Rd and Haggerty Rd.

Seriously reconsider this request and vote "NO". Thank you.

Mike Kelley
Homeowner
15731 Penn Dr.
Livonia, MI 48154

Cell - (810) 434-7692

Car Wash

From Susan Kelley <susankell51@yahoo.com>

Date Sat 8/2/2025 3:47 PM

To Planning <Planning@Livonia.gov>

We live in Quakertown subdivision, which has an entrance right across from the proposed car wash. It's currently hard enough to get in and out of that entrance. Adding a car wash there we believe, is a very bad idea. The added traffic would simply be too much.

Sincerely,
Susan Kelley
Quakertown Subdivision



Outlook

planned car wash at the Bucca restaurant site

From Barbara Krabbenbos <bk32009@gmail.com>

Date Tue 8/5/2025 1:28 PM

To Planning <Planning@Livonia.gov>

JUST SAY NO!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

--

Proposed car wash near Quakertown subdivision

From Kruzzar <mekruz@gmail.com>
Date Mon 8/18/2025 11:16 PM
To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

We are residents of the Quakertown subdivision and are writing to express our opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. **Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road**, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

Also South of 6 mile on Haggerty there are 3 assisted living homes in addition to another on 6 mile West of Haggerty. There is a lot of EMS traffic going to those facilities---Do we need more traffic.

For these reasons, we strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Martha and Gary Kruz
16564 Quakertown Ln
734-658-1993
Mekruz@gmail.com

Car wash

From Lynn Lakota <hefalo@aol.com>
Date Sat 8/9/2025 11:52 AM
To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Opposition to carwash at old Buca di Beppo site on 6 Mile

From dlipinsk@ameritech.net <dlipinsk@ameritech.net>

Date Sat 8/16/2025 7:25 PM

To Planning <Planning@Livonia.gov>

I'm writing this email to express my opposition to the proposal for building a carwash at the old Buca di Beppo site on 6 Mile east of Haggerty. First, there are more than enough carwashes in Livonia, particularly close to the proposed location. Specifically, there are carwashes at the Mobil station at the corner of 6 Mile and Haggerty, another at 5 Mile east of Haggerty, 5 Mile at Levan, Farmington Road south of 8 Mile, 8 Mile west of Farmington Road, and possibly others I have neglected to list. Second, the proposed carwash will only add to an existing traffic mess in this area that is only getting worse, especially being a 'drive through' establishment. Just take a look at the traffic mess created by the car wash on the corner of Beech Daly and Joy Rd (granted, I know that is Redford).

Please consider my opposition as well as that of many other Livonia residents who have either written or attended / attending the Planning Meeting taking place on 8/19/2025.

Daniel J. Lipinski
16855 Renwick St.
Livonia MI 48154
Dlipinsk@ameritech.net

Petition 2025-07-02-15 submitted by Mannik & Smith Group

From Celeste Lyke <celestelyke@gmail.com>

Date Fri 8/8/2025 1:55 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Celeste Lyke

Swathmore Ct S - Livonia, MI

Petition 2025-07-02-15

From Tom Malcolm <54malc@gmail.com>

Date Tue 8/12/2025 8:57 AM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

We are residents of the Quakertown subdivision and we are writing to express our opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity (two miles or less) of this location, including at Six Mile and Haggerty (Mobil station), Seven Mile and Haggerty (Jax Kar Wash), and Five Mile and Haggerty (Diamond Car Wash & Detail). Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents (Angel Gardens Assisted Living, Quakertown subdivision). In addition, there would be a disrespect to the loved ones resting eternally in the Union Cemetery adjacent to the subject property.

For these reasons, we strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Barbara L. Malcolm
Thomas G Malcolm
Quakertown Subdivision
38952 Reo Drive
Livonia, MI 48154

Petition 2025-07-02-15

From Darlene <darlene2926@sbcglobal.net>

Date Fri 8/8/2025 6:38 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
Darlene Marshall

NO CAR WASH

From dorothy mcguire <djanemcguire@gmail.com>

Date Fri 8/8/2025 10:42 AM

To Planning <Planning@Livonia.gov>

Here's the email, planning@livonia.gov

Feel free to copy and paste

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
Dorothy McGuire



Outlook

Sharing my email I sent to the city if anyone would like to use it feel free. Here's the email, planning@livonia.gov Feel free to copy and paste Dear Members of the Livonia Planning Commission, I am a resident of the Quakertown subdivision and I am wri...

From Susan Miner <susminer1234@gmail.com>

Date Fri 8/8/2025 2:24 PM

To Planning <Planning@Livonia.gov>

Car wash

From Cathymoore <cathymoore627@gmail.com>

Date Wed 8/6/2025 2:20 PM

To Planning <Planning@Livonia.gov>

I live in the Quakertown subdivision on six mile and Haggerty. I'm am not for a car wash where Buca de Beppo. Our entrance is right across the street. It's already to get out of our sub, plus with the new construction at the corner of Six mile and Haggerty it's gonna get worse. There is no need for a car wash we have one on five and Haggerty, there's one at 7 mile . PLEASE no car wash!!

Thanks for listening

Cathy Moore

Sent from my iPad

proposed car wash at 6 mile between Haggerty and I 275

From joe moreau <joemoreau1@yahoo.com>

Date Sat 8/2/2025 10:25 AM

To Planning <Planning@Livonia.gov>

As a resident of Quakertown we are adamantly opposed to this new construction. First the chaos it creates with traffic, secondly the unwanted noise and confusion and finally our home values will decrease with this addition to an already crowded area.

We do NOT need another car wash---there are at least 4-6 within 2 to 3 miles of this area,

NO CAR WASH !!!

Thanks

Joe Moreau
248.342.5656
joemoreau1@yahoo.com

From: [joe moreau](#)
To: [Planning](#)
Subject: Proposed Car Wash on 6 Mile Road
Date: Wednesday, August 6, 2025 11:11:28 AM

All

I'm a resident of the Quakertown subdivision and we would appreciate the following information.

Please foreword to me the agenda for the 8/12/2025 meeting and please include the proposed plans for this car wash. I would like to review a print or a schematic of the proposed building, also please include your traffic studies in the area from 6 mile and Newburgh to 6 mile and Haggerty.

Also please let me know of the existing car washes in this area and include those in the Northville area

Thanks

Joe MoreauMI 48154
39038 Stacey Dtive
Livonia,
248.342.5656
joemoreau1@yahoo.com

Proposed Clean Express Car Wash

From joe moreau <joemoreau1@yahoo.com>

Date Tue 8/12/2025 10:50 AM

To Planning <Planning@Livonia.gov>

Members of the Livonia Planning Commission

Shown below is an email sent to you from our neighbor Noreen Racette

But first-let me elaborate a little more on why the this proposed car was is a bad idea not only for the residents of Quakertown but also for all Livonia residents.

First--I275 exits at 6 mile, already there is a lot of traffic from both the northbound exit and the southbound exit---DO WE NEED MORE TRAFFIC??

Second--Traffic is going to and from Laurel Park---DO WE NEED MORE TRAFFIC??

Third--Traffic is going to and from all of the commercial establishments on Haggerty road---DO WE NEED MORE TRAFFIC??

Fourth--The residents of Northville are traveling to and from their homes---DO WE NEED MORE TRAFFIC??

Fifth--We now have lights at both I-275 exits and one at Haggerty and 6 mile road do you really think adding another light at the intersection of Quakertown at 6 mile road will solve any problems with traffic?? I will only increase back ups and time to travel--DO WE NEED ANOTHER LIGHT WHEN WE ALREADY HAVE 3 WITHIN 1/4 MILE--DO WE REALLY NEED MORE TRAFFIC

FINALLY---2 MORE ITEMS

1. If the planning commission thinks Livonia needs another car wash I would propose that you have the Clean Express Car Wash folks obtain your addresses and find one of your neighborhoods that would be suitable for a car wash and we can all review those plans and vote on it.
2. If this goes through THERE WILL BE ACCIDENTS and god help the city of Livonia if someone is injured or dies--f this were to happen the city of Livonia will be sued and the burden of payment for loss of life or serious injury will fall on the city of Livonia and in the discovery process our objections will be heard by the attorneys as they are all saved and will be presented in court.

Joe and Sharon Moreau
39038 Stacey Drive
Livonia MI 48154

Fw: Proposed Clean Express Car Wash

From joe moreau <joemoreau1@yahoo.com>

Date Sat 8/16/2025 2:16 PM

To Planning <Planning@Livonia.gov>

Planning Commission Members

I am unable to attend the next meeting however in concert with the items mentioned in my 8/12/2025 email to you another issue has become apparent.

There is one more reason not to have another car wash installed at 6 Mile and Quakertown.

South of 6 mile on Haggerty there are 3 assisted living homes in addition to another on 6 mile West of Haggerty. There is a lot of EMS traffic going to those facilities---DO WE NEED MORE TRAFFIC??

Thanks

Joe Moreau
248.342.5656
joemoreau1@yahoo.com

Car wash @ the former Buca di Beppo site

From Neil Murawski <debkids@gmail.com>

Date Mon 8/18/2025 9:20 AM

To Planning <Planning@Livonia.gov>

Good Morning,

I am contacting you concerning the subject petition and to not approve the petition for a car wash at the former Buca di Beppo site on Six Mile.

I live in the subdivision, Quakertown, directly across from the proposed site. The reason for my request to not approve the petition is due to the traffic nightmare that already exists along Six Mile between Haggerty and I-275. I encourage the City Planning Commission to observe the traffic chaos along Six Mile by sitting in the former restaurant parking lot and just watch the traffic and then imagine a car wash at this site. Or better yet come to our sub division and try to exit onto Six Mile during rush hour.

Or contact our Police Department or Plymouth or Northville's Police Department and review the number of tickets let alone the number of vehicle crashes in this area. I myself was in a vehicle crash at the intersection of Six Mile and Haggerty and it was not my fault.

Watch the vehicles that make illegal left turns onto 6 Mile from where the Comerica site is.

Additionally our City already has enough car wash facilities. There is one on Five Mile Road between Haggerty and I-275. Further east on Five Mile there is a car wash near Levan. Then go down Plymouth Road and count the car wash facilities. Look at the city map of all the car washes that are currently in our city.

Thank You for your attention to this:

Neil Murawski
15971 Penn Dr.
Livonia, MI. 48154

--

Please consider NO on Car Wash Petition 2025-07-02-15

From Amber Ososky <amberskee@hotmail.com>

Date Tue 8/19/2025 3:57 PM

To Planning <Planning@Livonia.gov>

Hello, and good afternoon. I am writing to echo the below message (originally sent from Noreen Racette). Please consider our requests to deny Petition 2025-07-02-15. This topic is to be covered at the Planning Commision this evening of which I cannot attend in person but I would appreciate my feedback considered. Thank you.

Amber Ososky
16441 Penn Drive
(248) 284-5335

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7). Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Thanks

Joe Moreau
248.342.5656
joemoreau1@yahoo.com

Car wash

From Denise Pew <pewsdn2@att.net>

Date Fri 8/8/2025 2:11 PM

To Planning <Planning@Livonia.gov>

Sharing my email I sent to the city if anyone would like to use it feel free.

Here's the email, planning@livonia.gov

Feel free to copy and paste

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Denise Pew
Quakertown Resident

Sent from my iPhone

Proposed New Car Wash on Six Mile

From Laura Piccone Hanchon <lpiccone@gmail.com>

Date Thu 8/14/2025 10:24 AM

To Planning <Planning@Livonia.gov>

To Whom It May Concern,

I am writing because I am concerned about and strongly oppose the proposed car wash at the former Buca di Beppo site on Six Mile. It would increase traffic and noise, pose safety risks, and negatively impact the environment through water usage, chemical runoff, and more light pollution.

With new development already underway nearby, this project would further disrupt our community. Livonia already has sufficient car wash facilities within two miles of this site.

Please reject this proposal to protect our neighborhood's safety, character, and environmental health.

Thank you for your attention to this matter.

Laura Piccone-Hanchon
Quakertown Resident

Opposition to Petition 2025-07-02-15 – Clean Express Car Wash

From Noreen Racette <noreenracette@yahoo.com>

Date Sat 8/2/2025 6:35 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Noreen Racette

16044 Swathmore Court North

Livonia

Resident, Quakertown Subdivision

Petition 2025-07-02-15

From Kirk Rylance <krylance.umich@gmail.com>

Date Mon 8/4/2025 1:02 PM

To Planning <Planning@Livonia.gov>

Hello!

I am writing to oppose the car wash petitioned to be built at 38888 six mile road.

Please no more new car washes in Livonia. They are a terrible use of this land and a terrible idea. We do not need another car wash in Livonia. the novelty of these car washes promotes wasting water and green space in the city. they will be a temporary thing and adding so many of these in the city is a mistake.

Please think about refusing this petition as it is not what the citizens of Livonia want.

Kirk Rylance
734-691-1288

Opposition to petition 2025-07-02-15

From LKB <lokabrady@sbcglobal.net>
Date Fri 8/8/2025 2:07 PM
To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,
Karen Sangregorio

[Sent from AT&T Yahoo Mail for iPhone](#)

Petition for Car Wash 2025-07-02-15

From cschmidt29 <cschmidt29@aol.com>

Date Fri 8/8/2025 2:59 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Whole Foods development will add to the challenges for this intersection. Plus, myself and neighbors do not want to look at an unsightly car wash at our entrance.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life and home values for nearby residents.

We are continually facing increased traffic from surrounding and future construction projects. Many people use 6 Mile to access I275 -- Northville residents, employees from the warehouses south of 5 Mile, not to mention the new projects at Schoolcraft and 6 Mile and Haggerty. It is very difficult for residents to enter and exit our subdivision. We moved to northwest Livonia 30 years ago to get away from all the traffic and congestion. Now, it is worse than where we came from. We are also concerned about our home values and desirability declining. Our area is being developed into something worse than the Ford Rd corridor in Canton.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Respectfully,

Mike and Carol Schmidt

Sent from my Verizon, Samsung Galaxy smartphone

FW: Proposed Car Wash Business at vacated Buca di Beppo site

From Scitar, Marilyn <Marilyn.Scitar@uhsinc.com>

Date Mon 8/18/2025 2:14 PM

To Planning <Planning@Livonia.gov>

Dear Planning Commission Members:

Having resided at 16375 Penn Drive in Quakertown Subdivision since November 1985, I have witnessed the tremendous influx of traffic that comes with once-vacant land converted into businesses. We want Livonia to grow and continue to be viable; the "how" developed has had a direct impact on traffic flow, especially with the number of traffic lights added over the years. On any given weekday, going north and making a right-hand turn out of the subdivision onto Six Mile Road to go east can require an unexpectedly long wait; often, I just opt out of the subdivision via exiting north onto Haggerty Road and turn right (east) to get onto Six Mile Road. As Five Mile travelers have no entrance to the freeways from that location, they "push" additional traffic volume toward Six Mile Road. Making a left hand turn off Six Mile Road into the subdivision can be just as challenging.

There are a number of car wash businesses in close proximity to what is being proposed. Car wash businesses tend to attract a great amount of "in" and "out" traffic, compared to say a medical office. The residents of Quakertown Subdivision already endure travel challenges. Therefore, I recommend the new car wash business being proposed NOT be supported. Thank you for considering my comments.



Marilyn P. Scitar, MA, RHIA, AHRMQR | Director of Health Information Management and Privacy Officer |
Marilyn.scitar@uhsinc.com | 248-371-2208 | Havenwyck Hospital | 1525 University Drive, Auburn Hills, MI 48326

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Public Hearing: Petition 2025-07-02-15

From Corey Stram <cdstram@gmail.com>

Date Fri 8/8/2025 8:21 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for us as residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Best regards,

Corey Stram
15789 Swathmore Lane
Livonia, MI 48154

Petition2025-07-02-15

From Daniela Tomazela <daniela.t.tomazela@gmail.com>

Date Tue 8/12/2025 3:33 PM

To Planning <Planning@Livonia.gov>

Dear Members of the Livonia Planning Commission,

I am a resident of the Quakertown subdivision and I am writing to express my opposition to Petition 2025-07-02-15 submitted by Mannik & Smith Group, on behalf of Clean Express Car Wash, requesting waiver use approval under Sections 3.11 and 6.07 of the Livonia Zoning Ordinance to operate an Auto-Wash Establishment at 38888 Six Mile Road (N.E. corner of Fox Drive and Six Mile Road in the S.W. ¼ of Section 7).

Traffic congestion in this area is already a significant problem for residents. Entering and exiting our subdivision is challenging as it is, and adding a car wash will only make the situation worse. Many vehicles currently make illegal left turns from Fox Drive onto Six Mile Road, and the increased traffic from a car wash will compound these safety issues. Additionally, the traffic expected from the new Comerica development will already pose challenges for this intersection.

There are already several car washes within close proximity of this location, including at Six Mile and Haggerty, Seven Mile and Haggerty, and Five Mile and Haggerty. Another car wash in this area is unnecessary and will negatively impact the quality of life for nearby residents.

For these reasons, I strongly urge you to deny this petition and prevent further traffic and safety concerns in our community.

Thank you for your consideration.

Sincerely,

Car wash at old Bucca Space—no!

From LKB <lokabrady@sbcglobal.net>

Date Thu 8/7/2025 12:59 PM

To Planning <Planning@Livonia.gov>

I do not support putting a car wash across from the Quakertown subdivision, where Bucca di Beppo used to be. There is way too much traffic there already and a car wash is not a necessity for the city. There is one on 5 mile and Haggerty.

This will just cause more congestion for people coming off 275 and people trying to get out of the Quakertown subdivision, thus causing more accidents.

Lori Truscott— Lives in Quakertown subdivision

[Sent from Yahoo Mail for iPhone](#)

From: [Tonya Malekas](#)
To: [Planning](#)
Subject: Petition 2025-07-02-15
Date: Monday, August 25, 2025 6:23:42 PM

Hello,

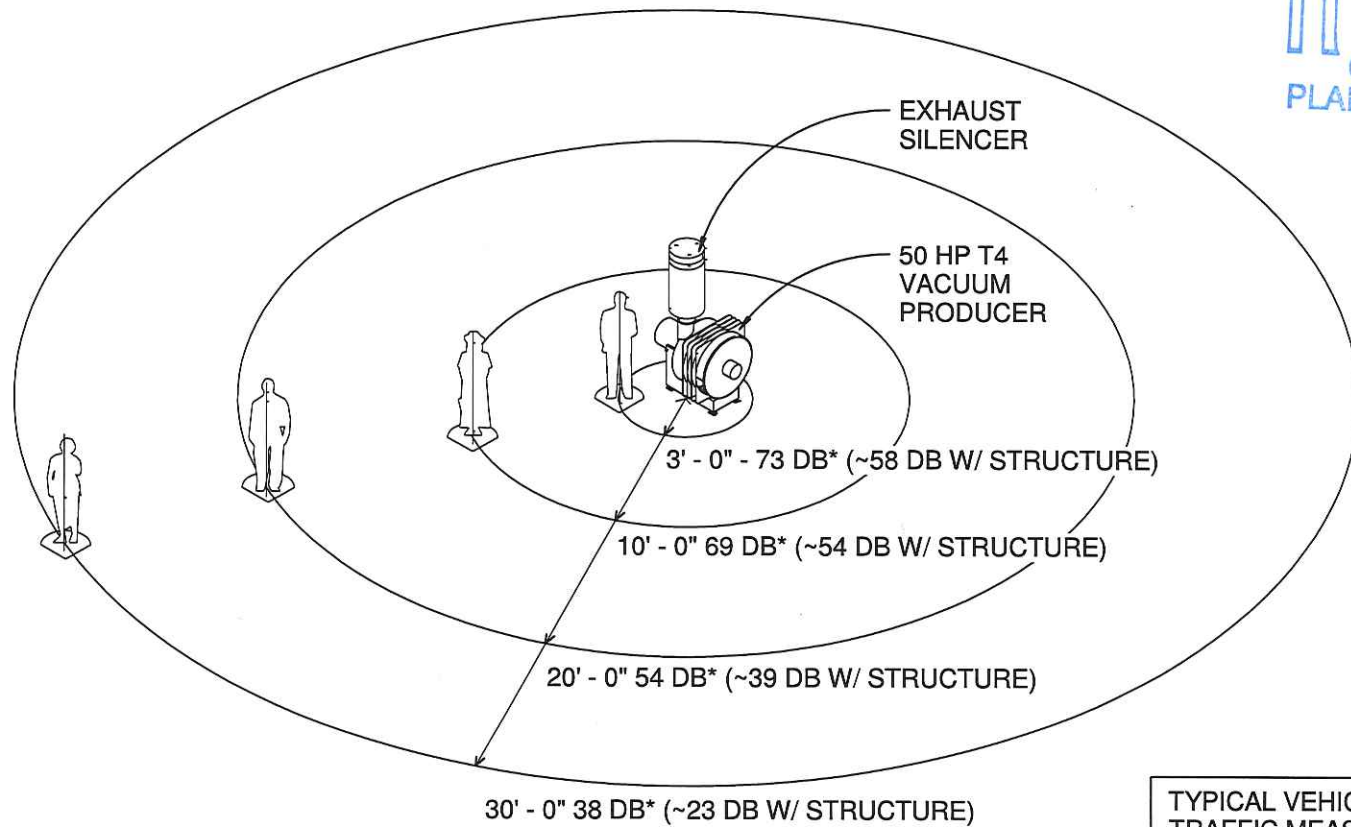
We are residents of the Quakertown subdivision located at 6 mile/Haggerty. We recently learned that someone has applied to put a car wash where the Buca Di Beppo building is located. We are pleading with whoever makes this decision to deny this request. This is not a good location for a car wash. Not to mention that Livonia has SEVERAL car washes nearby. There is a car wash at 5/Haggerty and I recently learned there is a new one at 7/Haggerty. We DO NOT need another at 6/Haggerty. As a resident of this subdivision, we have a hard enough time getting in and out of our neighborhood as is with traffic. This will only COMPOUND the problem! I guarantee you there will be accidents because of the traffic and backups this may cause. Also, on that side of the road there are no left turns, which people already ignore and again with a car wash there this will cause a bigger issue.

Please consider the safety risks and how awful this will be for us. We already have additional new construction that is going to cause havoc in our area, we do not need anymore, not from a car wash! There are so many other possibilities for that spot.

Regards,
The Malekas Family

Sent from my iPhone
Please excuse any spelling errors

RECEIVED
AUG 19 2025
CITY OF LIVONIA
PLANNING COMMISSION

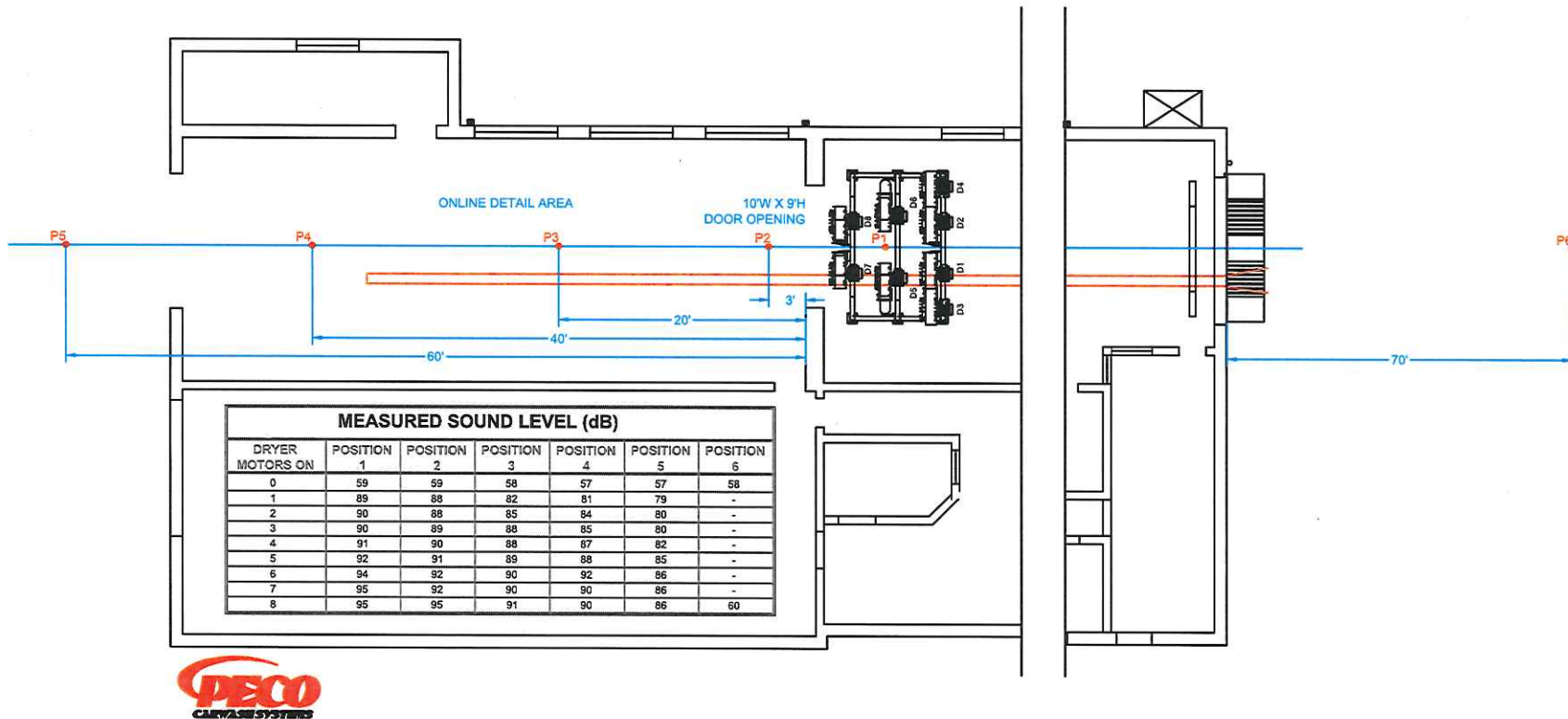


TYPICAL VEHICULAR
TRAFFIC MEASURES
60-75 DB ON MOST
CITY STREETS

*BASED ON READINGS TAKEN OUTDOORS,
UNOBSTRUCTED, ON A CONCRETE SURFACE

TURBINE SOUND INTENSITY - 50 HP

 **VACUTECH**
VPM60100
REV.: 0
BY: AS
3/21/2018 6:14:47 PM



RECEIVED
AUG 19 2025
CITY OF LIVONIA
PLANNING COMMISSION

TECHNICAL MEMORANDUM

To: Jacob Uhazie, Assistant Director, Planning Department, City of Livonia
From: Kris D. Ball, PE, PTOE
CC:
Date: October 1, 2025
Project #: 401.2500286.000
Re: **Traffic Impact Analysis – Express Car Wash**
38888 Six Mile Road
City of Livonia, Wayne County, Michigan



Introduction

At the request of the City of Livonia Planning Department, the Mannik & Smith Group (MSG) has completed an analysis of expected trip generation at the Express car wash, which is the proposed development of the site located at 38888 Six Mile Road, Livonia. This was compared to the property's prior land use as a sit-down restaurant. The goal of this memo is to clearly define the potential additional traffic generated by this development relative to prior conditions. The analysis utilizes data from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 12th Edition, to estimate the number of vehicle trips generated by each land use.

Site Location and Local Zoning

The proposed development will replace the existing Buca di Beppo restaurant located on the northeast corner of Six Mile Road and Fox Drive with the Express Wash Concepts car wash. Overall plans include moving the site's access driveway from the west side to the east side of the property and signalization at Fox Drive & Six Mile Road and Quakertown Lane & Six Mile Road. It is the understanding of the consultant that signalization has been approved by the Wayne County Roads Division, which maintains Six Mile Road, pending the driveway location change.

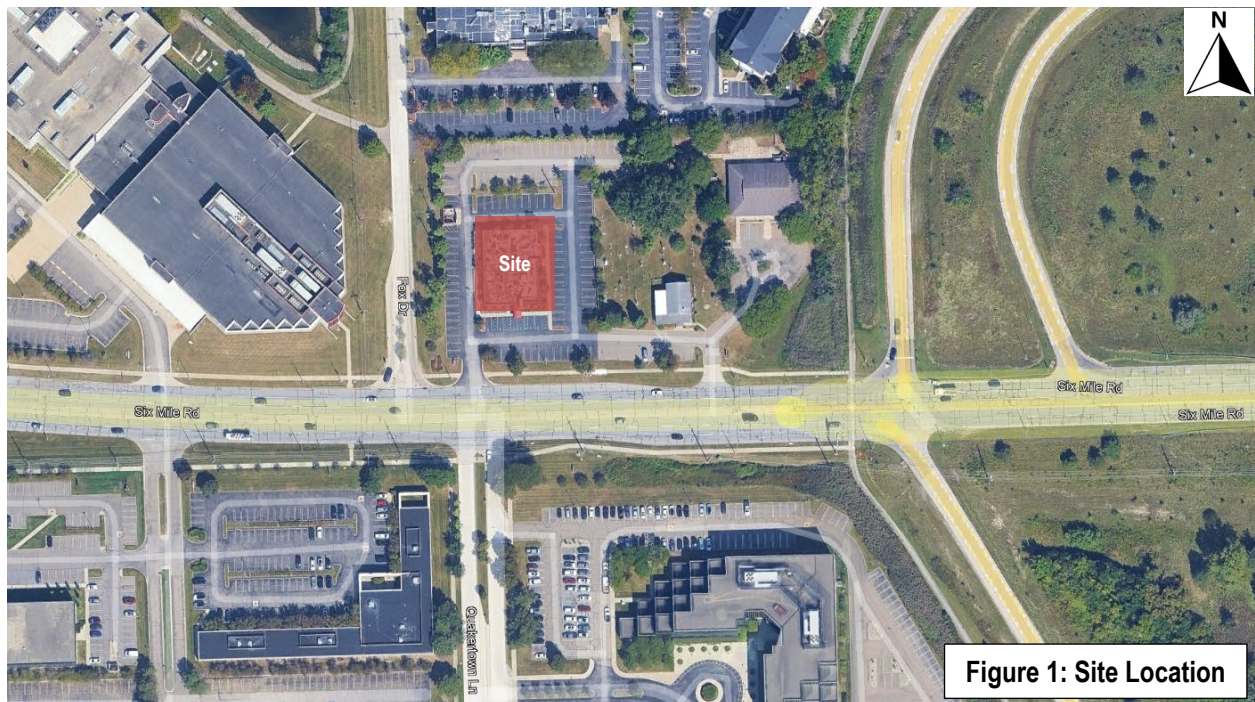


Figure 1: Site Location

Adjacent Roadway Network and Intersections

The existing site currently has one access point on Six Mile Road. The proposed car wash development, with a conceptual site plan and expected site access points, is shown in **Figure 2**. The roadway features for the surrounding network are listed in **Table 1**.



Figure 2: Conceptual Site Plan

Table 1: Roadway Features

Characteristic	Study Roadway			
	Six Mile Road	Haggerty Rd	Fox Dive	Quakertown Lane
Functional Classification	Minor Arterial	Minor Arterial	Non-Certified Roadway	Local
Road Jurisdiction	County Primary	County Primary	Private	City Minor
Roadway Direction	East-West	North-South	North-South	North-South
Lane Width	12 ft	12 ft	11 ft	18 ft
Shoulder Width	0 ft	0 ft	0 ft	0 ft
Posted Speed Limit	45 mph	45 mph	Not Posted	25 mph
AADT	31,736	19,511	-	-
Number of Thru Lanes	4	4	2	2

AADT Data from MDOT TCDS and SEMCOG Databases

ITE Trip Generation Comparison

The amount of traffic generated by the proposed project depends on the type and size of the proposed land use. Estimates for the volume of traffic generated by this development were based on existing peak hour site driveway volumes and rates published in the Institute of Transportation Engineers (ITE) report, titled "Trip Generation, 12th Edition." ITE land uses are presented in **Table 2** and are illustrated in **Appendix A**. LUC 931, fine dining restaurant, was used for Buca di Beppo restaurant as it better represents the style of dining at this restaurant chain than other ITE restaurant LUCs, such as fast casual (930) or high turnover sit-down restaurant (932).

Table 2: ITE Trip Generation

ITE LUC	ITE Land Use Units	Weekday - Peaks					
		Peak Hour of Generator					
		AM Peak			PM Peak		
		Enter	Exit	Total	Enter	Exit	Total
Existing Land Use (Restaurant)							
LUC #931	Fine Dining Restaurant (7,790 SF)	23	5	28	38	33	71
Total Expected Trips Generated by Existing Building		23	5	28	38	33	71
Proposed Land Use (Express Car Wash)							
LUC #948	Automated Car Wash (1 Car Wash Tunnel + 14,229 SF Car Wash Facility + 2 Payment Stalls)	191	183	374	176	177	353
Total Site Generated Traffic by Express Wash Concept		191	183	374	176	177	353
Total Trip Differences (Existing vs Proposed)		168	178	346	138	144	282

Conclusions

The proposed car wash will add 346 total trips to the roadway network during the AM peak hour (168 inbound, 178 outbound) and 282 total trips to the roadway network during the PM peak hour (138 inbound, 144 outbound).

APPENDIX A ITE Trip Generation



Land Use: 931

Fine Dining Restaurant

Description

A fine dining restaurant is a full-service eating establishment with a typical duration of stay of at least 1 hour. A fine dining restaurant generally does not serve breakfast; some do not serve lunch; all serve dinner. This type of restaurant often requests and sometimes requires a reservation and is generally not part of a chain. A patron commonly waits to be seated, is served by wait staff, orders from a menu and pays after the meal. Some of the study sites have lounge or bar facilities (serving alcoholic beverages), but meal service is the primary draw to the restaurant.

Additional Data

If the fine dining restaurant has outdoor seating, its area is not included in the overall gross floor area. For a restaurant that has significant outdoor seating, the number of seats may be more reliable than GFA as an independent variable on which to establish a trip generation rate.

The sites were surveyed in the 1990s, the 2010s, and the 2020s in Arizona, California, Florida, Indiana, Kentucky, New Jersey, and Utah.

Source Numbers

338, 339, 368, 437, 440, 976, 1053, 1204

Fine Dining Restaurant (931)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

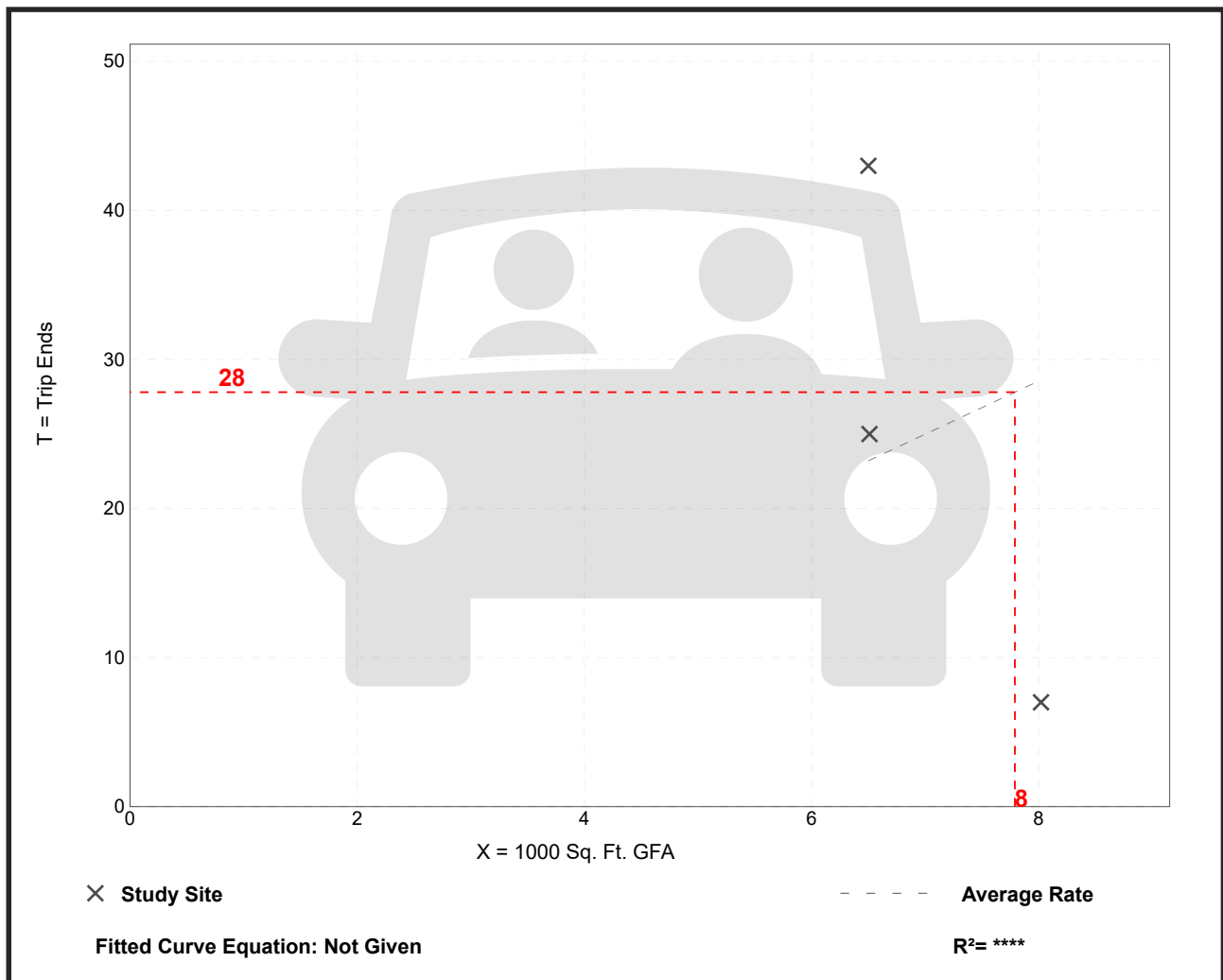
Setting/Location: General Urban/Suburban
 Number of Studies: 3
 Avg. 1000 Sq. Ft. GFA: 7
 Directional Distribution: 82% entering, 18% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.57	0.87 - 6.62	2.91

Data Plot and Equation

Caution – Small Sample Size



Fine Dining Restaurant (931)

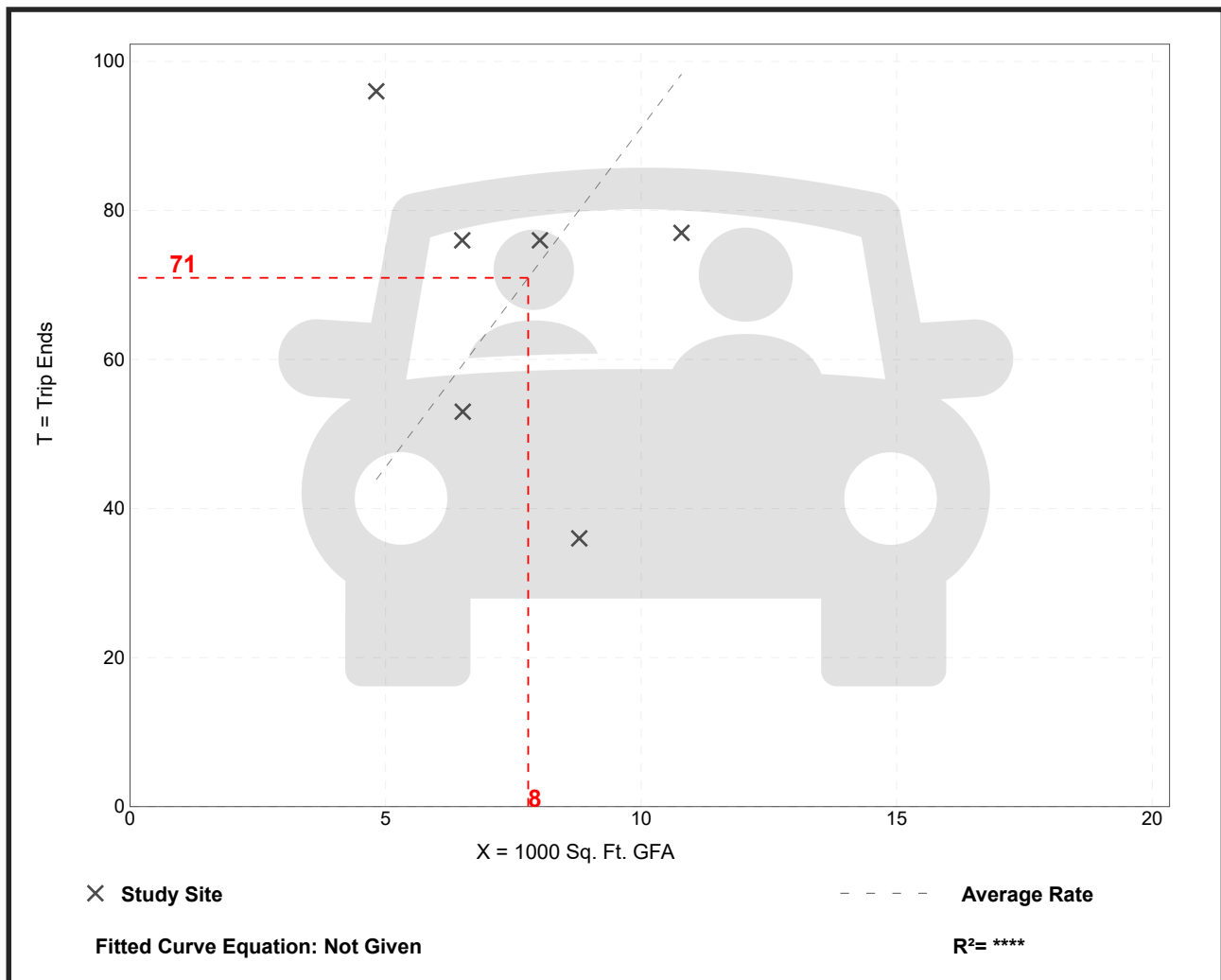
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 6
Avg. 1000 Sq. Ft. GFA: 8
Directional Distribution: 53% entering, 47% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.11	4.10 - 19.93	4.81

Data Plot and Equation



Land Use: 948

Automated Car Wash

Description

An automated car wash is a facility that allows for the mechanical cleaning of the exterior of vehicles. Manual cleaning services may also be available at the facility.

Additional Data

The sites were surveyed in the 1990s, the 2000s, and the 2020s in California, Colorado, Florida, New Jersey, New York, Pennsylvania, and Washington.

Source Numbers

552, 555, 585, 599, 954, 1208, 1224, 1245, 1256

Automated Car Wash (948)

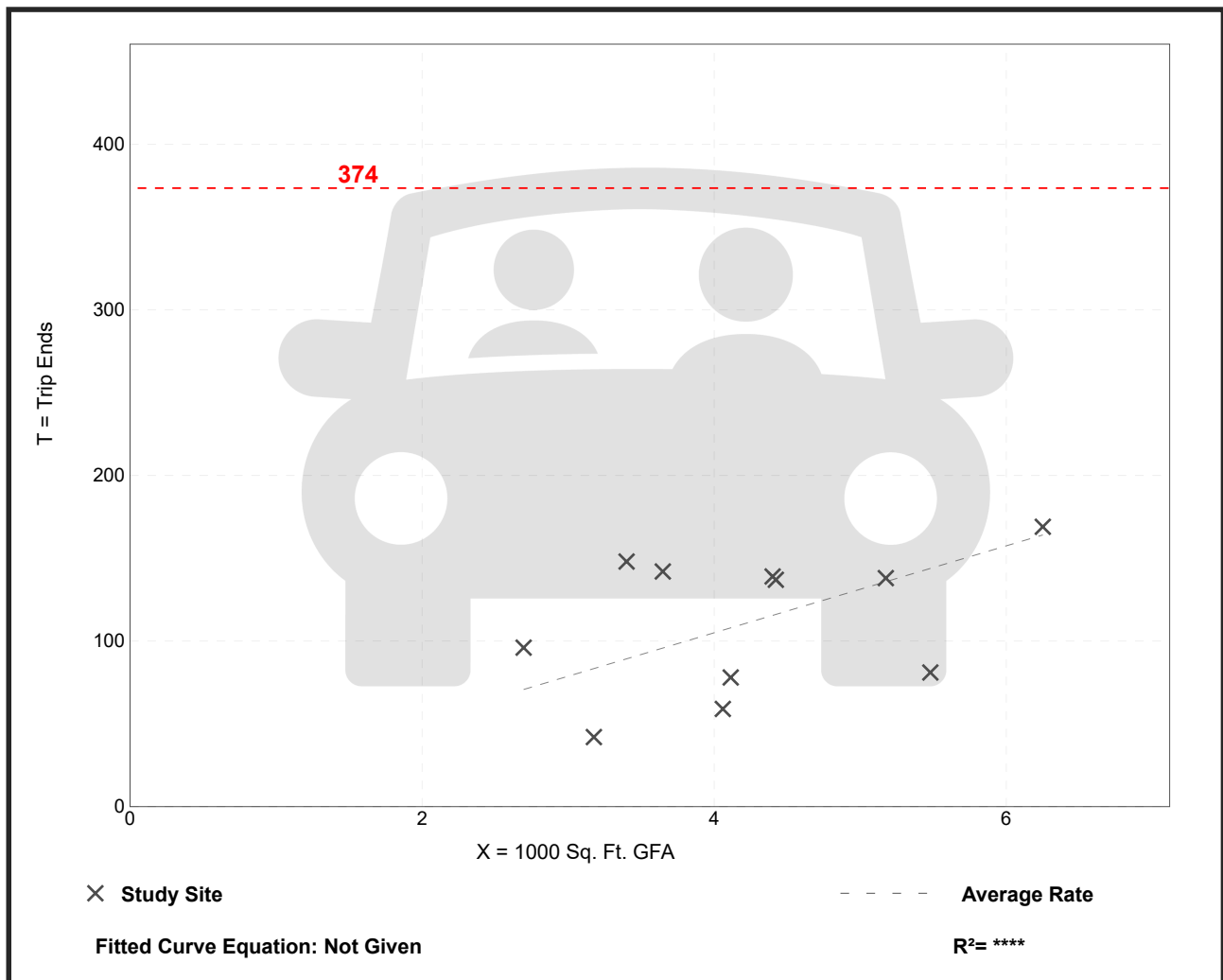
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 11
Avg. 1000 Sq. Ft. GFA: 4
Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
26.25	13.22 - 43.53	9.82

Data Plot and Equation



Automated Car Wash (948)

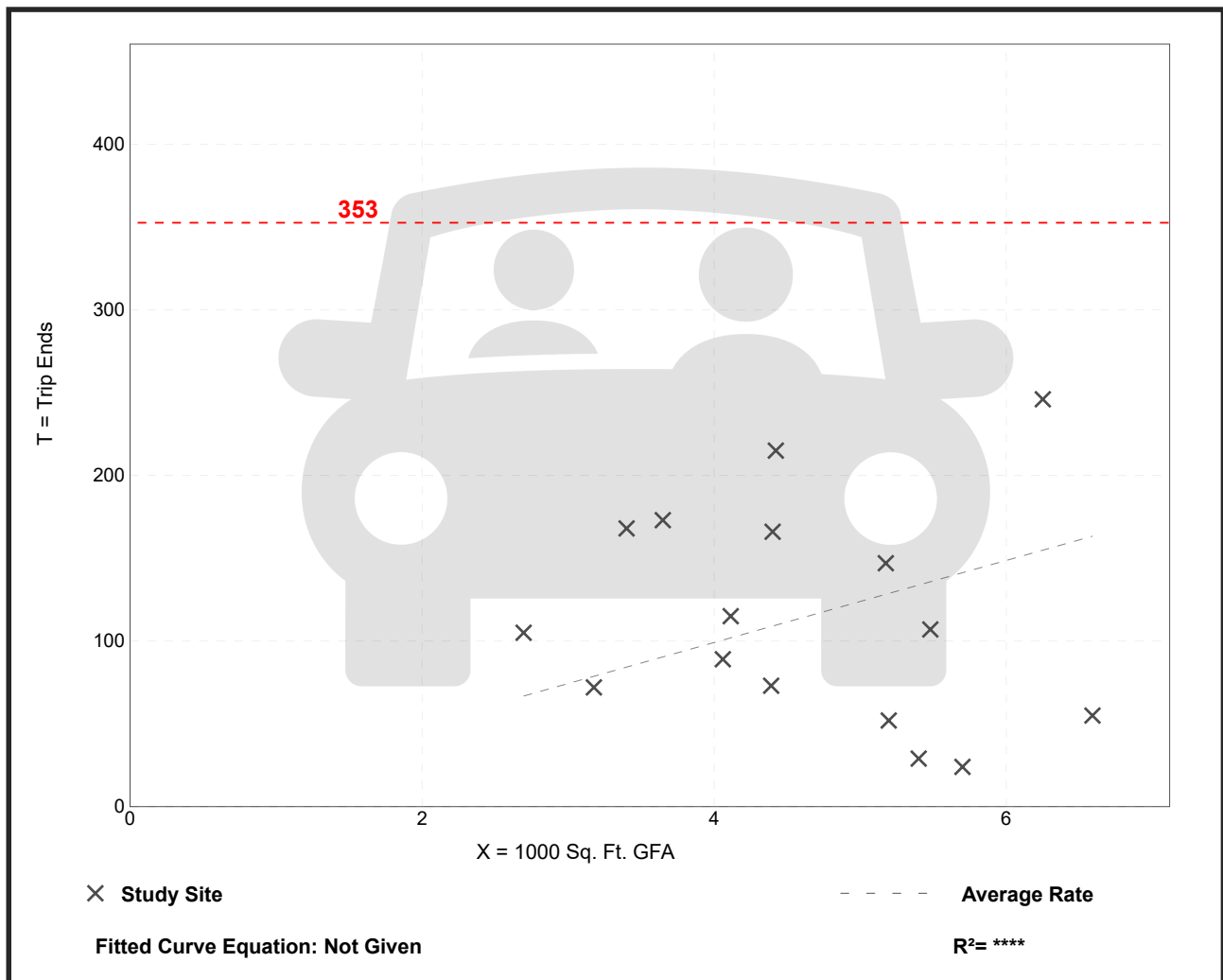
Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 16
Avg. 1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
24.78	4.21 - 49.41	15.65

Data Plot and Equation





TRINITY HOUSE

38840 West Six Mile Rd. • Livonia, Michigan 48152 • Phone: (734) 464-6302 • trinityhousetheatre.org

Mark Taormina
Planning Director
City of Livonia
33000 Civic Center Dr.
Livonia MI 48154

9/25/25

Dear Mr. Taormina,

Representatives of Trinity House attended the August 19, Livonia Planning Commission meeting regarding the development of a Clean Express Auto Wash in the former site of Buca di Beppo. The theatre shared parking with Buca di Beppo and we wanted to learn more, share our concerns, and hear the thoughts of our neighbors. We appreciated that planning commission members brought up the theatre's parking as an issue for the car wash.

Since the meeting, we've been working with Dennis Miller of DMC Real Estate Advisors, to come up with a parking solution for Trinity House.

Mr. Miller developed a new plan to push the carwash further back and allow for 13 additional spaces along the Six Mile Road side of the property. He said that Trinity House patrons could also use additional parking at the back of the Clean Express Auto Wash development.

We appreciate Mr. Miller's work to find a solution for parking. We look forward to working with Clean Express Auto Wash as neighbors, if the car wash development moves forward.

Feel free to contact me at trinityhousetheatre@gmail.com if you have any questions.

Sincerely,

Bill Keith
President
Trinity House