City of Plymouth Planning Commission
Regular Meeting Agenda
Wednesday, December 8, 2021 – 7:00 p.m.
ONLINE Zoom Webinar

City of Plymouth
201 S. Main
Plymouth, Michigan 48170

www.plymouthmi.gov
Phone 734-453-1234
Fax 734-455-1892

Please click the link below to join the webinar:
https://us02web.zoom.us/j/89829378720
Webinar ID: 898 2937 8720
Passcode: 610091

Statement of explanation of the reason why the public body is meeting electronically: On March 10, 2020, the Governor of the State of Michigan declared a State of Emergency across the State of Michigan under section 1 of Article 5 of the Michigan Constitution of 1963, the Emergency Management Act, 1976 PA 390, as amended, MCL 30.401 – 421, and the Emergency Powers of the Governor Act of 1945, 1945 PA 302, as amended, MCL10.31 – 33. These sections provide the governor with broad powers and duties to cope with dangers to this state or to the people of the state.

As a part of the response to the emergency, the Governor has deemed it reasonable and necessary to temporarily suspend rules and procedures relating to physical presence at meetings and hearings of public bodies and other governmental entities in Michigan. These public bodies and entities must continue to conduct public business during this emergency. Due to the emergency situation and the request of the Governor to not gather in groups of 10 or more it is necessary for some public boards to meet electronically.

1. CALL TO ORDER
   a) Roll Call
2. CITIZENS COMMENTS
3. APPROVAL OF THE MINUTES
   a) Approval of the November 10, 2021, regular meeting minutes
4. APPROVAL OF THE AGENDA
5. COMMISSION COMMENTS
6. PUBLIC HEARINGS
7. OLD BUSINESS
   a) **SP21-05:** 1490 W. Ann Arbor Rd: Scooter's Coffee, Revised Special Land Use and Site Plan Review
8. NEW BUSINESS
   a) **SP21-08:** 885 Fralick: Westborn Market, Site Plan Review for Parking Lot expansion/Reconfiguration, Sidewalk & Landscaping.
9. REPORTS AND CORRESPONDENCE
10. ADJOURNMENT

Citizen Comments - This section of the agenda allows up to 3 minutes to present information or raise issues regarding items not on the agenda. Upon arising to address the Commission, speakers should first identify themselves by clearly stating their name and address. Comments must be limited to the subject of the item.

Persons with disabilities needing assistance with this should contact the City Clerk's office at 734-453-1234 x 234 Monday through Friday from 8:00 a.m. -4:30 p.m., at least 24 hours prior to the meeting. An attempt will be made to make reasonable accommodations.

GOAL I - QUALITY OF LIFE
OBJECTIVES
Support the neighborhoods with high-quality customer service
Engage in collaboration with private entities and surrounding municipalities to implement the Joint Recreation Master Plan
Improve communication with the public across multiple platforms
Maintain a high level of cleanliness throughout the City
Support and host a diverse variety of events that foster community and placemaking

ONE-YEAR TASKS 2021

Restore sports and recreational programs that were halted by COVID-19 as soon as possible
Review and evaluate the special event policy with safety considerations
Address challenges with the Kellogg Park improvements with safety considerations
Move Kellogg Park Fountain project forward
Continue to re-engage service clubs to help enhance parks and public properties
Increase followers by 2,000 on all our communications platforms
Develop an internal and external communications plan
Upgrade City Hall facilities to accommodate remote meetings and remote participation
Continue investigating multi-modal transportation opportunities
Revisit noise ordinance

GOAL II - FINANCIAL STABILITY
OBJECTIVES
Approve balanced budgets that maintain fiscal responsibility
Advocate for increased revenue sharing with the State of Michigan
Encourage and engage in partnerships, both public and private, to share costs of services and equipment
Address the issue of legacy costs
Seek out and implement efficient and effective inter-departmental collaboration
Market our successes to attract new economic and investment opportunities

ONE-YEAR TASKS 2021

Identify mechanisms for funding sources for capital improvement projects
Increase funding to the Public Improvement Fund
Create a potential package for financing emergency structural repairs
Develop a comprehensive asset management plan that includes a review of the equipment fleet
Search out other possible revenue streams through continued association with the CWW and the MML
Develop a financial plan for public safety
Continue to make extra payments towards legacy costs
Monitor outside influences on our revenue sources, including unfunded mandates, the 35th District Court and the PCCS
Negotiate three labor contracts

GOAL III - ECONOMIC VITALITY
OBJECTIVES
Continue to support and improve active, vibrant downtown branding
Support community and economic development projects and initiatives
Support a mix of industrial, commercial and residential development
Reference the Master Plan in economic decision-making

ONE-YEAR TASKS 2021

Complete Saxton's development
Develop municipal parking lot at Saxton's site
Support development of 23 parcels adjacent to the Starkweather School property
Continue to administer the grant and the brownfield plan to support the Pulte project's completion
Finish Redevelopment Ready Community (RRC) certification by the end of 2021
Develop an annual training calendar for the Planning Commission, the Historic District Commission, the Zoning Board of Appeals and the DDA, and identify a funding source
Implement temporary plans to assist businesses in recovery efforts

GOAL IV - SERVICE AND INFRASTRUCTURE
OBJECTIVES
Support administration and staff by providing professional development opportunities, supplying resources, and maintaining a commitment to recruitment, retention, succession planning
Support and deliver safe and responsive emergency services
Maintain a sophisticated and responsive technology to communicate and manage data
Continually record, maintain, update, and improve City infrastructure

ONE-YEAR TASKS 2021

Explore enhanced pedestrian safety opportunities into targeted intersections
Research funding opportunities for ADA compliance at the PCC
Implement 2021 infrastructure program
Continue training for future career development and succession planning
Conduct a traffic study to determine whether to make additional streets one way
Update mapping resources including parcel data, completing 50% by the end of the year
Update/replace current technology to ensure compliance with new regulations, rules, and operating systems
Revisit paid parking

2021 Planning Commission Goals
Adopted January 13, 2021

1. Focus on education by scheduling four educational, working sessions on the following dates: February 24, March 24, October 27, and November 17.

2. Draft a Form Based Code test case.

3. Approve a mixed use, high density zoning ordinance.

4. Review existing ordinances for amendments related to residential building heights and habitable space within accessory buildings.

Plymouth Planning Commission
Regular Meeting Minutes
Wednesday, November 10, 2021 - 7:00 p.m.

City of Plymouth
201 S. Main
Plymouth, Michigan 48170-1637

www.plymouthmi.gov
Phone 734-453-1234
Fax 734-455-1892

Online Zoom Meeting

1. **CALL TO ORDER**
Chair Karen Sisolak called the meeting to order at 7:00 p.m.

Present: Chair Sisolak, Commissioners Shannon Adams, Joe Hawthorne, Tim Joy, Scott Silvers (arrived at 7:30) Hollie Saraswat and Eric Stalter

Also present: Community Development Director John Buzuvis and Planning Consultant Sally Elmiger.

2. **CITIZENS COMMENTS**
There were no citizen comments.

3. **APPROVAL OF MEETING MINUTES**
a. October 13, 2021 Meeting
Joy offered a motion, seconded by Hawthorne, to approve the minutes for the October 13, 2021 meeting.

There was a roll call vote.
Yes: Adams, Hawthorne, Joy, Saraswat, Sisolak, Stalter
MOTION PASSED 6-0

a. October 27, 2021 Meeting
Joy offered a motion, seconded by Stalter, to approve the minutes for the October 27, 2021 meeting.

There was a roll call vote.
Yes: Adams, Hawthorne, Joy, Saraswat, Sisolak, Stalter
MOTION PASSED 6-0

4. **APPROVAL OF THE AGENDA**
Joy offered a motion, seconded by Adams, to approve the agenda for November 10, 2021.

There was a roll call vote.
Yes: Adams, Hawthorne, Joy, Saraswat, Sisolak, Stalter
MOTION PASSED 6-0

5. **ELECTION OF VICE CHAIR**
Joy offered a motion, seconded by Saraswat, to table agenda item 5.

There was a roll call vote.
Yes: Adams, Hawthorne, Joy, Saraswat, Sisolak, Stalter
MOTION PASSED 6-0

6. COMMISSION COMMENTS

Saraswat said she was happy to see former Planning Commissioner Jennifer Kehoe sworn in as a City Commissioner.

Sisolak said she appreciated the accuracy of the meeting minutes.

7. OLD BUSINESS

a. SP21-07: 844 Penniman, Revised Special Land Use and Site Plan Review

Elmiger said she reviewed the revised application materials and found most revisions she requested at the last meeting had been addressed.

Citizen Comments

There were no citizen comments.

Commission Discussion

There was a discussion about lighting and the need to ensure that the lighting plan meet the City's ordinance. Elmiger also noted that the applicant would need written permission from the owner of the neighboring property to build a wall on their property.

Joy offered a motion, seconded by Adams, to approve SB21-07 with the following contingencies:

Contingencies

1. The photometric plan be presented to the City administration for their approval
2. Written permission be received from Westborn Market to build a wall on their property
3. The City approves any changes to the parking lot per the applicant's plan
4. Striping also must be approved by the City.

Silvers arrived at 7:30.

There was a roll call vote.
Yes: Adams, Hawthorne, Joy, Saraswat, Sisolak, Stalter
Abstain: Silvers
MOTION PASSED 6-0

8. ELECTION OF VICE CHAIR

Silvers offered a motion, seconded by Adams, to un-table item 5.

There was a roll call vote.
Yes: Adams, Hawthorne, Joy, Saraswat, Sisolak, Stalter
MOTION PASSED 6-0

Hawthorne nominated Silvers for the position of vice chair. Adams seconded the nomination. Sisolak asked three times if there were any other nominations. There were no other nominations.

There was a roll call vote.
Yes: Adams, Hawthorne, Joy, Saraswat, Silvers, Sisolak, Stalter
MOTION PASSED 7-0

Buzuvis said the December meeting would still be remote, but after that, meetings would most likely be in person.
Sisolak said she planned to attend the City Commission's strategic planning meeting on November 13, and she invited other Planning Commissioners to attend as well.

9. ADJOURNMENT

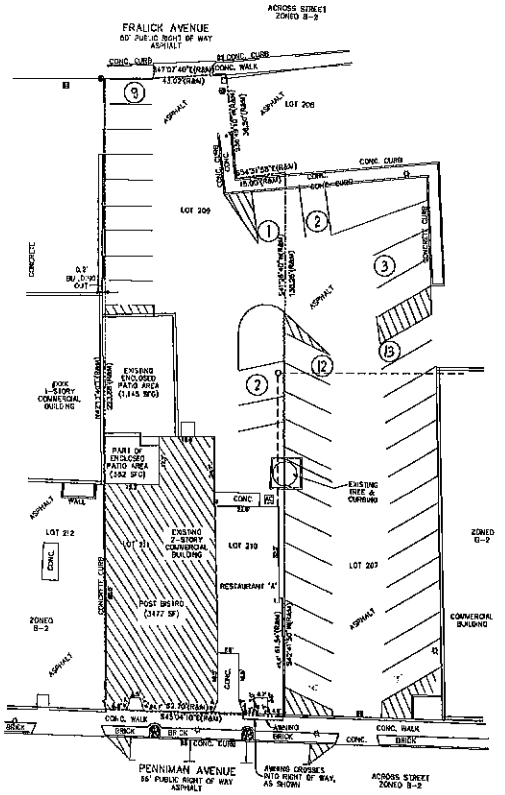
Joy offered a motion, seconded by Hawthorne, to adjourn the meeting at 7:38 p.m.

There was a roll call vote.
Yes: Adams, Hawthorne, Joy, Saraswat, Silvers, Sisolak, Stalter
MOTION PASSED 7-0

LEGAL DESCRIPTION

LAND SITUATED IN THE CITY OF PLYMOUTH, COUNTY OF WAYNE, STATE OF MICHIGAN IS DESCRIBED AS FOLLOWS:

LOTS 208 THROUGH 211 INCLUSIVE, ASSESSOR'S PLAT No. 8, AS RECORDED IN LIBER 64, PAGE 76 OF PLATS, WAYNE COUNTY RECORDS.



NORTH PLAN NORTH 1" = 20'-0"

EXISTING SITE PLAN -FOR REFERENCE

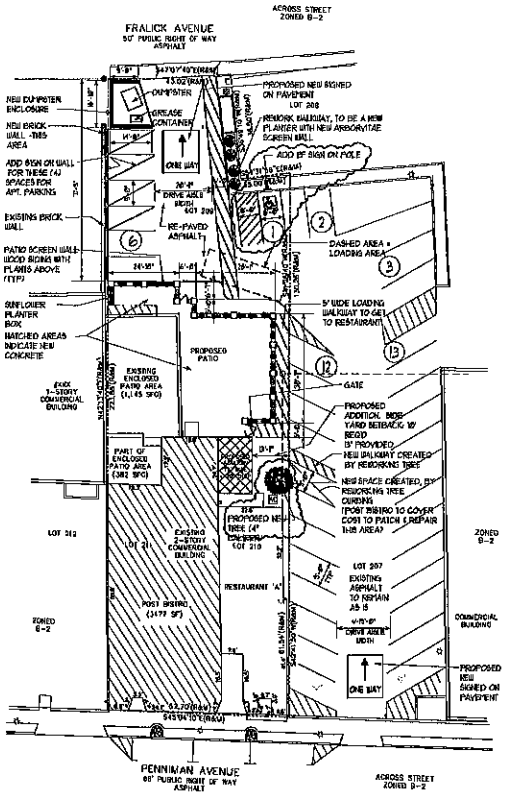
PROJECT DESCRIPTION

CURRENT TENT / PATIO AREA, TO BE REWORKED TO BE A SCREENED OFF OPEN PATIO AREA.

SITE PLAN -GENERAL NOTES:

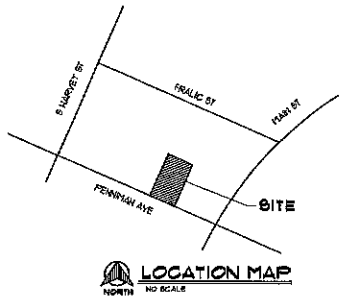
ZONED: B-2 CENTRAL BUSINESS DISTRICT

1. BUILDING SETBACKS: FRONT -0' REQUIRED
   REAR -0' REQUIRED
   EACH SIDE -0' REQUIRED
2. BUILDING HEIGHT: 40 FEET MAX. / 3 STORIES MAX.
   +/-23'-2" BUILDING HEIGHT PROVIDED
3. (1) LOADING SPACE REQUIRED PER ESTABLISHMENT.
   (1) LOADING SPACE PROVIDED



NORTH PLAN NORTH 1" = 20'-0"

PROPOSED SITE PLAN



NORTH NO SCALE

LOCATION MAP

LAND - BUILDING - PARKING DATA

LAND AREA +/-13,429 SQ. FT. GROSS = +/-.31 ACRES

BUILDING AREA

FOR POST BISTRO:

EXISTING RESTAURANT	= 3,477 SFG
EXISTING ENCLOSED PATIO	= 1,521 SFG
PROPOSED ADDITION	= 240 SFG
PROPOSED PATIO	= 1,711 SFG
POST BUILDING & PATIOS	= 6,961 SFG

FOR RESIDENTAL UNITS ABOVE POST BAR:

RESIDENCE A (1-BEDROOM)= +/-	974 SFG
RESIDENCE B (2-BEDROOM) +/-	1,251 SFG
TOTAL BUILDING AREA	= 9,186 SFG

PARKING DATA

PARKING REQUIRED
-PER SECTION 78-210 (1 SPACE / 250 SFG)

EXISTING RESTAURANT 3,477 SF /250 SF	= 15 SPACES
EXISTING ENCLOSED PATIO 1521 SF / 250 SF	= 6 SPACES
PROPOSED PATIO 1,711 SF /250 SF	= 0 SPACES
PROPOSED ADDITION 240 SF / 250 SF	= 1 SPACE
EXISTING RESIDENTIAL UNITS ABOVE RESTAURANT	
UNIT 'A' (1-BEDROOM)	= 2 SPACE
UNIT 'B' (2-BEDROOM)	= 2 SPACES
TOTAL SPACES REQUIRED	26 SPACES
EXISTING PARKING PROVIDED	= 7 SPACES
ADDED PARKING SPACE (ADJACENT TO NEW TREE)	= 1 SPACE
EXISTING PARKING CREDITS	= 61 SPACES
TOTAL SPACES PROVIDED	= 141 SPACES

LIST OF DRAWINGS

HDC-1	SITE PLAN
HDC-2	FLOOR PLAN
HDC-3	EXTERIOR ELEVATIONS
HDC-4	3-D RENDERINGS
HDC-5	3-D RENDERINGS

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ARCHITECT
No. 38328
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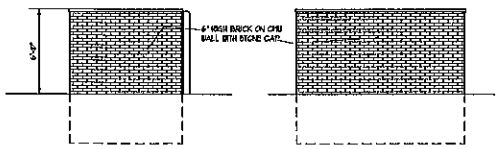
SHEET# HDC-1

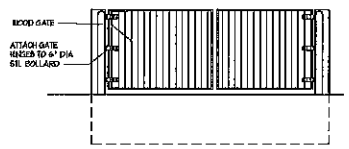
DATE: 15 OCT 21

JOB# 21041

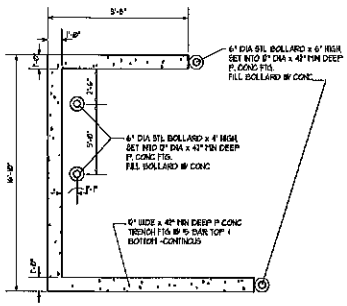


SIDE ELEVATION
1/4" = 1'-0"

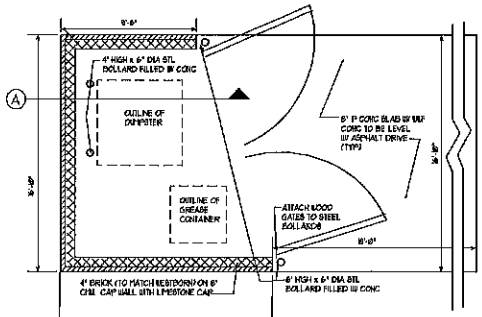
REAR ELEVATION
1/4" = 1'-0"



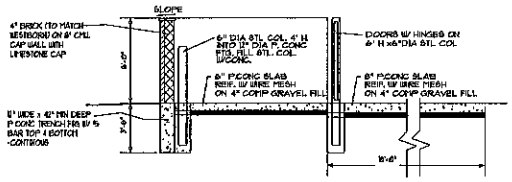
FRONT ELEVATION
1/4" = 1'-0"



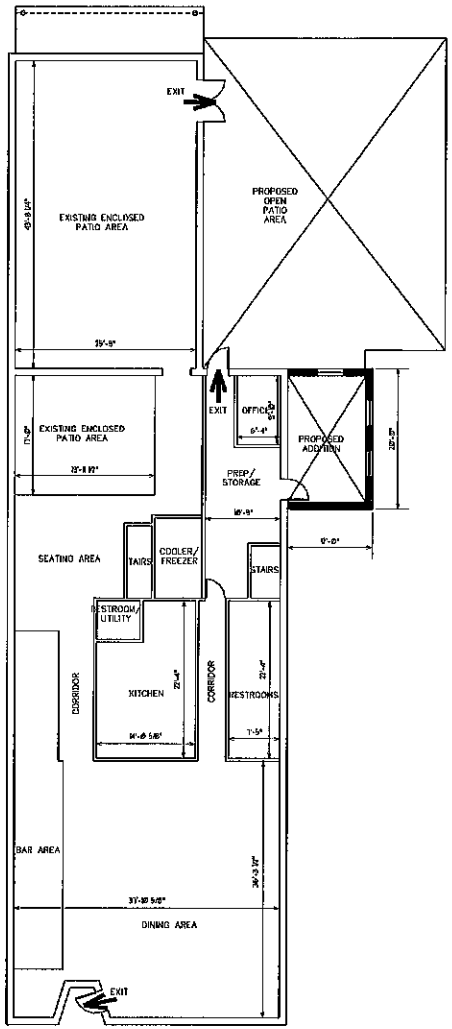
DUMPSTER FOUNDATION PLAN



DUMPSTER FLOOR PLAN



(A) DUMPSTER ENCLOSURE SECTION
1/4" = 1'-0"



NORTH PLAN NORTH

FLOOR PLAN
1/8" = 1'-0"

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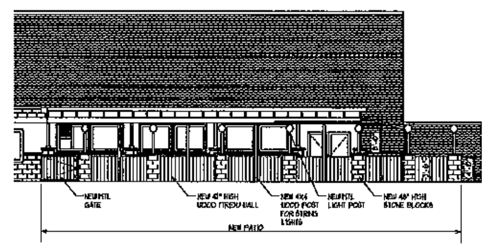
SHEET# HDC-2

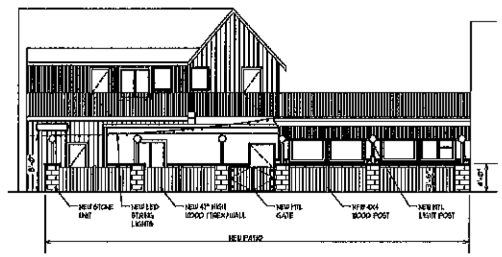
DATE: 15 OCT 21

JOB# 21041

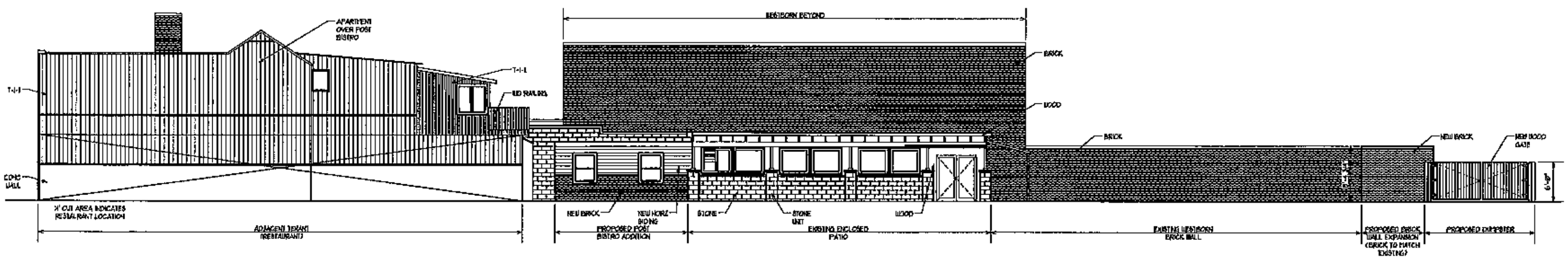
MATERIAL LIST FOR OPEN PATIO	MATERIAL LIST FOR BUILDING ADDITION
LOCATION: OPEN PATIO -COLUMNS MFGR: FENDT MATERIAL: OLD WORLD STONEGATE COLOR: OLD WALNUT BLEND	LOCATION: BUILDING ADDITION -BRICK MFGR: FENDT MATERIAL: OLD WORLD HOLLAND COLOR: OLD WALNUT BLEND
LOCATION: OPEN PATIO -SIDING MFGR: TREX MATERIAL: TREX ENHANCE -SQUARE EDGE COLOR: ROCKY HARBOR	LOCATION: BUILDING ADDITION -SIDING MFGR: JAMES HARDIE MATERIAL: HARDIE PLANK LAP SIDING COLOR: PAINT FINISH
LOCATION: OPEN PATIO -STRING LIGHTS MFGR: FEIT ELECTRIC MATERIAL: LED STRING LIGHTS COLOR:	LOCATION: BUILDING ADDITION -WINDOWS MFGR: ANDERSON MATERIAL: SINGLE HUNG WINDOWS COLOR: WHITE VINYL CLAD OUTSIDE / WOOD INSIDE -PAINTED
LOCATION: OPEN PATIO -COLUMN POST LIGHTS MFGR: LIMTOP LIGHTING MATERIAL: 14" DIA. ORB LIGHT COLOR: WHITE	
LOCATION: OPEN PATIO -CONCRETE FLOOR MFGR: COLORTOP MATERIAL: CONCRETE FLOOR COLOR: TBD	



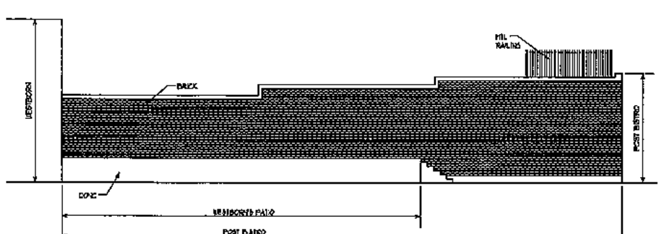
EAST PATIO ELEVATION



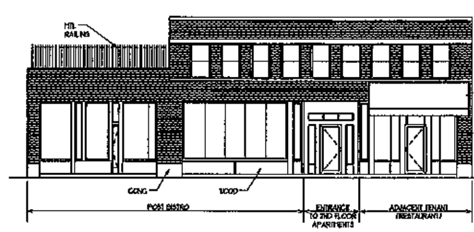
NORTH PATIO ELEVATION



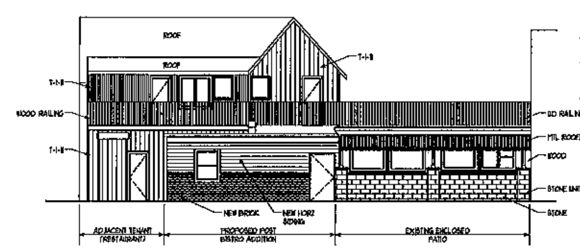
EAST ELEVATION (WITHOUT PATIO)



WEST ELEVATION



SOUTH ELEVATION



NORTH ELEVATION (WITHOUT PATIO)

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SHEET# HDC-3
DATE: 15 OCT 21
JOB# 21041

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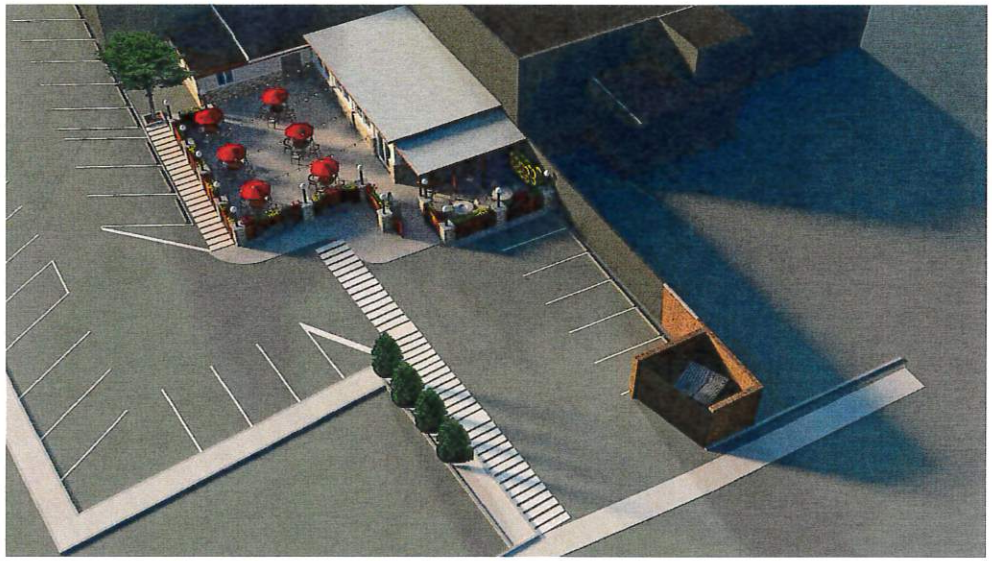
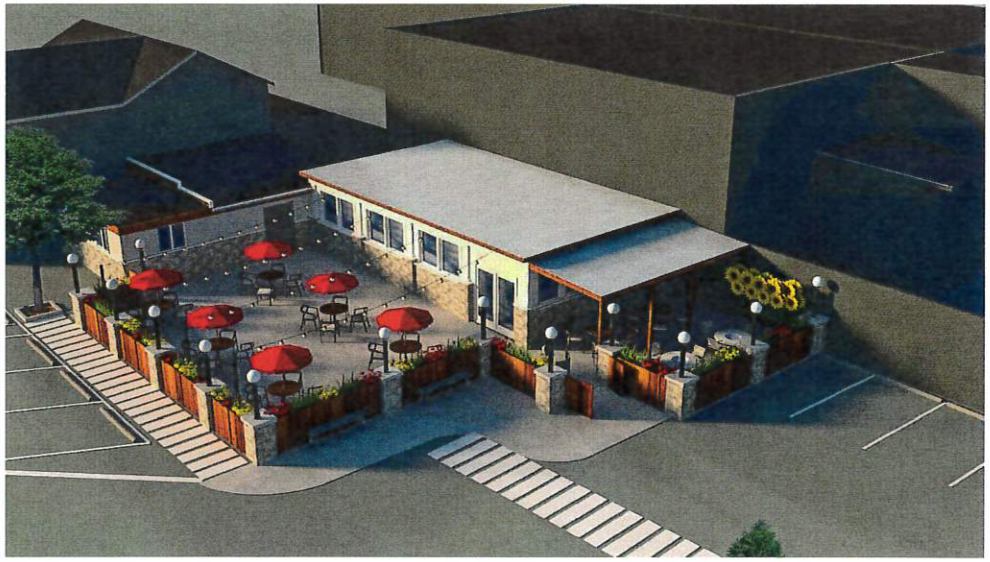


PERSPECTIVE #2
NO SCALE



PERSPECTIVE #1
NO SCALE

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SHEET# HDC-4

DATE: 15 OCT 21

JOB# 21041

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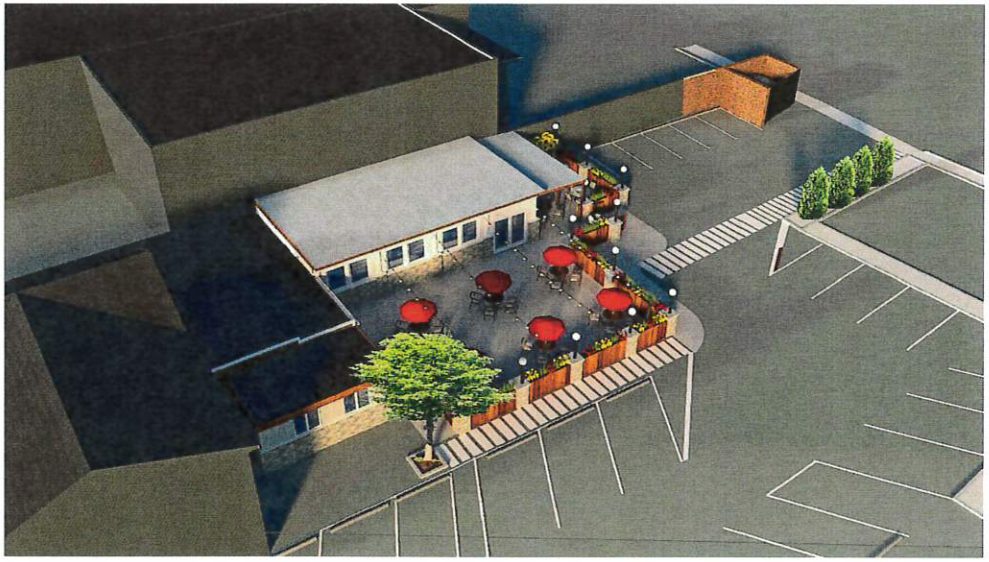
PERSPECTIVE #4
NO SCALE



PERSPECTIVE #3
NO SCALE

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STATE OF MICHIGAN
SCOTT MONCHNIK
ARCHITECT
No. 56329
LICENSED ARCHITECT

SHEET# HDC-5

DATE: 15 OCT 21

JOB# 21041

November 8, 2021

City Of Plymouth
Mr. John Buzuvis
Community Development Director
211 S Main St
Plymouth MI 48170

John,

In response to the Carlisle /Wortman report of November 4, we wish to address the remaining open items for the Planning Commission.

Obtain approval from Historic District Commission. Submit cut sheets for materials used on existing Enclosed Patio Area at next month's HDC meeting.

Planning Commission to consider deferring evaluation of the lighting to the Building Official; otherwise, applicant will need to return with a photometric plan and manufacturer cut sheets of proposed lighting. Lighting- String Lights are 72 bulbs at 1W, 13 lumens. Total 936. Pole Lights- 13 globe lights at 100W, 1300lumens. The cut manufacturer's cut sheets are attached.

Revise plans to show an 8-foot-wide barrier-free parking space aisle -Shown on revised plan from architect Scott Monchnik.

Plans to show replacement tree is at least 4" caliper in size. 2" caliper tree will be a 4" caliper tree-shown on revised plan from architect Scott Monchnik.

Plans to show installation of irrigation and at least 1-foot of appropriate planting medium in Arborvitae planter. The Post responsible for Arborvitae landscape area. Post will create a least 1 foot of new dirt for plantings and will hire a watering service. Post must keep them alive or replace.

Applicant to obtain permission from Westborn Market to extend the brick wall, as shown on the Site Plan. Wall to match Westborn wall. Dumpster enclosure to match Westborn wall and be big enough to house dumpster and grease trap. Attached letter shows Westborn's endorsement of project and submitted plans.

Respectfully submitted,

James R Dales
408 Inc, dba The Post Local Bistro
408 Plymouth Real Estate Properties, LLC

SPECIFICATIONS

- 48 Feet Long
- UL Wet Location
- Outdoor - Weatherproof
- Includes 25 Bulbs
- UL/CUL Listed
- Bulbs Spaced 2ft Apart
- Connect up to 45 String Lights
- Heavy-Duty 18/2 Cord
- Lasts 13 Years
- Shatter resistant LED Bulbs Included

1w Bulb 13.75 Lumens

Item Number	Total Length	Type of Cord Used	Input Line Voltage
SL48/182/FIL	48 feet	18/2 Cord	120
Types of Bulbs Included	**Bulb Spacing**	**Socket Number**	**Socket Size**
LED	2 Feet	24	E26

IMPORTANT SAFETY INSTRUCTIONS

When using electrical products, basic precautions should always be followed including the following:

a. READ AND FOLLOW ALL SAFETY INSTRUCTIONS

b. Connect this product to a Ground Fault Circuit Interrupting (GFCI) outlet. If one is not provided, contact a qualified electrician for proper installation.
c. Do not mount or place near gas or electric heaters, fireplace, candles, or other similar sources of heat.
d. Do not secure the wiring of the product with staples or nails, or place on sharp hooks or nails.
e. Install only using the mounting means provided.
f. Do not let lamps rest on the supply cord or on any wire.
g. Do not use this product for other than its intended use.
h. Do not hang ornaments or other objects from the cord, wire, or lamps.
i. Do not close doors or windows on the product or extension cords as this may damage the wire insulation.
j. Do not cover the product with cloth, paper or any material not part of the product when in use.
k. This product has a polarized plug (one blade is wider then the other) as a feature to reduce the risk of electric shock. This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, consult a qualified electrician. Do not use with an extension cord unless the plug can be fully inserted. Do not alter or replace the plug.
l. Keep lamps away from any combustible surface.
m. Read and follow all instructions that are on the product or provided with the product.

SAVE THESE INSTRUCTIONS

CAUTION:

1. To reduce the risk of fire use only type S, 1 Watt Max medium (E26) base lamp.
2. To avoid risk of shock, always make sure the product is unplugged from the electrical outlet before assembling, disassembling, installing, relocating, servicing or cleaning it.
3. Do not overload. This string light is rated for 24 Watts. Connect other string lights end-to-end for a maximum of 432 Watts total.
4. Do not use with extension cord near water or where water may accumulate. Keep at least 4.9 m / 16 ft from pools and spas. Keep plugs and receptacles dry. Do not submerse.

Model Number: SL48/182/FIL

Connecting Sets End-to-End.

When multiple products are connected together do not exceed the lowest of the indicated maximum wattage on the cord tag near the connected product's receptacle.

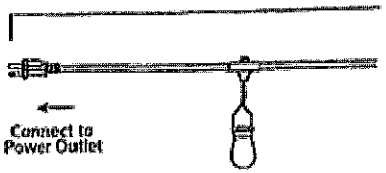
REPLACING LIGHT BULBS

WARNING – RISK OF ELECTRIC SHOCK!! Disconnect power at source prior to replacing light bulbs. For outdoor String Lights, do NOT replace light bulbs during rain or when wet.

1. Replace light bulbs only during dry and calm weather conditions.
2. Unscrew existing bulbs by lightly holding the socket in one hand and twisting the bulb counterclockwise. Bulbs may be tight in the sockets. This is normal to prevent moisture from getting into socket.
3. Replace with medium base light bulbs. Screw

INCLUDES 2 EXTRA BULBS.
BULBS LAST UP TO 15,000 HOURS.
WET LOCATION APPROVED.

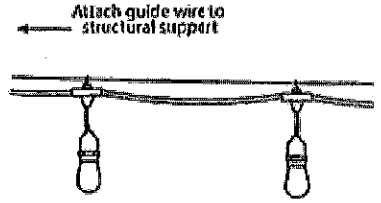
CONNECTING STRING LIGH



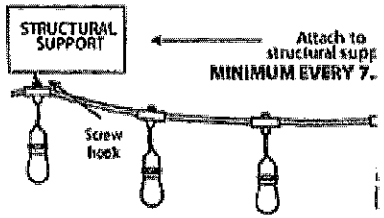
SCREW BULBS IN TIGHTLY. PLUG I
BULB DOES NOT LIGHT, TIGHTE

INSTALLATION METHODS

1. Using a guide wire with screw h



2. Attached to a structure



CONNECTING MULTIPLE

USING LED BULBS I

MAXIMUM WATTAGE	NUM
1 WATT	

CAUTION: DO NOT EXCI
WHEN USING INCLUDED LI

1STOPLIGHTING
The 1 Stop Shop for All Your Lighting Needs

8254-68 - One Light Outdoor in Traditional Style - 14 inches wide by 15 inches high by Sea Gull Lighting

Specs	
Width/Diameter (in):	14"
Height:	15"
All:	D:14" H:15"
Wire Length:	6.5"
# of Bulbs:	1
Standard Wattage:	~~450 Watts~~ 100 w 1300 lumens
Bulb Type:	1 medium 150w
Design Style:	Traditional

Style and Option 1	
Style:	White Plastic
Item #:	8254-68
Price:	~~Reg: $92.96~~ Save 15% $79.02 On Sale

UL LISTED LIFETIME WARRANTY SHIPS TO CANADA

LIGHTING

8101 - Outdoor Post in Traditional Style - 3 inches wide by 84 inches high by Sea Gull Lighting

Specs

Width/Diameter (in):	3.00"
Height:	84.00"

Style and Option 1

Style:	Black Finish
Item #:	8101-12
Price:	~~Reg. $139.96~~ Save 15% $118.97 On Sale

Style and Option 2

Style:	Antique Bronze Finish
Item #:	8101-71
Price:	~~Reg. $139.96~~ Save 15% $118.97 On Sale

From: Bryan Bandyk <BBandyk@westbornmarket.com>
Date: October 12, 2021 at 5:23:55 PM EDT
To: jen@postbistro.com
Subject: What I sent to Paul- Good Luck!

Paul-

Hope life is treating you well! Its been quite some time since our paths have crossed.

I'm just reaching out to you with a huge, "IN FAVOR OF" The Post Bar and their plan for expanding their outdoor patio. I think Jennifer runs a quality operation, has always been a friendly and supportive neighbor to our team and her business brings a lot of value to the entire business and residential community. She knows the value and bringing positive change to a community and I trust her to make good decisions for her business and our community. We wish her only the best.

Thank you for letting me express my support for their proposal. Jennifer shared with me the renderings of the proposed patio area and I feel it would enhance our entire downtown community. Success breeds success!

Kind Regards,

Bryan Bandyk
CEO
The Westborn Market Group
M: 248.330.4591
P: 248.547.1000
E: BBandyk@westbornmarket.com
W: www.westbornmarket.com/

Carlisle | Wortman
ASSOCIATES, INC.
117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: October 7, 2021
Rev.: November 30, 2021

Special Land Use and Site Plan Review For Plymouth, Michigan

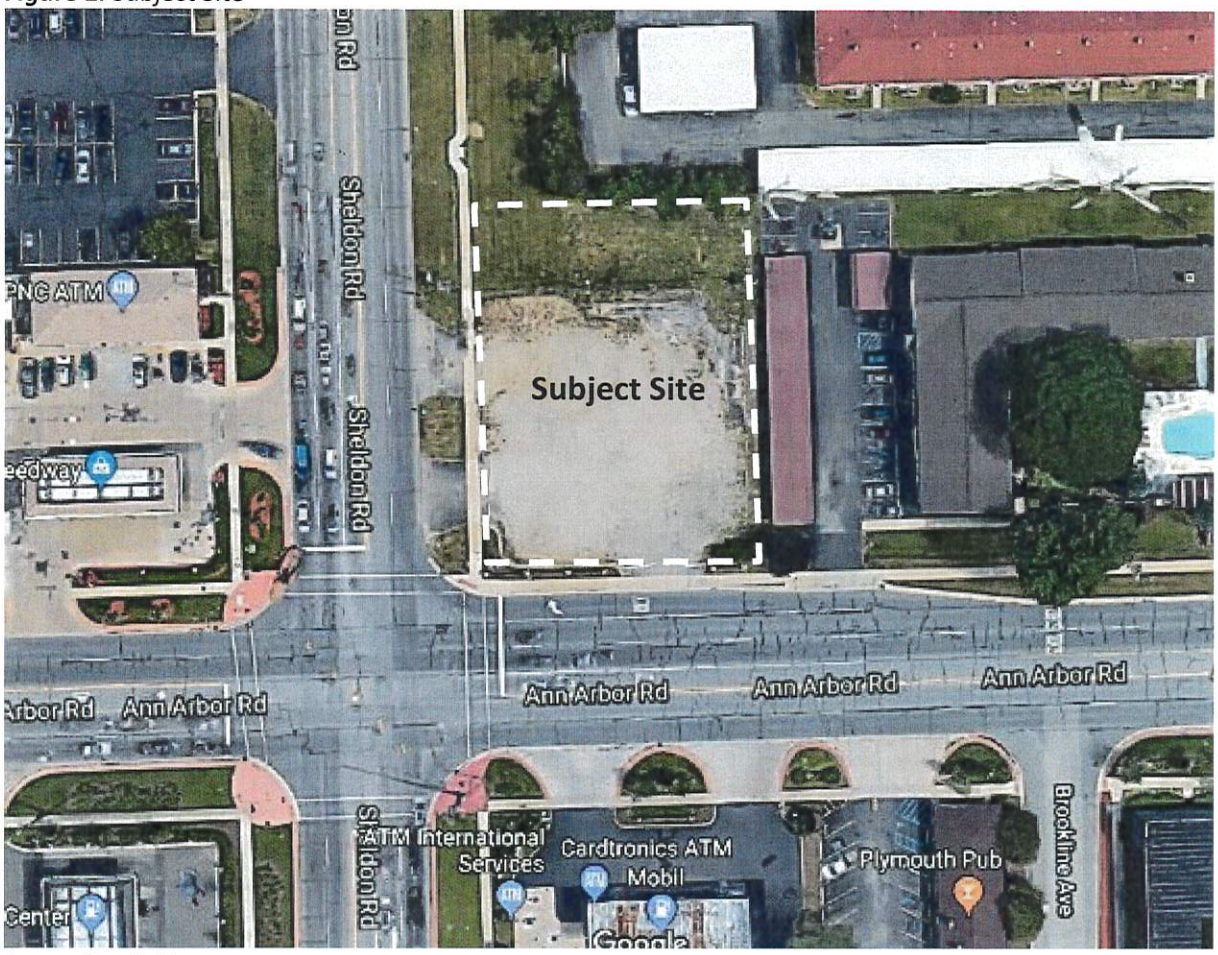
Applicant:	Bryan Bender Fortisnet Lease 30445 Northwestern Highway Farmington Hills, MI 48334
Project Name:	Scooter's Coffee Drive-Thru
Plan Date:	September 17, 2021
Latest Revision:	November 11, 2021
Location:	1490 W. Ann Arbor Road
Zoning:	ARC – Ann Arbor Road Corridor District
Action Requested:	Special Land Use and Site Plan Approval
Required Information:	Any deficiencies are noted in the report.

PROJECT AND SITE DESCRIPTION

The applicant is proposing to redevelop this property with a drive-thru only coffee business. The site will have vehicular access off of Ann Arbor Road and Sheldon Road, as well as a walk-up window and outdoor seating for pedestrians.

An aerial of the subject site is shown in **Figure 1** on the next page.

Figure 1. *Subject Site*



Source: Google Maps

The Planning Commission held a public hearing and discussed this project at the October 13, 2021 meeting. The Planning Commission moved to table the project, giving the applicant time to provide the following information and plan changes:

1. Traffic study regarding the project's impact on the traffic at the intersection of Sheldon and Ann Arbor Road.
2. Add a pedestrian walk-up window.

ANN ARBOR ROAD CORRIDOR DISTRICT

The Ann Arbor Road Corridor (ARC) District lists a drive-through restaurant as a Special Land Use, subject to specific standards as listed in the ordinance. The use will need to be evaluated against these standards after a public hearing.

The Planning Commission held a public hearing at the October 13, 2021 meeting. Comments provided included the opinion that the traffic impact of this use was underrepresented by the application, and that a drive-through only business was in conflict with the City's Master Plan.

Items to be Addressed: *Drive-through facilities evaluated as a "special" use in the ARC District.*

SPECIAL LAND USE STANDARDS

Section 78-281 requires that the Planning Commission/City Commission review proposed special uses in terms of the following standards (*in italics*). We have reviewed the revised proposal in light of each standard, and provided comments after each.

Special Land Use Standards:

1. *Will be harmonious and in accordance with the general objectives or any specific objectives of the City of Plymouth Master Plan.*

   CWA Comments: This property is designated in the Master Plan as "General Business–Retail/Service." The Master Plan provides a statement of intent of the General Business-Retail/Service future land use category:

   > *General Business-Retail/Service: [This district] is the broadest and most intensive commercial land use category. Areas designated as General Business-Retail/Service are located along main throughfares and are automobile dependent, benefiting from the exposure of high traffic volumes. While these uses are generally accessed by vehicle, pedestrian access across the site is desirable. Businesses include a wide range of retail and service establishments, including drive-through restaurants, auto-service establishments and commercial uses serving a regional clientele.*

   The planned land use of this parcel for serving motorists is consistent with the proposed drive-through restaurant. Regarding pedestrian access, public sidewalks border the site on the south and west sides. In addition, the proposal has been revised to include a walk-up window, and amenities for pedestrian customers including outdoor tables, a "waiting bench," and bicycle rack. We consider these changes to bring the project in line with this special land use standard.

2. *Will be designed, constructed, operated, and maintained so as to be harmonious and appropriate in appearance with the existing or intended character of the general vicinity and will not change the essential character of the area.*

   CWA Comments: The drive-through facilities will be visible from the Sheldon Road frontage and, to a lesser degree, the Ann Arbor Road frontage. Three trees, shrubs, and perennials will help to screen the drive-through lanes from Sheldon Road. In addition, a six-foot tall screen fence along the north side of the site, a six-foot tall masonry wall along a portion of the east side of the site, and shade trees along the both sides abutting multi-family uses will also help to screen the drive-through lanes from the apartments/condominiums.

The building elevations have been modified to incorporate a stone and brick veneer, rather than Hardie Plank paneling and siding as previously shown. The shape of the building has not changed. The ARC District has guidelines for building design specified in Section 78-161(d)(1)(f). It calls for the use of brick, stone, black wrought iron accents, peaked roof elements, building architectural detail to enhance door and window openings, and other elements approved by the Planning Commission. It also calls for a façade adjacent to property zoned or used as residential to be designed, treated, and finished in a uniform manner consistent with the exterior of the front of the building.

The modifications to the materials are positive changes; however, in our opinion, it still looks like a "corporate design," which uses the building design as an identification for a specific business. The idea in the ARC District guidelines is that buildings have a more "universal" design. One small change could be the dark brick. The plans state that the proposed brick color is "manganese brown;" however, the renderings appear to show a black brick. If the brick color were lighter, this may make the building appear more like a universal design. The Planning Commission should discuss this idea, and others, with the applicant. As provided in our previous review, the photo below shows a building that, in our opinion, is more consistent with the ARC District guidelines:

3. *Will not be hazardous or disturbing to existing or future nearby uses.*

CWA Comments: This property abuts a multi-family residential development to the north, and east. Carports for these residential developments are directly adjacent to this site. In addition, a six-foot tall fence is proposed along the northern boundary, a six-foot tall masonry wall is proposed along a portion of the east boundary, and shade trees are proposed on the north and east boundaries of this site, screening it from the multi-family residential uses.

Note that the wood fence is not consistent with the Ann Arbor Road Corridor Design Standards, which calls for a masonry wall. This is noted in the Landscaping section of this review for additional discussion. While we think a masonry wall will better block noise from the two ordering stations, the wood fence may be adequate. Note that Sec. 78-161(c)(25) requires that the drive-through

service speaker location and/or amplification shall not cause noise that is audible from adjacent residences. If the City receives noise complaints in the future, modifications to the site may be necessary.

Our previous review asked for the hours of operation. The applicant states they will be 6am – 6pm daily. Given these hours, we imagine that the most activity at this site will be in the morning and afternoon, diminishing toward the end of the day. In our view, these hours will be less disturbing than if the business operated into the evening hours.

In our previous review, the applicant was asked to provide the number of vehicles anticipated during different periods of the day (for example, during the morning rush and evenings.) The submitted traffic study states that the morning peak hour will have 86 trips in the morning peak hour (43 inbound; 43 outbound), and 22 trips in the afternoon peak hour (11 inbound; 11 outbound). We would also ask if the week-end peak hours are typically more or less than these figures.

A lighting photometric plan has been submitted. This plan provides information about the light intensity and fixture height, but it does not provide information about the proposed fixtures themselves. Information showing that the proposed fixture meets the following standards needs to be provided:

1. Fixture is downward facing.
2. Fixture has full cut-off shades.
3. Light source is not directly visible from adjoining properties.
4. Light is directed away from adjoining properties.

Sec. 78-204 permits maximum light fixture height at 25-feet or the height of the building, whichever is less. The proposed pole-mounted parking lot fixtures are 25-feet tall. However, the height of the building is 18.25 feet; therefore, the fixture height needs to be lowered to this height.

Regarding illumination levels, the ordinance permits lighting for uses adjacent to residential properties to not exceed 0.1 foot-candles along property lines. Proposed light levels along the north and east property lines exceed the allowed maximum. The minimum illumination level, and the average illumination level meet ordinance requirements.

Lastly, Sec. 78-163(b)(4) requires that exterior lighting shall be turned off no later than one-half hour after the closing of business transacting hours.

4. *Will be compatible with adjacent uses of land and will promote the use of land in a socially and economically desirable manner.*

CWA Comments: We consider a drive-through restaurant to be compatible with the commercial nature of this corridor. Regarding the residential neighbors, compatibility will be dependent on whether the site design mitigates the activity, noise, and light generated by the business.
As mentioned above, the plans propose a masonry wall along the eastern boundary, and a wood fence along the north portion of the eastern boundary, and the entire northern boundary. The

Planning Commission should determine if the wood fence will perform as an adequate screen. In our opinion, we consider a wood fence adequate since the residential uses on the north side of the site are far from this property, the fence is located in the DTE utility easement, and on the east side of the dumpster screen which will provide additional buffering. We also consider it appropriate to have a masonry wall on the east property line, given the closer location of the multi-family building to this site.

The low number of visitors per day, and the proposed hours of operation during the morning and afternoon only, should, in our opinion, help to minimize impacts to the neighbors. Changes to the lighting information described above should also help to minimize lighting impacts to the neighbors.

5. *Will be served adequately by essential public services and facilities or that the persons responsible for the establishment of the proposed use will provide adequately any such service or facility.*

   CWA Comments: This site is served by City water and sewer. Other essential services are also available at the site, including a proposed underground stormwater detention system. The City Engineer will review all utilities to ensure they are adequate for the proposed use.

6. *Will not create excessive additional public costs and will not significantly decrease property values of surrounding properties.*

   CWA Comments: We don't expect the proposed use to generate excessive additional public costs or significantly decrease property values of surrounding properties.

7. *Will meet all the requirements and standards of this chapter and any other applicable laws, standards, ordinances, and/or regulations.*

   CWA Comments: How the proposal meets the zoning ordinance requirements is outlined in the remainder of this review.

In summary, we recommend the Planning Commission and applicant discuss:

a. The possibility of a more universal building design by lightening the brick color, as one suggestion.
b. Applicant to provide approximate number of visitors during the week-ends, as compared to week-day information cited in the traffic study.
c. Applicant to provide requested light fixture information; lower fixture height to height of building; and lower light levels along north and east property lines.
d. Planning Commission determination if wood fence is adequate screen along north and north east corner of site.

Once these issues are addressed to the satisfaction of the Planning Commission, we would consider the special land use standards met.

Items to be Addressed: *1. Universal building design. 2. Anticipated number of visitors on the week-ends (vs. week-day). 3. Light fixture information; pole-mounted fixture height; and light levels along north and east property lines. 4. Planning Commission to determine if wood fence along north and northeast corner of site provides adequate screening.*

AREA, WIDTH, HEIGHT, SETBACKS

The site plan must meet the minimum standards for the ARC District, as stated in Section 78-162 and summarized in **Table 1** below:

Table 1. *ARC Schedule of Regulations Summary*

	Required	Provided
Lot Area	NA	.589 ac.
Lot Width	NA	133 ft. (Ann Arbor Road) 193 ft. (Sheldon Road)
Lot Coverage	NA	2.6%
Setbacks		
Front	10 ft.*	51 ft. (Ann Arbor Road) 37 ft. (Sheldon Road)
Side		
Minimum	20 ft.**	87 ft.
Total of Two	20 ft.	NA
Rear	20 ft.	78 ft.
Building Height	30 ft. / 2 stories	18.25 ft. (top of parapet)/ 1 story

* When parking is furnished between the building and the street, a front yard of not less than 75 feet shall be provided. There is no parking proposed in either front yard.
**When a side yard is adjacent to a residential use, a side yard of not less than twenty (20) feet shall be provided.

All dimensional standards outlined in the ARC district are met.

Items to be Addressed: *None.*

PARKING, LOADING

Section 78-163 lists parking requirements for the ARC District. Parking space requirements are summarized in **Table 2** below.

Table 2. *ARC Parking Requirements*

ARC DISTRICT	REQUIRED	PROVIDED
Drive-Through Restaurant	5 stacking spaces per window 1 window = **5 spaces**	5 spaces (See Below)
Barrier-Free	**1 space**	1 space (included in 5 spaces)

In addition, the standards for drive-through lanes specifically state that these lanes shall accommodate the minimum number of stacking spaces required under Section 78-163(a)(11). The plans show the required number of stacking spaces, and the spaces meet the minimum dimensions.

The employee parking spaces are 9-feet wide by 20-feet long, meeting the ordinance requirement.

The width of the parking lot maneuvering lane adjacent to the angled spaces is 17 feet, which meets ordinance requirements. The width of the one-way maneuvering lanes on the west side of the site is 14-feet, which also meets requirements.

A parking lot with 5 parking spaces is required to have one (1) barrier-free space. The plans show one (1) barrier-free space on the side of the building. The size of the barrier-free space meets the ordinance requirement. See our comments under Site Access and Circulation regarding barrier-free access into the building.

Loading/Unloading
Due to the small size of the building, no loading/unloading space is required. See our comments under Site Access and Circulation regarding delivery trucks and trash haulers.

Items to be Addressed: *None.*

SITE ACCESS AND CIRCULATION

Section 78-164 outlines access management and driveway standards for the ARC District. Note that the Planning Commission may modify these standards to permit reasonable access to the site. However, all work within the Ann Arbor Road right-of-way will require a permit from the Michigan Department of Transportation (MDOT), and all work within the Sheldon Road right-of-way will require a permit from the Wayne County Road Commission (WCRC). The applicant should describe any recent communications with these agencies.

The ordinance has specific standards for driveway number, location, and spacing, as follows:

- Number of Driveways. Each site is permitted one (1) driveway. The site plan shows a driveway on Ann Arbor Road and Sheldon Road. We consider a driveway on each street reasonable. This configuration also permits users to easily exit the site.
- Location of Driveways. The location of a driveway must be at least 250 feet from the Ann Arbor Road/Sheldon Road intersection. The driveway on Sheldon Road is approximately 135-feet from the intersection, and the driveway on Ann Arbor Road is approximately 90-feet from the intersection. However, both driveways are located further from the intersection than the existing driveways, and it is not physically possible to provide the spacing from the intersection called for in the ordinance.
- Spacing of Driveways. Spacing between driveways along Ann Arbor Road must be at least 300 feet. The driveway on Ann Arbor Road has been moved further from the intersection to the east. However, this means it is now closer to the multi-family residential driveway next door (or approximately 40-feet between driveways). We would defer evaluation of the driveway locations to the City Engineer.
- Boulevard Entrance. The ordinance also has standards when a boulevard entrance is proposed. It states that the minimum size of the island is 180 square feet, and 10-feet wide. A boulevard entrance is proposed on Ann Arbor Road; it has been increased in size and we estimate that it meets the minimum standards.

Regarding traffic circulation on site, both driveway entrances direct cars into a one-way pattern around the site. As described further below, the maneuvering lanes are properly sized to accommodate the intended traffic and we think vehicles will be able to traverse the site successfully. We consider the extensive use of pavement markings and directional signage positive.

Our comments above note that no loading/unloading zone is required given the small size of the building. However, the plans should illustrate how a delivery truck will traverse the site, where it will park, and what type of truck will be used for regular deliveries.

In addition, the standards for drive-through lanes specifically state that adequate maneuvering room shall be provided to allow vehicles to by-pass or leave the stacking lane as determined by the Planning Commission. Most stacking spaces have an escape route in case someone wants to leave the queue, except for the three spaces closest to the north side of the building. We don't consider this an issue, but the Planning Commission will need to determine if this situation creates a safety hazard.

Regarding pedestrian circulation, the site plan shows a sidewalk connection between the public walk along Ann Arbor Road to the sidewalk adjacent to the building. This walk should include ramps as it crosses the interior maneuvering lane. The pavement around the building has been expanded to provide space for pedestrians standing at the walk-up window, and table/seating. A ramp access is also provided from the barrier-free space on the east side of the site so that a person can cross the maneuvering lane and access the walk-up window if so desired.

Items to be Addressed: *1. Provide any recent communication with MDOT and WCRC regarding proposed driveway design and location. 2. City Engineer to evaluate location of driveway on Ann Arbor Road in relation to the multi-family residential driveway to the east. 3. Illustrate how a delivery truck will traverse the site, where it will park, and what type of truck will be used for regular deliveries. 4. Planning*

Commission to consider lack of escape route for three staking spaces closest to the north side of the building. 5. Add ramps to sidewalk that leads from Ann Arbor Road sidewalk to the walk-up window.

UTILITIES

The building elevations state that plans mechanical equipment will be mounted on the roof. Screening of this equipment must be provided, and shown on the elevations.

The proposed parking lot design places an underground stormwater detention system in the northern portion of the site. We defer evaluation of this system to the City Engineer, as well as connection to other utility systems.

Items to be Addressed: *1. Show screening of roof-mounted mechanical equipment on building elevations. 2. Defer evaluation of connection to utilities, and proposed stormwater management, to City Engineer.*

LANDSCAPING AND SCREENING

The applicant has provided a landscape plan and landscaping details. Section 78-165, 78-166, and 78-167 provide standards for landscaping in the ARC District. Note that the Planning Commission has the ability to approve alternatives it deems necessary to accommodate peculiar circumstances or unforeseen problems, or to carry out the spirit, intent and purposes of these requirements.

Landscaping Standards: The following were listed in our previous review to be added/modified on the Landscape Plan. We have provided additional information in italics:

- Sheet L1.01 Add note to plans that an irrigation system supplying water to turf, and all plant material shall be provided, including the areas in the road right-of-way. *Provided on revised plans.*
- Sheet L1.01, Note #3 should specify 4" of top soil for all lawn, groundcover and planting beds. *Provided on revised plans.*
- Sheet L1.01. Landscape maintenance procedures need to be specified on this sheet. *Provided on revised plans.*
- Sheet L2.01. Section 78-171 ("Ann Arbor Road Standard Design Details"). The designer has created their own detail for the aluminum fence/masonry pier to add structural details. However, some manufacturer information is missing that is on the standard detail. The details on the plans should include all information on the standard details. Also, a note should be added that states: "The streetscape elements shall be consistent with the standards and requirements of the Ann Arbor Road Streetscape Prototype, "Ann Arbor Road Standard Design Details," dated October 16, 2003, illustrated in Section 78-171 of the City of Plymouth Zoning Ordinance." *The details have been modified to incorporate all of the*

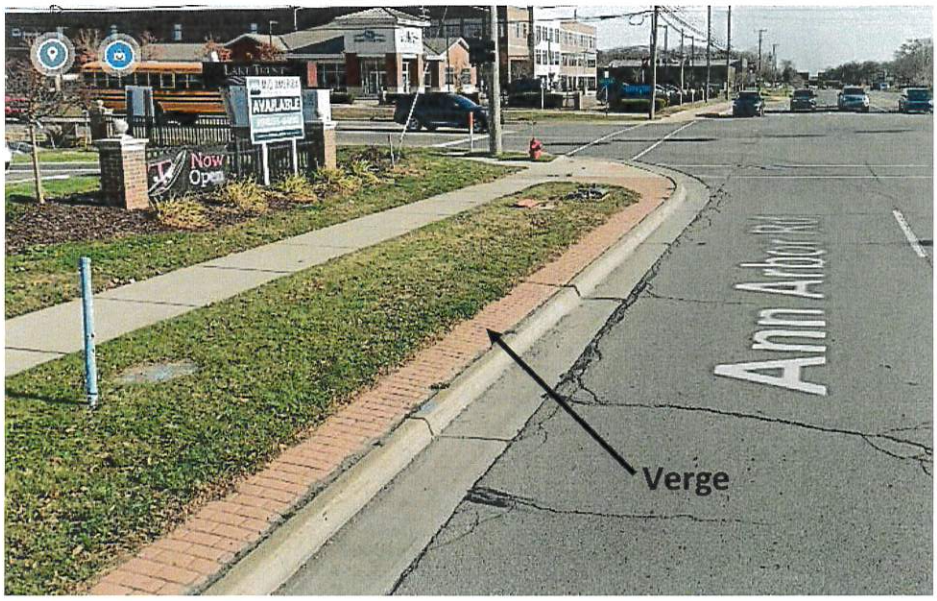
information. Note a typo on Detail #6: U-Channel Railing should be 0.100 thickness, and not 0.0100.

- Sheet L2.01. Tree and shrub planting details should specify 4-inches hardwood shredded bark mulch. *The tree detail was revised; however, the shrub detail needs to be revised with 4-inches of mulch.*
- Sheet L2.01. Add tree protection detail to this sheet. Also, a symbol showing tree protection techniques shown around all trees to remain needs to be added on the Demolition Plan (Sheet C1.01), including the existing tree in the Sheldon Road right-of-way (just outside northwest corner of project site). *Sheet C1.01 only shows silt fence adjacent to the trees to remain along the north property line. The tree protection symbol needs to be added to this sheet (in addition to silt fence), and around the existing tree in the Sheldon Rd. right-of-way.*

ARC Streetscape Requirements

The ARC district requires the following streetscape elements along all street frontages within the district, per the details provided in Section 78-171: Colored/stamped concrete/brick verge along roadway curb, street trees, perennials, shrubs, decorative fencing with brick piers and sidewalk.

Ann Arbor Road. All of these elements are proposed along the Ann Arbor Road frontage except for the color/stamped concrete/brick verge. The verge was not added along the Ann Arbor Road frontage on the revised plans, most likely because the existing sidewalk goes all the way to the curb. The Planning Commission has the ability to approve alternatives to accommodate peculiar circumstances (Sec. 78-167(b)(4)). An illustration of an existing verge (at Ann Arbor Road and Mill St.) is provided below:



Sheldon Road. All of these elements are proposed along the Sheldon Road frontage. The verge along the Sheldon Road frontage has been added to the plans.

Screening Site From Residences

The ordinance requires a solid wall to screen the site from the adjacent multi-family residential uses. The plans are proposing a masonry wall along the eastern boundary, up to about 10-feet south of the existing overhead utility pole. Then, the screen changes to a wood fence going north, and along the entire northern property line. The Planning Commission has the ability to modify the wall requirement to address unusual circumstances. As requested, a detail of the masonry wall has been added to the plans.

This section also requires that a planting strip, six (6) to eight (8) feet wide, shall abut the base of the wall on the interior side of the wall, with trees planted at 35-feet on-center. The planting area shown between the proposed fence/wall and parking lot is 6 to 12-feet wide.

Utility Screening

The ordinance requires utility structures to be screened from view. The building elevations indicate that the mechanical equipment will be located on the roof. This equipment needs to be screened; the proposed screening should be shown on the elevations.

Screening Parking Lot From Roadways

The ordinance allows for several options to screen the vehicle use areas and parking lots from the road.

Ann Arbor Road. The plans show a 17-foot wide landscape strip planted with trees and shrubs, and the brick pier fence along this road frontage.

The applicant is applying the option that requires a 10-foot wide buffer area, one (1) deciduous shade tree for every 40-feet of street frontage, and ten (10) shrubs for every 30-feet of street frontage. The parcel is 133-feet wide, requiring 3 trees and 44 shrubs. The proposed number and sizes of the plant material meet ordinance requirements.

Sheldon Road. The plans show a 10-foot wide landscape buffer along this road frontage. The ordinance requires 4 trees and 65 shrubs along this 193-foot frontage. The proposed number and sizes of plant material meet ordinance requirements.

The suggested alternative plant species have been included into the plans.

Interior Parking Lot Landscaping

Section 78-168 states that off-street parking areas shall include interior landscaping if the lot contains at least 25 spaces. Since this lot only contains 5 spaces, these requirements do not apply.

Other Details

A dumpster screen that completely screens this area from view of the street is required, and shall be done in a manner acceptable to the Planning Commission. A detail of the proposed dumpster has been added to the plans on Sheet A6.1.

The proposed landscaping is outside of the required corner clearance area.

Items to be Addressed: *1. Typo on Detail #6; shrub detail correction. 2. Add Tree Protection Fence symbol around all trees to remain on the Demolition Plan (Sheet C1.01) (in addition to silt fence), including the existing tree in the Sheldon Road right-of-way (just outside northwest corner of project site). 3. Planning Commission to determine necessity of stamped concrete verge along Ann Arbor Road on site plan (Sheet C2.01). 4. Planning Commission to determine if wood screen fence along north boundary and northeast corner of site is acceptable. 5. Show roof-top mechanical equipment screening on building elevations. 6. Planning Commission to determine if dumpster screen detail is acceptable.*

LIGHTING

A lighting photometric plan has been submitted. This plan provides information about the light intensity and fixture height, but it does not provide information about the proposed fixtures themselves. Information showing that the proposed fixture meets the following standards needs to be provided:

1. Fixture is downward facing.
2. Fixture has full cut-off shades.
3. Light source is not directly visible from adjoining properties.
4. Light is directed away from adjoining properties.

Sec. 78-204 permits maximum light fixture height at 25-feet or the height of the building, whichever is less. The proposed pole-mounted parking lot fixtures are 25-feet tall. However, the height of the building is 18.25 feet; therefore, the fixture height needs to be lowered to this height.

Regarding illumination levels, the ordinance permits lighting for uses adjacent to residential properties to not exceed 0.1 foot-candles along property lines. Proposed light levels along the north and east property lines exceed the allowed maximum. The minimum illumination level, and the average illumination level meet ordinance requirements.

Lastly, Sec. 78-163(b)(4) requires that exterior lighting shall be turned off no later than one-half hour after the closing of business transacting hours.

Items to be Addressed: *1. Light fixture information. 2. Pole-mounted fixture height. 3. Light levels along north and east property lines.*

SIGNS

Wall Signs
The building elevations show a wall sign on three elevations. The plans note "Signage by others," and don't show the proposed signage on the southern elevation.

In the ARC District, the number of wall signs are limited by the number of separate public means of ingress/egress. This building has one private means of ingress/egress, but no "public" means. We would consider the one access door to meet the intent for determining number of wall signs. With one means of ingress/egress, one (1) wall sign is permitted. The maximum size of the sign is calculated using the "sign-able area" on the building, which is defined as the area around the access door (see illustration). The maximum sign area permitted is 42 square feet.

The plans show three (3) wall signs (or area devoted to a wall sign) on the building. This exceeds the number permitted. The size of one of the signs on the east and west facades is 42 square feet. The Planning Commission may modify the sign requirements if the modification is appropriate. The Planning Commission shall consider the following to make this decision:

1. Topographic features or other unique features o the site that create conditions under which strict application of the sign regulations would be impractical or infeasible.

2. Vehicular circulation, site access, and motorist visibility as related to sign placement and traffic safety.

3. Impact of proposed modifications on surrounding properties.

4. The extent to which the public benefit intended by the sign regulations could be better achieved with a sign that varies from the requirements specified herein.

Ground Sign
The proposed ground sign has been eliminated and replaced with a "directional" sign. No information has been provided about this sign, so we cannot provide any comments. Details of the directional sign need to be provided.

Items to be Addressed: *1. Planning Commission to consider more wall signs than permitted by the ARC District. 2. Detail of wall sign proposed for southern façade. 3. Directional sign details provided in plan set.*

FLOOR PLAN AND ELEVATIONS

See our comments regarding building architecture above, under the Special Land Use discussion.

Items to be Addressed: *None.*

RECOMMENDATIONS

The applicant has responded to the Planning Commission's request that a walk-up window, and pedestrian amenities be provided at this site. We consider the drive-through facilities to meet the standards for Special Land Use, as long as the site design issues are either deemed acceptable by the Planning Commission, or modified on the site plan. The comments in this review have been categorized by the entity that should respond to the comment:

A. **Planning Commission:**
   1. Consider universal building design.
   2. Determine if wood fence (vs. masonry wall) along north and northeast corner of site provides adequate screening.
   3. Consider lack of escape route for three staking spaces closest to the north side of the building.
   4. Determine necessity of stamped concrete verge along Ann Arbor Road (Sheet C2.01).
   5. Determine if dumpster screen detail is acceptable.
   6. Consider more wall signs than permitted by the ARC District.

B. **Applicant:**
   1. Provide anticipated number of visitors on the week-ends (vs. week-day).
   2. Provide any recent communication with MDOT and WCRC regarding proposed driveway design and location.
   3. Illustrate how a delivery truck will traverse the site, where it will park, and what type of truck will be used for regular deliveries.
   4. Add ramps to sidewalk that leads from Ann Arbor Road sidewalk to the walk-up window.
   5. Show screening of roof-mounted mechanical equipment on building elevations.
   6. Correct typo on Detail #6; shrub detail correction.
   7. Add Tree Protection Fence symbol around all trees to remain on the Demolition Plan (Sheet C1.01) (in addition to silt fence), including the existing tree in the Sheldon Road right-of-way (just outside northwest corner of project site).
   8. Provide light fixture information.
   9. Lower pole-mounted fixture height.
   10. Lower light levels along north and east property lines.
   11. Provide detail of wall sign proposed for southern façade and directional sign along Ann Arbor Road.

C. **City Engineer:**
   1. City Engineer to evaluate location of driveway on Ann Arbor Road in relation to the multi-family residential driveway to the east.
   2. Defer evaluation of connection to utilities, and proposed stormwater management, to City Engineer.

Sally M. Elmiger

CARLISLE/WORTMAN ASSOC., INC.
Sally M. Elmiger, AICP, LEED AP
Principal

152-2102

cc: John Buzuvis
Marleta Barr
Bryan Bender (Bbender@fortisnetlease.com)
Progressive AE (manionj@progressiveae.com)

Special Land Use & Site Plan Review Submittal

November 12, 2021

Re: Scooter's Coffee Drive-Thru – 1490 W. Ann Arbor Rd

To: Sally M. Elmiger, AICP, LLED AP (Carlisle Wortman Assoc., Inc.)

John Buzuvis, The City of Plymouth

Dear Sally and John,

I want to thank you again for the opportunity to re-submit for Special Land Use & Site Plan Review the site at 1490 W. Ann Arbor Rd. We have revised the site plan and building design based on your review comments and feedback from the Planning Commission.

Following the initial Planning Commission meeting, we reviewed both the "Ann Arbor Road Corridor Sub Area Plan" and the City of Plymouth's "Master Plan" to ensure our proposed development meets both the spirit and specific guidance of these documents. The "Ann Arbor Road Corridor Sub Area Plan" states that this corridor is characterized by retail and service businesses that are best accessed by automobile, given that this is an auto-centric commercial thoroughfare. The City of Plymouth's "Master Plan" designates this property as General Business – Retail/Service, which additionally characterizes this site as being an auto dependent main thoroughfare where the businesses benefit from the exposure of high traffic volumes. We feel that our proposed use, and site plan fit in to this category as described by the City and will bring great value to the City of Plymouth. This site is at the intersection of two busy roads, each that come with their own specific governmental regulations, with Ann Arbor Road being an MDOT roadway, and Sheldon being a Wayne County roadway. The site's characteristics (both traffic and regulations) are an existing condition regardless of what development happens here, but we feel our proposal is very beneficial to all stakeholders.

We learned a lot from the first Planning Commission meeting in terms of what the Planning Commission desires in the development of this site. As the changes to our plan listed below shows, we really took these comments to heart. We fully understand the desire and need for this development to be community oriented in terms of the service we offer and the walkability of the proposed improvements. While the community aspect was always in our thoughts, we have made changes to show that this is a top Priority. Below are the main additions or revisions to this submittal:

1. Per the Commission's request we performed a Traffic Impact Study on this site which we have provided within our submittal. The conclusions of such are as follows "Based on the analyses performed as part for this study, the proposed coffee shop will have little to no impact to the surrounding roadway network."

2. We added a Walk-Up window to our design to allow for pedestrian traffic customers, given the proximity to residential neighborhoods. This will help meet the land use goal listed in the "Ann

Arbor Road Corridor Sub Area Plan" that states, "Land uses that promote pedestrian movement and accommodation are encouraged."

3. We added three (3) Seating Tables, a waiting Bench, and a three (3) rung Bike Stand to accommodate such pedestrian patrons.

4. We are now proposing the addition of a "Welcome to Plymouth" sign at the corner of the property, since this is the most south westerly lot in the City of Plymouth. We feel that this acts as a gateway welcoming people into the great community of Plymouth.

5. We revised the original proposed building materials and replaced them with a brick and stone (on back north wall as well), to be more cohesive with the decorative black Iron fencing and red brick columns on the south and westerly sides of the property.

6. We changed the drawings to include a brick privacy wall on the east side near abutting the apartment buildings as required and are now only asking for a solid wood screen fence on the northly side given the DTE easements and power poles preventing us from extending the masonry wall along the north property line.

7. We removed the two front parking spaces to allow for easier pedestrian access. This also allowed us to and improve the drive-through traffic flow by realigning the driveway to prevent back ups on to Ann Arbor and providing more stacking space.

8. We removed the request for a Scooter's Marquee monument sign, and replaced that with smaller wayfinding sign, and added a Flag Pole near the patio for the American Flag.

9. We have also included information about the HVAC and Lighting Placement as requested.

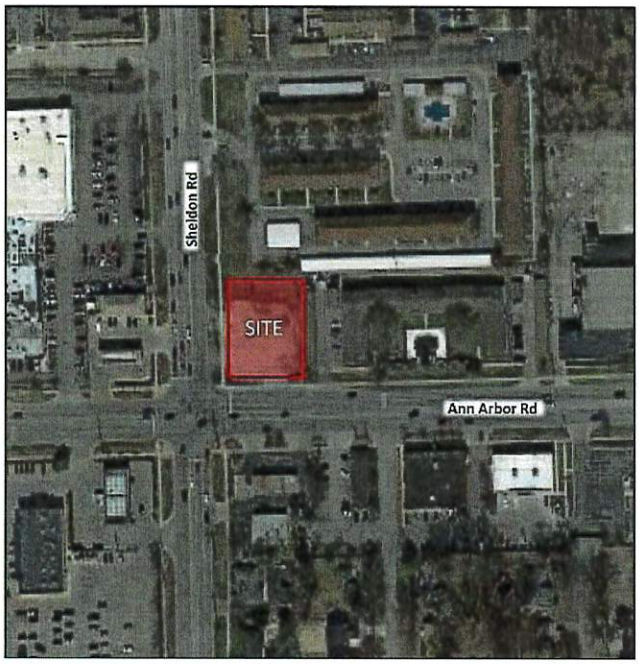
We are truly hopeful that this new submittal shows to you and to the Planning Commission our desire to listen, learn, and work with the City in order to build a development that further enhances the community of Plymouth. Thank you again for your time, and we look forward to your review comments.

Sincerely,

Bryan Bender

Bryan Bender

11/12/2021



Traffic Impact Study
Scooter's Coffee
Plymouth, Michigan

Prepared for:

Fortis Net Lease
30445 Northwestern Hwy
Suite 275
Farmington Hills, MI 48334

Prepared by:

Progressive AE
1811 4 Mile Road NE
Grand Rapids, MI 49525

November 2021
Project No. 91880004

Traffic Impact Study – Scooters Coffee

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EXECUTIVE SUMMARY

Introduction

Scooter's Coffee is proposing a 664 square-foot coffee shop located on the northeast corner of Ann Arbor Road and Sheldon Road in Plymouth, MI. The proposed coffee shop includes one drive-thru window and no indoor seating.

The proposed coffee shop will access the site via two proposed driveways, one full access driveway to Sheldon Road and one limited access right-in/right-out driveway to Ann Arbor Road.

The purpose of this traffic impact study was to analyze the potential impacts of the planned development and to identify what physical and/or operational roadway system improvements may be necessary to mitigate existing or anticipated background issues, and/or impacts created by this development's traffic.

Study Area

The study area includes one existing signalized intersection and the two proposed site driveways as listed below:

- Ann Arbor Road at Sheldon Road
- Ann Arbor Road at Proposed Driveway
- Sheldon Road at Proposed Driveway

Data Collection

Morning and afternoon peak hour turning movement counts were completed at the study area intersections in October 2021. Information regarding lane configurations, speed limits, traffic controls and other related data for the study area roadways was also collected.

Analysis

Two analysis scenarios were completed for the weekday morning and afternoon peak hours as part of the study as follows:

- Existing Conditions
- Future (2022) Conditions

Although there is no known additional proposed development anticipated to be completed in the next year within the study area, an annual traffic growth rate of 1.0% was used to estimate non-development growth on study area roadways based on historical traffic growth in the area. As the analysis year for this study area is 2022 (one year), the existing traffic volumes were increased by 1.0 percent.

Trip generation for the site was calculated for the typical weekday morning and afternoon peak hours based on data provided by Scooter's Coffee. The site is expected to generate approximately 544 total weekday trips, 86 new weekday morning peak hour vehicle trips (43 inbound, 43 outbound), and 22 new weekday afternoon peak hour trips (11 inbound, 11 outbound) onto the roadway system.

As a comparison, a typical gas station/convenience store (ITE Land Use Code 960) would generate approximately 337 morning peak hour trips and 276 afternoon peak hour trips during a typical weekday. This is approximately four times as many trips during the peak hours as anticipated by the Scooter's Coffee site.

For the existing and future (2022) conditions, a capacity analysis was performed to determine the impacts the site would have on the roadways and intersections within the study area.

Conclusions

Based on the analyses performed as part of this study, the proposed coffee shop will have little to no impact to the surrounding roadway network. The findings of this study are as follows:

Existing Conditions

The Ann Arbor Road/Sheldon Road intersection currently operates at an overall LoS "D" during the morning peak hour and LoS "E" during the afternoon peak hour. Several individual movements also operate at LoS "E" or LoS "F" during the morning and afternoon peak hours.

Signal timings adjustments were reviewed, but offered minor, if any, improvement to existing operations. Shifting green time from one movement resulted in other movements operating poorly. Additional capacity improvements such as constructing dual left-turn lanes and/or right-turn lanes would be necessary to significantly improve operations.

Future (2022) Conditions

The future (2022) conditions are similar to the existing conditions, with the Ann Arbor Road/Sheldon Road intersection anticipated to continue operating at an overall LoS "D" during the morning peak hour and LoS "F" during the afternoon peak hour. The same movements as existing conditions are anticipated to continue to operate at LoS "E" or LoS "F" during the morning and afternoon peak hours.

The controlled movements at the proposed site driveways are anticipated to operate at an acceptable LoS "C" or better during the morning and afternoon peak hours with a queue of less than one vehicle. However, given the poor operation at the Ann Arbor Road/Sheldon Road intersection, it is anticipated the site driveways may be periodically blocked during the peak hours by the queuing along Ann Arbor Road and Sheldon Road.

Recommendations

There are no improvements that would be recommended to mitigate the traffic impacts caused by the development of the Scooter's Coffee Shop.

CHAPTER 1

INTRODUCTION

Scooter's Coffee is proposing a 664 square-foot coffee shop located on the northeast corner of Ann Arbor Road and Sheldon Road in Plymouth, MI. The proposed coffee shop includes one drive-thru window and no indoor seating. Figure 1 shows the proposed location of the site.

The proposed coffee shop will access the site via two proposed driveways, one full access driveway to Sheldon Road and one limited access right-in/right-out driveway to Ann Arbor Road.

The purpose of this traffic impact study was to analyze the potential impacts of the planned development and to identify what physical and/or operational roadway system improvements may be necessary to mitigate existing or anticipated background issues, and/or impacts created by this development's traffic.

Tasks undertaken to complete the analyses include:

1. ***Data Collection.*** Morning and afternoon peak hour turning movement counts were completed at the study area intersections in October 2021. Information regarding lane configurations, speed limits, traffic controls and other related data for the study area roadways was also collected.

2. ***Background Growth.*** An annual background traffic growth rate of 1.0% was used to estimate non-development traffic increases by the 2022 horizon year based on historical growth in the area.

3. ***Trip Generation/Distribution.*** The number of trips the proposed development is expected to generate during peak hours was identified. These trips were then assigned to the adjacent street system based upon the patterns followed by existing traffic and engineering judgment.

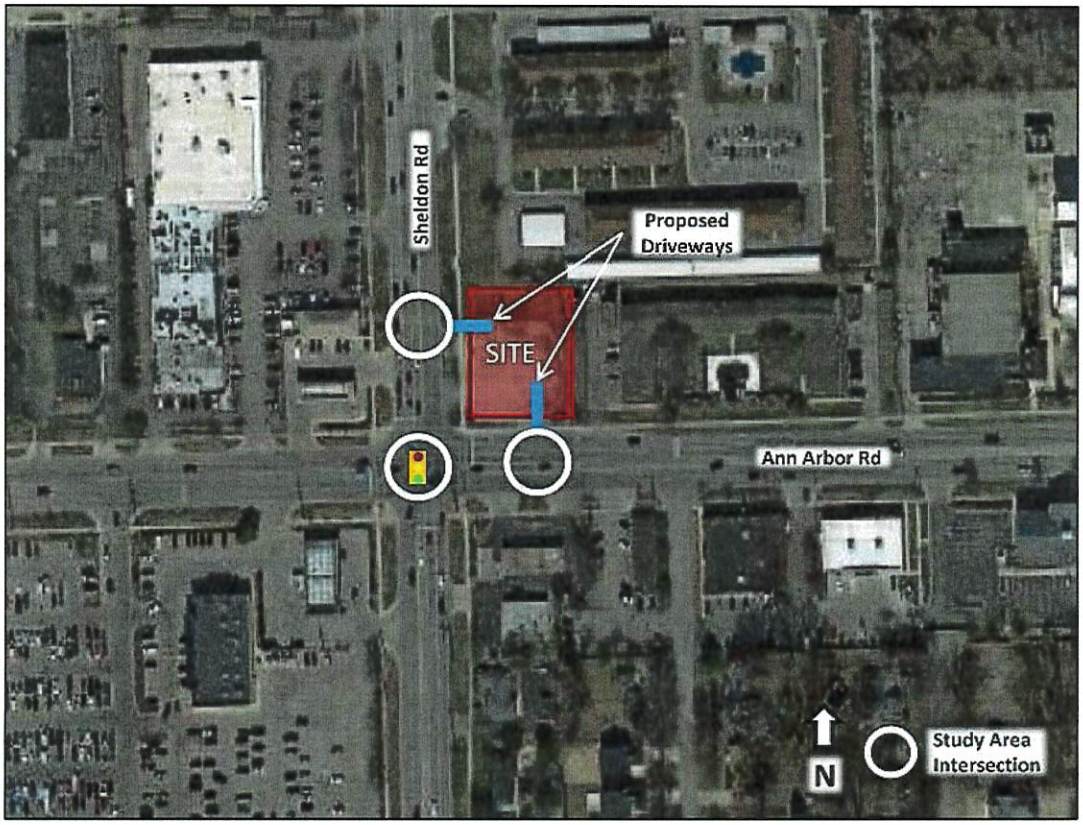


Figure 1. Location Map and Study Area

4. ***Level of Service.*** Capacity calculations were completed at the study area intersection and the site access points to identify existing and anticipated future peak-hour operational characteristics.

5. ***Mitigation.*** Roadway/intersection improvements were identified, when applicable, that will enable the adjacent roadways and study area intersections to maintain equal and/or acceptable level of service under future conditions upon the addition of background traffic growth and/or due to development traffic.

Pre-study coordination was completed with the City of Plymouth staff to help identify the required study area, study parameters, and any specific areas of concern. The following chapters outline the results of analyses completed during the study process.

CHAPTER 2

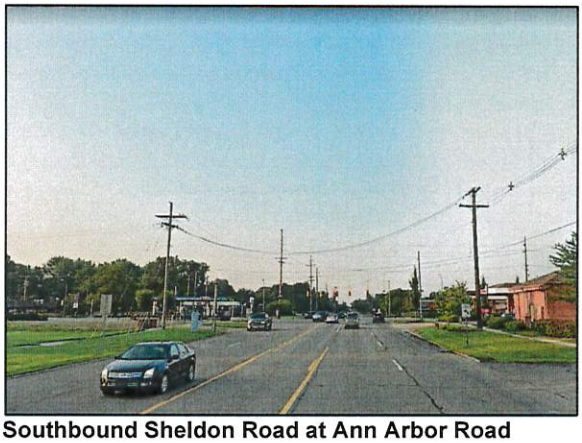
EXISTING CONDITIONS

The first step in the identification of potential traffic impacts is to determine how well the adjacent streets are operating under current conditions. The existing conditions provide a comparison to subsequent future conditions analyses. This chapter summarizes the data collection and existing operating conditions analysis procedures.

Key Study Area Roadways

Ann Arbor Road

Ann Arbor Road is an east-west arterial roadway within the study area under Michigan Department of Transportation (MDOT) operational jurisdiction. Within the study area, it has a 5-lane cross-section with two travel lanes in each direction and a two-way left-turn lane. The speed limit along Ann Arbor Road is 45 miles per hour. Weekday 24-hour traffic volumes in the vicinity of the site average approximately 21,400 vehicles per day.



Southbound Sheldon Road at Ann Arbor Road

Sheldon Road

Sheldon Road is a north-south arterial roadway within the study area under City of Plymouth operational jurisdiction. Within the study area, it has a 5-lane cross-section with two travel lanes in each direction and a two-way left-turn lane. The speed limit along Sheldon Road is 40 miles per hour. Weekday 24-hour traffic volumes in the vicinity of the site average approximately 25,000 vehicles per day.

Westbound Ann Arbor Road at Sheldon Road

Existing Intersections

The study area includes one existing signalized intersection at Ann Arbor Road and Sheldon Road. The intersection currently operates with a 100-second cycle length during the morning peak hour and 110-second cycle length during the afternoon peak hour. All left-turn movements operate as permissive/protected movements.

Data Collection

Morning and afternoon peak hour turning-movement counts at the Ann Arbor Road/Sheldon Road intersection were collected in October 2021 on a typical weekday. Detailed printouts of the count reports are included in the appendix.

These counts indicated that the typical weekday morning peak hour occurs between 7:45 to 8:45 a.m. and the typical afternoon peak hour occurs between 4:45 to 5:45 p.m.

Figure 2 shows the existing morning and afternoon peak hour volumes at the study area intersections.

Existing Conditions Capacity Analysis
Intersection "level of service" (LoS) calculations were completed to evaluate the current operational efficiency of the Ann Arbor Road/Sheldon Road intersection. These calculations were completed using techniques outlined in the Highway Capacity Manual, published by the Transportation Research Board. Per MDOT standards, *Synchro*® traffic analysis software, version 11, based on the Highway Capacity Manual methodologies, was used in the analysis.

Levels of service at signalized and unsignalized intersections relates to the delay, traffic volumes, and intersection geometry. Levels of service are expressed in a range from "A" to "F", with "A" denoting the highest, or best, operating conditions. Generally, a LoS "D" rating is considered the minimum acceptable service level for signalized and unsignalized intersections in most areas, although a LoS "E" or LoS "F" can be deemed as acceptable during the peak hours. The criteria for determining the levels of service at signalized and unsignalized intersections are outlined in the appendix of this report.

The existing morning and afternoon peak hours were analyzed at the Ann Arbor Road/Sheldon Road intersection. Table 1 and Figure 2 show the levels of service for this intersection. Copies of the *Synchro*® analyses are included in the appendix.

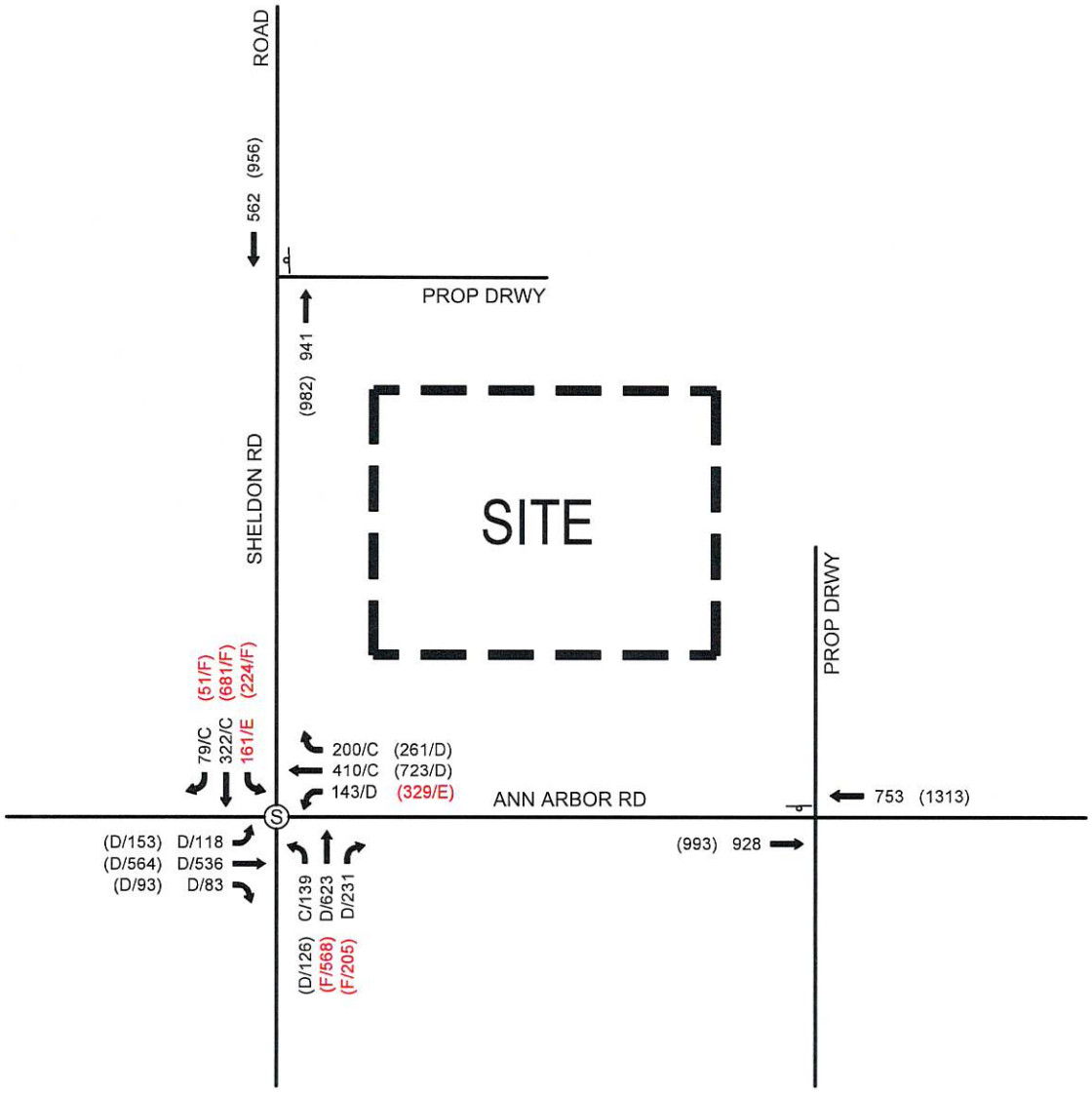
As shown in Table 1, the intersection currently operates at an overall LoS "D" during the morning peak hour and LoS "E" during the afternoon peak hour. Several individual movements also operate at LoS "E" or LoS "F" during the morning and afternoon peak hours.

Existing Conditions Improvements
The results of the existing condition analysis show the Ann Arbor Road/ Sheldon Road intersection operates poorly, particularly during the afternoon peak hour. Signal timings adjustments were reviewed, but offered minor, if any, improvement to existing operations. Shifting green time from one movement resulted in other movements operating poorly. Additional capacity improvements such as constructing dual left-turn lanes and/or right-turn lanes would be necessary to significantly improve operations.

Table 1. Existing Levels of Service and Delay

Intersection/ Movement	Existing Conditions			
	AM		PM	
	LoS	Delay (s)	LoS	Delay (s)
Ann Arbor Road / Sheldon Road				
Overall	D	40.6	E	**65.9**
EBL	D	36.7	D	42.5
EBT	D	37.8	D	36.5
EBR	D	37.9	D	36.6
WBL	D	47.2	E	**61.5**
WBT	C	30.3	D	37.0
WBR	C	32.8	D	36.2
NBL	C	34.3	D	54.1
NBT	D	49.8	F	**105.3**
NBR	D	50.4	F	**106.8**
SBL	E	**63.8**	F	**109.8**
SBT	C	30.8	F	**83.7**
SBR	C	31.0	F	**83.3**

Source: Progressive AE, November 2021



SCOOTER'S COFFEE - PLYMOUTH, MI TRAFFIC IMPACT STUDY

LEGEND

XX (XX) = AM (PM)
A = LEVEL-OF-SERVICE
(S) = SIGNALIZED INTERSECTION
= STOP-CONTROLLED

EXISTING PEAK-HOUR VOLUMES
+ LEVELS-OF-SERVICE

N
No Scale

FIGURE
2

CHAPTER 3

FUTURE (2022) CONDITIONS

The purpose of this chapter is to summarize the anticipated future (2022) traffic conditions within the study area with background traffic growth and the proposed development traffic in place. These analyses provide the before/after comparison of future conditions and helps define the timing and applicability of any potential roadway improvements necessary to mitigate the impact of the proposed development.

Background Traffic Growth

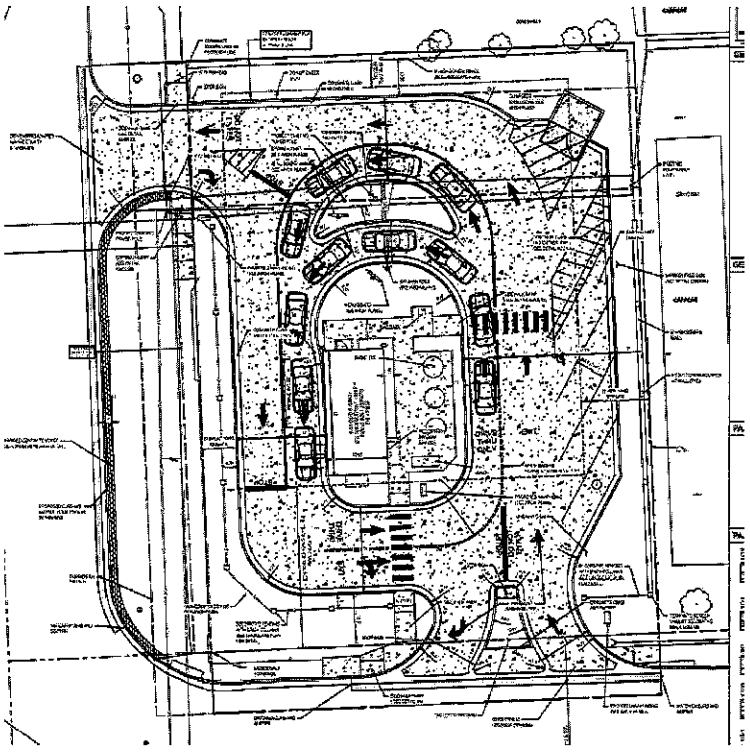
Although there is no known additional proposed development anticipated to be completed in the next year within the study area, an annual traffic growth rate of 1.0% was used to estimate non-development growth on study area roadways based on historical traffic growth in the area. As the analysis year for this study area is 2022 (one year), the existing traffic volumes were increased by 1.0 percent. A separate analysis of the background traffic volumes was not completed as the results would largely be the same as the existing conditions.

Proposed Development

Scooter's Coffee is proposing a 664 square-foot coffee shop located on the northeast corner of Ann Arbor Road and Sheldon Road in Plymouth, MI. The proposed coffee shop includes one drive-thru window and no indoor seating. A copy of the proposed site plan is included in the appendix.

Site Access

The proposed coffee shop will access the site via two proposed driveways, one full access driveway to Sheldon Road and one limited access right-in/right-out driveway to Ann Arbor Road.



Trip Generation

The Trip Generation Manual, Tenth Edition, by the Institute of Transportation Engineers (ITE) was used to review the anticipated traffic that may be generated by the proposed site. Trips are measured individually for inbound and outbound movements; therefore, a visit to the site by an employee or visitor, for instance, generates two trips – one inbound and one outbound.

Based on the land use descriptions provided within the ITE Trip Generation Manual, the most applicable land use for the proposed site would be the Coffee/Donut Shop with Drive-Thru & No Indoor Seating (Land Use Code 938). However, another reasonable comparison would be that of Coffee/Donut Shop with Drive-Thru (Land Use Code 937).

Trips for the site were calculated for the typical weekday and typical weekday morning and afternoon peak hours based on the anticipated square footage of the building. Table 2 shows the daily and peak hour trips anticipated to be generated by the proposed development based on the ITE trip generation rates.

Reviewing the results of the trip generation calculations indicates the ITE rates for Coffee/Donut Shop with Drive-Thru & No Indoor Seating (Land Use 938) are likely overestimating the anticipated trip generation based on the following factors:

- The average square footage for the nine studies included in the ITE data is 90 square feet, resulting in an average rate of 337 trips per 1,000 square feet during the morning peak hour and 83 trips per 1,000 square feet during the afternoon peak hour. This site is proposing a 664 square foot building which is significantly greater than the ITE average.
- Using square footage as the independent variable for calculating the number of trips for this land use is problematic as the size of the building has little bearing on the number of vehicles/customers the coffee shop can serve. Regardless of building size, a single drive-thru window can only serve so many vehicles per hour.
- Using ITE's trip generation rates, this data implies the site could serve 112 customers in a single hour or process a customer thru the drive-thru window approximately every 30 seconds. This is an unrealistic assumption.

Reviewing the results of the trip generation calculations indicates the ITE rates for Coffee/Donut Shop with Drive-Thru (Land Use 937) are likely more representative of the anticipated trip generation. However, this is also not a great fit based on the following factors:

- The land use description specifically includes indoor seating.
- The average square footage for the studies included in the ITE data is 2,000 square feet (approximately 3 times larger than the proposed development).

As ITE recommends local data be utilized when an applicable land use is unavailable or the proposed development falls outside the typical size range, existing customer data was requested from Scooter's Coffee related to the average number of customers they typically serve at existing sites. The trip generation information provided by Scooter's Coffee can be summarized as follows:

- Morning (7:00 – 9:00 a.m.)
  - The average store generated 86 customers during this 2-hour time period from 7 a.m. to 9 a.m., which equates to 43 customers per hour.
- Midday (9:00 a.m. – 3:00 p.m.)
  - The average store generated 122 customers during this 6-hour time period from 9 a.m. to 3 p.m., which equates to 21 customers per hour.
- Afternoon (3:00 p.m. – 9:00 p.m.)
  - The average store generated 64 customers during this 6-hour time period from 3 p.m. to 9 p.m., which equates to 11 customers per hour.

Table 2 shows the resulting trip generation estimates based on the data provided by Scooter's Coffee. The site is expected to generate approximately 544 total weekday trips, 86 new weekday morning peak hour vehicle trips (43 inbound, 43 outbound), and 22 new weekday afternoon peak hour trips (11 inbound, 11 outbound) onto the roadway system.

Table 2. ITE and Scooter's Coffee Trip Generation Comparison

Source	ITE Code	Size	AM			PM			Daily Trips
			Total	Enter	Exit	Total	Enter	Exit	
ITE Trip Generation Manual (Coffee/Donut Shop with Drive-Thru & No Indoor Seating)	938	664 sft	224	112	112	56	28	28	1,328
ITE Trip Generation Manual (Coffee/Donut Shop with Drive-Thru)	937	664 sft	59	30	29	29	14	15	545
Scooter's Coffee	-	-	86	43	43	22	11	11	544

Source: ITE Trip Generation Manual, 10th Edition and Scooter's Coffee

The proposed site will capitalize on the traffic volumes along Ann Arbor Road and Sheldon Road by "capturing" customers passing by the location to/from work or other destinations. These trips are classified as "pass-by" trips since they are already on the roadway network and enter the site as they drive past. While pass-by trips do not add new trips to the roadway network, they add turning movements at the site driveways. Based on ITE data, as much as 83% of the generated trips would be pass-by traffic resulting in very few new trips generated on the roadway network. For the purposes of this study, it was assumed 75% of the trips to/from the site would be classified as pass-by trips. Table 3 shows the anticipated trip generation for the proposed site used for this study, including reductions for pass-by trips.

Table 3. Weekday Peak Hour Trip Generation Summary

Land Use	ITE Code	Size	AM			PM		
			Total	Enter	Exit	Total	Enter	Exit
Scooter's Coffee	-	664 square feet	86	43	43	22	11	11
		Less pass-by trips[1]:	64	32	32	16	8	8
		Total new trips:	**22**	**11**	**11**	**6**	**3**	**3**

[1]Pass-by reduction percentages applied to coffee shop land use: 75%.
Source: ITE Trip Generation Manual, 10th Edition and Scooter's Coffee

As a comparison, a typical gas station/convenience store (ITE Land Use Code 960) would generate approximately 337 morning peak hour trips and 276 afternoon peak hour trips during a typical weekday. This is approximately four times as many trips during the peak hours as anticipated by the Scooter's Coffee site.

Trip Distribution

The directional distribution of the site-generated trips was based upon existing travel patterns and engineering judgment. Directional distribution to/from the proposed development for site-generated new trips is expected to be approximately as follows:

To/from Ann Arbor Road east	25%	To/from Sheldon Road north	25%
To/from Ann Arbor Road west	25%	To/from Sheldon Road south	25%

Based upon the above distribution patterns for new trips, existing traffic volumes along Ann Arbor Road and Sheldon Road for pass-by trips, and the current site plan layout, the anticipated peak hour project traffic was assigned to the proposed site access driveways and the Ann Arbor Road/Sheldon Road intersection. Figure 3 shows the total anticipated morning and afternoon peak hour trips for site-generated traffic upon full completion and occupancy of the proposed site.

The anticipated site trips were added to the background (2022) peak hour volumes to depict the estimated total future (2022) volumes during the morning and afternoon peak hours. Figure 4 shows the total anticipated future (2022) volumes.

Future (2022) Capacity Analysis

Intersection level of service calculations were completed to evaluate the future (2022) morning and afternoon peak hour conditions at the site access driveways and the Ann Arbor Road/Sheldon Road intersection assuming the completion of the site. The results of the level of service analyses are shown in Table 4 on the next page. Copies of the *Synchro*® analyses are included in the appendix.

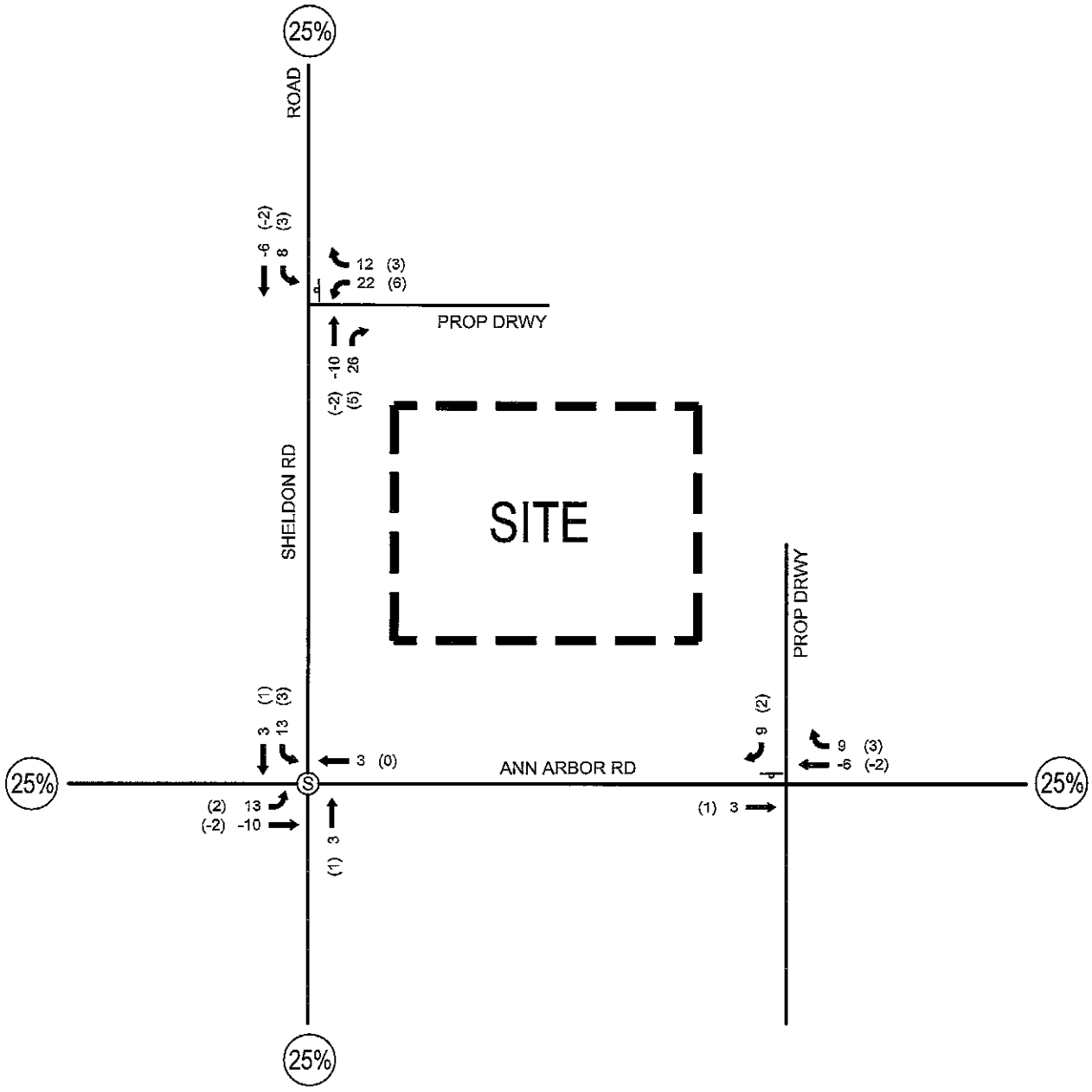
The future (2022) conditions are similar to the existing conditions, with the Ann Arbor Road/Sheldon Road intersection anticipated to continue operating at an overall LoS "D" during the morning peak hour and LoS "F" during the afternoon peak hour. The same movements as existing conditions are anticipated to continue to operate at LoS "E" or LoS "F" during the morning and afternoon peak hours.

The controlled movements at the proposed site driveways are anticipated to operate at an acceptable LoS "C" or better during the morning and afternoon peak hours with a queue of less than one vehicle. However, given the poor operation at the Ann Arbor Road/Sheldon Road intersection, it is anticipated the site driveways may be periodically blocked during the peak hours by the queuing along Ann Arbor Road and Sheldon Road.

Table 4. Future (2022) Level of Service and Delay

Intersection/ Movement	Existing Conditions				Future (2022) Conditions			
	AM		PM		AM		PM	
	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)	LoS	Delay (s)
Ann Arbor Road / Sheldon Road								
Overall	D	40.6	**E**	**65.9**	D	41.9	**E**	**67.8**
EBL	D	36.7	D	42.5	D	38.5	D	42.9
EBT	D	37.8	D	36.5	D	37.6	D	36.7
EBR	D	37.9	D	36.6	D	37.7	D	36.8
WBL	D	47.2	**E**	**61.5**	D	47.1	**E**	**63.0**
WBT	C	30.3	D	37.0	C	30.4	D	37.2
WBR	C	32.8	D	36.2	C	32.9	D	36.5
NBL	C	34.3	D	54.1	C	34.8	D	54.7
NBT	D	49.8	**F**	**105.3**	D	51.1	**F**	**109.3**
NBR	D	50.4	**F**	**106.8**	D	51.7	**F**	**110.7**
SBL	**E**	**63.8**	**F**	**109.8**	**E**	**74.9**	**F**	**115.4**
SBT	C	30.8	**F**	**83.7**	C	31.0	**F**	**86.8**
SBR	C	31.0	**F**	**83.3**	C	31.2	**F**	**86.3**
Sheldon Road / Proposed Driveway[1]								
WB	-	-	-	-	C	18.8	C	19.3
SBL	-	-	-	-	B	10.5	B	10.6
Ann Arbor Road / Proposed Driveway[1]								
SBR	-	-	-	-	B	11.2	B	14.7

[1]Unsignalized intersection, controlled movements shown
Source: Progressive AE, November 2021



*Passby trips distributed based on existing traffic volumes at proposed driveways

SCOOTER'S COFFEE - PLYMOUTH, MI TRAFFIC IMPACT STUDY

LEGEND

XX (XX) = AM (PM) GENERATED TRIPS

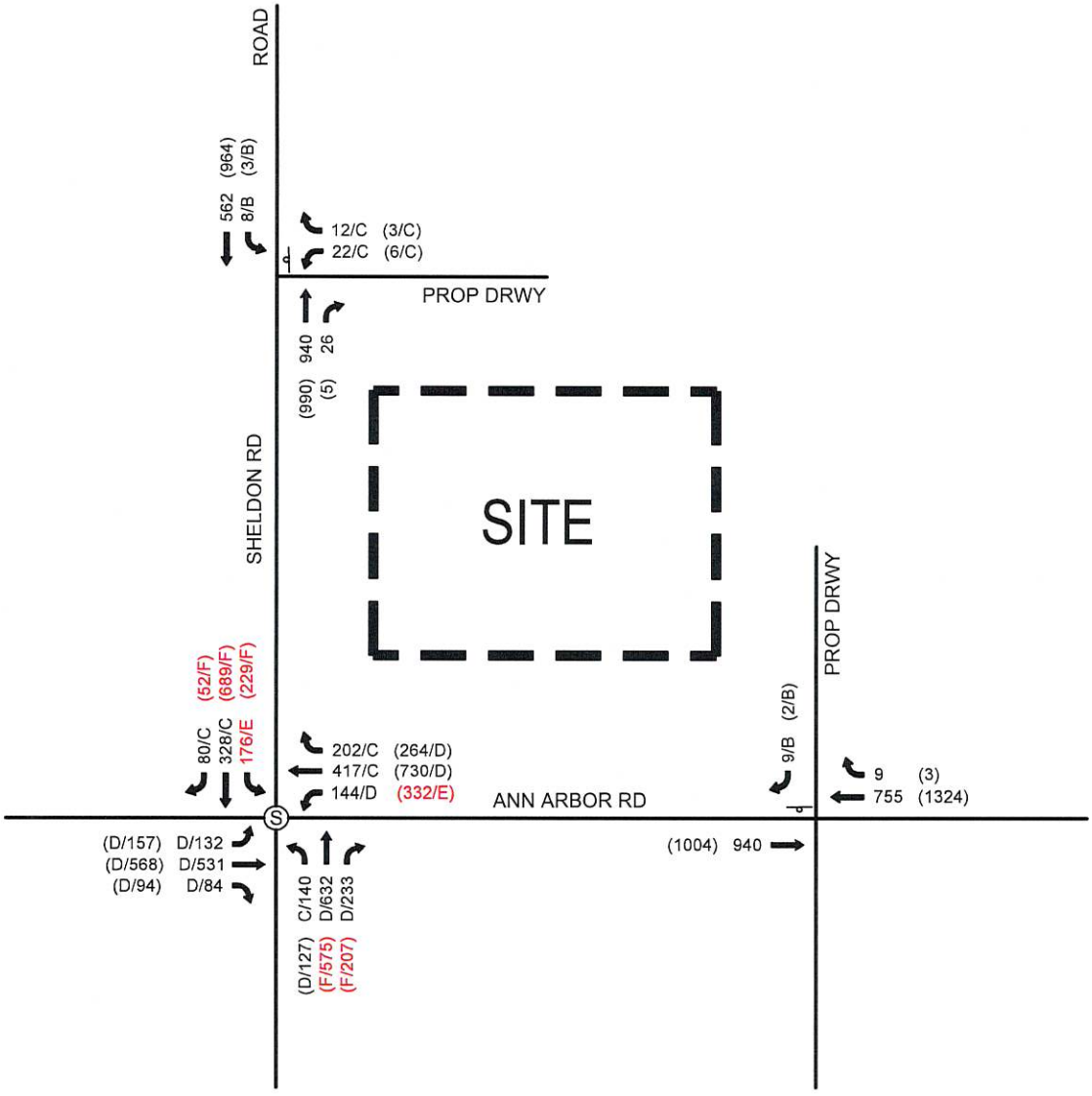
(X%) = DISTRIBUTION FOR NEW TRIPS

FUTURE (2022) TRIP DISTRIBUTION + TRAFFIC ASSIGNMENT

N

No Scale

FIGURE 3



*Includes 1% annual background growth rate

SCOOTER'S COFFEE - PLYMOUTH, MI TRAFFIC IMPACT STUDY

LEGEND

XX (XX) = AM (PM)
A = LEVEL-OF-SERVICE
(S) = SIGNALIZED INTERSECTION
= STOP-CONTROLLED

FUTURE (2022) PEAK-HOUR VOLUMES + LEVELS-OF-SERVICE

N
No Scale

FIGURE 4

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

The chapter summarizes the results of the analyses performed as part of the study. Recommendations to improve the surrounding roadway network are also presented.

Conclusions

Based on the analyses performed as part of this study, the proposed coffee shop will have little to no impact to the surrounding roadway network. The findings of this study are as follows:

Existing Conditions

The Ann Arbor Road/Sheldon Road intersection currently operates at an overall LoS "D" during the morning peak hour and LoS "E" during the afternoon peak hour. Several individual movements also operate at LoS "E" or LoS "F" during the morning and afternoon peak hours.

Signal timings adjustments were reviewed, but offered minor, if any, improvement to existing operations. Shifting green time from one movement resulted in other movements operating poorly. Additional capacity improvements such as constructing dual left-turn lanes and/or right-turn lanes would be necessary to significantly improve operations.

Future (2022) Conditions

The future (2022) conditions are similar to the existing conditions, with the Ann Arbor Road/Sheldon Road intersection anticipated to continue operating at an overall LoS "D" during the morning peak hour and LoS "F" during the afternoon peak hour. The same movements as existing conditions are anticipated to continue to operate at LoS "E" or LoS "F" during the morning and afternoon peak hours.

The controlled movements at the proposed site driveways are anticipated to operate at an acceptable LoS "C" or better during the morning and afternoon peak hours with a queue of less than one vehicle. However, given the poor operation at the Ann Arbor Road/Sheldon Road intersection, it is anticipated the site driveways may be periodically blocked during the peak hours by the queuing along Ann Arbor Road and Sheldon Road.

Recommendations

There are no improvements that would be recommended to mitigate the traffic impacts caused by the development of the Scooter's Coffee Shop.

Technical Appendix

Scooter's Coffee, Plymouth, MI TIS

- **Level of Service Definitions**
- **Glossary**
- **Site Plan**
- **Traffic Count Data**
- **Synchro Analyses Results**

Level of Service Definitions
Signalized Intersections

Level of Service A: Describes operations with very low average stopped delay, i.e., less than 10.0 seconds per vehicle. This occurs when progression is extremely 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.

Level of Service B: Describes operations with an average stopped delay in the range of 10.0 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.

Level of Service C: Describes operations with an average stopped 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.

Level of Service D: Describes operations with an average stopped delay in the range of 35.1 to 55.0 seconds per vehicle. At Level of Service D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c (volume/capacity) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

Level of Service E: Describes operations with an average stopped delay in the range of 55.1 to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay in many cases. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are a frequent occurrence.

Level of Service F: Describes operations with an average stopped delay in excess of 80.0 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 v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Level of Service Definitions
Unsignalized Intersections

Level of Service A:	Average delay per vehicles for impeded movements is less than 10 seconds. There is little or no delay with typically low side street and/or main street traffic.
Level of Service B:	Average stopped delays from 10.1 seconds to 15.0 seconds. Short delays, many acceptable gaps in main street traffic stream.
Level of Service C:	Average delay per vehicle ranges from 15.1 to 25.0 seconds. Average traffic delays with frequent gaps in main street traffic.
Level of Service D:	Average delays from 25.1 to 35.0 seconds for impeded movements. Long traffic delays for impeded movements due in part to a limited number of acceptable gaps.
Level of Service E:	Average delays in the 35.1 to 50.0 second range. May experience very long delays for impeded movements with a very small number of acceptable gaps in the traffic stream.
Level of Service F:	Average vehicle delays of over 50.0 seconds. Extreme traffic delays with virtually no acceptable gaps in main street traffic.

Glossary

Approach: A set of lanes accommodating all left-turn, through, and right-turn movements arriving at an intersection from a given direction.

Arterial: Signalized streets that serve primarily through traffic and provide access to abutting properties as a secondary function.

Average Stopped Delay: The total time vehicles are stopped in an intersection approach or lane group during a specified time interval divided by the volume departing from the approach or lane group during the same time period, in seconds per vehicle.

Background Traffic: Traffic volumes that will be on the roadway network without the presence of the proposed development.

Bypass Lane: A one-lane widening on a two-lane roadway that allows through traffic to pass by waiting left-turn traffic.

Capacity: The maximum rate of flow at which persons or vehicles can be reasonably expected to traverse a point or uniform segment of a lane or roadway during a specified time period under prevailing roadway, traffic, and control conditions; usually expressed as vehicles per hour or persons per hour.

Conflicting Traffic Volume: The volume of traffic which conflicts with a specific movement at an intersection.

Corridor: A lineal study area aligned with a roadway facility in which traffic, land use, right-of-way, environmental, and other factors are evaluated to determine future transportation facility needs.

Cycle: Any complete sequence of traffic signal indications.

Cycle Length: The total time for a traffic signal to complete one cycle.

Design Hour Volume: The traffic volume for the design hour, usually a forecast of the relevant peak hour volume, in vehicles per hour.

Diverted Linked Trips: Trips from the traffic volume on roadways within the vicinity of the generator but which requires a diversion from that roadway to another roadway to gain access to the site.

Driveway Offset: Distance between driveways on opposite sides of a roadway, measured parallel to roadway.

Freeway: A multi-lane divided highway having a minimum of two lanes for exclusive use of traffic in each direction and full control of access and egress.

Gaps (Critical Gap): The median time headway between vehicles in a major traffic stream which will permit side-street vehicles to cross through or merge with the major traffic stream.

Green Time: The actual length of the "green" indication for a given movement at a signalized intersection.

Level of Service: A qualitative measure describing operational conditions within a traffic stream; generally described in terms of such factors as speed and travel time, delay, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

Operational Analysis: A use of capacity analysis to determine the prevailing level of service on an existing or projected facility, with known or projected traffic, roadway, and control conditions. This analysis can involve a particular location, such as an intersection or a corridor.

Pass-by Trips: Trips made as intermediate stops on the way from an origin to a primary trip destination.

Peak Hour (AM): The one hour period in the morning representing the highest hourly volume of traffic flow on the adjacent public street system.

Peak Hour (PM): The one hour period in the afternoon or evening representing the highest hourly volume of traffic flow on the adjacent public street system.

Peak Hour Factor: The hourly volume during the maximum volume hour of the day divided by four times the peak 15-minute flow within the peak hour; a measure of traffic demand fluctuation within the peak hour.

Phase: The part of the signal cycle allocated to any combination of traffic movements receiving the right-of-way simultaneously during one or more intervals.

Roadway Conditions: Geometric characteristics of a street or highway, including the type of facility, number and width of lanes (by direction), shoulder widths and lateral clearances, design speed, etc.

Service Drive: A roadway (usually private) that provides internal access to two or more uses.

Site Traffic: Existing or projected vehicular traffic generated by the development.

Study Area: The geographic area containing site access points and critical intersections (and connecting highway segments) which are impacted by the site-traffic generated by the development, and should be evaluated.

System Improvements: Added lanes, signal improvements, and other roadway improvements not considered site-related improvements.

Traffic Impact: The adverse impact on intersection Level of Service and/or street and highway safety and operations as determined by the criteria and procedures set forth in this handbook.

Trip (Directional Trip): A single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site.

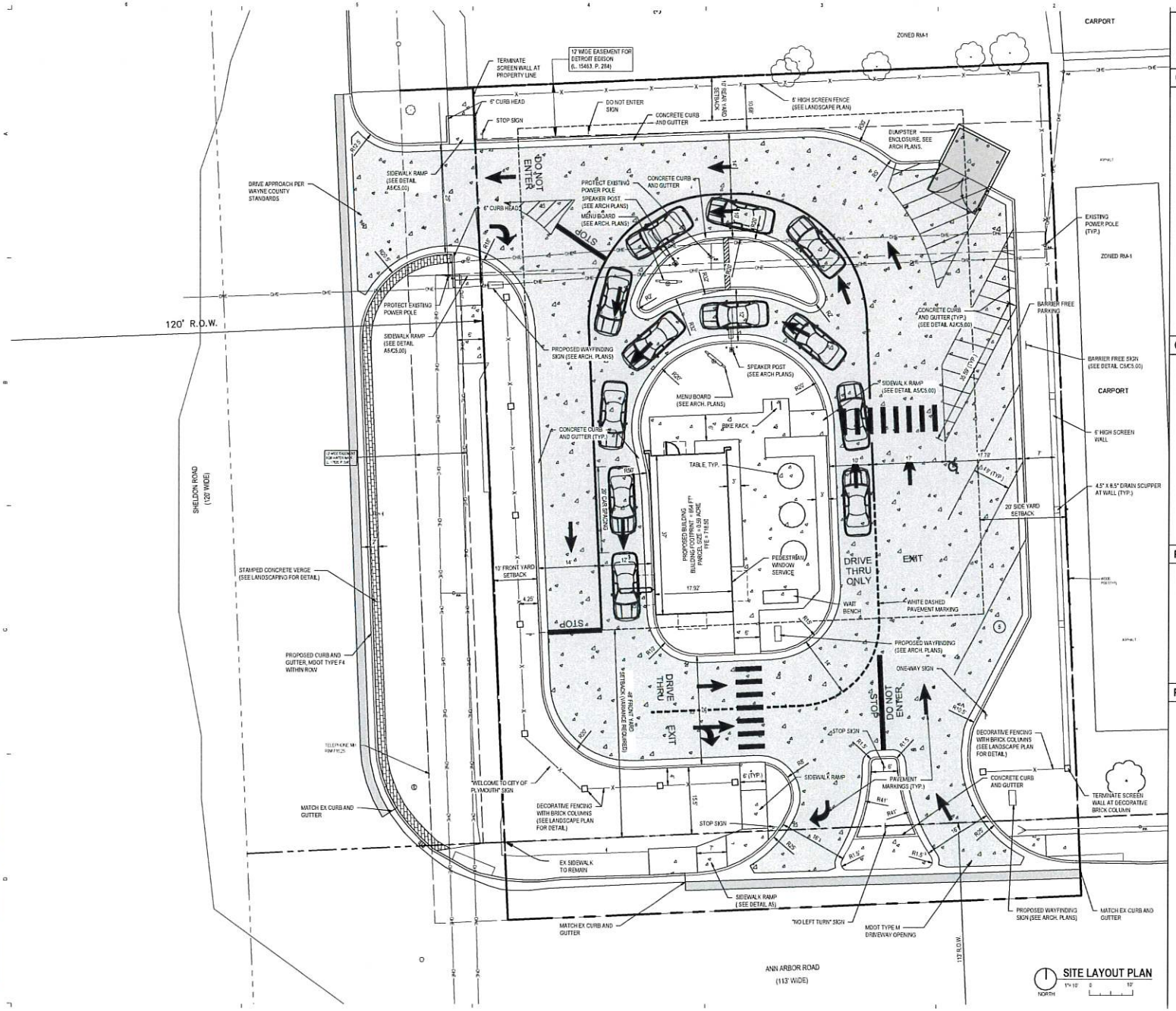
Trip Distribution: The distribution or assignment of site traffic into site driveways and study area roadways/intersections based upon expected direction of approach and departure.

Unsignalized Intersection: Any intersection not controlled by traffic signals.

Volume: The number of persons or vehicles passing a point on a lane or roadway during some time interval, such as one hour or during an average day.

Volume-to-Capacity Ratio (V/C): The ratio of demand flow rate to capacity for a traffic facility.

Site Plan



CALL 811 NOTE:

CONTRACTOR TO CONTACT 811 SERVICE AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES. DIAL 811.

www.CALL811.com

GENERAL SITE LAYOUT NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE ACCORDING TO THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION (M.D.O.T.) STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. CONTACT "MISS DIG" TOLL FREE AT 1-800-482-7171 THREE (3) DAYS PRIOR TO THE START OF CONSTRUCTION, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS.
3. NO DIMENSION MAY BE SCALED. REFER UNCLEAR ITEMS TO THE ENGINEER FOR INTERPRETATION.
4. DIMENSIONS SHOWN ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS B-B (BACK TO BACK) OR E-E (EDGE OF METAL TO EDGE OF METAL).
5. CONTRACTOR TO PAINT STRIPE ALL PARKING SPACES SHOWN. PAINT COLOR TO BE YELLOW.
6. UPON REQUEST, ELECTRONIC INFORMATION WILL BE PROVIDED FOR SITE LAYOUT PURPOSES. CONTRACTOR SHALL REQUEST ALL INFORMATION IN WRITING THROUGH PROGRESSIVE AE. LAYOUT OF ALL NEW CONSTRUCTION SHALL BE DONE BY A LICENSED SURVEYOR.
7. ALL CONCRETE JOINTS SHALL BE TOOLED PER SPECIFICATIONS.
8. CONTRACTOR MUST RESTORE AND REPAIR ANY EXISTING CONDITIONS DISTURBED BY CONSTRUCTION. THIS IS TO INCLUDE BURIED UTILITIES, LIGHTING, LANDSCAPING, SPRINKLING, ETC.
9. ANY AREA DISTURBED BY CONSTRUCTION TO BE RESTORED TO CONDITION EQUAL TO OR BETTER THAN BEFORE CONSTRUCTION BEGAN.
10. ALL PAVEMENT, CURB & GUTTER, SIDEWALK AND UTILITIES WITHIN PUBLIC RIGHT OF WAY SHALL MEET CITY OF PLYMOUTH STANDARDS.

GENERAL NOTES

1. VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. PROTECT AND MAINTAIN CROSSINGS OF OTHER UTILITIES.
3. REFER TO SURVEY FOR BENCHMARK INFORMATION.
4. ALL MATERIAL, SPECIFICATIONS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH ALL APPLICABLE MUNICIPAL AGENCIES.
5. RESTORE ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE DITCHES, AND OTHER PUBLIC OR PRIVATE STRUCTURES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO MATCH AT A MINIMUM EXISTING CONDITIONS.
6. CONTRACTOR'S MANNER AND METHOD OF INGRESS AND EGRESS WITH RESPECT TO THE PROJECT AREAS SHALL IN NO WAY PROHIBIT OR DISTURB NORMAL PEDESTRIAN OR VEHICULAR TRAFFIC IN THE VICINITY AND IS SUBJECT TO REGULATION AND WRITTEN APPROVAL OF APPROPRIATE GOVERNING AGENCIES.
7. EXISTING TREES TO REMAIN - CONTRACTOR TO PROTECT ROOT SYSTEMS BY MAINTAINING TREE PROTECTION FENCE AT TREE DRIPLINE TO ELIMINATE MATERIAL STORAGE, PARKING OR CONSTRUCTION TRAFFIC WITHIN THE TREE DRIPLINE.

PAVING NOTES

1. PAVEMENT CONSTRUCTION TO BE PERFORMED IN ACCORDANCE TO CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
2. MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 4,000 PSI FOR ALL EXTERIOR CONCRETE.
   SLUMP RANGE: 3 INCHES TO 5 INCHES
   AIR CONTENT: 5 PERCENT TO 8 PERCENT
3. PROVIDE SCORED CONCRETE CONTROL JOINTS AT 12 FEET MAXIMUM SPACING.
4. CONCRETE JOINT LAYOUT SHALL FORM SQUARE PANELS, WHERE NOT PRACTICAL, RECTANGULAR PANELS MAY BE USED IF THE LONG DIMENSION IS NO MORE THAN 1.5 TIMES THE SHORT DIMENSION.

PAVEMENT LEGEND

STANDARD CONCRETE PAVEMENT	6" CONCRETE 12" COMPACTED SUBBASE, CLASS III SAND
HEAVY DUTY CONCRETE PAVEMENT	8" CONCRETE 12" COMPACTED SUBBASE, CLASS III SAND
CONCRETE SIDEWALK	4" CONCRETE 4" MDOT CLASS II GRANULAR BASE APPROVED COMPACTED SUBBASE
STAMPED CONCRETE VERGE	6" COLORED CONCRETE WITH BRICK WITH BRICK STAMP PER CITY STANDARD 6" MDOT CL II GRANULAR BASE APPROVED COMPACTED SUBBASE
R.O.W. ASPHALT PAVEMENT	1 1/2" HMA WEARING COURSE SS-1H TACK COAT @ 0.05 GAL/SY PLACE BETWEEN EACH HMA LIFT 4 1/2" HMA BASE, LEVELING COURSE EXISTING AGGREGATE BASE EXISTING SUBBASE

progressive ae

SCOOTER'S COFFEE

1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

NOT FOR CONSTRUCTION

ISSUANCE

SPECIAL LAND USE 11/11/2021

REVISIONS

NO.	DATE	DESCRIPTION

FILE NUMBER	91883004
PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	AQA
CHECKED BY	

SITE LAYOUT PLAN

C2.01

1311 4 Mile Rd NE Grand Rapids, MI 49525 (616) 361-2664 www.progressiveae.com

Traffic Count Data

progressive|ae

Progressive AE
1811 4 Mile Rd NE

Grand Rapids, Michigan, United States 49525
(616) 361-2664

Count Name: Ann Arbor Rd and Sheldon Rd
Site Code:
Start Date: 10/19/2021
Page No: 1

Turning Movement Data

Start Time	Ann Arbor Rd Eastbound					Ann Arbor Rd Westbound					Sheldon Rd Northbound					Sheldon Rd Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:00 AM	15	81	30	0	126	38	112	37	0	185	45	109	32	0	186	30	78	25	0	133	630
7:15 AM	15	86	7	1	108	30	84	48	0	162	48	183	44	0	275	23	56	13	1	92	637
7:30 AM	28	89	13	0	130	34	83	45	0	162	31	187	46	0	264	23	44	8	0	75	631
7:45 AM	22	143	25	0	190	30	89	69	0	188	46	180	51	0	277	42	74	20	0	136	791
Hourly Total	80	399	75	1	554	130	368	199	0	697	170	659	173	0	1002	118	252	66	1	436	2689
8:00 AM	30	140	35	0	205	39	112	56	0	207	34	160	61	0	255	46	106	33	1	185	852
8:15 AM	49	121	10	0	180	39	126	38	0	203	33	151	67	0	251	46	76	12	1	134	768
8:30 AM	17	132	13	0	162	35	83	37	0	155	26	132	52	0	210	27	66	14	0	107	634
8:45 AM	24	149	15	1	188	36	112	44	0	192	24	130	55	0	209	43	94	18	0	155	744
Hourly Total	120	542	73	1	735	149	433	175	0	757	117	573	235	0	925	162	342	77	2	581	2998
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	32	153	19	0	204	71	166	53	0	290	35	133	51	1	219	59	181	22	0	262	975
4:15 PM	38	150	23	0	211	67	157	52	0	276	14	117	52	1	183	54	174	24	0	252	922
4:30 PM	27	146	19	2	192	72	152	39	0	263	36	132	59	0	227	52	180	18	0	250	932
4:45 PM	32	140	25	0	197	82	155	65	0	302	26	143	59	1	228	65	180	21	0	266	993
Hourly Total	129	589	86	2	804	292	630	209	0	1131	111	525	221	3	857	230	715	85	0	1030	3822
5:00 PM	42	137	22	0	201	67	202	61	1	330	27	126	60	3	213	47	178	8	0	233	977
5:15 PM	35	147	26	2	208	90	207	71	1	368	38	162	46	1	246	51	162	13	0	226	1048
5:30 PM	44	140	20	0	204	90	159	64	0	313	35	137	40	0	212	61	161	9	0	231	960
5:45 PM	36	136	26	0	198	84	176	48	0	308	29	108	37	1	174	54	188	18	0	260	940
Hourly Total	157	560	94	2	811	331	744	244	2	1319	129	533	183	5	845	213	689	48	0	950	3925
Grand Total	486	2090	328	6	2904	902	2175	827	2	3904	527	2290	812	8	3629	723	1998	276	3	2997	13434
Approach %	16.7	72.0	11.3	-	-	23.1	55.7	21.2	-	-	14.5	63.1	22.4	-	-	24.1	66.7	9.2	-	-	-
Total %	3.6	15.6	2.4	-	21.6	6.7	16.2	6.2	-	29.1	3.9	17.0	6.0	-	27.0	5.4	14.9	2.1	-	22.3	-
Lights	478	2021	322	-	2821	884	2133	796	-	3813	513	2259	780	-	3552	688	1966	264	-	2918	13104
% Lights	98.4	96.7	98.2	-	97.1	98.0	98.1	96.3	-	97.7	97.3	98.6	96.1	-	97.9	95.2	98.4	95.7	-	97.4	97.5
Mediums	8	61	6	-	75	17	33	24	-	74	12	26	30	-	68	24	29	11	-	64	281
% Mediums	1.6	2.9	1.8	-	2.6	1.9	1.5	2.9	-	1.9	2.3	1.1	3.7	-	1.9	3.3	1.5	4.0	-	2.1	2.1
Articulated Trucks	0	8	0	-	8	1	9	7	-	17	2	5	2	-	9	11	3	1	-	15	49
% Articulated Trucks	0.0	0.4	0.0	-	0.3	0.1	0.4	0.8	-	0.4	0.4	0.2	0.2	-	0.2	1.5	0.2	0.4	-	0.5	0.4
Pedestrians	-	-	-	6	-	-	-	-	2	-	-	-	-	8	-	-	-	-	3	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

progressive|ae

Progressive AE
1811 4 Mile Rd NE

Grand Rapids, Michigan, United States 49525
(616) 361-2664

Count Name: Ann Arbor Rd and Sheldon Rd
Site Code:
Start Date: 10/19/2021

Turning Movement Peak Hour Data (7:45 AM)

Start Time	Ann Arbor Rd Eastbound					Ann Arbor Rd Westbound					Sheldon Rd Northbound					Sheldon Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:45 AM	22	143	25	0	190	30	89	69	0	188	46	180	51	0	277	42	74	20	0	136	791
8:00 AM	30	140	35	0	205	39	112	56	0	207	34	160	61	0	255	46	106	33	1	185	852
8:15 AM	49	121	10	0	180	39	126	38	0	203	33	151	67	0	251	46	76	12	1	134	768
8:30 AM	17	132	13	0	162	35	83	37	0	155	26	132	52	0	210	27	86	14	0	107	634
Total	118	536	83	0	737	143	410	200	0	753	139	623	231	0	993	161	322	79	2	562	3045
Approach %	16.0	72.7	11.3	-	-	19.0	54.4	26.6	-	-	14.0	62.7	23.3	-	-	28.6	57.3	14.1	-	-	-
Total %	3.9	17.6	2.7	-	24.2	4.7	13.5	6.6	-	24.7	4.6	20.5	7.6	-	32.6	5.3	10.6	2.6	-	18.5	-
PHF	0.602	0.937	0.593	-	0.899	0.917	0.813	0.725	-	0.909	0.755	0.865	0.862	-	0.896	0.875	0.759	0.598	-	0.759	0.893
Lights	116	522	80	-	718	137	390	189	-	716	134	610	227	-	971	153	308	71	-	532	2937
% Lights	98.3	97.4	96.4	-	97.4	95.8	95.1	94.5	-	95.1	96.4	97.9	98.3	-	97.8	95.0	95.7	89.9	-	94.7	96.5
Mediums	2	12	3	-	17	6	16	8	-	30	4	11	4	-	19	8	14	8	-	30	96
% Mediums	1.7	2.2	3.6	-	2.3	4.2	3.9	4.0	-	4.0	2.9	1.8	1.7	-	1.9	5.0	4.3	10.1	-	5.3	3.2
Articulated Trucks	0	2	0	-	2	0	4	3	-	7	1	2	0	-	3	0	0	0	-	0	12
% Articulated Trucks	0.0	0.4	0.0	-	0.3	0.0	1.0	1.5	-	0.9	0.7	0.3	0.0	-	0.3	0.0	0.0	0.0	-	0.0	0.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

progressive|ae

Progressive AE
1811 4 Mile Rd NE

Grand Rapids, Michigan, United States 49525
(616) 361-2664

Count Name: Ann Arbor Rd and Sheldon Rd
Site Code:
Start Date: 10/19/2021

Turning Movement Peak Hour Data (4:45 PM)

Start Time	Ann Arbor Rd Eastbound					Ann Arbor Rd Westbound					Sheldon Rd Northbound					Sheldon Rd Southbound					
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
4:45 PM	32	140	25	0	197	82	155	65	0	302	26	143	59	1	228	65	180	21	0	266	993
5:00 PM	42	137	22	0	201	67	202	61	1	330	27	126	60	3	213	47	178	8	0	233	977
5:15 PM	35	147	26	2	208	90	207	71	1	368	38	162	46	1	246	51	162	13	0	226	1048
5:30 PM	44	140	20	0	204	90	159	64	0	313	35	137	40	0	212	61	161	9	0	231	960
Total	153	564	93	2	810	329	723	261	2	1313	126	568	205	5	899	224	681	51	0	956	3978
Approach %	18.9	69.6	11.5	-	-	25.1	55.1	19.9	-	-	14.0	63.2	22.8	-	-	23.4	71.2	5.3	-	-	-
Total %	3.8	14.2	2.3	-	20.4	8.3	18.2	6.6	-	33.0	3.2	14.3	5.2	-	22.6	5.6	17.1	1.3	-	24.0	-
PHF	0.869	0.959	0.894	-	0.974	0.914	0.873	0.919	-	0.892	0.829	0.877	0.854	-	0.914	0.862	0.946	0.607	-	0.898	0.949
Lights	152	550	92	-	794	329	722	252	-	1303	124	561	196	-	881	216	677	51	-	944	3922
% Lights	99.3	97.5	98.9	-	98.0	100.0	99.9	96.6	-	99.2	98.4	98.8	95.6	-	98.0	96.4	99.4	100.0	-	98.7	98.6
Mediums	1	12	1	-	14	0	0	9	-	9	2	6	8	-	16	5	3	0	-	8	47
% Mediums	0.7	2.1	1.1	-	1.7	0.0	0.0	3.4	-	0.7	1.6	1.1	3.9	-	1.8	2.2	0.4	0.0	-	0.8	1.2
Articulated Trucks	0	2	0	-	2	0	1	0	-	1	0	1	1	-	2	3	1	0	-	4	9
% Articulated Trucks	0.0	0.4	0.0	-	0.2	0.0	0.1	0.0	-	0.1	0.0	0.2	0.5	-	0.2	1.3	0.1	0.0	-	0.4	0.2
Pedestrians	-	-	-	2	-	-	-	-	2	-	-	-	-	5	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

progressive|ae

Synchro Analysis Results

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	536	83	143	410	200	139	623	231	161	322	79
Future Volume (veh/h)	118	536	83	143	410	200	139	623	231	161	322	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	131	596	92	157	451	220	154	692	257	212	424	104
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	340	899	138	287	1035	461	400	792	294	266	886	215
Arrive On Green	0.07	0.29	0.29	0.07	0.29	0.29	0.09	0.31	0.31	0.09	0.31	0.31
Sat Flow, veh/h	1795	3110	479	1795	3582	1594	1795	2556	949	1795	2857	695
Grp Volume(v), veh/h	131	343	345	157	451	220	154	485	464	212	264	264
Grp Sat Flow(s),veh/h/ln	1795	1791	1798	1795	1791	1594	1795	1791	1714	1795	1791	1760
Q Serve(g_s), s	0.0	16.8	16.9	0.0	10.2	11.4	0.0	25.6	25.6	5.6	12.0	12.2
Cycle Q Clear(g_c), s	0.0	16.8	16.9	0.0	10.2	11.4	0.0	25.6	25.6	5.6	12.0	12.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.55	1.00		0.39
Lane Grp Cap(c), veh/h	340	518	520	287	1035	461	400	555	531	266	555	546
V/C Ratio(X)	0.39	0.66	0.66	0.55	0.44	0.48	0.39	0.87	0.87	0.80	0.48	0.48
Avail Cap(c_a), veh/h	340	518	520	287	1035	461	400	555	531	266	555	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	31.3	31.3	39.9	28.9	29.3	31.5	32.6	32.6	42.2	27.9	28.0
Incr Delay (d2), s/veh	3.3	6.5	6.6	7.3	1.3	3.5	2.8	17.2	17.8	21.6	2.9	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	7.8	7.9	4.1	4.4	4.6	3.4	13.2	12.7	6.3	5.4	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	37.8	37.9	47.2	30.3	32.8	34.3	49.8	50.4	63.8	30.8	31.0
LnGrp LOS	D	D	D	D	C	C	C	D	D	E	C	C
Approach Vol, veh/h		819			828			1103			740	
Approach Delay, s/veh		37.6			34.1			47.9			40.4	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	35.0	15.0	37.0	13.0	35.0	15.0	37.0
Change Period (Y+Rc), s	* 6.1	* 6.1	6.0	6.0	* 6.1	* 6.1	6.0	6.0
Max Green Setting (Gmax), s	* 6.9	* 29	9.0	31.0	* 6.9	* 29	9.0	31.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	564	93	329	723	261	126	568	205	224	681	51
Future Volume (veh/h)	153	564	93	329	723	261	126	568	205	224	681	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	161	594	98	370	812	293	138	624	225	249	757	57
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	369	976	161	425	1136	504	248	586	211	245	767	58
Arrive On Green	0.14	0.32	0.32	0.14	0.32	0.32	0.10	0.23	0.23	0.10	0.23	0.23
Sat Flow, veh/h	1795	3076	506	1795	3582	1590	1795	2578	928	1795	3375	254
Grp Volume(v), veh/h	161	345	347	370	812	293	138	433	416	249	402	412
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1795	1791	1590	1795	1791	1715	1795	1791	1839
Q Serve(g_s), s	0.9	17.9	18.0	10.7	22.0	17.0	3.7	25.0	25.0	11.0	24.6	24.6
Cycle Q Clear(g_c), s	0.9	17.9	18.0	10.7	22.0	17.0	3.7	25.0	25.0	11.0	24.6	24.6
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.54	1.00		0.14
Lane Grp Cap(c), veh/h	369	568	568	425	1136	504	248	407	390	245	407	418
V/C Ratio(X)	0.44	0.61	0.61	0.87	0.71	0.58	0.56	1.06	1.07	1.02	0.99	0.99
Avail Cap(c_a), veh/h	369	568	568	425	1136	504	248	407	390	245	407	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	31.8	31.8	40.5	33.2	31.4	45.3	42.5	42.5	48.0	42.3	42.3
Incr Delay (d2), s/veh	3.7	4.8	4.8	21.0	3.8	4.8	8.8	62.8	64.3	61.8	41.4	40.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	8.1	8.2	11.2	9.7	7.0	3.9	17.8	17.2	10.4	15.2	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	36.5	36.6	61.5	37.0	36.2	54.1	105.3	106.8	109.8	83.7	83.3
LnGrp LOS	D	D	D	E	D	D	D	F	F	F	F	F
Approach Vol, veh/h		853			1475			987			1063	
Approach Delay, s/veh		37.7			43.0			98.8			89.6	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	41.0	17.0	31.0	21.0	41.0	17.0	31.0
Change Period (Y+Rc), s	* 6.1	* 6.1	6.0	6.0	* 6.1	* 6.1	6.0	6.0
Max Green Setting (Gmax), s	* 15	* 35	11.0	25.0	* 15	* 35	11.0	25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	65.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	531	84	144	417	202	140	632	233	176	328	80
Future Volume (veh/h)	132	531	84	144	417	202	140	632	233	176	328	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	147	590	93	158	458	222	156	702	259	232	432	105
Peak Hour Factor	0.90	0.90	0.90	0.91	0.91	0.91	0.90	0.90	0.90	0.76	0.76	0.76
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	337	896	141	289	1035	461	396	794	293	263	887	214
Arrive On Green	0.07	0.29	0.29	0.07	0.29	0.29	0.09	0.31	0.31	0.09	0.31	0.31
Sat Flow, veh/h	1795	3100	487	1795	3582	1594	1795	2561	945	1795	2862	690
Grp Volume(v), veh/h	147	340	343	158	458	222	156	491	470	232	269	268
Grp Sat Flow(s),veh/h/ln	1795	1791	1796	1795	1791	1594	1795	1791	1715	1795	1791	1761
Q Serve(g_s), s	0.0	16.7	16.8	0.0	10.4	11.5	0.0	26.1	26.1	7.0	12.2	12.4
Cycle Q Clear(g_c), s	0.0	16.7	16.8	0.0	10.4	11.5	0.0	26.1	26.1	7.0	12.2	12.4
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.55	1.00		0.39
Lane Grp Cap(c), veh/h	337	518	519	289	1035	461	396	555	532	263	555	546
V/C Ratio(X)	0.44	0.66	0.66	0.55	0.44	0.48	0.39	0.88	0.88	0.88	0.48	0.49
Avail Cap(c_a), veh/h	337	518	519	289	1035	461	396	555	532	263	555	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	31.2	31.2	39.8	29.0	29.4	31.9	32.8	32.8	42.8	28.0	28.1
Incr Delay (d2), s/veh	4.1	6.4	6.5	7.3	1.4	3.6	2.9	18.3	19.0	32.1	3.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	7.7	7.8	4.1	4.4	4.7	3.5	13.5	13.1	7.5	5.5	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	37.6	37.7	47.1	30.4	32.9	34.8	51.1	51.7	74.9	31.0	31.2
LnGrp LOS	D	D	D	D	C	C	C	D	D	E	C	C
Approach Vol, veh/h		830			838			1117			769	
Approach Delay, s/veh		37.8			34.2			49.1			44.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	35.0	15.0	37.0	13.0	35.0	15.0	37.0
Change Period (Y+Rc), s	* 6.1	* 6.1	6.0	6.0	* 6.1	* 6.1	6.0	6.0
Max Green Setting (Gmax), s	* 6.9	* 29	9.0	31.0	* 6.9	* 29	9.0	31.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	12	940	26	8	562
Future Vol, veh/h	22	12	940	26	8	562
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	24	13	1022	28	9	611

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1360	525	0	0	1050	0
Stage 1	1036	-	-	-	-	-
Stage 2	324	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.12	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.21	-
Pot Cap-1 Maneuver	141	500	-	-	665	-
Stage 1	305	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	139	500	-	-	665	-
Mov Cap-2 Maneuver	244	-	-	-	-	-
Stage 1	305	-	-	-	-	-
Stage 2	698	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	298	665	-
HCM Lane V/C Ratio	-	-	0.124	0.013	-
HCM Control Delay (s)	-	-	18.8	10.5	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	940	755	9	0	9
Future Vol, veh/h	0	940	755	9	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	0	1022	821	10	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	416
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.31
Pot Cap-1 Maneuver	0	-	-	-	0	588
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	588
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	588
HCM Lane V/C Ratio	-	-	-	0.017
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	568	94	332	730	264	127	575	207	229	689	52
Future Volume (veh/h)	157	568	94	332	730	264	127	575	207	229	689	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	165	598	99	373	820	297	140	632	227	254	766	58
Peak Hour Factor	0.95	0.95	0.95	0.89	0.89	0.89	0.91	0.91	0.91	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	367	975	161	423	1136	504	245	586	210	245	767	58
Arrive On Green	0.14	0.32	0.32	0.14	0.32	0.32	0.10	0.23	0.23	0.10	0.23	0.23
Sat Flow, veh/h	1795	3074	508	1795	3582	1590	1795	2580	926	1795	3374	255
Grp Volume(v), veh/h	165	348	349	373	820	297	140	438	421	254	406	418
Grp Sat Flow(s),veh/h/ln	1795	1791	1791	1795	1791	1590	1795	1791	1716	1795	1791	1838
Q Serve(g_s), s	1.3	18.1	18.2	11.0	22.3	17.2	4.0	25.0	25.0	11.0	25.0	25.0
Cycle Q Clear(g_c), s	1.3	18.1	18.2	11.0	22.3	17.2	4.0	25.0	25.0	11.0	25.0	25.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.54	1.00		0.14
Lane Grp Cap(c), veh/h	367	568	568	423	1136	504	245	407	390	245	407	418
V/C Ratio(X)	0.45	0.61	0.61	0.88	0.72	0.59	0.57	1.08	1.08	1.04	1.00	1.00
Avail Cap(c_a), veh/h	367	568	568	423	1136	504	245	407	390	245	407	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	31.8	31.8	40.7	33.2	31.5	45.4	42.5	42.5	48.0	42.5	42.5
Incr Delay (d2), s/veh	3.9	4.9	4.9	22.3	4.0	5.0	9.3	66.8	68.2	67.4	44.3	43.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	8.2	8.3	11.4	9.8	7.1	4.0	18.2	17.6	10.8	15.7	16.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	36.7	36.8	63.0	37.2	36.5	54.7	109.3	110.7	115.4	86.8	86.3
LnGrp LOS	D	D	D	E	D	D	D	F	F	F	F	F
Approach Vol, veh/h		862			1490			999			1078	
Approach Delay, s/veh		37.9			43.5			102.3			93.4	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	41.0	17.0	31.0	21.0	41.0	17.0	31.0
Change Period (Y+Rc), s	* 6.1	* 6.1	6.0	6.0	* 6.1	* 6.1	6.0	6.0
Max Green Setting (Gmax), s	* 15	* 35	11.0	25.0	* 15	* 35	11.0	25.0
Max Q Clear Time (g_c+I1), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	67.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	3	990	4	3	964
Future Vol, veh/h	6	3	990	4	3	964
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	7	3	1076	4	3	1048

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1608	540	0	0	1080	0
Stage 1	1078	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Critical Hdwy	6.82	6.92	-	-	4.12	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	-	-	2.21	-
Pot Cap-1 Maneuver	97	489	-	-	647	-
Stage 1	290	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	97	489	-	-	647	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	290	-	-	-	-	-
Stage 2	555	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	261	647	-
HCM Lane V/C Ratio	-	-	0.037	0.005	-
HCM Control Delay (s)	-	-	19.3	10.6	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↱
Traffic Vol, veh/h	0	1004	1324	3	0	2
Future Vol, veh/h	0	1004	1324	3	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	0	1091	1439	3	0	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	721
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.31
Pot Cap-1 Maneuver	0	-	-	-	0	372
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	372
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	372
HCM Lane V/C Ratio	-	-	-	0.006
HCM Control Delay (s)	-	-	-	14.7
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0

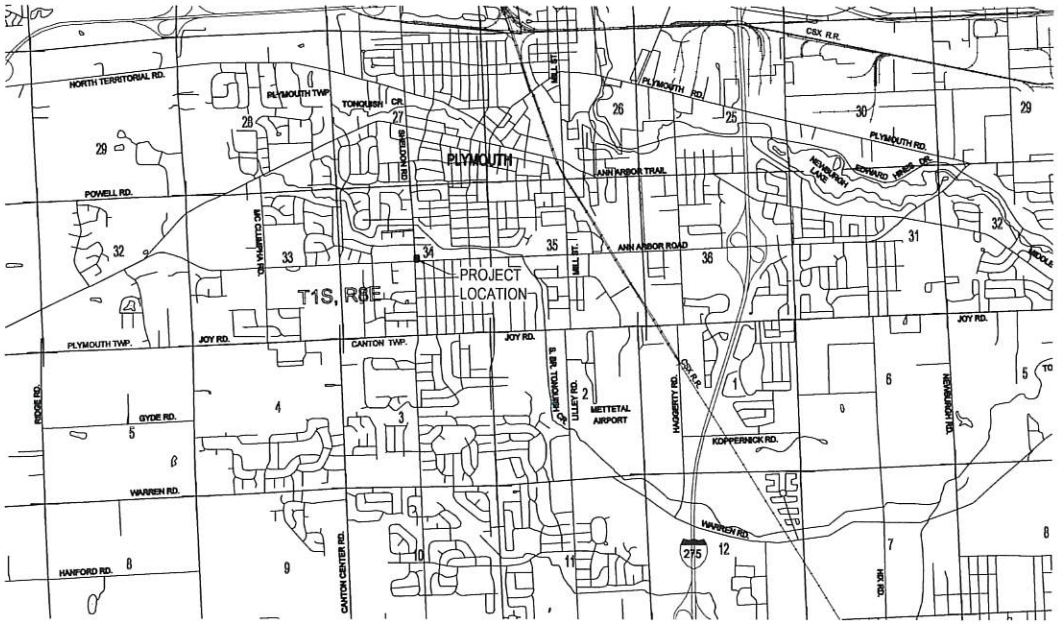
PROPOSED REDEVELOPMENT

SCOOTER'S COFFEE DRIVE-THRU

1490 WEST ANN ARBOR ROAD, PLYMOUTH, MI 48170

ISSUED FOR: SPECIAL LAND USE

DATE: 11/11/2021



SITE LOCATION MAP

SCALE: 1" = 2000'

NORTH

PROJECT DESCRIPTION

CONSTRUCTION OF NEW 664 SQUARE FOOT COFFEE SHOP WITH DRIVE-THROUGH ONLY SERVICE. SITE IMPROVEMENTS INCLUDE NEW DRIVEWAYS, PARKING SPACES FOR EMPLOYEES, UTILITIES AND LANDSCAPING.

progressive ae

CALL 811 NOTE:

CONTRACTOR TO CONTACT 811 SERVICE AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION. TO CONFIRM LOCATION OF EXISTING UTILITIES. DIAL 811.

Land Use Summary		
Characteristic	Existing Conditions	Proposed Conditions
Total Development Area (ac)	0.61	0.61
Impervious Area (ac)	0.46	0.43
Total Pervious Area (ac)	0.15	0.18
Pervious Area Breakdown by Cover Type		
Meadow/fallow/natural areas (non-cultivated)	-	-
Predominant NRCS Soil Type (A, B, C, or D)	D	D
Improved areas (turf grass, landscape, row crops)	0.15 acres	0.18 acres
Predominant NRCS Soil Type (A, B, C, or D)	D	D
Wooded Areas	-	-
Predominant NRCS Soil Type (A, B, C, or D)	D	D
Calculated CPVC Volume (cubic feet)		ZERO
CPVC Volume Provided (cubic feet)		ZERO
CPRC Volume Required (cubic feet)		2,395
CPRC Volume Provided (cubic feet)		2,397

DRAWING INDEX

11/11/2021	G0.01	COVER SHEET
11/11/2021	E723-01	TOPOGRAPHIC SURVEY BY NF ENGINEERS
11/11/2021	C1.01	SITE DEMOLITION PLAN
11/11/2021	C1.02	SESC PLAN
11/11/2021	C1.03	SESC DETAILS
11/11/2021	C2.00	SITE CONTEXT PLAN
11/11/2021	C2.01	SITE LAYOUT PLAN
11/11/2021	C2.02	FIRE HYDRANT LOCATIONS MAP
11/11/2021	C3.00	SITE GRADING PLAN
11/11/2021	C4.00	SITE UTILITY PLAN
11/11/2021	C4.01	STORMWATER PROFILES
11/11/2021	C5.00	SITE DETAILS
11/11/2021	C5.01	WAYNE COUNTY DETAILS
11/11/2021	C5.02	UNDERGROUND DETENTION DETAILS
11/11/2021	C5.03	POST-DEVELOPED DRAINAGE PLAN
11/11/2021	C5.04	STORMWATER CALCULATIONS
11/11/2021	C6.00	RIGHT OF WAY PERMIT PLAN
11/11/2021	C6.01	TRAFFIC CONTROL PLAN
11/11/2021	L1.01	LANDSCAPE PLAN
11/11/2021	L2.01	LANDSCAPE DETAILS
11/11/2021	A2.1	DIMENSION PLAN & FLOOR PLAN
11/11/2021	A2.4	RCP ROOF PLAN
11/11/2021	A3.1	EXTERIOR ELEVATIONS
11/11/2021	A6.1	DUMPSTER ENCLOSURE PLAN
11/11/2021	E0.01	ELECTRICAL SITE PLAN
11/11/2021	E0.02	PHOTOMETRIC PLAN

DRAWING LIST LEGEND

MOST RECENT ISSUE DATE

LATEST REVISION NUMBER

FILLED IN CIRCLE INDICATES DRAWING INCLUDED IN THIS DRAWING SET.

PROJECT DIRECTORY

LAND OWNER
FLAGSTAR BANK, FSB
5151 CORPORATE DRIVE
TROY, MI 48098

APPLICANT
BRYAN BENDER
30445 NORTHWESTERN HWY., SUITE 275
FARMINGTON HILLS, MI 48334

ENGINEER
PROGRESSIVE AE
ATTN: JOSHUA MANION, PE
1811 4 MILE ROAD NE
GRAND RAPIDS, MI 49525
TEL: 616-447-3455

progressive ae

1811 4 Mile Rd NE | Grand Rapids, MI 49525 | 616.361.2664 | www.progressive-ae.com

SCOOTER'S COFFEE

1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

STATE OF MICHIGAN JOSHUA PAUL MANION ENGINEER No. 55535 Professional Engineer

This item has been digitally signed and sealed by Joshua Paul Manion using a Digital Signature and date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

NOT FOR CONSTRUCTION

ISSUANCE

SPECIAL LAND USE

11/11/2021

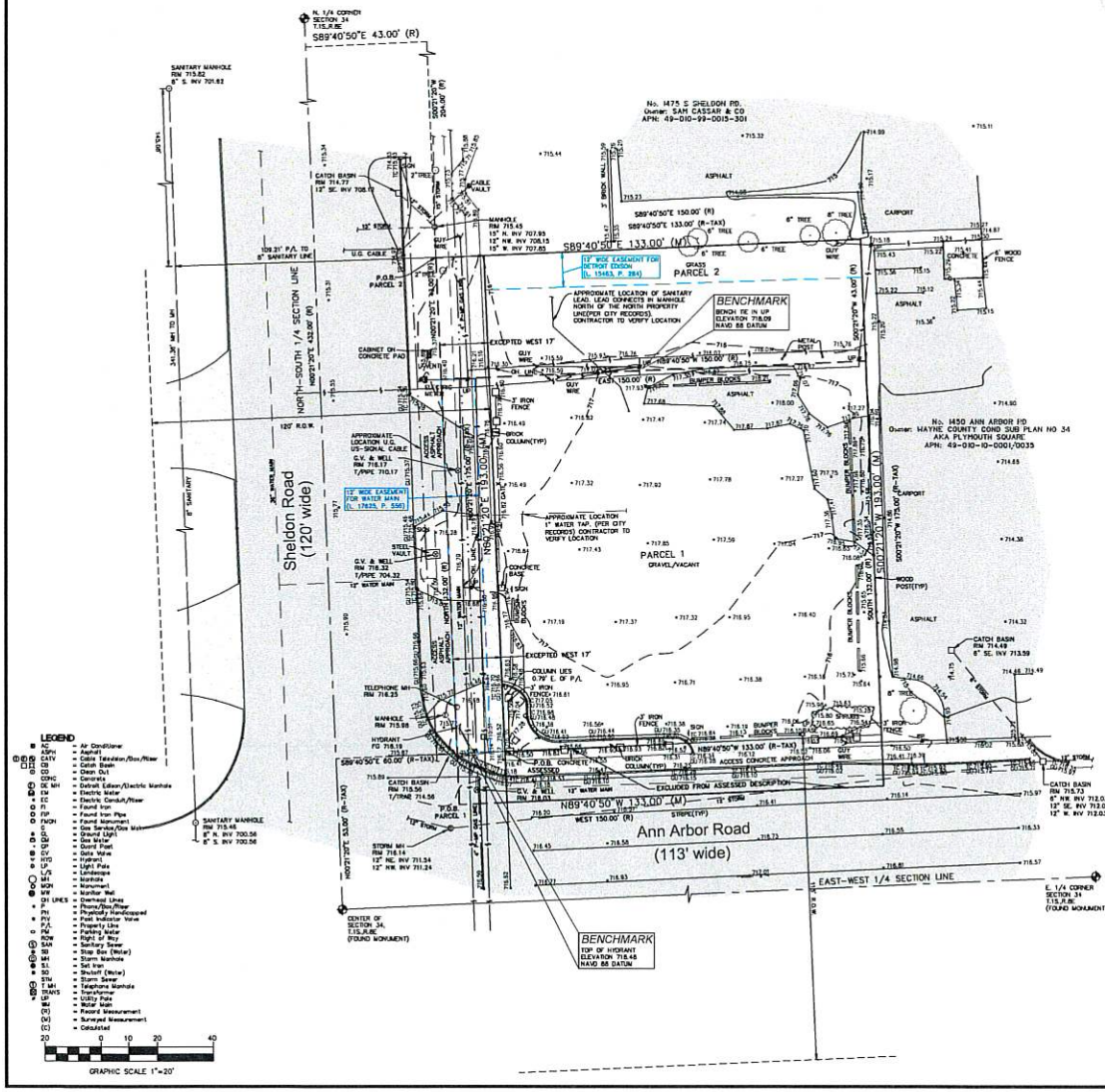
REVISIONS

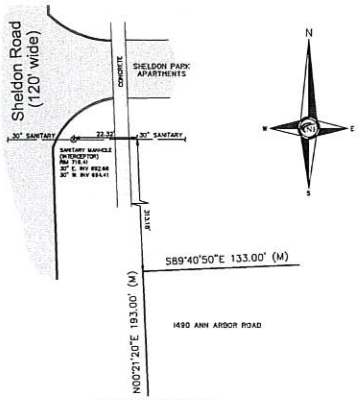
NO.	DATE	DESCRIPTION

FILE NUMBER	91883004
PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	AQA
CHECKED BY	

COVER SHEET

G0.01





SANITARY MANHOLE LOCATION DETAIL

LOCATION MAP

SITE DATA
Gross Land Area: 25,668 Square Feet or 0.589 Acres.
Assessed Land Area: 28,949 Square Feet or 0.664 Acres
Zoned: ARC (Ann Arbor Road Corridor)
Building Setbacks:
Front= 40'
Sides= 25'/adj to residential 50'/adj to a street 40'
Rear= 40'/ adj to residential 50'

Max. Building Height permitted: 35'/ The height of a building may be increased one (1) foot for each one (1) foot by which its setback is in excess of the required yard setbacks, up to a maximum height of forty-five (45) feet.

Total Striped Parking: 0 striped spaces including 0 barrier free (handicap) spaces.

The above setback & height requirements were obtained from the City of Plymouth Zoning Ordinance.

A surveyor cannot make a certification on the basis of an interpretation or opinion of another party. A zoning endorsement letter should be obtained from the City of Plymouth to insure conformity as well as make a final determination of the required building setback requirements.

TITLE NOTES
Subject To:

2. Any facts, rights, interests, or claims that are not shown by the Public Records but that could be ascertained by making inquiry of persons in possession of the Land.

3. Easements, liens or encumbrances, or claims thereof, not shown by the Public Records.

7. The terms, provisions and easement(s) contained in the document entitled "Agreement" recorded June 17, 1964 as Liber 15368, Page 464 of Official Records. (Affects Parcel 2) [EASEMENT IS NOT WITHIN AND DOES NOT TOUCH THE SURVEYED LAND AND ITS LOCATION IS NOT SHOWN].

8. Joint Right of Way granted to the Detroit Edison Company and Michigan Bell Telephone Company disclosed by instrument recorded in Liber 15463, Page 886, Wayne County Records. (Affects Parcel 2) [EASEMENT IS WITHIN THE SURVEYED LAND AND ITS LOCATION IS SHOWN].

9. Oil, gas and mineral reservations contained in the instrument(s) recorded in Liber 30140, Page 5282. (Affects Parcel 1) [DOCUMENT DOES NOT DESCRIBE ANY PLOTTABLE EASEMENTS OR PLOTTABLE RESTRICTIONS; THE SURVEYED LAND IS WITHIN THE PROPERTY DESCRIBED IN SAID DOCUMENT].

This exception does not constitute a statement as to the ownership of this interest or right. There may be leases, grants, exceptions or reservations of such interests that are not listed.

10. The terms and provisions contained in the document entitled "Restrictive Covenant" recorded June 24, 2002 as Liber 36441, Page 1449 of Official Records. (Affects Parcel 1) [DOCUMENT DOES NOT DESCRIBE ANY PLOTTABLE EASEMENTS OR PLOTTABLE RESTRICTIONS; THE SURVEYED LAND IS WITHIN THE PROPERTY DESCRIBED IN SAID DOCUMENT].

11. The fact, as disclosed by that certain document or documents recorded June 24, 2002 as Liber 36441, Page 1449 of Official Records, that some violation of environmental protection laws may have occurred which may affect the land. (Affects Parcel 1) [DOCUMENT NOT PROVIDED; NOT PLOTTED HEREON]

12. The terms, provisions and easement(s) contained in the document entitled "Special Warranty Deed" recorded November 5, 2004 as Liber 41623, Page 800 of Official Records. (Affects Parcel 1) [DOCUMENT DOES NOT DESCRIBE ANY PLOTTABLE EASEMENTS OR PLOTTABLE RESTRICTIONS; THE SURVEYED LAND IS WITHIN THE PROPERTY DESCRIBED IN SAID DOCUMENT].

13. The terms and provisions contained in the document entitled "Access Agreement Granting Right of Entry" recorded November 5, 2004 as Liber 41623, Page 804 of Official Records. (Affects both Parcels) [DOCUMENT DOES NOT DESCRIBE ANY PLOTTABLE EASEMENTS OR PLOTTABLE RESTRICTIONS; THE SURVEYED LAND IS WITHIN THE PROPERTY DESCRIBED IN SAID DOCUMENT].

14. Interest of others in oil, gas and mineral rights, if any, whether or not recorded in the Public Records.

15. Interest, if any, of the United States, State of Michigan, or any political subdivision thereof, in the oil, gas and minerals in and under and that may be produced from the captioned land.

17. Any rights, title, interest or claim thereof to that portion of the land taken, used or granted for streets, roads or highways.

All exceptions shown or noted on this survey were obtained from title commitment No. NCS-1067054-MICH, with a commitment date of 03-29-2021, issued by First American Title Insurance Company.

LEGAL DESCRIPTION
Land in the City of Plymouth, Wayne County, MI, described as follows:

Parcel 1:
Part of the Northeast 1/4 of Section 34, Town 1 South, Range 8 East, City of Plymouth, Wayne County, Michigan, described as follows: Beginning at a point formed by the right-of-way lines of Ann Arbor Road and Sheldon Road, proceeding thence North along the Eastern right-of-way line of Sheldon Road, 132 feet to a point; thence East on a line parallel with the Northern right-of-way line of Ann Arbor Road 150 feet to a point; thence South 132 feet to a point in the Northern right-of-way line of Ann Arbor Road; thence West 150 feet along the Northern right-of-way line of Ann Arbor Road to the point of beginning Except that part taken for widening of Sheldon Road right of way.

Parcel 2 (Parcel 8B):

Part of the Northeast 1/4 of Section 34, Town 1 South, Range 8 East, City of Plymouth, Wayne County, Michigan, described as follows: Beginning at a point on the East right of way line of Sheldon Road distant North 00 degrees 21 minutes 20 seconds East 432.00 feet and South 89 degrees 40 minutes 50 seconds East 43.00 feet and South 00 degrees 21 minutes 20 seconds West 204.00 feet from the center of Section 34, Town 1 South, Range 8 East, and proceeding thence South 89 degrees 40 minutes 50 seconds East 150.00 feet; thence South 00 degrees 21 minutes 20 seconds West 43.00 feet; thence North 89 degrees 40 minutes 50 seconds West 150.00 feet; thence North 00 degrees 21 minutes 20 seconds East along the East line of Sheldon Road 43.00 feet to the point of beginning, except the West 17 feet deeded to Board of County Road Commissioners of the County of Wayne.

Parcel 1 and 2 described for tax purposes as:

Part of the Northeast 1/4 of Section 34, Town 1 South, Range 8 East, described as: Beginning North 00 degrees 21 minutes 20 seconds East 53.00 feet and South 89 degrees 40 minutes 50 seconds East 60.00 feet from the Center 1/ corner of Section 34; thence North 00 degrees 21 minutes 20 seconds East 175.00 feet; thence South 89 degrees 40 minutes 50 seconds East 133.00 feet; thence South 00 degrees 21 minutes 20 seconds West 175.00 feet; thence North 89 degrees 40 minutes 50 seconds West 133.00 feet to the point of beginning.

Tax Parcel No.: 49-010-99-0013-301

BASIS OF BEARING NOTE
The basis of bearing for this survey was established by the record legal description.

ACCESS NOTE
The subject land has direct vehicle and pedestrian access to Ann Arbor Road and Sheldon Road both are publicly dedicated rights of way.

FLOOD HAZARD NOTE
The Property described on this survey does not lie within a Special Flood Hazard Area as defined by the Federal Emergency Management Agency; the property lies within Zone X of the current available Flood Insurance Rate Map identified as Map No. 26163C0201E bearing an effective date of 02/02/2012.

CEMETERY NOTE
There was no observable evidence of cemeteries or burial grounds within the subject property.

UTILITY NOTE
All utilities are underground unless otherwise noted.

The utilities shown on this survey were determined by field observation. All locations are approximate. The location of any other underground services which may exist can only be depicted if a Utility Plan is furnished to the surveyor.

NOTE: DTE has new regulations that may impact development outside their easement or the public right of way. Client shall contact DTE to determine the New Structures and Power Line requirements as they may apply to any future building or renovation of a structure. DTE Energy can be contacted at 800-477-4747

TABLE A NOTES
2. Street Address is 1490 W Ann Arbor Rd

14. The Southwest corner of the Subject Land lies at the intersection of the North right of way line of Ann Arbor Road and the East right of way line of Sheldon Road.

16: There was no observable evidence of current earth moving work, building construction or building additions observed in the process of conducting the fieldwork.

17: There are no known proposed changes in street right-of-way lines available from the controlling jurisdiction.

17: There was no observable evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.

18: Improvements within offsite easements or servitudes as provided by the Title Company are shown within 25 feet of the subject land only.

SURVEYOR'S CERTIFICATION
To:
Bender Plymouth 1, LLC, a Michigan limited liability company
Flagstar Bank FSB
First American Title Insurance Company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 2, 3, 4, 6(a), 6(b), 7(a), 7(b1), 7(c), 8, 9, 11(a), 13, 14, 15, 17, 18 and 19 of Table A thereof.

The field work was completed on 06-15-2021.

Kevin Christopher Navaroli, P.S.
No 40010535O3
Dated: 06-24-2021
Revised: 08-31-2021

STATE OF MICHIGAN — KEVIN CHRISTOPHER NAVAROLI — License No. 40010535O3 — PROFESSIONAL SURVEYOR

NOWAK & FRAUS ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NOWAKFRAUS.COM

PROJECT
Vacant Property

PROJECT LOCATION
No. 1490
Ann Arbor Road
Part of the NE. 1/4 of
Section 34, T.1S., R.8E.,
City of Plymouth,
Wayne County, MI

SHEET
Boundary / Topographic/
ALTA / NSPS
Land Title Survey

REVISIONS
06-24-2021 ORIGINAL SURVEY
08-31-2021 ADD SANITARY SEWER

DRAWN BY: D.McConkey
APPROVED BY: K.N.,R.FRAUS
EMAIL: rfraus@nfe-engr.com
DATE ISSUED: 06-24-2021
SCALE: 1"=20'
NFE JOB NO.: E723-01
SHEET NO.: 1 of 1

CALL 811 NOTE:

CONTRACTOR TO CONTACT 811 SERVICE AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES. DIAL 811.

www.CALL811.com

SITE CLEARING AND DEMOLITION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE DEMOLITION AND CLEARING REQUIREMENTS.
2. NO REMOVAL, DEMOLITION, CLEARING OR TOPSOIL REMOVAL SHALL OCCUR ON SITE UNTIL THE SESC AND STORMWATER PERMITS HAVE BEEN ISSUED AND THE CONTRACTOR HAS VERIFIED AND STAKED THE LIMITS OF REMOVAL IN THE FIELD.
NOTIFY SITE CONSULTANT OF THE START OF CONSTRUCTION AND DATE WHEN THE LIMITS LINE WILL BE ESTABLISHED FOR REVIEW AND APPROVAL.
3. ALL MATERIALS NOTED TO BE SALVAGED SHALL BE TURNED OVER TO THE OWNER OR REINSTALLED ON SITE AS NOTED.
4. NO BURNING OR BURYING OF CLEARED OR DEMOLITION MATERIAL SHALL BE ALLOWED ON SITE.
5. REMOVE ALL STRUCTURES, FOUNDATIONS, BITUMINOUS PAVEMENT, CONCRETE SIDEWALK STEPS AND OTHER EXISTING SITE FEATURES AS INDICATED ON THE DRAWINGS. ALSO, REMOVE ALL DEBRIS FROM WITHIN CONSTRUCTION LIMITS ON SITE. ALL DEMOLITION MATERIALS SHALL BE REMOVED FROM THE SITE AND, UNLESS OTHERWISE NOTED, DISPOSED OF IN A MANNER ACCEPTABLE TO LOCAL JURISDICTION HAVING AUTHORITY.
6. THE CONTRACTOR SHALL BE LICENSED BY THE STATE OF MICHIGAN FOR DEMOLITION REMOVAL AND HAULING OF MATERIALS.
7. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL PERMITS AND FEES FOR THIS WORK.
8. EXISTING UTILITIES ARE LOCATED TO THE BEST OF OUR KNOWLEDGE. THE CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING EXISTING UTILITY LOCATIONS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL PROTECT AND MAINTAIN EXISTING UTILITY SERVICES AT ALL TIMES.
9. ALL EXCESS OR UNSUITABLE TOPSOIL OR SUBSOIL TO BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED OFFSITE.
10. PROTECT EXISTING TREES UNLESS OTHERWISE NOTED. NO PARKING OR STORAGE OF MATERIALS WITHIN TREE ROOT ZONE. PLACE TREE PROTECTION FENCE WHERE SHOWN ON PLAN.
11. TREE PROTECTION FENCE - ORANGE SAFETY FENCE AROUND TREES SUPPORTED BY STEEL T-BAR FENCE POSTS. ZIP TIE FABRIC TO POSTS. INSTALL PRIOR TO ANY CONSTRUCTION ACTIVITY AND MAINTAIN DURING ENTIRE CONSTRUCTION PERIOD.
12. CONTRACTOR TO CALL 811 AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES.
13. CONTRACTOR MUST RESTORE AND REPAIR ANY EXISTING CONDITIONS DISTURBED BY CONSTRUCTION.
14. ANY AREA DISTURBED BY CONSTRUCTION TO BE RESTORED TO CONDITION EQUAL TO OR BETTER THAN BEFORE CONSTRUCTION BEGAN. PATCH PAVEMENT IN-KIND IF REQUIRED.
15. SAWCUT FULL DEPTH ALL EDGES OF PAVEMENT TO BE REMOVED.
16. ALL GROUND AREAS DISTURBED BY CONSTRUCTION TO BE TOPSOILED AND SEEDED PER THE SITE LANDSCAPE PLAN UNLESS SHOWN OTHERWISE ON PLANS.

DEMOLITION LEGEND

- BITUMINOUS PAVEMENT REMOVAL
- CONCRETE REMOVAL
- TREE REMOVAL
- REMOVE CONCRETE CURB
- REMOVE UTILITY LINE

ALL ITEMS IN BOLD TO BE REMOVED UNLESS OTHERWISE NOTED.

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STATE OF MICHIGAN JOSHUA PAUL MANION ENGINEER No. 55538 LICENSED PROFESSIONAL ENGINEER

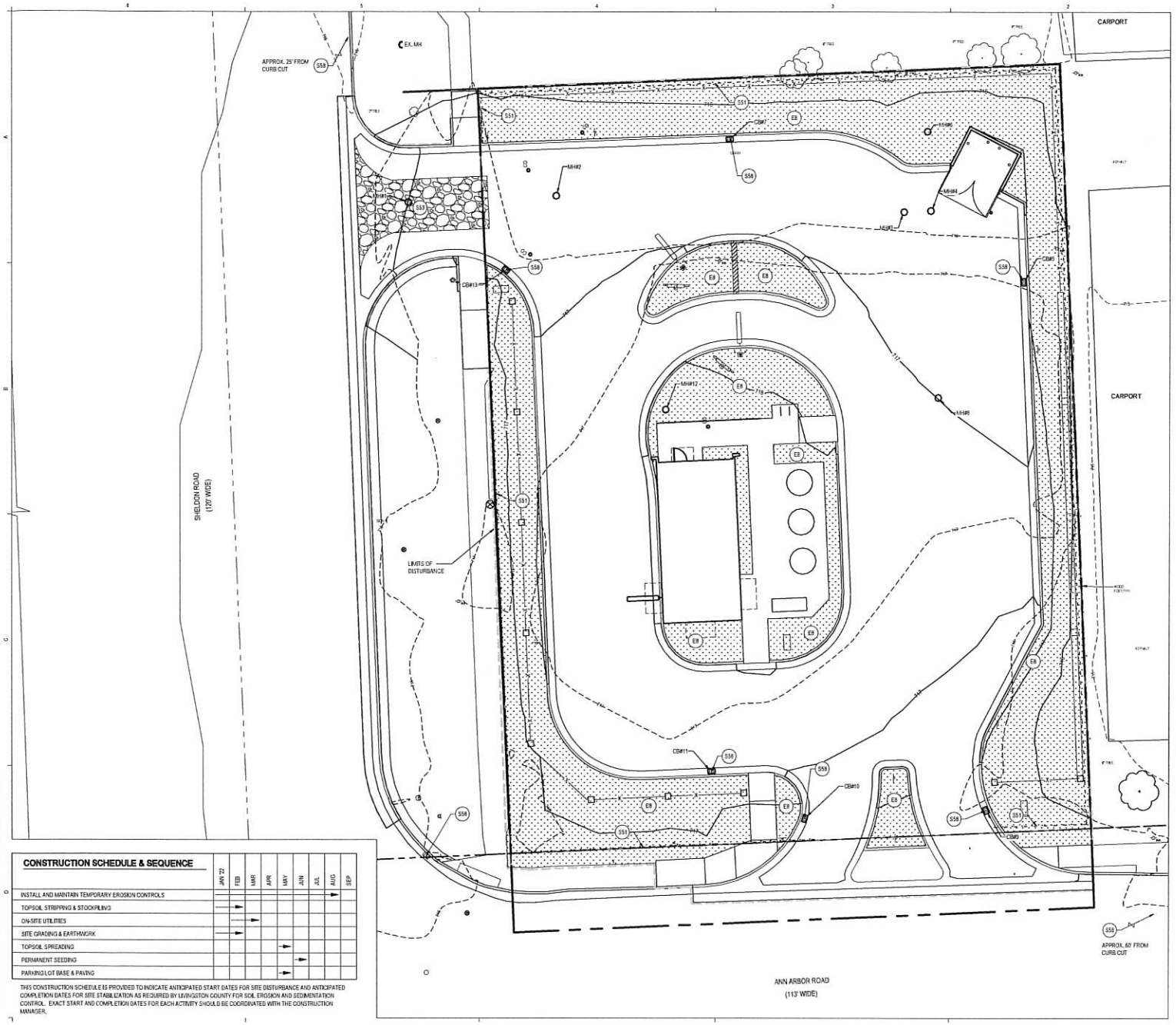
NOT FOR CONSTRUCTION

ISSUANCE
SPECIAL LAND USE
11/11/2021

REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER 91880004
PROJECT MANAGER
PROFESSIONAL
DRAWN BY
CHECKED BY

SITE DEMOLITION PLAN
C1.01



CONSTRUCTION SCHEDULE & SEQUENCE

	JAN '22	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
INSTALL AND MAINTAIN TEMPORARY EROSION CONTROLS									
TOPSOIL STRIPPING & STOCKPILING									
ON-SITE UTILITIES									
SITE GRADING & EARTHWORK									
TOPSOIL SPREADING									
PERMANENT SEEDING									
PARKING LOT BASE & PAVING									

THIS CONSTRUCTION SCHEDULE IS PROVIDED TO INDICATE ANTICIPATED START DATES FOR SITE DISTURBANCE AND ANTICIPATED COMPLETION DATES FOR SITE STABILIZATION AS REQUIRED BY LIVINGSTON COUNTY FOR SOIL EROSION AND SEDIMENTATION CONTROL. EXACT START AND COMPLETION DATES FOR EACH ACTIVITY SHOULD BE COORDINATED WITH THE CONSTRUCTION MANAGER.

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CALL 811 NOTE:

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EROSION CONTROL NOTES

1. INSTALL EROSION CONTROL MEASURES AT THE LIMITS OF EARTHWORK PRIOR TO THE START OF ANY EARTHWORK OPERATIONS. ALL OTHER EROSION CONTROL MEASURES SHALL BE INSTALLED IN CONJUNCTION WITH THE CONSTRUCTION SCHEDULE AND SEQUENCE AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
2. MAINTAIN ALL EROSION CONTROL INSTALLATIONS DURING THE COURSE OF CONSTRUCTION. MAKE INSPECTIONS AFTER EACH STORM EVENT AND REPAIR OR REPLACE ANY DAMAGE. REMOVE ACCUMULATED SEDIMENT FROM SEDIMENT BASINS TO MAINTAIN EFFECTIVENESS OF EROSION CONTROL INSTALLATIONS. REPAIR ANY ERODED AREAS ON SLOPES OR NEAR SILT FENCE. REGRADE AND RESEED ANY TEMPORARY SEEDED AREAS AS NECESSARY TO PREVENT EROSION.
3. THE EROSION CONTROL MEASURES INDICATED ON THIS PLAN ARE BASED ON "THE MICHIGAN SOIL EROSION & SEDIMENTATION CONTROL GUIDEBOOK". THE SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AND MAINTAINED PER PLANS AND SPECIFICATIONS.
4. KEEP PUBLIC ROADWAYS CLEAR OF ACCUMULATED SEDIMENT. SEDIMENTS SHALL BE REMOVED IMMEDIATELY UPON ENTERING PUBLIC ROADWAYS AND SHALL BE RETURNED TO THE LIKELY POINT OF ORIGIN. SEDIMENTS SHALL NOT BE FLUSHED OR WASHED FROM THE AREA WITH WATER.
5. SILTSACK MANUFACTURED BY CSI GEOTURF OR HANES GEO PRODUCTS OR APPROVED EQUAL SHALL BE USED FOR STORM INLET PROTECTION ITEM S58 (SEE SESC KEYING SYSTEM LEGEND).
6. CONTRACTOR SHALL INSTALL AND MAINTAIN SILT FENCE AROUND ALL SUBSOIL SPOIL AND TOPSOIL STOCKPILE AREAS. ALL SOIL PILES SHALL BE SEEDED WITH APPROVED SEED MIXTURES AND BE LOCATED AWAY FROM ANY DOWNSLOPE STREET, DRIVEWAY, DITCH OR DRAINAGE WAY.
7. REMOVE TEMPORARY CONTROL MEASURES AS FOLLOWS:

   PAVEMENT AREAS - MAINTAIN IN SERVICE UNTIL PREPARATION FOR PLACEMENT OF BITUMINOUS LEVELING COURSES

   LAWN AREAS - REMOVE AFTER LAWN IS WELL ESTABLISHED AND ROOTED
8. SILT FENCE SHALL BE INSPECTED AND REPAIRED ONCE A WEEK AND AFTER EVERY RAIN. SEDIMENT SHALL BE REMOVED IF DEPOSITS REACH HALF THE FENCE HEIGHT.
9. CONTRACTOR WILL BE RESPONSIBLE FOR ALL TEMPORARY SOIL EROSION. OWNER WILL BE RESPONSIBLE FOR PERMANENT SOIL EROSION CONTROL.
10. DUST CONTROL SHALL BE PROVIDED BY MEANS OF WATER DISTRIBUTION ON A REGULAR BASIS OVER AREAS THAT COULD POTENTIALLY PRODUCE DUST CONDITIONS.

STANDARD NOTES

1.	TOTAL SITE AREA:	0.59 AC± 25,700 FT²
2.	TOTAL DISTURBED AREA:	0.61 AC± 26,100 FT²
3.	ROOF AND PAVEMENT AREA:	EXISTING: 1,873 FT² PROPOSED: 18,731 FT²

S-E-S-C KEYING SYSTEM

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
EROSION CONTROLS			
E8	PERMANENT SEEDING		Stabilization method used on sites where earth change has been completed (final grading attained).
S51	SILT FENCE		Use adjacent to critical areas, to prevent sediment laden sheet flow from entering these areas.
S53	STABILIZED CONSTRUCTION ACCESS		Used at every point where construction traffic enters or leaves a construction site.
S58	INLET PROTECTION FABRIC DROP		Use at storm sewer inlets, especially at construction sites.

LIMITS OF DISTURBANCE

LOD=0.61 ACRES

NORTH

SOIL EROSION SEDIMENT CONTROL PLAN

1" = 10' 0 10'

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1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

STATE OF MICHIGAN JOSHUA PAUL MANION ENGINEER No. 56538 PROFESSIONAL ENGINEER

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SPECIAL LAND USE

11/15/2021

REVISIONS

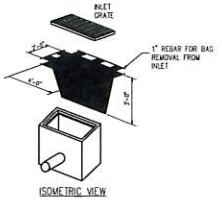
NO. DATE DESCRIPTION

FILE NUMBER 91880004
PROJECT MANAGER
PROFESSIONAL JPM
DRAWN BY AQA
CHECKED BY

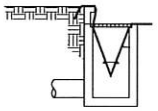
SOIL EROSION SEDIMENT CONTROL PLAN

C1.02

S58 INLET PROTECTION – FABRIC DROP



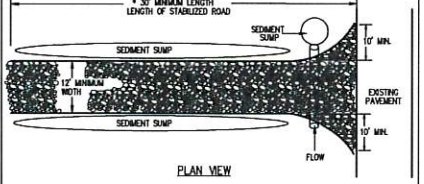
ISOMETRIC VIEW



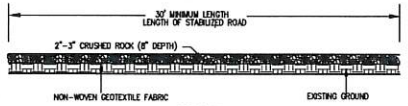
INSTALLATION DETAIL

STANDARD SYMBOL

S53 STABILIZED CONSTRUCTION ACCESS



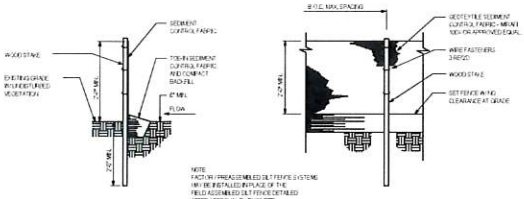
PLAN VIEW



PROFILE

NOTES:
1. Establish stabilized construction entrance prior to the initiation of site construction activities.
2. Care should be taken to prevent material movement into adjacent wetlands/waterbodies.
3. Care should be taken to maintain existing roadside drainage via culvert installation, with sediment sump placed downflow of culvert.

STANDARD SYMBOL



S51 SILT FENCE DETAIL
NOT TO SCALE

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STATE OF MICHIGAN
JOSHUA PAUL MANION
ENGINEER
No. 55538
PROFESSIONAL

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ISSUANCE
SPECIAL LAND USE
11/11/2021

REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER 91880004
PROJECT MANAGER
PROFESSIONAL JPM
DRAWN BY JTS
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SESC DETAILS
C1.03

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CALL 811 NOTE:

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ZONING NOTES

ZONE DISTRICT: ARC
ADJACENT ZONING: RM-1 (NORTH)
RM-1 (EAST)
ARC (SOUTH)
ARC (WEST)

PARCEL SIZE: 0.59 ACRES

MAX BUILDING HEIGHT = 35 FEET
PROPOSED HEIGHT = 19 FEET

REQUIRED SETBACKS FOR ARC ZONING
FRONT: 10 FEET
SIDE: 10 FEET
REAR: 20 FEET
PARKING SETBACK: 0 FEET

PARKING REQUIRED: 5 STACKING SPACES PER WINDOW
1 WINDOW X 5 STACKING SPACES = 5 STACKING SPACES

1 SPACE PER EMPLOYEE REQUIRED
TOTAL EMPLOYEES: 7

PARKING PROVIDED:
STACKING (10'X20') 13 SPACES
STANDARD (9'X20') 6 SPACES
BARRIER FREE (9'X20') 1 SPACES
TOTAL SPACES: 20 SPACES

SITE SIGNAGE

GROUND SIGNS ARE PERMITTED IN THE ARC ZONING DISTRICT. ONE GROUND SIGN IS PERMITTED PER STREET FRONTAGE.

MAXIMUM HEIGHT = 8 FT
MAX AREA = 25 SFT
SETBACK FROM ROW = 5 FT

WALL SIGNS SIGNS ARE PERMITTED IN THE ARC ZONING DISTRICT. ONE WALL SIGN IS PERMITTED.

MAXIMUM AREA = 50% OF SIGNABLE AREA OR 42 SFT

LEGAL DESCRIPTION OF PARCEL 49010990013301

LAND IN THE CITY OF PLYMOUTH, WAYNE COUNTY, MI DESCRIBED AS FOLLOWS:

PARCEL 1:

PART OF THE NORTHEAST 1/4 OF SECTION 34, TOWN 1 SOUTH, RANGE 8 EAST, CITY OF PLYMOUTH, WAYNE COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT FORMED BY THE RIGHT-OF-WAY LINES OF ANN ARBOR ROAD AND SHELDON ROAD, PROCEEDING THENCE NORTH ALONG THE EASTERN RIGHT-OF-WAY LINE OF SHELDON ROAD, 133 FEET TO A POINT; THENCE EAST ON A LINE PARALLEL WITH THE NORTHERN RIGHT-OF-WAY LINE OF ANN ARBOR ROAD 150 FEET TO A POINT; THENCE SOUTH 132 FEET TO A POINT IN THE NORTHERN RIGHT-OF-WAY LINE OF ANN ARBOR ROAD; THENCE WEST 150 FEET ALONG THE NORTHERN RIGHT-OF-WAY LIVE OF ANN ARBOR ROAD TO THE POINT OF BEGINNING EXCEPT THAT PART TAKEN FOR WIDENING OF SHELDON ROAD RIGHT-OF-WAY.

PARCEL 2:

PART OF THE NORTHEAST 1/4 OF SECTION 34, TOWN 1 SOUTH, RANGE 8 EAST, CITY OF PLYMOUTH, WAYNE COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE EAST RIGHT-OF-WAY LINE OF SHELDON ROAD DISTANT NORTH 00 DEGREES 21 MINUTES 20 SECONDS EAST 432.00 FEET AND SOUTH 89 DEGREES 40 MINUTES 50 SECONDS EAST 43.00 FEET AND SOUTH 00 DEGREES 21 MINUTES 20 SECONDS WEST 204.00 FEET FROM THE CENTER OF SECTION 34, TOWN 1 SOUTH, RANGE 8 EAST, AND PROCEEDING THENCE SOUTH 89 DEGREES 40 MINUTES 50 SECONDS EAST 150.00 FEET; THENCE SOUTH 00 DEGREES 21 MINUTES 20 SECONDS WEST 43.00 FEET, THENCE NORTH 89 DEGREES 40 MINUTES 50 SECONDS WEST 150.00 FEET, THENCE NORTH 00 DEGREES 21 MINUTES 20 SECONDS EAST ALONG THE EAST LINE OF SHELDON ROAD 43.00 FEET TO THE POINT OF BEGINNING, EXCEPT THE WEST 17 FEET DEEDED TO BOARD OF COUNTY ROAD COMMISSIONERS OF THE COUNTY OF WAYNE.

PARCEL 1 AND 2 DESCRIBED FOR TAX PURPOSES AS:

PART OF THE NORTHEAST 1/4 OF SECTION 34, TOWN 1 SOUTH, RANGE 8 EAST, DESCRIBED AS: BEGINNING NORTH 00 DEGREES 21 MINUTES 20 SECONDS EAST 53.00 FEET AND SOUTH 89 DEGREES 40 MINUTES 50 SECONDS EAST 60.00 FEET FROM THE CENTER 1/4 CORNER OF SECTION 34; THENCE NORTH 00 DEGREES 21 MINUTES 20 SECONDS EAST 175.00 FEET; THENCE SOUTH 89 DEGREES 40 MINUTES 50 SECONDS EAST 133.00 FEET; THENCE SOUTH 00 DEGREES 21 MINUTES 20 SECONDS WEST 175.00 FEET; THENCE NORTH 89 DEGREES 40 MINUTES 50 SECONDS WEST 133.00 FEET TO THE POINT OF BEGINNING.

SITE CONTEXT PLAN
NORTH 1"= 50' 0 50'

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JOSHUA PAUL MANION ENGINEER No. 56538

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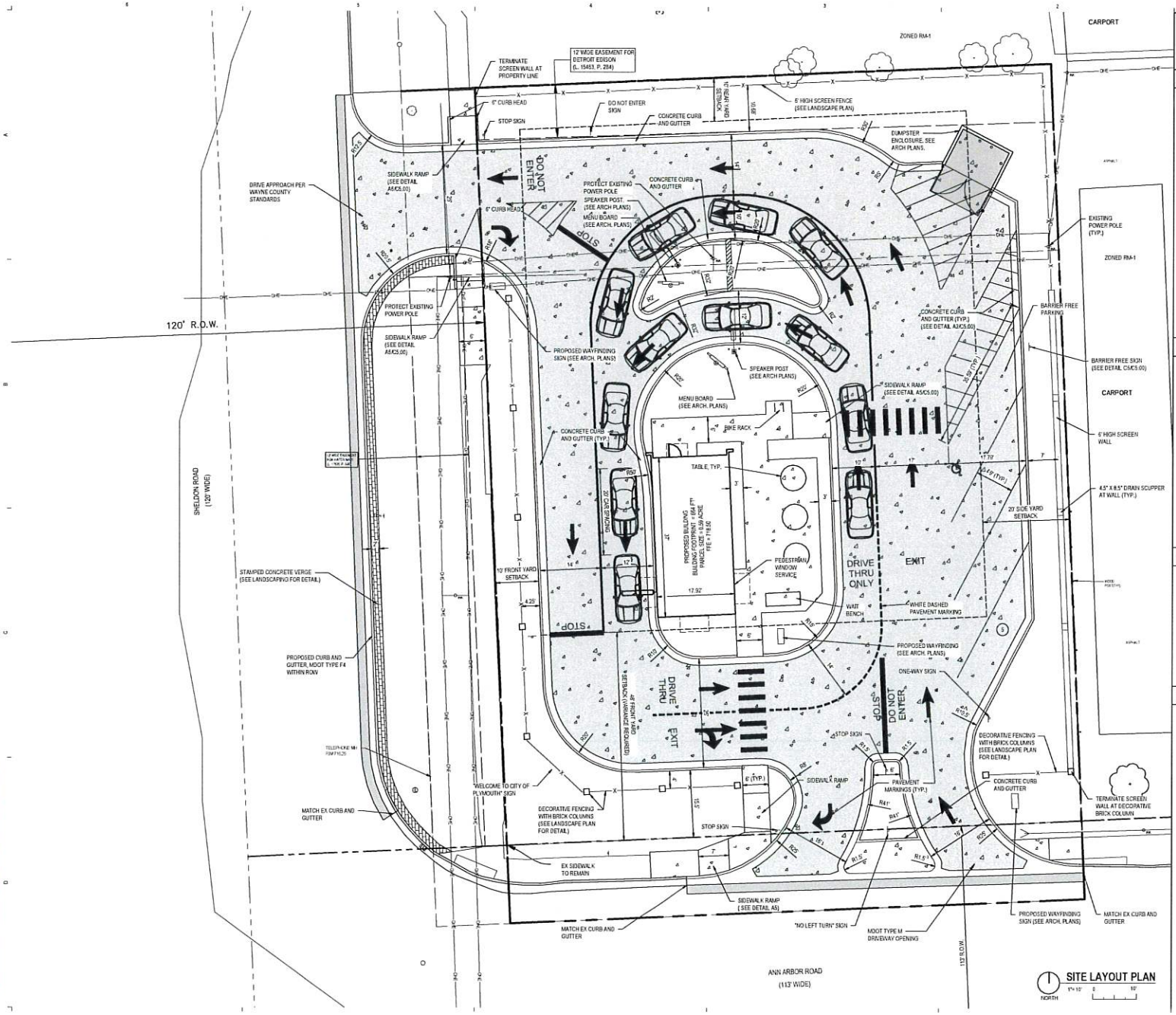
ISSUANCE
SPECIAL LAND USE
11/01/2021

REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER 91883004
PROJECT MANAGER
PROFESSIONAL JPM
DRAWN BY JTS
CHECKED BY

SITE CONTEXT PLAN
C2.00



CALL 811 NOTE:

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GENERAL SITE LAYOUT NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE ACCORDING TO THE CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION (M.D.O.T.) STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. CONTACT "MISS DIG" TOLL FREE AT 1-800-482-7171 THREE (3) DAYS PRIOR TO THE START OF CONSTRUCTION, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS.
3. NO DIMENSION MAY BE SCALED, REFER UNCLEAR ITEMS TO THE ENGINEER FOR INTERPRETATION.
4. DIMENSIONS SHOWN ARE TO FACE OF CURB UNLESS OTHERWISE NOTED AS B-B (BACK TO BACK) OR E-E (EDGE OF METAL TO EDGE OF METAL).
5. CONTRACTOR TO PAINT STRIPE ALL PARKING SPACES SHOWN. PAINT COLOR TO BE YELLOW.
6. UPON REQUEST, ELECTRONIC INFORMATION WILL BE PROVIDED FOR SITE LAYOUT PURPOSES. CONTRACTOR SHALL REQUEST ALL INFORMATION IN WRITING THROUGH PROGRESSIVE AE. LAYOUT OF ALL NEW CONSTRUCTION SHALL BE DONE BY A LICENSED SURVEYOR.
7. ALL CONCRETE JOINTS SHALL BE TOOLED PER SPECIFICATIONS.
8. CONTRACTOR MUST RESTORE AND REPAIR ANY EXISTING CONDITIONS DISTURBED BY CONSTRUCTION. THIS IS TO INCLUDE BURIED UTILITIES, LIGHTING, LANDSCAPING, SPRINKLING, ETC.
9. ANY AREA DISTURBED BY CONSTRUCTION TO BE RESTORED TO CONDITION EQUAL TO OR BETTER THAN BEFORE CONSTRUCTION BEGAN.
10. ALL PAVEMENT, CURB & GUTTER, SIDEWALK AND UTILITIES WITHIN PUBLIC RIGHT OF WAY SHALL MEET CITY OF PLYMOUTH STANDARDS.

GENERAL NOTES

1. VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. PROTECT AND MAINTAIN CROSSINGS OF OTHER UTILITIES.
3. REFER TO SURVEY FOR BENCHMARK INFORMATION.
4. ALL MATERIAL, SPECIFICATIONS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH ALL APPLICABLE MUNICIPAL AGENCIES.
5. RESTORE ALL STREET SURFACES, DRIVEWAYS, CULVERTS, ROADSIDE DRAINAGE DITCHES, AND OTHER PUBLIC OR PRIVATE STRUCTURES THAT ARE DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES TO MATCH AT A MINIMUM EXISTING CONDITIONS.
6. CONTRACTOR'S MANNER AND METHOD OF INGRESS AND EGRESS WITH RESPECT TO THE PROJECT AREAS SHALL IN NO WAY PROHIBIT OR DISTURB NORMAL PEDESTRIAN OR VEHICULAR TRAFFIC IN THE VICINITY AND IS SUBJECT TO REGULATION AND WRITTEN APPROVAL OF APPROPRIATE GOVERNING AGENCIES.
7. EXISTING TREES TO REMAIN - CONTRACTOR TO PROTECT ROOT SYSTEMS BY MAINTAINING TREE PROTECTION FENCE AT TREE DRIPLINE TO ELIMINATE MATERIAL STORAGE, PARKING OR CONSTRUCTION TRAFFIC WITHIN THE TREE DRIPLINE.

PAVING NOTES

1. PAVEMENT CONSTRUCTION TO BE PERFORMED IN ACCORDANCE TO CURRENT MICHIGAN DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
2. MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 4,000 PSI FOR ALL EXTERIOR CONCRETE.
   SLUMP RANGE: 2 INCHES TO 6 INCHES
   AIR CONTENT: 5 PERCENT TO 8 PERCENT
3. PROVIDE SCORED CONCRETE CONTROL JOINTS AT 12 FEET MAXIMUM SPACING.
4. CONCRETE JOINT LAYOUT SHALL FORM SQUARE PANELS, WHERE NOT PRACTICAL RECTANGULAR PANELS MAY BE USED IF THE LONG DIMENSION IS NO MORE THAN 1.5 TIMES THE SHORT DIMENSION.

PAVEMENT LEGEND

STANDARD CONCRETE PAVEMENT	6" CONCRETE 12" COMPACTED SUBBASE, CLASS II SAND
HEAVY DUTY CONCRETE PAVEMENT	8" CONCRETE 12" COMPACTED SUBBASE, CLASS II SAND
CONCRETE SIDEWALK	4" CONCRETE 4" MDOT CLASS II GRANULAR BASE APPROVED COMPACTED SUBBASE
STAMPED CONCRETE VERGE	6" COLORED CONCRETE WITH BRICK WITH BRICK STAMP PER CITY STANDARD 8" MDOT CL. II GRANULAR BASE APPROVED COMPACTED SUBBASE
R.O.W. ASPHALT PAVEMENT	1 1/2" HMA WEARING COURSE SS-1H TACK COAT @ 0.05 GAL/SY PLACE BETWEEN EACH HMA LIFT 4 1/2" HMA BASE, LEVELING COURSE EXISTING AGGREGATE BASE EXISTING SUBBASE

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STATE OF MICHIGAN
JOSHUA PAUL MANION
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PROFESSIONAL ENGINEER

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ISSUANCE
SPECIAL LAND USE
11/11/2021

REVISIONS

NO.	DATE	DESCRIPTION

FILE NUMBER	91883004
PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	AGA
CHECKED BY	

SITE LAYOUT PLAN

C2.01

FIRE HYDRANT LOCATIONS MAP

1"= 50'

NORTH

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PROFESSIONAL JPM

DRAWN BY JTS

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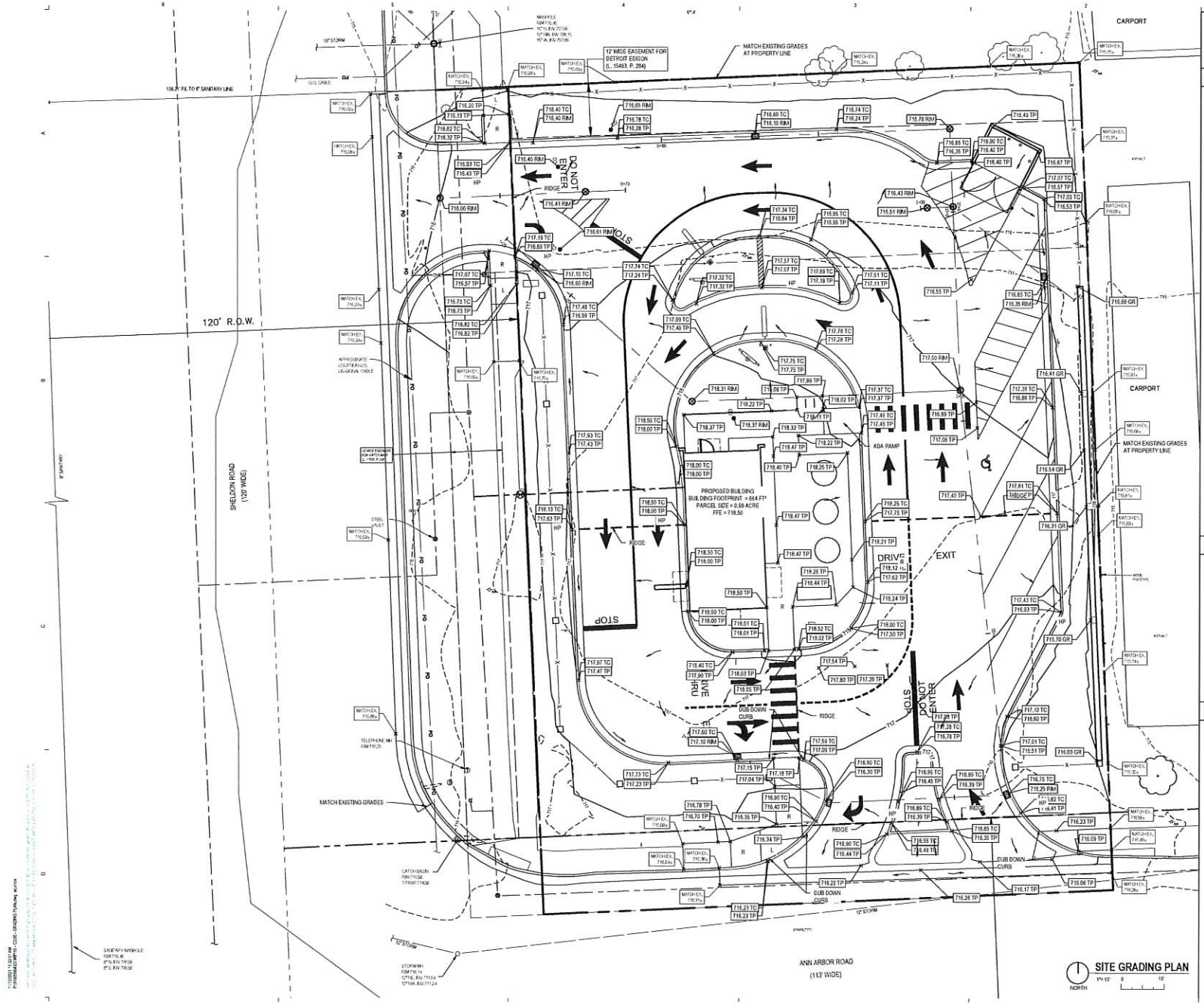
FIRE HYDRANT LOCATIONS MAP

C2.02



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EARTHWORK & GRADING NOTES

1. EARTHWORK AND PAVEMENT CONSTRUCTION ARE TO BE PERFORMED IN ACCORDANCE WITH THE 2012 EDITION OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE FOLLOWING ITEMS.
2. THE SUBGRADE SHALL BE THOROUGHLY PROOFROLLED USING THE EQUIVALENT OF A FULLY LOADED TANDEM AXLE TRUCK HAVING A MINIMUM AXLE WEIGHT OF 10 TONS. SOFT OR YIELDING AREAS THAT CANNOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
3. PROOFROLLING SHALL BE PERFORMED UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER.
4. FINISHED SUBGRADE SURFACE SHALL NOT BE MORE THAN 0.1 FEET ABOVE OR BELOW ESTABLISHED FINISHED SUBGRADE ELEVATIONS AND ALL GROUND SURFACES SHALL VARY UNIFORMLY BETWEEN INDICATED ELEVATIONS. FINISHED DITCHES SHALL BE GRADED TO ALLOW FOR PROPER DRAINAGE WITHOUT PONDING AND IN A MANNER THAT WILL MINIMIZE EROSION.
5. GRADE THE AGGREGATE BASE MATERIAL TO PROVIDE POSITIVE DRAINAGE AT A MINIMUM OF 1.5 PERCENT.
6. THE AGGREGATE BASE AND SUBBASE SHALL EXTEND 12 INCHES BEYOND THE PAVED EDGE.
7. THE EXISTING SOILS MAY BE UTILIZED AS ENGINEERED FILL PROVIDED ALL DELETERIOUS OR ORGANIC MATERIALS ARE REMOVED FROM THE SOILS. ANY ON-SITE SOILS USED FOR ENGINEERED FILL SHALL BE EVALUATED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
8. ENGINEERED FILL LOCATED WITHIN PAVEMENT AND BUILDING AREAS SHALL BE PLACED IN 8 INCH MAXIMUM LOOSE THICKNESS AND MOISTURE CONDITIONED TO WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT TO MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY PER ASTM D-1557, MODIFIED PROCTOR METHOD
9. ALL FILL OPERATIONS SHALL BE OBSERVED BY A QUALIFIED SOIL TECHNICIAN. A MINIMUM OF ONE COMPACTION TEST SHALL BE CONDUCTED PER 2,500 SFT AREA AT EACH LIFT. WITHIN TRENCH EXCAVATIONS, ONE TEST SHALL BE CONDUCTED FOR EACH 100 LINEAR FEET PER LIFT.
10. SIDE SLOPES SHALL NOT EXCEED 1 VERTICAL OVER 3 HORIZONTAL SLOPE UNLESS SHOWN OTHERWISE.
11. PARKING LOT CURBS SHALL BE BUILT WITH REVERSE SLOPE ON THE DOWNHILL SIDE OF THE ISLAND TO ASSURE POSITIVE STORMWATER RUNOFF TO CATCH BASINS.
12. UNLESS SHOWN OTHERWISE, FINISH GRADES OF LAWN/LANDSCAPE ADJACENT TO BUILDING WALLS SHALL BE 6" BELOW FINISH FLOOR ELEVATION.
13. PLACE 4" MINIMUM TOPSOIL IN ALL LANDSCAPE AREAS TO BE SEEDED. PROVIDE POSITIVE DRAINAGE AT ALL TIMES TO ENSURE NO STANDING WATER WITHIN PAVEMENT, BUILDING PAD, OR GREEN AREAS.
14. FOR ALL CURB ISLANDS, CENTER OF ISLANDS TO BE A MINIMUM OF 6" HIGHER THAN TOP OF CURB.

BARRIER FREE NOTES

1. BARRIER FREE PARKING AND ACCESSIBLE ROUTE(S) MUST COMPLY WITH THE AMERICANS WITH DISABILITIES ACT, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
2. 2% MAXIMUM CROSS SLOPE ON ACCESSIBLE ROUTE(S)
3. 5% MAXIMUM LONGITUDINAL SLOPE (DIRECTION OF TRAVEL) UNLESS AT BARRIER FREE RAMP
4. 2% MAXIMUM SLOPE LONGITUDINAL AND TRANSVERSE SLOPES AT BARRIER FREE PARKING SPACES AND ASSOCIATED ACCESS AISLES
5. ACCESSIBLE ENTRIES - 2% MAXIMUM SLOPE IN ANY DIRECTION FOR THE FIRST 5' FROM ENTRY DOOR
6. CONTRACTOR TO CONTACT ENGINEER PRIOR TO PAVING IF BARRIER FREE SLOPES DO NOT COMPLY OR FOR CLARIFICATION OF ANY DISCREPANCIES.

GRADING LEGEND

	FLOW ARROW
TP	TOP OF PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL
GR	GROUND
GP	GUTTER PAN
FF	FINISH FLOOR ELEVATION
EX	EXISTING ELEVATION
HP	HIGH POINT
LP	LOW POINT
L	LANDING
R	RAMP

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SCOOTER'S COFFEE

1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

STATE OF MICHIGAN
JOSHUA PAUL MANION
ENGINEER
No. 55538
PROFESSIONAL ENGINEER

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NOT FOR CONSTRUCTION

ISSUANCE
SPECIAL LAND USE
10/11/2021

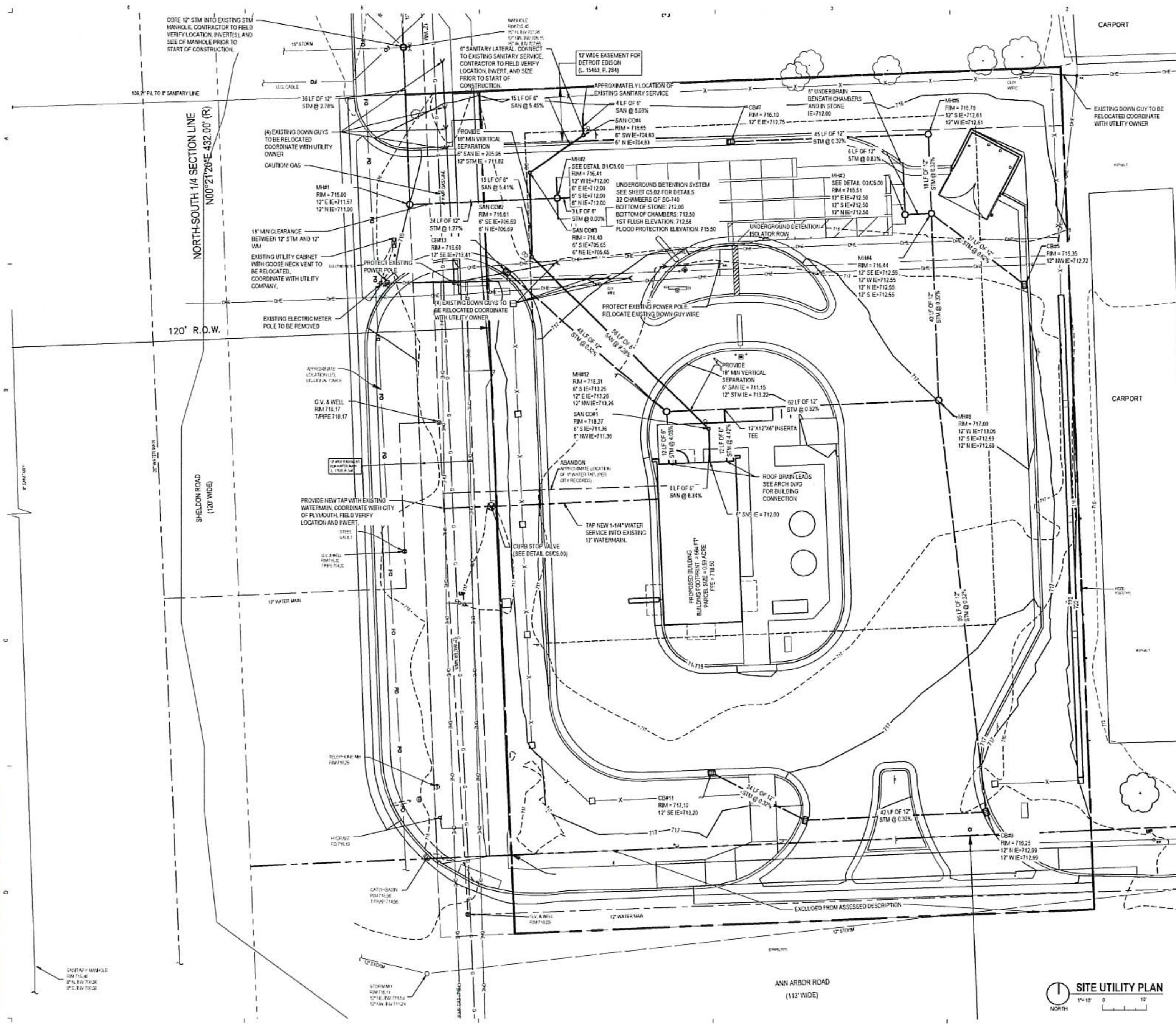
REVISIONS

NO.	DATE	DESCRIPTION

FILE NUMBER	91880004
PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	AQA
CHECKED BY	

SITE GRADING PLAN

C3.00



CALL 811 NOTE:

www.CALL811.com

CONTRACTOR TO CONTACT 811 SERVICE AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES. DIAL 811.

SANITARY SEWER NOTES

1. CONTRACTOR SHALL OBTAIN PERMIT TO CONNECT TO SANITARY SYSTEM FROM CITY OF PLYMOUTH.
2. SANITARY SEWER WITHIN RIGHT OF WAY TO COMPLY WITH CITY OF PLYMOUTH SANITARY SEWER SPECIFICATIONS.
3. CLEANOUTS TO BE PROVIDED WITHIN 5 FEET OF THE BUILDING EXTERIOR WALL ON ALL LATERALS EXITING THE BUILDING.
4. SANITARY SEWER LATERALS WITHIN SITE SHALL BE (ASTM D-3034) SDR 23.5.
5. ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SEWER ARE PROHIBITED.
6. REFER TO PLUMBING PLANS FOR SCHEDULE OF GREASE TRAPS, SAND TRAPS, AND TRENCH DRAIN.

WATERMAIN NOTES

1. PROVIDE A MINIMUM 18" OF VERTICAL SEPARATION AND 10' OF HORIZONTAL SEPARATION BETWEEN WATER SERVICE AND ALL SANITARY AND STORM SEWERS.
2. 2" AND SMALLER DOMESTIC WATER SERVICE SHALL BE TYPE K COPPER PIPE.
3. COORDINATE WATER TAPS WITH CITY OF PLYMOUTH

STORM SEWER NOTES

1. STORM SEWER PIPE 10" DIA. OR LARGER SHALL BE ASTM C-76 CL IV REINFORCED CONCRETE PIPE OR ASTM F2306, HIGH DENSITY POLYETHHYLENE PIPE. STORM SEWER PIPE SMALLER THAN 12" SHALL BE SDR 35 PVC.
2. CATCH BASINS (CB) TO BE 4' DIA. UNLESS NOTED OTHERWISE.
3. CONNECT ALL ROOF DRAINS TO PROVIDED STORM SEWER UNLESS OTHERWISE NOTED.
4. PIPE ALIGNMENTS PROVIDED ON SHEET C5.05.

GENERAL UTILITY NOTES

1. HVAC EQUIPMENT IS ROOF MOUNTED AND SCREENED. REFER TO ARCHITECTURAL PLANS FOR DETAILS

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SCOOTER'S COFFEE

1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

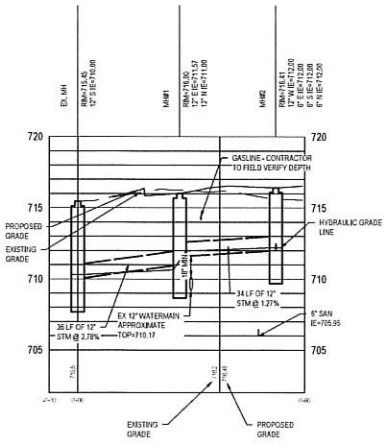
NOT FOR CONSTRUCTION

ISSUANCE
SPECIAL LAND USE
11/11/2021

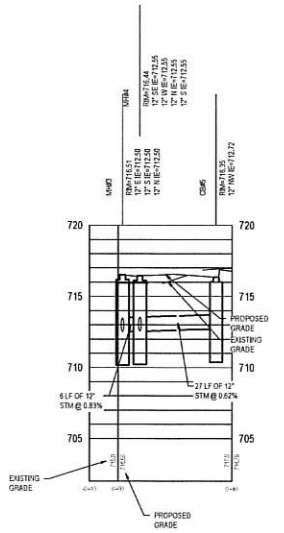
REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER 91880004
PROJECT MANAGER
PROFESSIONAL JPM
DRAWN BY AQA
CHECKED BY

SITE UTILITY PLAN
C4.00



EX MH TO MH#2



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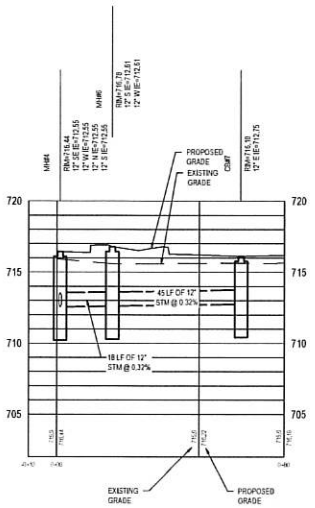

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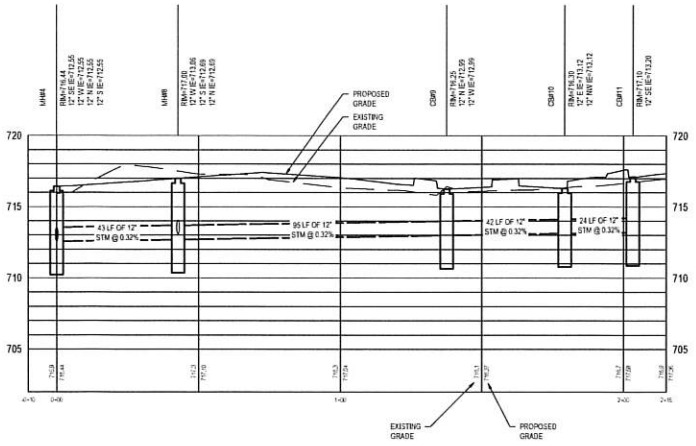

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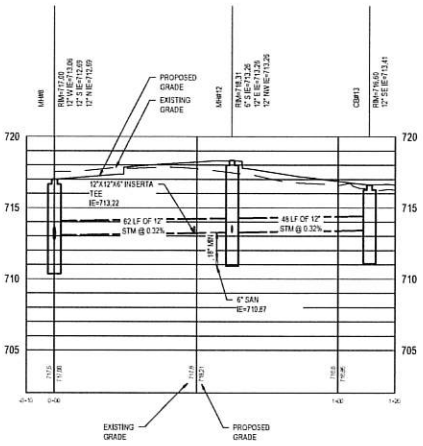

MH#8 TO CB#13

CALL 811 NOTE:

CONTRACTOR TO CONTACT 811 SERVICE AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES. DIAL 811.

www.CALL811.com

STORMWATER PROFILES

HOR: 1"= 20'
VERT: 1"= 4'

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SCOOTER'S COFFEE

1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

STATE OF MICHIGAN
JOSHUA PAUL MANION
REGISTERED PROFESSIONAL ENGINEER
No. 55538
PLEASE renew 12/31/2021

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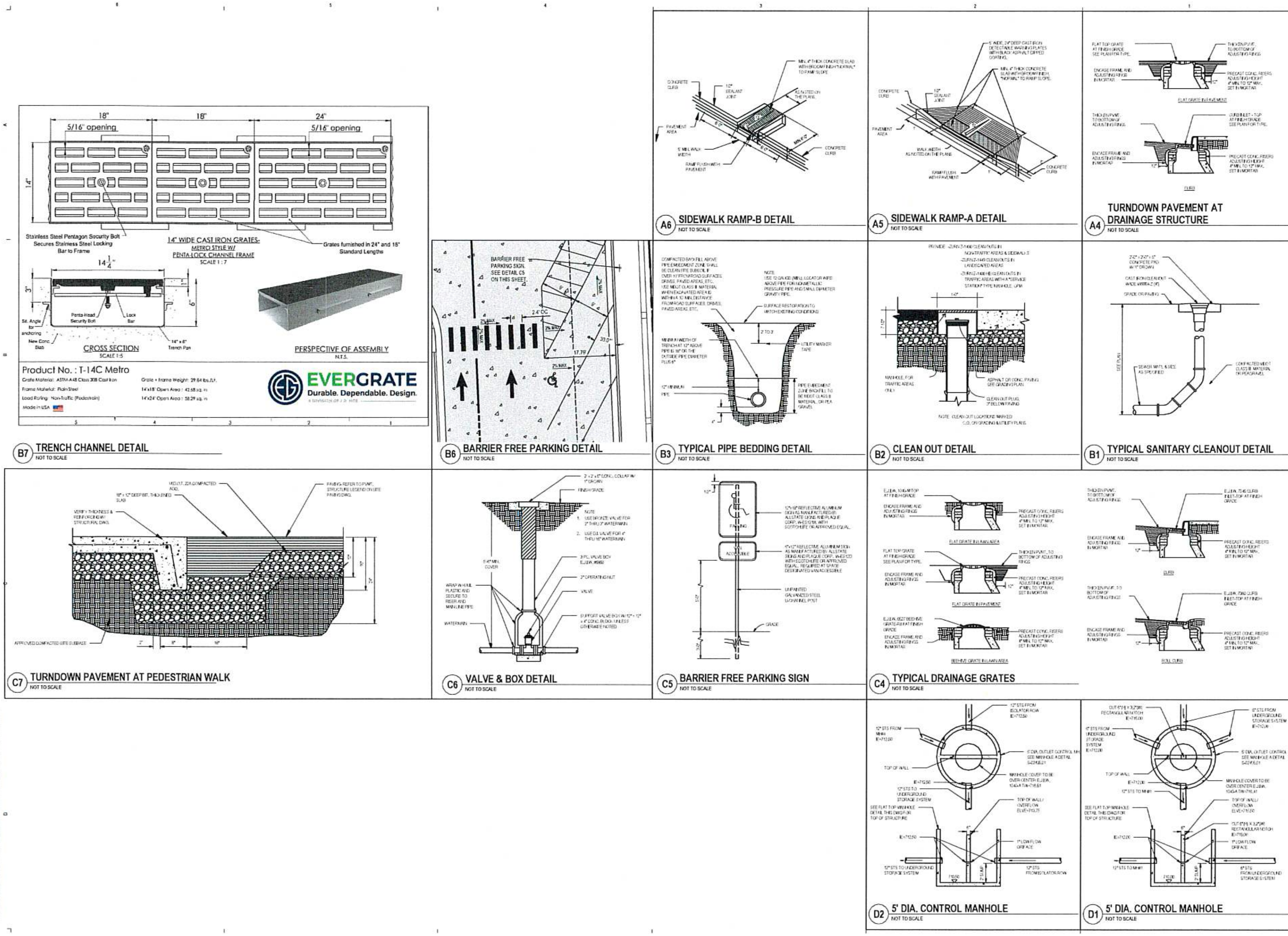
NOT FOR CONSTRUCTION

ISSUANCE
SPECIAL LAND USE
11/10/2021

REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER	91883004
PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	JTS
CHECKED BY	

STORMWATER PROFILES
C4.01



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PROJECT MANAGER
PROFESSIONAL JPM
DRAWN BY AQA
CHECKED BY

SITE DETAILS
C5.00

f. Circumstances encountered during construction may preclude the use of precast unit structures, as determined by the Engineer. If the contractor elects to use precast unit structures and field changes prohibit their use, no compensation will be made to the contractor for having these units manufactured, supplied, to the project, and not utilized.

g. Special precast units for use on large diameter sewers must have the approval of the Engineer.

3. All vertical holes in concrete block structure wall shall be completely filled with mortar. All vertical wall joints shall be buttered.

4. The first pipe length entering or leaving any structure shall be temporarily supported by suitable means until the structure is completed and backfilled.

5. A poured Grade S1 concrete base without steel reinforcement, may be substituted for a precast base as approved by the Engineer. A porous backfill cushion will not be required under the poured base, unless the Contractor has excavated below the required elevation, at which time the Engineer will decide as to the merits of increasing the thickness of the concrete base or the use of a porous backfill cushion.

6. The conical section of brick or block manholes, catch basins or inlets, shall be shrouded with a geotextile blanket from the top down to 1 foot below the conical section. Precast structures shall be shrouded with the geotextile blanket to a point 1 foot below the stack. Enough geotextile material will be left on the top to roll over the brick stack and under the casting. Also, wrap inlet and outlet pipes at connection to the structures with a geotextile blanket, minimum 1 foot each direction. The geotextile blanket shall meet the requirements of Subsection 910.03.A in the 2003 MDOT Standard Specifications for Construction.

7. A 10 feet length of 6 inch Underdrain in Sewer Trench will be required at proposed drainage structure that do not have longer lengths of underdrain connected to them (see Standard Plan S-14). The cost of these 10 feet lengths of underdrain with end caps shall be included in the cost of the drainage structure.

8. Steps are required for all structures over 10 feet in depth. Steps shall be of an approved design, made of cast iron, aluminum, or plastic coated steel. Rungs shall be a minimum of 10 inches clear length and designed to prevent the foot from slipping off the end. The minimum horizontal load shall be 405 lbf. The minimum vertical load shall be 810 lbf.

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES
ENGINEERING DIVISION/PERMIT OFFICE
PERMIT STANDARDS
GENERAL NOTES
SCALE: NOT TO SCALE — S-1 — SHEET 2 OF 2

1. All materials and workmanship shall be in accordance with the Wayne County Specifications which are defined as the 2003 Michigan Department of Transportation (MDOT) Standard Specifications for Construction as modified by Wayne County Special Provisions.

2. The Contractor may construct manholes, catch basins and inlets, as detailed, with precast reinforced concrete units provided the following conditions are satisfied:

   a. All precast sections shall be made in accordance with ASTM C-478 except that:

      (1) The minimum wall thickness shall be 5 inches.

      (2) The thickness of base and top slabs shall be as detailed on the Standard Plans.

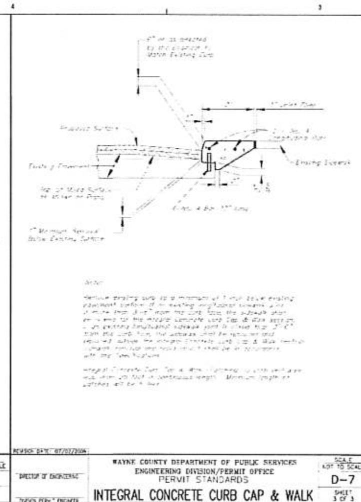
   b. The maximum diameter of sewer outlet in any precast unit shall be 18 inches, except for inlets which shall have a maximum outlet diameter of 12 inches.

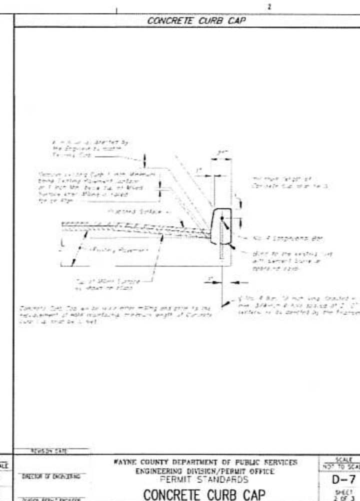
   c. No openings shall be made in precast units which would leave less than 24 inches of total undisturbed precast manhole wall or would remove more than 30% of the circumference along any horizontal plane. A minimum of 6 inches of undisturbed manhole is required between any two openings. Openings may be constructed by casting, removal of green concrete, or by drilling the openings in cured concrete.

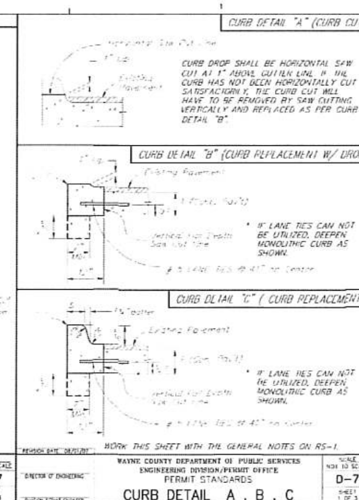
   d. Openings for sewer pipe shall be cut or precast with a diameter 3 inches larger than the outside diameter of the pipe. The opening around the outside of the pipe shall be closed using brick masonry.

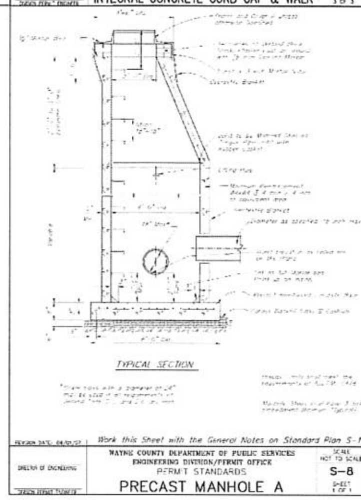
   e. Structures for sewers larger than 18 inches or those not meeting the opening requirements shall be built of block or brick to a minimum of 8 inches above the top of sewer, with precast units being used above this point. Where the precast units rest on the block or brick, the groove in the precast unit will be filled with mortar.

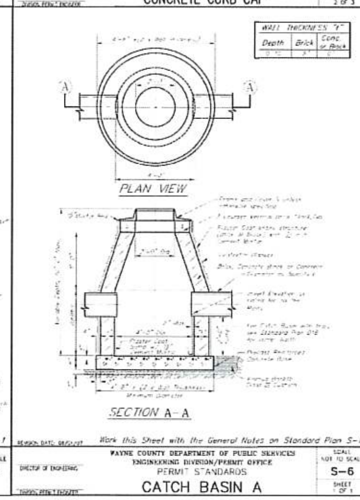
WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES
ENGINEERING DIVISION/PERMIT OFFICE
PERMIT STANDARDS
GENERAL NOTES
SCALE: NOT TO SCALE — S-1 — SHEET 1 OF 2

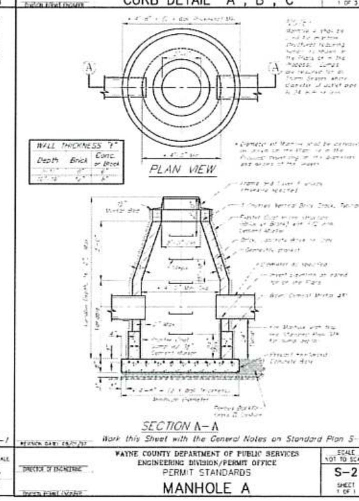












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SCOOTER'S COFFEE
1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

STATE OF MICHIGAN — JOSHUA PAUL MINION — ENGINEER — No. 55538 — LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUANCE
SPECIAL LAND USE
11/11/2021

REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER	91893004
PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	AQA
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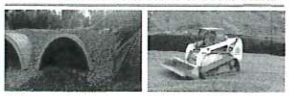
WAYNE COUNTY DETAILS
C5.01

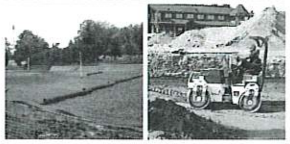
Backfill - Embedment Stone & Cover Stone



Continue evenly backfilling between rows and around perimeter until embedment stone reaches tops of chambers. Perimeter stone must extend horizontally to the excavation wall for both straight or sloped sidewalls. **Only after chambers have been backfilled to top of chamber and with a minimum 6" (150 mm) of cover stone on top of chambers can small dozers be used over the chambers for backfilling remaining cover stone.**

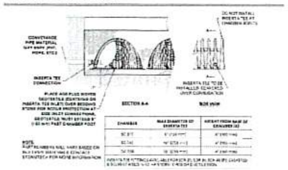
Small dozers and skid loaders may be used to finish grading stone backfill in accordance with ground pressure limits in Table 2. They must push material parallel to rows only. Never push perpendicular to rows. StormTech recommends that the contractor inspect chambers before placing final backfill. Any chambers damaged by construction shall be removed and replaced.

Final Backfill of Chambers – Fill Material

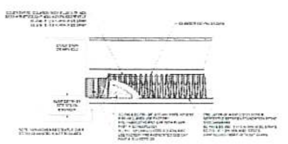


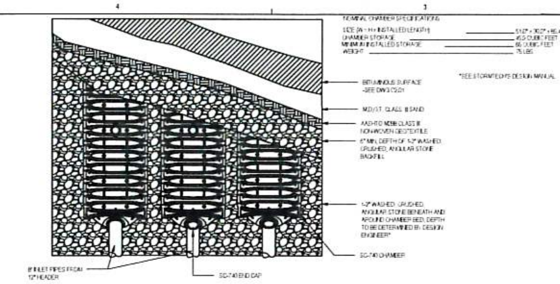
Install non-woven geotextile over stone. Geotextile must overlap 24" (600 mm) min. where edges meet. Compact each lift of backfill as specified in the site design engineer's drawings. Roller travel parallel with rows.

Inserta Tee Detail

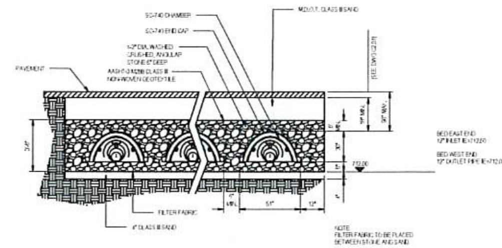


StormTech Isolator Row Plus Detail





(A2) STORMTECH SC-740 CHAMBER SYSTEM TYPICAL PLAN VIEW DETAIL
NOT TO SCALE



(A1) STORMTECH SC-740 CHAMBER SYSTEM TYPICAL CROSS SECTION DETAIL
NOT TO SCALE

*SEE STORMTECH'S DESIGN MANUAL

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STATE OF MICHIGAN JOSHUA PAUL MINION ENGINEER No. 55538 LICENSED PROFESSIONAL ENGINEER

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FILE NUMBER 91880004
PROJECT MANAGER
PROFESSIONAL JPM
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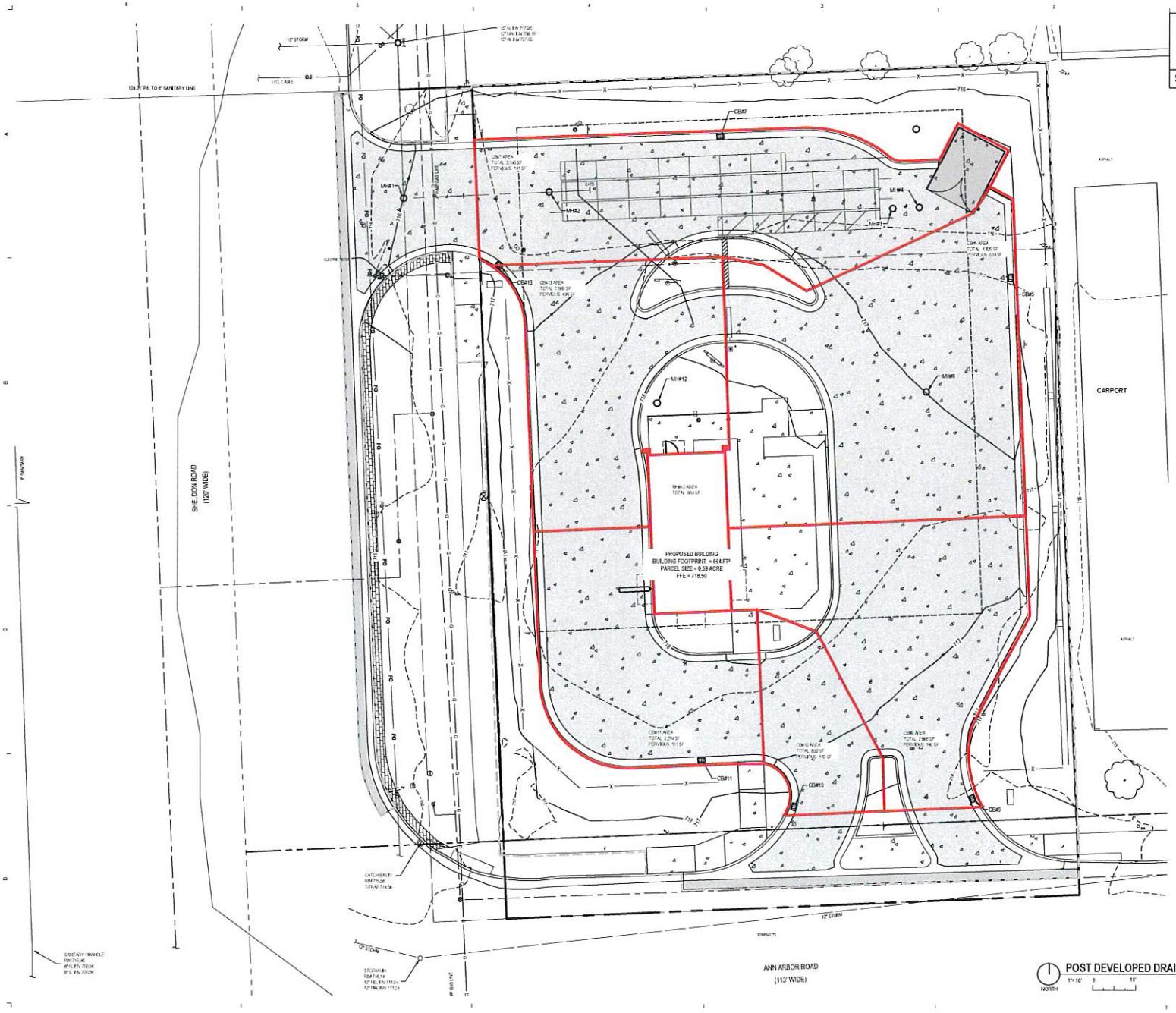
UNDERGROUND DETENTION DETAILS
C5.02



POST DEVELOPED DRAINAGE MAP

NORTH 1"= 10' 0 10'

CALL 811 NOTE:

CONTRACTOR TO CONTACT 811 SERVICE AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION TO CONFIRM LOCATION OF EXISTING UTILITIES. DIAL 811.

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SUBCATCHMENT LEGEND

CATCH BASIN SUBS

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SCOOTER'S COFFEE

1490 WEST ANN ARBOR RD., PLYMOUTH, MI 49170

STATE OF MICHIGAN
JOSHUA PAUL MANION
ENGINEER
No. 59539
PROFESSIONAL ENGINEER

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ISSUANCE

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11/11/2021

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NO.	DATE	DESCRIPTION

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PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	JTB
CHECKED BY	

POST DEVELOPED DRAINAGE MAP

C5.03

Project:	SCOOTER'S COFFEE - PLYMOUTH
Project #:	91850004
Subject:	Outlet Design
Date:	November 11, 2021
Revised:	

progressive|ae

Prepared By: JTS
Reviewed By: JPM

LOW FLOW

ALLOWABLE LOW FLOW RELEASE RATE:

Allowable Release Rate = 1.00 cfs/acre
Area = 0.39 acre
Total Allowable Release Rate= 0.33 cfs
Allowable Release Rate*Area

Low Flow Outlet Through Pipe to Outlet Structure: See Detail:

Flow Rate from 1st Flush/Bankfull Orifice:
Spillway Overflow Elev. = 715.50 ft
Orifice Invert = 712 ft
Orifice Diameter = 1 in

Orifice Flow: Qp = 0.62a(2gH)^0.5
Qp = principal flow rate (cfs)
a = flow area of orifice or pipe (sft)
H = design hydraulic head (ft)
g = gravitational constant (32.2 ft/s^2)

a = 0.0055 sft
H = 3.46 ft
Q= 0.05 cfs

Flow Rate from Flood Control Orifice:
Spillway Overflow Elev. = 715.50 ft
Orifice Invert = 715.00 ft
Orifice Width = 32 in
Orifice Height= 6 in

Orifice Flow: Qp = 0.62a(2gH)^0.5
Qp = principal flow rate (cfs)
a = flow area of orifice or pipe (sft)
H = design hydraulic head (ft)
g = gravitational constant (32.2 ft/s^2)

a = 0.1333 sft
H = 0.25 ft
Q= 0.33 cfs

Design Release Rate (Sum of all Flows), Q = 0.38 cfs

Project:	SCOOTER'S COFFEE - PLYMOUTH
Project #:	91850004
Subject:	Bankfull
Date:	November 11, 2021
Revised:	

progressive|ae

Prepared By: JTS
Reviewed By: JPM

Detention Pond 1
Channel Protection

Site Area = 0.39 acre
16,988 sft
Relative Impervious Factor C = 0.89
Bankfull Volume = 6,897 X Site Acreage X Relative Impervious Factor C
Required Bankfull Volume = 2395 cft
Provided Bankfull Volume = 2397 cft At an Elevation of: 715.50

Standpipe & Orifice Design:
MH#2

*County Standard is to Retain the Bankfull Volume for 48 Hours

Flood Protection Orifice Invert = 715.00 ft
Orifice Invert = 712.00 ft
Orifice Diameter = 1 in

Orifice Flow: Qp = 0.62a(2gH)^0.5
Qp = principal flow rate (cfs)
a = flow area of orifice or pipe (sft)
H = design hydraulic head (ft)
g = gravitational constant (32.2 ft/s^2)

a = 0.0055 sft
H = 2.96 ft
Qp= 0.05 cfs

Chanel Protection Volume = 2397 cft
Number of Orifices 1
Total Orifice Flow = 0.05 cfs
Detention Duration=Volume/Flow = 14.3 hrs

Project:	SCOOTER'S COFFEE - PLYMOUTH
Project #:	91850004
Subject:	Water Quality
Date:	November 11, 2021
Revised:	

progressive|ae

Prepared By: JTS
Reviewed By: JPM

Detain 1st Flush of runoff:

Site Area = 0.39 acre
16,988 sft
Relative Impervious Factor C = 0.89
Pff = 1.00 in
1st Flush Volume = 545 X Pff X Site Acreage X Relative Impervious Factor C
Required 1st Flush Volume = 188 cft
Provided Volume in Underground Detention = 209 cft At an Elevation of: 713.75
*In isolator row
Required 1st Flush Volume = 188 cft
Provided Volume in Underground Detention = 295 cft At an Elevation of: 712.58
*In underground detention system

Standpipe & Orifice Design:
MH#3

*County Standard is to Retain the 1st Flush Volume for 24 Hours

First Flush Storm Volume Elevation = 713.75 ft
Tailwater Orifice Invert = 712.50 ft
Orifice Diameter = 1 in

Orifice Flow: Qp = 0.62a(2gH)^0.5
Qp = principal flow rate (cfs)
a = flow area of orifice or pipe (sft)
H = design hydraulic head (ft)
g = gravitational constant (32.2 ft/s^2)

a = 0.0055 sft
H = 1.21 ft
Qp= 0.03 cfs

1st Flush Volume = 209 cft
Number of Orifices 1
Total Orifice Flow = 0.03 cfs
Detention Duration=Volume/Flow = 1.9 hrs

MH#2

*County Standard is to Retain the 1st Flush Volume for 24 Hours

First Flush Storm Volume Elevation = 712.58 ft
Tailwater Orifice Invert = 712.00 ft
Orifice Diameter = 1 in

Orifice Flow: Qp = 0.62a(2gH)^0.5
Qp = principal flow rate (cfs)
a = flow area of orifice or pipe (sft)
H = design hydraulic head (ft)
g = gravitational constant (32.2 ft/s^2)

a = 0.0055 sft
H = 0.58 ft
Qp= 0.02 cfs

1st Flush Volume = 295 cft
Number of Orifices 1
Total Orifice Flow = 0.02 cfs
Detention Duration=Volume/Flow = 4.1 hrs

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Project: Scooter's Coffee - Brighton
Project #: 91850004
Subject: Stormwater Detention Basin Sizing
Date: November 11, 2021
Revised:

Prepared By: JTS
Reviewed By: JPM

Determination of Required Detention Basin Storage
Based on 100-Year Storm Event
Rational Method

Design Information

Site Information:
Total Area of Proposed Development = 0.39 Acres
Impervious Area of Site = 0.35 Acre
Detention Area = - Acre
Pervious Area of Site = 0.04 Acre
Impervious "C" Factor = 0.90
Detention "C" Factor = 1.00
Pervious "C" Factor = 0.30
Weighted "C" Factor for Post Development Area of Site = 0.89

Release Rate:
Allowable Release Rate (1.00 cfs/acre) = 0.39 cfs
Actual Release Rate = 0.38 cfs
[illegible]

(A) Storm Duration (Hours)		(B) Intensity For 100-year Storm* (in/hr)	(C) Inflow Rate (cfs)	(D) Release Rate (cfs)	(E) Stored Rate (cfs)	(F) Reservoir Size (Acre Feet)
[illegible]						

Total Storage Provided = [illegible] Cubic Yards

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Storm-Drainage Design Summary - Rational Method

Project Name: SCOOTER'S COFFEE - PLYMOUTH
Designed By: JTS
Checked By: JPM

Design Assumptions:
Concrete Pipe
ALL NON-SHADED CELLS ARE INPUT CELLS

[illegible]	

StormTech

Project: #91850004 Scooter's Coffee - Plymouth

[illegible]	

StormTech

Project: #91850004 Scooter's Coffee - Plymouth

[illegible]	

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SCOOTER'S COFFEE
1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

STATE OF MICHIGAN
JOSHUA PAUL MANION
ENGINEER
PROFESSIONAL ENGINEER
LICENSED

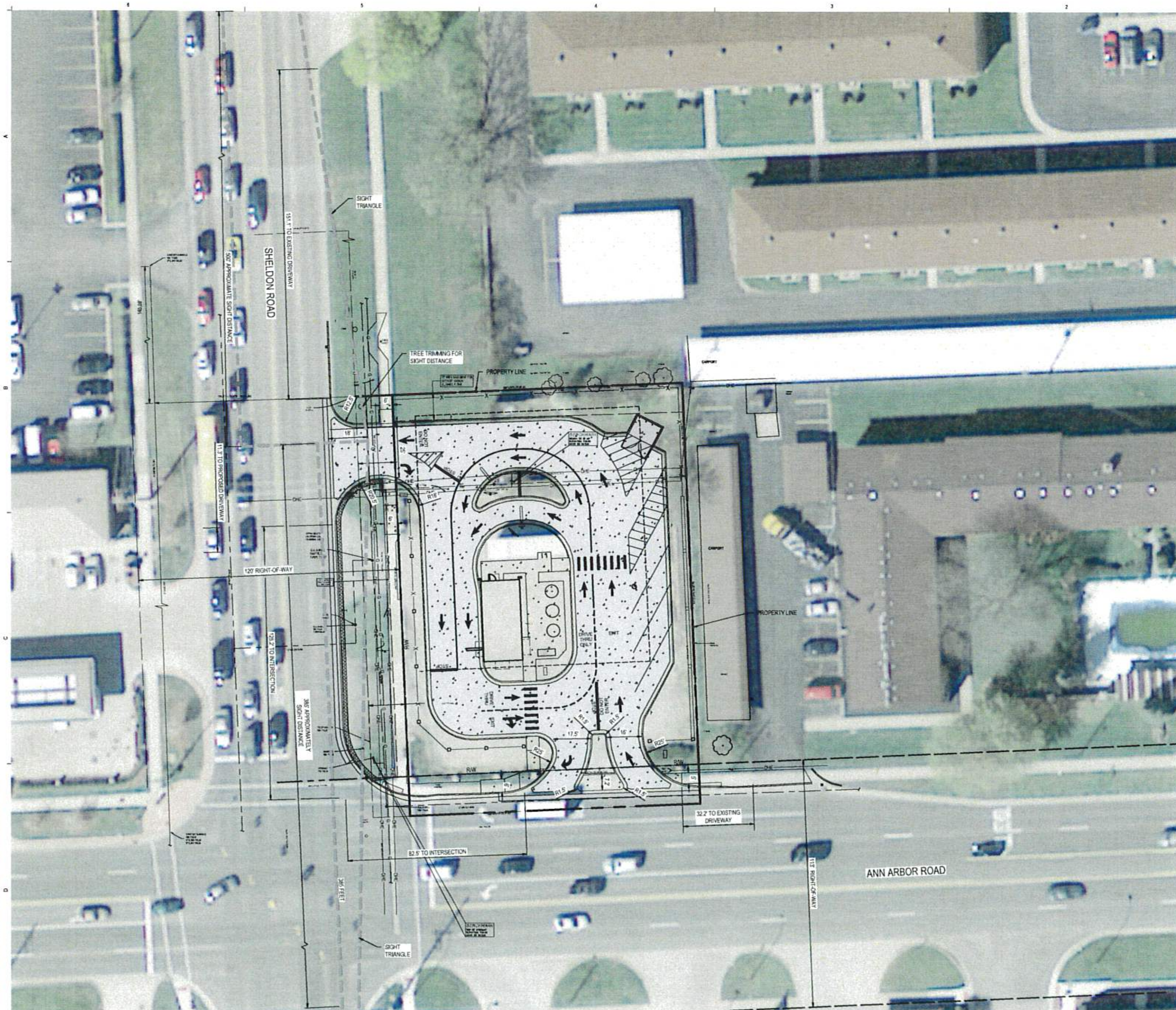
NOT FOR CONSTRUCTION

ISSUANCE
SPECIAL LAND USE
11/11/2021

REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER 91850004
PROJECT MANAGER
PROFESSIONAL JPM
DRAWN BY JTS
CHECKED BY

STORMWATER CALCULATIONS
C5.04



CALL 811 NOTE:

CONTRACTOR TO CONTACT 811 SERVICE AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES. DIAL 811.

www.CALL811.com

SIGHT DISTANCE PER AASHTO

CRITERIA:

CASE B - INTERSECTION WITH STOP CONTROL ON THE MINOR ROAD

CASE B1 - LEFT TURNS FROM THE MINOR ROAD SSD 500 FT. @ 40 MPH

CASE B2 - RIGHT TURNS FROM THE MINOR ROAD SSD 385 FT. @ 40 MPH

DECISION POINT 18.0 FT FROM EDGE OF THE MAJOR-ROAD TRAVELED WAY.

RIGHT OF WAY PERMIT PLAN

NORTH 1"= 20' 0 20'

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SCOOTER'S COFFEE

1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

STATE OF MICHIGAN JOSHUA PAUL MINION ENGINEER No. 55538 LICENSED PROFESSIONAL ENGINEER

NOT FOR CONSTRUCTION

ISSUANCE

SPECIAL LAND USE 11/11/2021

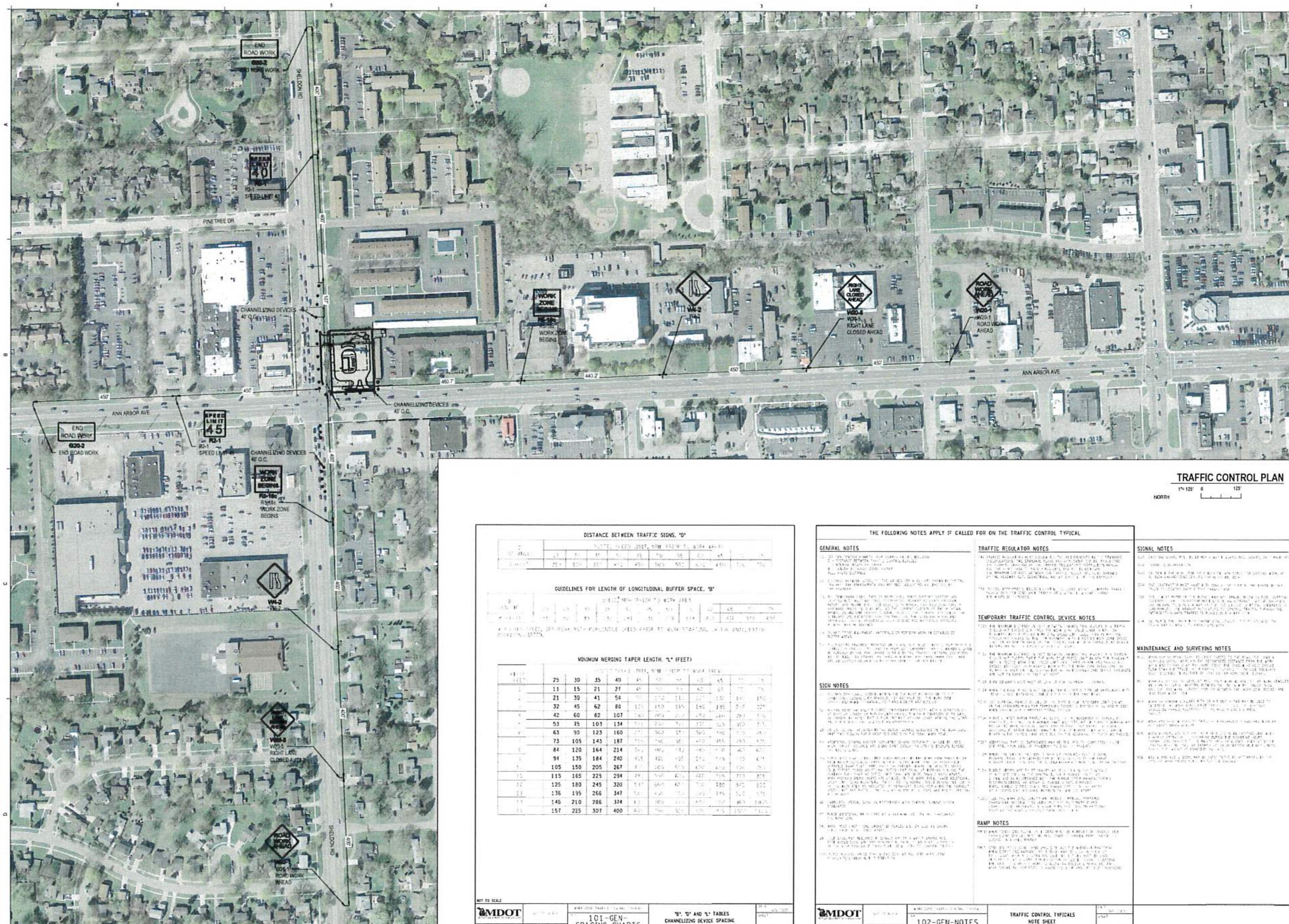
REVISIONS

NO. DATE DESCRIPTION

FILE NUMBER	51883004
PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	AQA
CHECKED BY	

RIGHT OF WAY PERMIT PLAN

C6.00



DISTANCE BETWEEN TRAFFIC SIGNS, "D"

[illegible]

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE, "B"

[illegible]

MINIMUM MERGING TAPER LENGTH, "L" (FEET)

[illegible]	25	30	35	40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	11	15	21	27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	21	30	41	54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	32	45	62	80	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	42	60	82	107	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	53	75	103	134	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	63	90	123	160	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	73	105	143	187	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	84	120	164	214	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	94	135	184	240	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	105	150	205	267	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	115	165	225	294	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	125	180	245	320	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	136	195	266	347	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	146	210	286	374	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	157	225	307	400	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NOT TO SCALE

MDOT | 101-GEN-SPACING-CHARTS | "B", "D" AND "L" TABLES CHANNELIZING DEVICE SPACING SIGN BORDER KEY, AND ROLL-AHEAD SPACING | 1 OF 3

THE FOLLOWING NOTES APPLY IF CALLED FOR ON THE TRAFFIC CONTROL TYPICAL

GENERAL NOTES

[illegible]

SIGN NOTES

[illegible]

TRAFFIC REGULATOR NOTES

[illegible]

TEMPORARY TRAFFIC CONTROL DEVICE NOTES

[illegible]

RAMP NOTES

[illegible]

SIGNAL NOTES

[illegible]

MAINTENANCE AND SURVEYING NOTES

[illegible]

MDOT | 102-GEN-NOTES | TRAFFIC CONTROL TYPICALS NOTE SHEET | 1 OF 2

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SCOOTER'S COFFEE

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STATE OF MICHIGAN JOSHUA PAUL ... PROFESSIONAL ENGINEER NO. 55538

NOT FOR CONSTRUCTION

ISSUANCE

SPECIAL LAND USE 11/11/2021

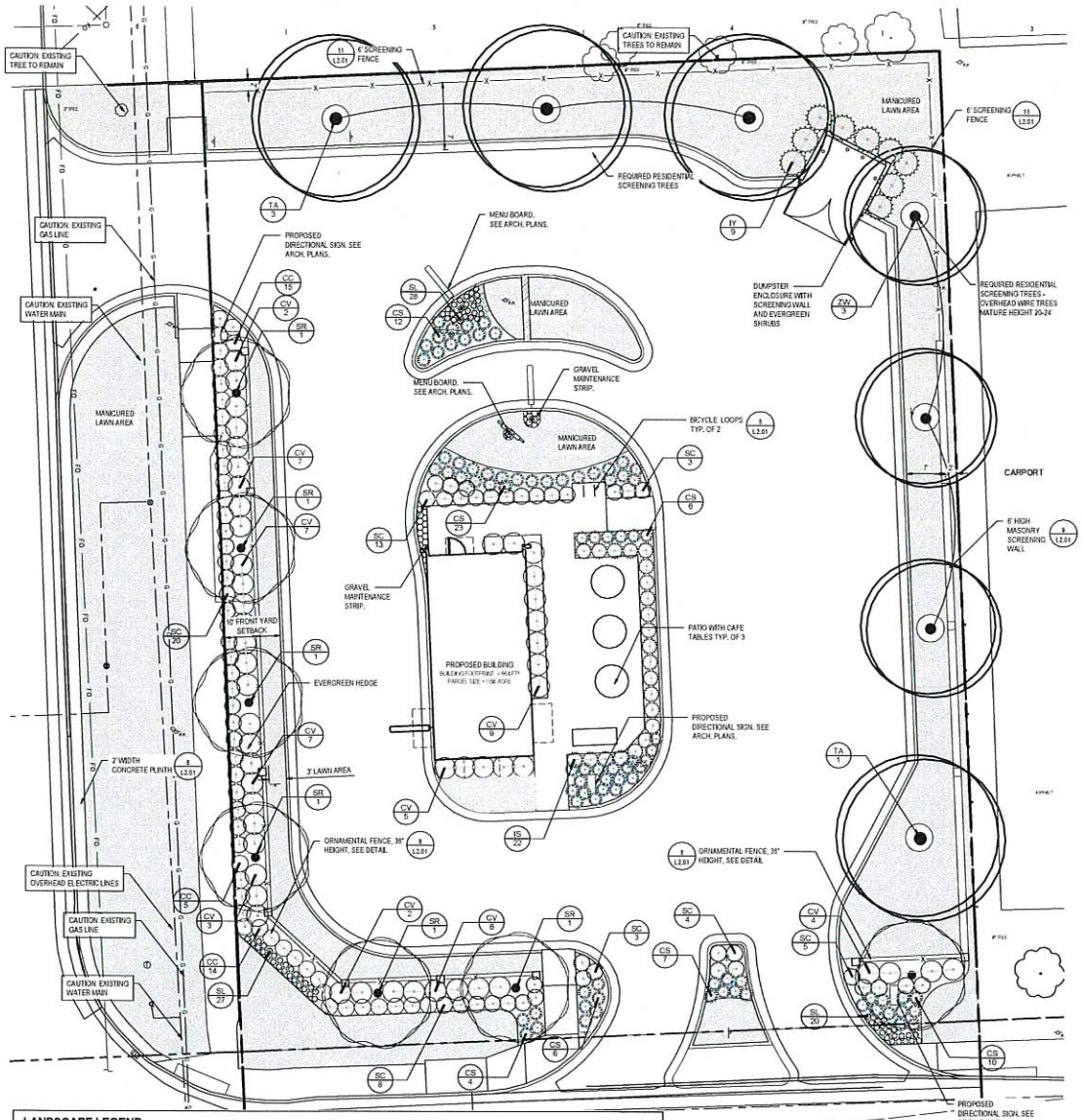
REVISIONS

NO. DATE DESCRIPTION

FILE NUMBER	91880004
PROJECT MANAGER	
PROFESSIONAL	JPM
DRAWN BY	JTS
CHECKED BY	

TRAFFIC CONTROL PLAN

C6.01



LANDSCAPE PLAN

1" = 10' 0 10'

LANDSCAPE LEGEND

TREES	QTY	BOTANICAL / COMMON NAME	CONT	CAL	REMARKS
SR	7	Syringa reticulata / Japanese Tree Lilac	B & B	3"	5' Branch Ht. Min. Single Stem, Matched.
TA	4	Tilia americana / American Linden	B & B	3-1/2"	6' Branch ht. Min.
ZW	3	Zelkova serrata 'Wireless' / Wireless Zelkova	B & B	4"	5-6' Branch ht. Min.

SHRUBS	QTY	BOTANICAL / COMMON NAME	CONT	FT	REMARKS
CC	34	Clethra alnifolia 'Crystalina' TM / Sugartina Summersweet	#3 CONT		
CV	52	Cotoneaster acutifolius lucidus / Hedge Cotoneaster	#5 CONT		36" Matched. Manicured hedge maintained at 3.5-4' ht.
IS	22	Ilex glabra 'Shamrock' / Shamrock Inkberry Holly	#3 CONT		30" Matched.
IY	9	Ilex x 'Rutzan' TM / Red Beauty Holly	B&B		3-4'
SC	56	Syringa x 'SMNJRPU' TM / Bloomerang Dwarf Purple Lilac	#3 CONT		30"

PEREN.	QTY	BOTANICAL / COMMON NAME	CONT	FT	REMARKS
CS	89	Calamagrostis arundinacea brachytricha /Feather Reed Grass	#1 CONT		
SL	76	Salvia nemorosa 'Rose Marvel' / Rose Marvel Meadow Sage	#1 CONT		

ZONING CALCULATIONS

ROAD FRONTAGE ANNE ARBOR RD 133' LF	PROVIDED:	3 TREES, 45 SHRUBS
	REQUIRED:	3 TREE, 44 SHRUBS
	CALCULATION:	133' LF / 40' LF * 1 TREE = 3.3 TREES 133' LF / 40' LF * 10 SHRUBS = 44.3 SHRUBS
ROAD FRONTAGE SHELDON RD 133 LF*	PROVIDED:	4 PROPOSED + 1 EX. TREE, 66 SHRUBS
	REQUIRED:	4 TREES, 64 SHRUBS
	CALCULATION:	163' LF / 40' LF * 1 TREE = 4.08 TREES 163' LF / 40' LF * 10 SHRUBS = 64 SHRUBS

*ROAD FRONTAGE LENGTH DOES NOT INCLUDE DRIVEWAY OPENINGS FOR CALCULATIONS.

RESIDENTIAL SCREENING EAST 175 LF*	PROVIDED:	5 TREES
	REQUIRED:	5 TREES
	CALCULATION:	175 LF / 35 LF * 1 TREE = 5 TREES
RESIDENTIAL SCREENING NORTH 133 LF*	PROVIDED:	3 PROPOSED + 1 EXISTING TREE
	REQUIRED:	4 TREES
	CALCULATION:	133 LF / 35 LF * 1 TREE = 3.8 TREES

ZONING NOTES

ZONING CLASSIFICATION: ARC
ADJACENT ZONING: EAST/NORTH RM-1 (MULTI FAMILY RESIDENTIAL)

PLANTING SEASON FOR DECIDUOUS PLANTS IS FROM MARCH 1-JUNE1, OCT. 1- FREEZE

PLANTING SEASON FOR EVERGREEN PLANTS IS FROM MARCH 1 JUNE 1

DECIDUOUS TREES:	3.5" CAL. MIN AT PLANTING
ORNAMENTAL TREE:	2" CAL. OR 6' HT MIN. AT PLANTING
EVERGREEN TREES:	8' HT MIN. AT PLANTING
SHRUBS:	30" HT. MIN. AT PLANTING

VARIATION OF PLANT SIZES REQUIRED PER ORDINANCE STANDARDS.

ROAD FRONTAGE:	1 TREE PER 40LF 5 SHRUBS PER 20' LF 36" ORNAMENTAL FENCE
RESIDENTIAL SCREENING:	6-8' LANDSCAPE BUFFER 6' SCREEN FENCE 1 TREE PER 35' LF

INTERNAL PARKING LOT LANDSCAPING REQUIREMENTS NOT REQUIRED FOR PARKING LOTS WITH LESS THAN 25 SPACES.

LINE OF SIGHT - NO TREES AND VISUAL DETERRENTS WITHIN 35' LF OF STREET CORNERS, 10' MIN. DISTANCE FROM DRIVEWAYS.

GENERAL LANDSCAPE NOTES

1. CONTRACTOR RESPONSIBLE FOR UNDERSTANDING PROJECT CONDITIONS AND VERIFYING PLANT QUANTITIES. NOTIFY LANDSCAPE ARCHITECT OF ANY PLAN DISCREPANCIES.
2. PLANT LOCATIONS TO BE STAKED IN THE FIELD FOR REVIEW AND APPROVAL BY LANDSCAPE ARCHITECT AND OWNER.CONTRACTOR WILL BE RESPONSIBLE FOR VERIFYING ALL EXISTING UNDERGROUND UTILITIES. CONTACT THE APPROPRIATE UTILITY COMPANY FOR FIELD STAKING ALL LINES.
3. ALL AREAS DISTURBED BY CONSTRUCTION TO BE TOPSOILED AND SEEDED UNLESS SHOWN OTHERWISE ON PLANS. TOPSOIL TO BE 4" DEPTH FOR ALL LAWN, GROUNDCOVER, AND PLANTING BED AREAS.
4. CONTRACTOR TO CONTACT MISS DIG AT PHONE NUMBER 811 AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES.
5. CONTRACTOR TO COORDINATE PLANTING SCHEDULE WITH IRRIGATION CONTRACTOR.
6. NOTIFY LANDSCAPE ARCHITECT IF AREAS OF POOR DRAINAGE OR OTHER UNUSUAL SUB-GRADE CONDITIONS ARE ENCOUNTERED DURING EXCAVATION FOR PLANTING PITS.
7. SHRUB PLANTING BEDS AND TREE SAUCERS TO RECEIVE 4" SHREDDED HARDWOOD MULCH. PERENNIAL BEDS TO RECEIVE 3" DEPTH MULCH AND GROUND COVER AREAS TO RECEIVE 1" DEPTH MULCH. MULCH SHALL BE PULLED AWAY 1" FROM SHRUB AND TREE TRUNKS. SEE DETAIL THIS SHEET.
8. ALL SHRUB BEDS TO HAVE ALUMINUM EDGING AND WEED BARRIER FABRIC (SEE SPECIFICATIONS).
9. PLANTING MIXTURE FOR PERENNIALS SHALL BE SIX INCH DEPTH OF FOUR PARTS BY VOLUME OF TOPSOIL TO ONE PART OF SPHAGNUM PEAT MOSS.
10. CONTRACTOR SHALL PROVIDE SPECIFIED SHRUBS, GROUND COVERS AND OTHER PLANT MATERIALS THAT COMPLY WITH ALL RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK". PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS STOCK, GROWN WITH GOOD HORTICULTURAL PRACTICE AND INSTALLED IN ACCORDANCE WITH METHODS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
11. NOTIFY LANDSCAPE ARCHITECT AND OWNER (3 DAYS MIN. NOTICE) TO INSPECT AND TAG PLANT MATERIAL IN THE NURSERY PRIOR TO JOBSITE DELIVERY AND INSTALLATION.

IRRIGATION NOTES

1. IRRIGATION TO ALL LANDSCAPED AREAS INCLUDING MANICURED LAWN, PLANTING BEDS, AND RIGHT-OF-WAY LANDSCAPING TO BE PROVIDED. NO OVER SPRAY ALLOWED ON PAVED SURFACES. ALL LANDSCAPE BEDS AND ISLANDS LESS THAN 12' IN WIDTH TO BE DRIP IRRIGATED. IRRIGATION PLAN TO BE PROVIDED. CONTRACTOR SHALL COORDINATE PLANTING SCHEDULE WITH IRRIGATION CONSULTANT.

1. WATER APPLICATION RATES SHALL NOT EXCEED INFILTRATION RATE OF SOIL. RAIN SWITCHES OR MOISTURE SENSORS TO BE INSTALLED

2. IRRIGATION CONTROLLERS MUST BE CAPABLE OF DUAL OR MULTIPLE PROGRAMMING. CONTROLLERS MUST HAVE MULTIPLE CYCLE START CAPACITY AND FLEXIBLE CALENDAR PROGRAMS. PROVIDE A POST-ESTABLISHMENT WATER SCHEDULE FOR THE YEAR. SCHEDULE IS TO BE DIVIDED INTO FOUR (4) SEASONAL QUARTERS.

TREE PROTECTION GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR UNDERSTANDING PROJECT CONDITIONS AND VERIFYING PLANT QUANTITIES. NOTIFY LANDSCAPE ARCHITECT OF PLAN DISCREPANCIES.
2. PROTECT EXISTING TREES UNLESS OTHERWISE NOTED. NO PARKING OR STORAGE OF MATERIALS WITHIN TREE ROOT ZONE. PLACE TREE PROTECTION FENCE WHERE SHOWN ON PLAN.
3. TREE PROTECTION FENCE PER DETAIL , SEE SHEET L2.01. INSTALL PRIOR TO ANY CONSTRUCTION ACTIVITY AND MAINTAIN DURING ENTIRE CONSTRUCTION PERIOD.
4. NO BURNING OR BURYING OF CLEARED OR DEMOLITION MATERIAL SHALL BE ALLOWED ON SITE.
5. CONTRACTOR MUST RESTORE AND REPAIR ANY EXISTING CONDITIONS DISTURBED BY CONSTRUCTION.

LANDSCAPE MAINTENANCE SCHEDULE

TASK	MONTH JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
CARE OF PLANTS												
MONITORING												
PRUNING (AS NEEDED)												
DEADHEAD PLANTS												
FERTILIZATION												
CUT BACK												
WATERING AS NEEDED												
MONITORING												
PLANTING BEDS												
EDGING												
WEEDING AS NEEDED												
MULCHING												
SOIL TESTING												
LEAF REMOVAL												
PEST MANAGEMENT												
MONITORING												
LAWNS												
FERTILIZA.IME												
SEEDING												
WINTER CLEAN UP												

THE SCHEDULE SHOWN ABOVE IS FOR GUIDANCE ONLY. SCHEDULING OF MAINTENANCE ACTIVITY SHOULD BE COORDINATED WITH SEASONAL WEATHER CONDITIONS.

CALL 811 NOTE:
CONTRACTOR TO CONTACT 811 SERVICE AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO CONFIRM LOCATION OF EXISTING UTILITIES. DIAL 811.
www.CALL811.com

LANDSCAPE LEGEND

LARGE CANOPY TREES
ORNAMENTAL TREES
DECIDUOUS AND EVERGREEN SHRUBS
ORNAMENTAL GRASSES
MANICURED LAWN AREA
1-2" DIA ROCK MULCH NATIVE WASHED STONE COLOR: GRAY
SEED LAWN SEED MIX - FAST GROWING SEED MIX BY DEBRUYN SEED (50% PERENNIAL RYEGRASS 20% KENTUCKY BLUEGRASS 15% TURF-TYPE TALL FESCUE 15% ANNUAL RYEGRASS)

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SCOOTER'S COFFEE
1480 WEST ANN ARBOR RD., PLYMOUTH, MI 49170

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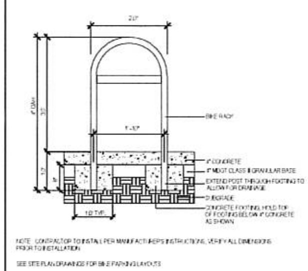
ISSUANCE
SPECIAL LAND USE
11/10/2021

REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER 21003004
PROJECT MANAGER
PROFESSIONAL JPM
DRAWN BY SRV
CHECKED BY

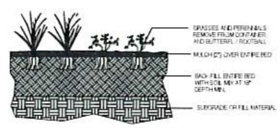
LANDSCAPE PLAN
L1.01



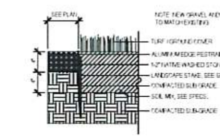
5 BIKE LOOP DETAIL
NOT TO SCALE

NOTE: CONTRACTOR TO INSTALL PER MANUFACTURER'S INSTRUCTIONS. VERIFY ALL DIMENSIONS PRIOR TO INSTALLATION.

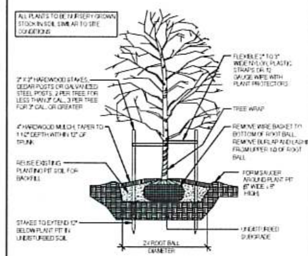
SEE SITE PLAN DRAWINGS FOR BIKE PARKING LAYOUTS



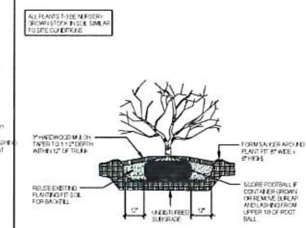
4 PERENNIAL PLANTING DETAIL
NOT TO SCALE



3 MAINTENANCE STRIP AND ROCK MULCH DETAIL
NOT TO SCALE

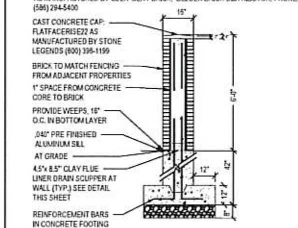


2 DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE

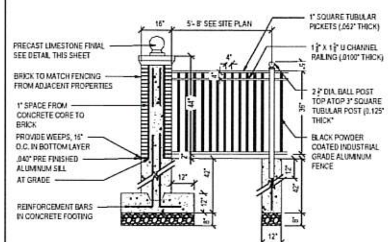


1 SHRUB PLANTING DETAIL
NOT TO SCALE

SOURCE NOTES:
FULL BRICK VANEER WITH TOOLED MORTAR JOINTS USE "WYANDOT MODULAR" AS MANUFACTURED BY GLEN-GERY BRICK, BELDEN BRICK-DISTRIBUTOR, PHONE: (585) 294-5400



9 BRICK SCREEN WALL WITH FLAT FACE RISE WALL CAP
NOT TO SCALE



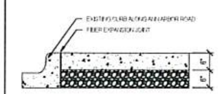
SOURCE NOTES:
1. UAF - 200 FLAT TOP THREE RAIL FENCE, BLACK POWDER COATED INDUSTRIAL ALUMINUM.

   SOURCE: ULTRA ALUMINUM MANUFACTURING, INC. 10505 BLDG# C PLAZA DRIVE WHITMORE LAKE, MI 48189. PHONE (800) 656-4420
2. FULL BRICK VANEER WITH TOOLED MORTAR JOINTS USE "WYANDOT MODULAR" AS MANUFACTURED BY GLEN-GERY BRICK. BELDEN BRICK-DISTRIBUTOR. PHONE: (585) 294-5400
3. TAN PRECAST LIMESTONE CAP AND FINIAL (CONNELLLYFLAT1) AS MANUFACTURED BY STONE LEGENDS. . PHONE (800) 398-119. USE MORTAR SETTING BED. DOWEL IF NECESSARY. COLOR TO BE TAN.

NOTES:
1. SEE SITE PLAN C2.01 FOR PLACEMENT OF STONE PIERS AND WROUGHT IRON FENCE.
2. THE STREETSCAPE ELEMENTS SHALL BE CONSISTENT WITH THE STANDARDS AND REQUIREMENTS OF THE ANN ARBOR ROAD STREETSCAPE PROTOTYPE, "ANN ARBOR ROAD STANDARD DESIGN DETAILS," DATED OCTOBER 16, 2003, ILLUSTRATED IN SECTION 78-171 OF THE CITY OF PLYMOUTH ZONING ORDINANCE.

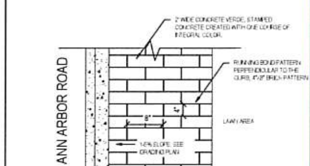
8 16"x16" BRICK PIER AND BLACK FAUX WROUGHT IRON ORNAMENTAL FENCE
NOT TO SCALE

CONTRACTOR IS RESPONSIBLE FOR MATCHING INTEGRAL COLOR SO THAT INSTALLED, CURED, AND SEALED PRODUCT IS SIMILAR OR EQUAL IN COLOR TO WYANDOTTE MODULAR HEARTLAND SERIES COLOR BRICK USED IN PIERS. INTEGRAL COLOR SHALL BE APPLIED IN ONE 6" DEEP COURSE THAT INCLUDES RESIDENTIAL RATE FIBERGLASS MOLD (MIXED BY THE POUND TO CREATE 4000 PSI STRENGTH).

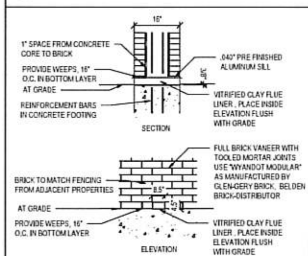


USE ALTERNAR DECORATIVE CONCRETE
INTEGRAL PIGMENT: TERRA COTTA (15LBS PER YARD)
RELEASE AGENT : LIGHT GRAY
EUCLID DIAMOND CLEAR SEALANT
SEALANT: SATIN (2 COATS)

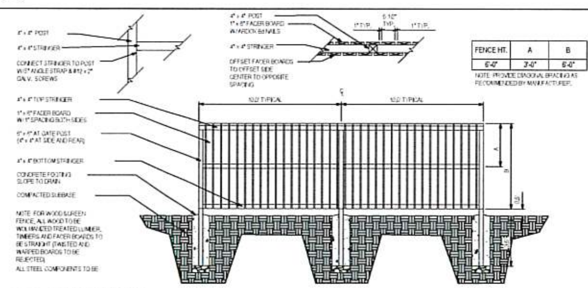
7 STAMPED CONCRETE VERGE SECTION
NOT TO SCALE



6 STAMPED CONCRETE VERGE PLAN DETAIL
NOT TO SCALE



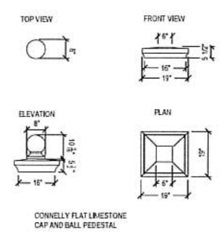
12 DRAIN SCUPPER AT WALL DETAIL
NOT TO SCALE



FENCE HT.	A	B
6'-0"	3'-0"	6'-0"

NOTE: PROVIDE DIAGONAL BRACING AS RECOMMENDED BY MANUFACTURER.

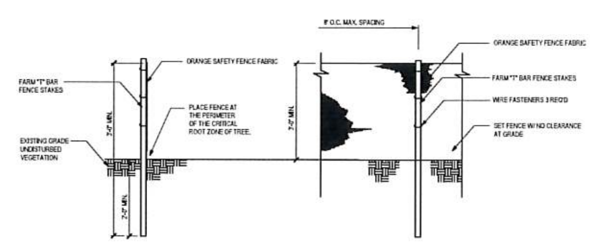
11 SCREEN FENCE
NOT TO SCALE



SOURCE NOTES:
1. STONE LEGENDS : 301 PLEASANT DRIVE, DALLAS TX, 75217 TEL. (800) 398-1199 FAX: (241) 398-1293 www.stonelegends.com
2. CONNELLY FLAT LIMESTONE CAP NAME:CONNELLY FLAT1 COLOR:TAN
3. BALL WITH PEDESTAL LIMESTONE FINIAL NAME: BALL W/PEDESTAL 2 COLOR: TAN

NOTES:
1. SEE SITE PLAN C2.01 FOR PLACEMENT OF STONE PIERS AND WROUGHT IRON FENCE.
2. THE STREETSCAPE ELEMENTS SHALL BE CONSISTENT WITH THE STANDARDS AND REQUIREMENTS OF THE ANN ARBOR ROAD STREETSCAPE PROTOTYPE, "ANN ARBOR ROAD STANDARD DESIGN DETAILS," DATED OCTOBER 16, 2003, ILLUSTRATED IN SECTION 78-171 OF THE CITY OF PLYMOUTH ZONING ORDINANCE.

10 CAST LIMESTONE PIER CAP AND FINIAL WITH PEDESTAL
NOT TO SCALE



NOTES:
1. FOR GROUPS OF TREES: PLACE THE BARRICADES AT THE DRIP LINE AROUND THE GROUPS PERIMETER.
2. INSTALLATION OF TREE PROTECTION BARRICADES SHALL BE PERFORMED BEFORE ANY SITE DEVELOPMENT ACTIVITY TAKES PLACE.
3. THE TREE PROTECTION BARRICADES SHALL REMAIN IN PLACE THROUGHOUT THE CONSTRUCTION PHASE AND UNTIL ALL SITE DEVELOPMENT ACTIVITIES ARE FULLY COMPLETE.
4. ANY DAMAGE THAT MAY OCCUR TO THE BARRICADES SHALL BE REPAIRED OR REPLACED TO THE ORIGINAL SPECIFICATIONS, WITHIN 24 HOURS OF THE DAMAGE OCCURRING.
5. THE AREA WITHIN THE TREE PROTECTION BARRICADES SHALL NOT BE USED FOR THE STORAGE OF ANY MATERIALS, SUPPLIES OR DEBRIS OR THE DISPOSAL OF ANY SOLID, LIQUID, OR GASEOUS MATERIALS THAT COULD CAUSE HARM TO TO THE TREES.
6. ANY TREE SCHEDULED TO REMAIN IF DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH MATERIAL AS APPROVED BY THE OWNER'S REPRESENTATIVE.
7. MONETARY TREE VALUE SHALL BE DETERMINED BY USING THE GUIDE FOR PLANT APPRAISAL PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE OR OTHER SOURCES AS DETERMINED BY THE CITY FORESTER.
8. BARRICADES SHALL PROTECT ALL TREES SCHEDULED TO REMAIN, BEFORE AND DURING ALL CONSTRUCTION ACTIVITIES.

13 TREE PROTECTION FENCE DETAIL
NOT TO SCALE

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SCOOTER'S COFFEE

1490 WEST ANN ARBOR RD., PLYMOUTH, MI 48170

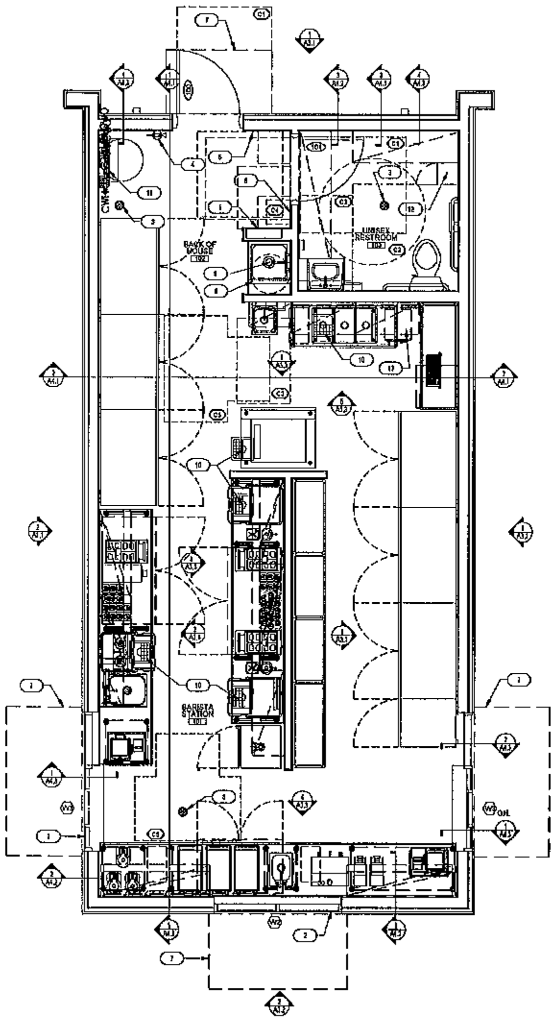
NOT FOR CONSTRUCTION

ISSUANCE
SPECIAL LAND USE
11/11/2021

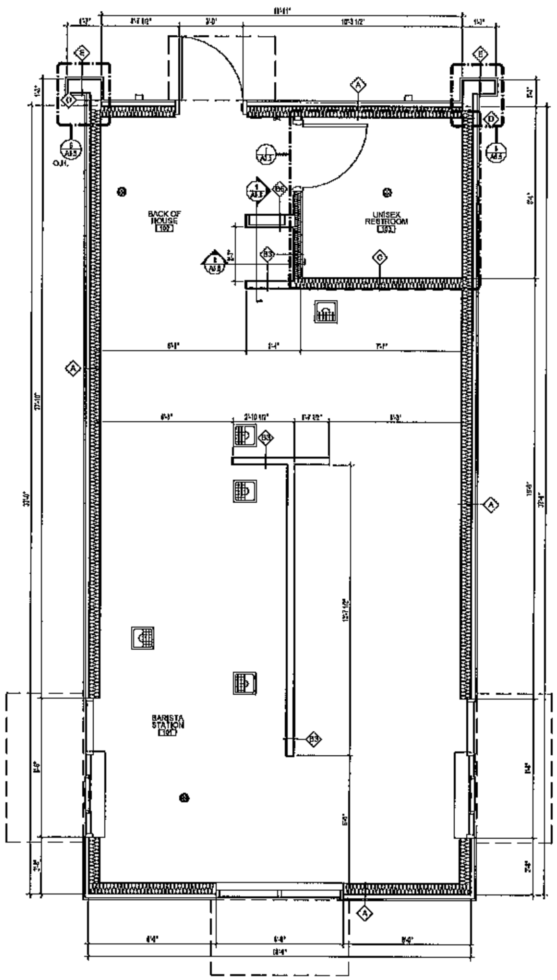
REVISIONS
NO. DATE DESCRIPTION

FILE NUMBER 91880004
PROJECT MANAGER
PROFESSIONAL JPM
DRAWN BY SRV
CHECKED BY

LANDSCAPE DETAILS
L2.01



2 FLOOR PLAN
SCALE: 3/8" = 1'-0"



1 DIMENSION PLAN
SCALE: 3/8" = 1'-0"

GENERAL NOTES

A. PROVIDE PAINTED METAL ACCESS PANELS IN WALLS AND CEILINGS AT CONCEALED ITEMS SUCH AS VALVES, SHOCK ABSORBERS, CONTROLS, SWITCHES, ETC. AND ANY ITEMS WHICH MAY REQUIRE ACCESS NOT OTHERWISE PROVIDED.
B. GENERAL CONTRACTOR WILL FURNISH AND INSTALL 5LB MULTIPURPOSE DRY CHEMICAL (2A/10BC) RATED FIRE EXTINGUISHERS WITH MOUNTING BRACKETS AND ACCESSORIES AT 4'-0" A.F.F. AS REQUIRED BY GOVERNMENTAL AUTHORITIES. MAXIMUM TRAVEL DISTANCE OF 75'-0" FOR PLACEMENT.
C. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE, LOCATE, AND CONFIRM ALL FLOOR SINK, UNDERGROUND / OVERHEAD PLUMBING AND ELECTRICAL STUB-UPS.
D. SEE ROOM FINISH SCHEDULE FOR ALL ROOM FINISHES, SHEET A2.2.
E. SEE KITCHEN DRAWINGS FOR EQUIPMENT INFORMATION, SHEET K1.0
F. GENERAL CONTRACTOR TO CAULK AND SEAL ALL EXPANSION AND SAW CUT JOINTS AT ALL EXTERIOR/INTERIOR CONCRETE - SEE JOINT SEALERS SPECIFICATIONS.
G. ALL ITEMS SUCH AS LIGHT SWITCHES, FIRE EXTINGUISHERS, FIRE ALARM PULLS AND OTHER ITEMS TO BE LOCATED AS CLOSE AS POSSIBLE TO THE ADJACENT DOOR FRAME.
H. AT MOP SINK AND SINKS, PROVIDE 120 CLEANING SOLUTION DISPENSER ON HOSE BIBB SIDE.
I. THERE SHALL BE A MAXIMUM 1/2" OFFSET AT ALL THRESHOLDS AND AT ANY CHANGE OF FLOORING MATERIALS. OFFSETS GREATER THAN 1/4" REQUIRE A MAXIMUM BEVELED SLOPE OF 1 UNIT VERTICAL TO 2 UNITS HORIZONTAL.
J. ALL DOORS ARE 4" OFF ADJACENT WALLS UNO.
K. ALL EXTERIOR DOOR LANDING GRADES SHALL HAVE A SMOOTH TRANSITION TO THE ADJACENT PAVED SURFACE, AND THE MAX. RUNNING AND CROSS SLOPE OF ALL LANDINGS WILL BE 2%.
L. PROVIDE THERMOMETER ACCURATE TO 2 DEGREES FAHRENHEIT IN REFRIGERATORS IF ONE IS NOT INCLUDED WITH FIXTURE.
M. ALL HAND SINKS MUST BE PROVIDED WITH A HAND WASHING SIGN, PAPER TOWEL DISPENSER AND HAND SOAP DISPENSER.

WALL LEGEND

FRAMING / DIMENSIONING NOTE:
ALL DIMENSIONS ARE TO FACE OF STUD, TYP.

(A) EXTERIOR WALL:
HARDIE BOARD OVER WEATHER RESISTANT BARRIER (WRB) OVER SHEATHING OVER 2x6" WOOD STUDS @ 16" O.C., 12" CEMENT BOARD AT BASE W/ 1/2" PLYWOOD ABOVE AND FRP PANEL TO 10'-6" A.F.F., PROVIDE BATT INSULATION PER COMCHECK IN ALL EXTERIOR WALLS.

(B3) INTERIOR PARTITION WALL:
2x4" WOOD STUDS @ 16" O.C., 12" CEMENT BOARD AT BASE W/ 1/2" PLYWOOD ABOVE AND FRP PANEL FINISH TO 10'-6" A.F.F. BOTH SIDES. PROVIDE R-13 ACOUSTICAL BATT INSULATION AT RESTROOM.

(B6) INTERIOR PARTITION WALL:
2x6" WOOD STUDS @ 16" O.C., 12" CEMENT BOARD AT BASE W/ 1/2" PLYWOOD ABOVE AND FRP PANEL FINISH TO 10'-6" A.F.F. BOTH SIDES. PROVIDE R-13 ACOUSTICAL BATT INSULATION AT RESTROOM.

(C) PLUMBING PARTITION:
2x6" WOOD STUDS @ 16" O.C, 12" CEMENT BOARD AT BASE W/ 1/2" MOISTURE RESISTANT GYP BD ON RESTROOM SIDE AND 12" CEMENT BOARD AT BASE W/ 1/2" PLYWOOD FOR BACK OF HOUSE WITH FRP PANEL TO 10'-6" A.F.F. BOTH SIDES, PROVIDE R-13 ACOUSTICAL BATT INSULATION IN PARTITION.

(D) EXTERIOR WING WALL:
HARDIE BOARD OVER WEATHER RESISTANT BARRIER (WRB) OVER SHEATHING OVER 2x6" WOOD STUDS @ 16" O.C., SHEATHING AND BREAK METAL ONE SIDE.

(E) EXTERIOR WING WALL:
2x6" WOOD STUDS @ 16" O.C. OVER WEATHER RESISTANT BARRIER (WRB) OVER SHEATHING AND BREAK METAL BOTH SIDES.

KEYNOTES - FLOOR PLAN (X)

1. NEW ELECTRICAL PANEL, SEE ELECTRICAL DRAWINGS
2. GRAPHICS ON WINDOW BY OWNER
3. FLOOR DRAIN, SEE PLUMBING DRAWINGS
4. 2A-10BC MINIMUM RATED FIRE EXTINGUISHER
5. PROVIDE TACTILE EXIT SIGN AT EXIT DISCHARGE
6. WATER HEATER ABOVE, SEE PLUMBING DRAWINGS
7. LINE OF CANOPY ABOVE BY OTHERS
8. ACCESSIBLE RESTROOM SIGN
9. MOP SINK, SEE PLUMBING DRAWINGS
10. FLOOR SINK, SEE PLUMBING DRAWINGS
11. R.O. SYSTEM, SEE PLUMBING DRAWINGS
12. 6 DOOR EMPLOYEE LOCKERS ANCHORED TO WALL BY GC
13. FLOOR SAFE BY OWNER, BOLTED TO FLOOR BY G.C.
14. PARTIAL HEIGHT WALL.

CLEARANCE KEYNOTE (XX)

C1 DOOR WITH A CLOSER AND A LATCH
C2 CIRCULAR TURNABOUT
C3 CLEAR FLOOR SPACE
C4 TACTILE SIGNS
C5 T-TURN

DOOR LEGEND
DOOR TAG, REFER TO SCHEDULE ON SHEET A5.2

WINDOW LEGEND
WINDOW TAG, REFER TO DETAILS ON SHEET A5.1

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PROJECT ADDRESS:
1490 WEST ANN ARBOR ROAD
PLYMOUTH, MI 48170

REVISIONS:

TITLE:
DIMENSION PLAN & FLOOR PLAN

DATE:
11/04/2021

PROJECT NO.
210536

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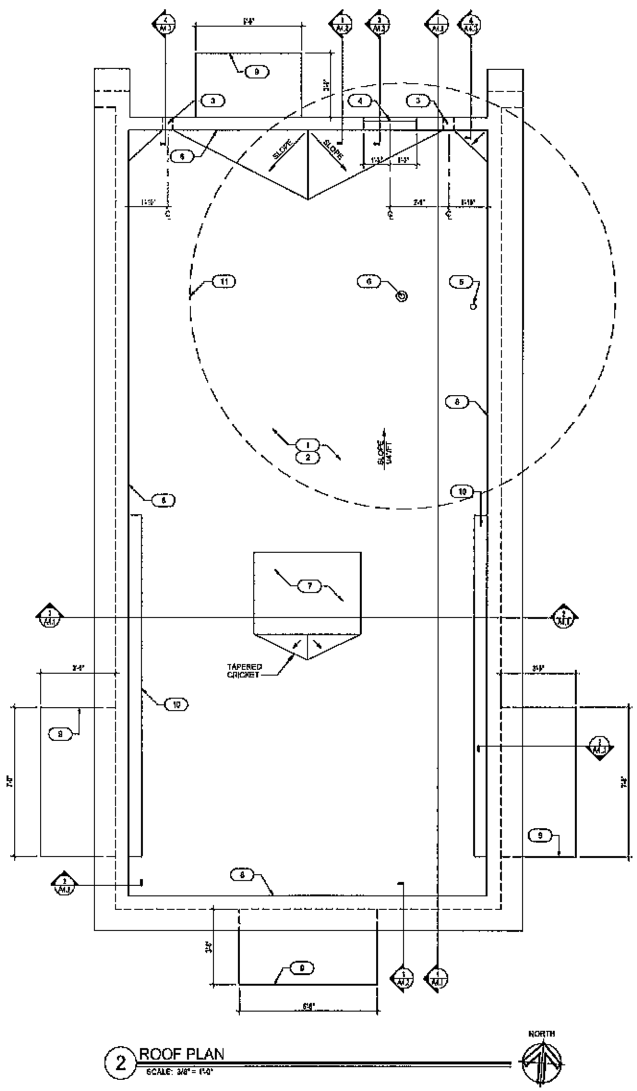
SHEET NO.
A2.1

ROOF DRAIN CALCULATIONS

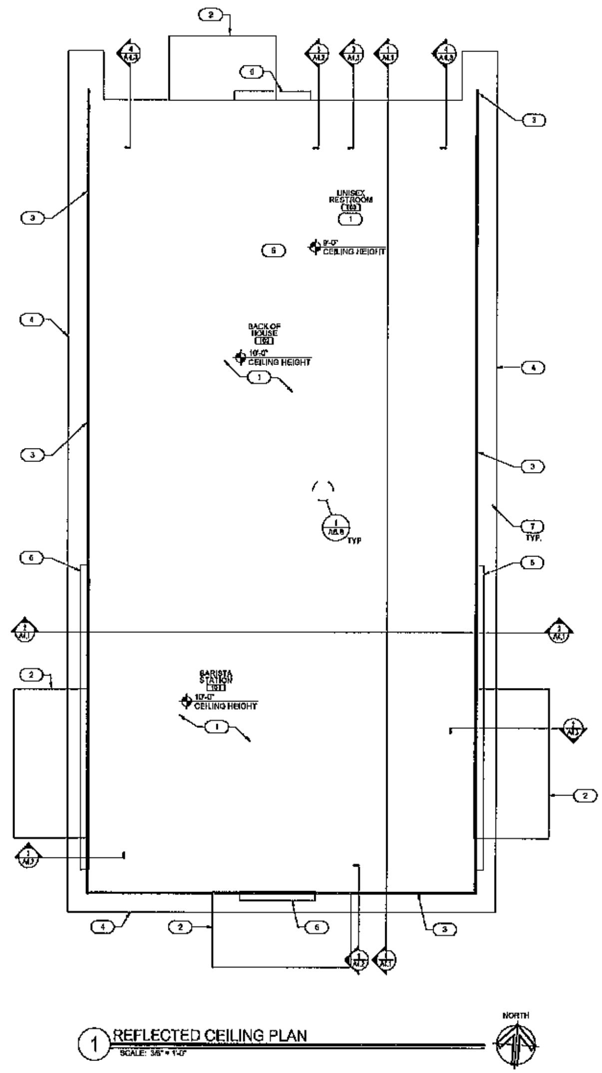
ROOF AREA: 554 SQ.FT.
PARAPET AREA: 496/2 = 248 SQ.FT.
TOTAL AREA: 802 SQ.FT.

MINIMUM REQUIRED SCUPPER (WORSE CASE 5" PER HOUR): 2" X 3"
PROVIDED: (1) 4"X6" MAIN SCUPPER AND (1) 4"X6" OVERFLOW SCUPPER

NOTE: ROOF IS DESIGNED TO HOLD ANY POTENTIAL PONDING WATER IF ONE ROOF SCUPPER SHOULD BECOME CLOGGED



2 ROOF PLAN
SCALE: 3/8" = 1'-0"



1 REFLECTED CEILING PLAN
SCALE: 3/8" = 1'-0"

CEILING LEGEND

SYMBOL	FIXTURE	NOTES
	2'x4' SURFACE MOUNTED LIGHT FIXTURE WITH PRISMATIC LENS	MOUNTING - LAY-IN GRID
	SUPPLY AIR GRILLE TITUS TMS 3 BLADE DIFFUSER OR SIMILAR	MOUNTING - LAY-IN GRID
	RETURN AIR RH45T COMMERCIAL T-BAR ALUMINUM GRILLE	MOUNTING - LAY-IN GRID
	TOILET ROOM EXHAUST FAN	MOUNTING - RECESSED
	EXTERIOR WALL SCONCE	
	EXTERIOR EMERGENCY WALL SCONCE	
	LED EXIT SIGN	
	EMERGENCY LIGHT W/BUG EYE	
	PERIMETER LED STRIP LIGHT	

NOTE: ALL LIGHTS TO BE PURCHASED BY FRANCHISEE OR GENERAL CONTRACTOR AND INSTALLED BY GENERAL CONTRACTOR.

CEILING MATERIAL LEGEND

ITEM	MFR (OR EQUAL)	MODEL NUMBER
TYPE "A"	ARMSTRONG	24" x 48" ARMSTRONG KITCHEN ZONE OR EQUAL TILES TO BE SMOOTH AND WASHABLE

GENERAL NOTES

A. WHERE LIGHT FIXTURES ARE MOUNTED IN A LAY-IN CEILING, PROVIDE A MINIMUM OF 2 SUPPORT WIRES ATTACHED DIRECTLY BETWEEN EACH LIGHT FIXTURE AND THE BUILDING STRUCTURE. SUPPORT WIRES SHALL BE A MINIMUM OF 12 GAUGE GALVANIZED STEEL WIRE, SOFT ANNEALED.

B. FIXTURES ARE REQUIRED AT ALL LIGHTING OUTLETS SHOWN ON THE DRAWINGS, APPROVED LIGHTING FIXTURE WIRE IS REQUIRED IN ALL FIXTURES AND FIXTURE RACEWAYS. WEATHERPROOF WIRING IS REQUIRED FOR EXTERIOR FIXTURES. ALL PARTS OF FIXTURES AND WIRING SHALL BE IN ACCORDANCE WITH NECESSARY REQUIREMENTS.

C. ALL FIXTURES SHALL CARRY UL AND ETL LABELS. ALL FLUORESCENT FIXTURE BALLASTS SHALL BE HIGH FREQUENCY ELECTRONIC BALLASTS WITH A "TOTAL HARMONIC DISTORTION: OF LESS THAN 20%, REGARDLESS OF THE NUMBER OF LAMPS CONNECTED TO EACH BALLAST AND SHALL HAVE CBM LABEL. ALL FLUORESCENT FIXTURES INSTALLED SHALL INCORPORATE BALLAST PROTECTION. ALL FLUORESCENT BALLASTS SHALL HAVE AN AUDIBLE NOISE RATING OF "CLASS A" OR BETTER. ALL FLUORESCENT BALLASTS SHALL HAVE A POWER FACTOR GREATER THAN 98% WHEN USED WITH PRIMARY LAMP.

D. REFER TO SPECIFICATIONS FOR ROOF ASSEMBLY.

CEILING SPECIFICATION
ACOUSTICAL CEILING SYSTEM
EXPOSED TEE GRID USG DONN DX GRID SYSTEMS AS MANUFACTURED BY USG INTERIORS OR EQUIVALENT.

HANGER WIRE, MINIMUM 12 GA. AWG GALVANIZED SOFT ANNEALED, MILD STEEL WIRE.

HANGER CLIPS, PREFABRICATED METAL CLAMPS FOR FASTENING TO STRUCTURAL STEEL MEMBERS.

KEYNOTES- REFLECTED CEILING (#)

1. NEW 2X4' WASHABLE LAY-IN CEILING TILES. (FIRE RATING - CLASS A)
2. RED CANVAS AWNING FURNISHED AND INSTALLED BY OTHERS
3. PERIMETER LED AT EXTERIOR SOFFIT
4. BREAK METAL SOFFIT & CORNICE
5. SIGNAGE FURNISHED AND INSTALLED BY OTHERS, UNDER A SEPARATE PERMIT.
6. 24" x 30" OPENING FOR HOT WATER HEATER.
7. EXTERIOR LIGHTING, SEE ELEVATIONS, SEE ALSO ELECTRICAL DRAWINGS.

KEYNOTES-ROOF (#)

1. 60 MIL TPO FULLY ADHERED OVER 1/2" DENSGLASS OVER POLYISOCYANURATE INSULATION (PER BUILDING COMCHECK ON G0.4) OVER SHEATHING. SEE DETAIL A6.4
2. CONTRACTOR ALTERNATIVE, AS ALLOWED BY CODE: 60 MIL TPO FULLY ADHERED OVER 1/2" DENSGLASS WITH BATT INSULATION APPLIED TO UNDERSIDE OF DECK
3. THRU WALL ROOF SCUPPER, SEE DETAIL 6/A6.3
4. OPENING IN PARAPET FOR ROOF ACCESS
5. VENT, SEE PLUMBING DRAWINGS, SEE ALSO DETAIL 2/A6.4
6. 6" GOOSENECK FOR EXHAUST, SEE DETAIL 2/A6.4 SIM.
7. ROOF TOP UNIT & CURB, SEE MECHANICAL DRAWINGS, SEE ALSO DETAIL 3/A6.4
8. PRE-FINISHED METAL PARAPET CAP
9. RED CANVAS AWNING BELOW, FURNISHED AND INSTALLED BY OTHERS
10. ROOFER TO FLASH ELECTRICAL RACEWAY FOR SIGNAGE ON SIDE OF PARAPET WALL - SIGNAGE UNDER SEPERATE PERMIT
11. PER CODE - NO AIR INTAKES MAY BE WITHIN A 10' RADIUS OF A VENT OR EXHAUST.

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PROJECT ADDRESS:
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REVISIONS:

TITLE:
REFLECTED CEILING PLAN & ROOF PLAN

DATE:
11/04/2021

PROJECT NO.
210536

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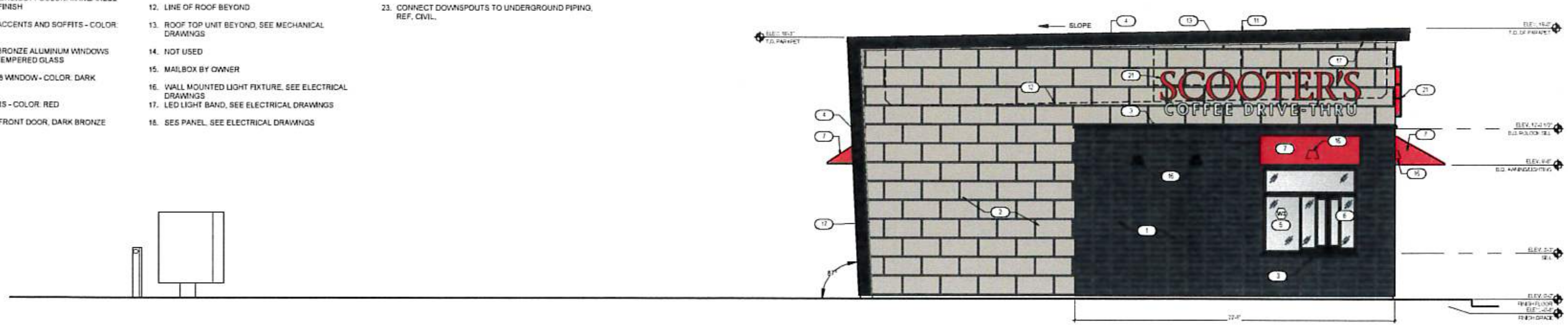
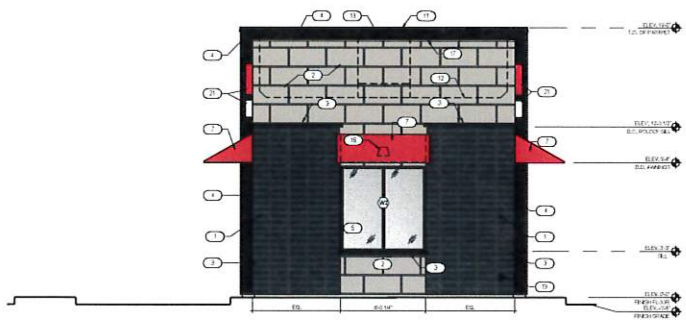
SHEET NO.
A2.4

KEYNOTES

1. ENDICOTT THIN BRICK VENEER, STACKED BOND - COLOR: MANGANESE BROWN, SMOOTH FINISH
2. ELDORADO STONE MARQUEE24 - COLOR: DOVE TAIL
3. 3 5/8" ROLOK SILL, ENDICOTT COLOR: MANGANESE BROWN, SMOOTH FINISH
4. 20 GUAGE METAL ACCENTS AND SOFFITS - COLOR: BLACK
5. INSULATED DARK BRONZE ALUMINUM WINDOWS WITH DUAL PANE TEMPERED GLASS
6. QUICKSERVE 48X48 WINDOW - COLOR: DARK BRONZE
7. AWNING BY OTHERS - COLOR: RED
8. ALUMINUM STOREFRONT DOOR, DARK BRONZE
9. NOT USED
10. DOOR BELL
11. 20 GUAGE METAL PARAPET CAP
12. LINE OF ROOF BEYOND
13. ROOF TOP UNIT BEYOND, SEE MECHANICAL DRAWINGS
14. NOT USED
15. MAILBOX BY OWNER
16. WALL MOUNTED LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS
17. LED LIGHT BAND, SEE ELECTRICAL DRAWINGS
18. SES PANEL, SEE ELECTRICAL DRAWINGS
19. ELECTRICAL OUTLETS, SEE ELECTRICAL DRAWINGS
20. HOSE BIBB, SEE PLUMBING DRAWINGS
21. SIGNAGE BY OTHERS, UNDER A SEPARATE PERMIT
23. CONNECT DOWNSPOUTS TO UNDERGROUND PIPING, REF. CIVIL.



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



3 EXTERIOR ELEVATIONS
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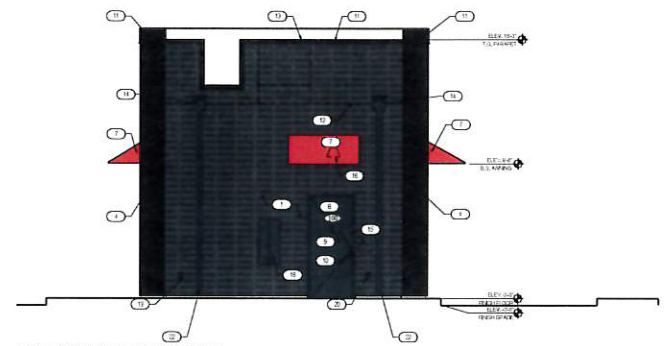

2 EXTERIOR ELEVATIONS
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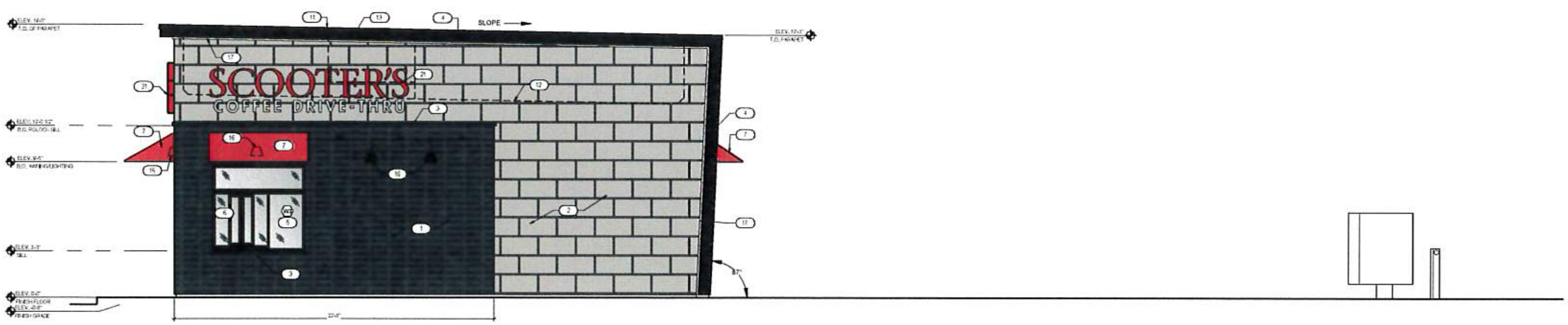

1 EXTERIOR ELEVATIONS
SCALE: 1/4" = 1'-0"

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REVISIONS:

TITLE:
EXTERIOR COLOR ELEVATIONS

DATE:
11/04/2021

PROJECT NO.
210536

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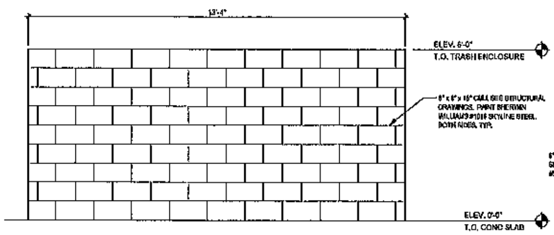
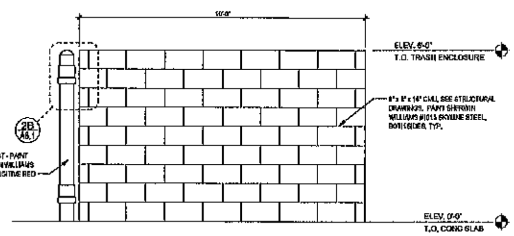
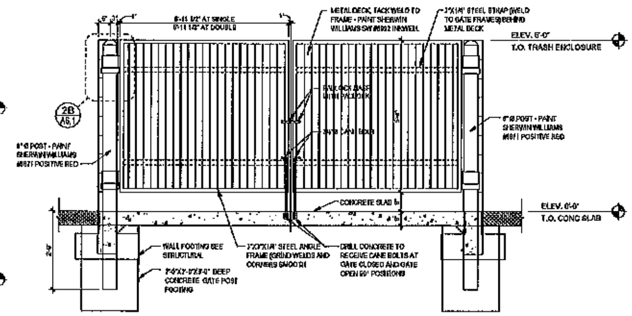
SHEET NO.
A3.0



(7) TRASH ENCLOSURE - BACK ELEVATION
SCALE: 1/2" = 1'-0"



(6) TRASH ENCLOSURE - SIDE BACK ELEVATION
SCALE: 1/2" = 1'-0"



(5) TRASH ENCLOSURE -FRONT ELEVATION
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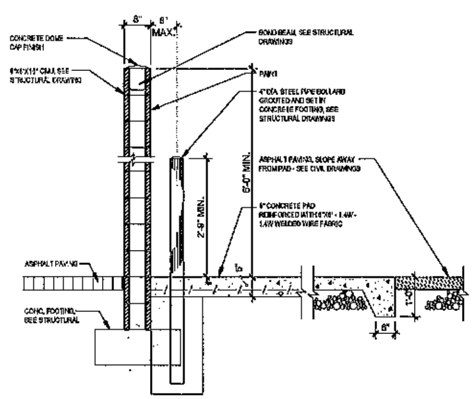
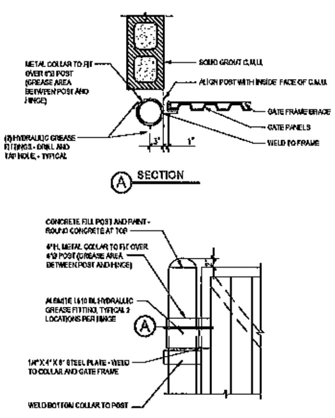
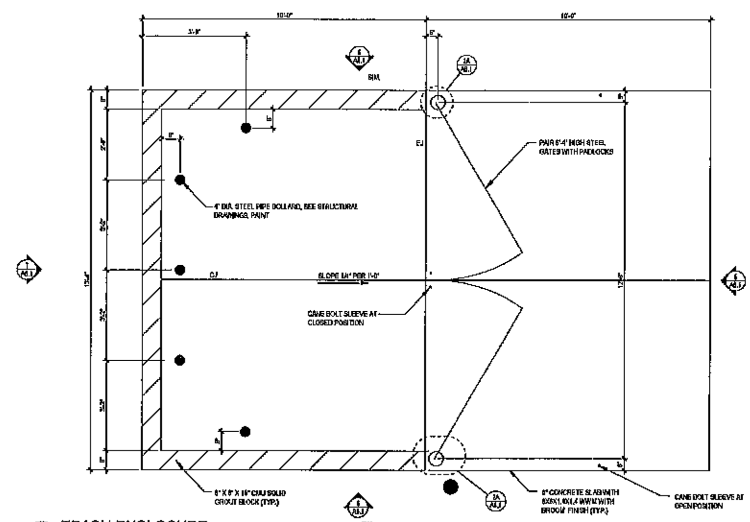


(3) SECTION AT TRASH ENCLOSURE
SCALE: 3/4" = 1'-0"



(2) HINGE AT TRASH GATE
SCALE: NTS



(1) TRASH ENCLOSURE
SCALE: 1/2" = 1'-0"

Architecture / Development

PROJECT ADDRESS:
1490 WEST ANN
ARBOR ROAD
PLYMOUTH, MI 48170

REVISIONS:

TITLE:
TRASH
ENCLOSURE
ELEVATIONS &
DETAILS

DATE:
11/04/2021

PROJECT NO.
210538

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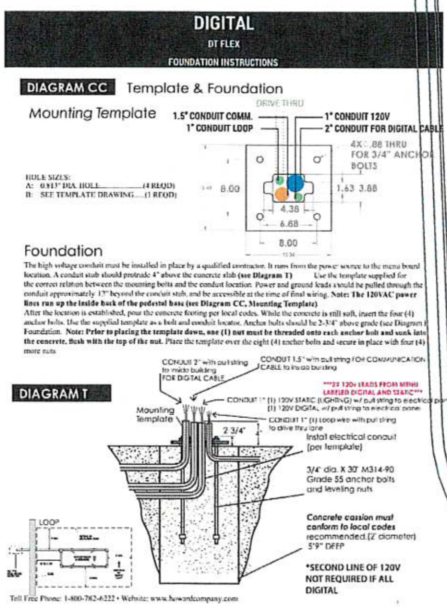
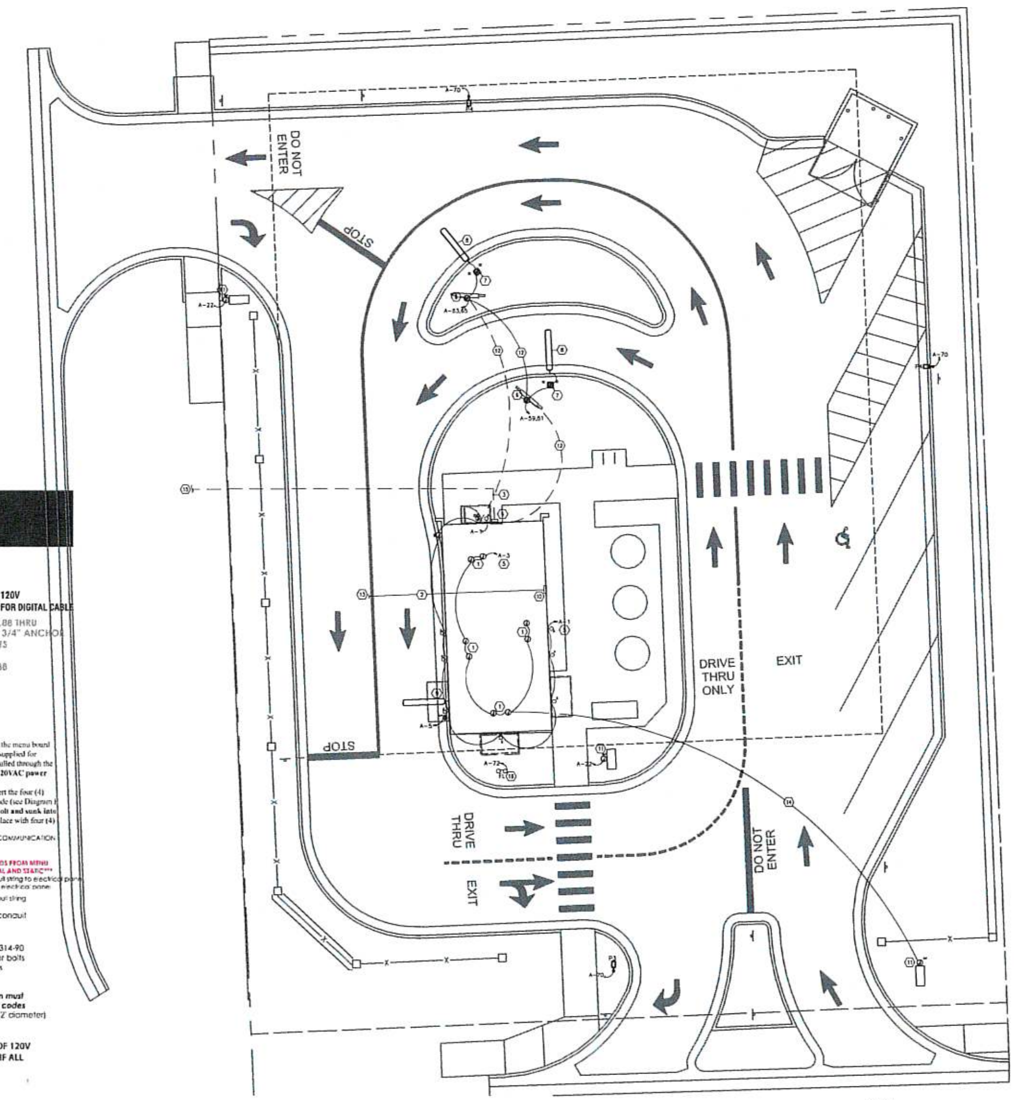
A6.1



DIGITAL MENU BOARD SCHEMATIC



1 ELECTRICAL SITE PLAN
SCALE: 1" = 10'-0"

GENERAL NOTES

A. ALL EXTERIOR LIGHT FIXTURES TO COMPLY WITH LOCAL NIGHT SKY ORDINANCE.

B. ALL EXTERIOR LIGHTING AND SIGNAGE TO BE FED WITH #10 CU, U.N.O.

C. ALL EXTERIOR ELECTRICAL EQUIPMENT TO BE NEMA-3R RATED.

D. CONTRACTOR TO COORDINATE EXACT SITE LIGHTING FIXTURE LOCATIONS WITH LANDSCAPE DRAWINGS.

E. ALL FIXTURES INSTALLED OUTDOORS SHALL BE RATED FOR DAMP/WET LOCATIONS AS REQUIRED. THE CONTRACTOR SHALL COORDINATE DAMP/ WET LOCATION RATING PER NEC ARTICLE 410-0. ALL INSTALLATIONS SHALL CONFORM TO NEC ARTICLE 410, ALL SUB ARTICLES.

F. FIRE ALARM EQUIPMENT SHALL BE COORDINATED FOR EXACT LOCATION AND REQUIREMENTS WITH FIRE MARSHALL .

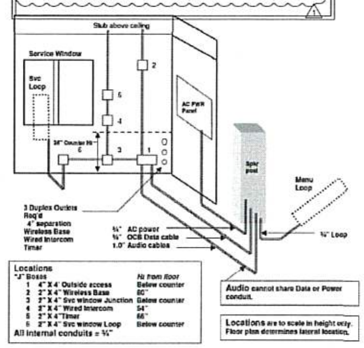
G. ALL PVC CONDUIT MUST HAVE A MINIMUM OF #12 CU. GROUND CONDUCTOR.

H. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATE AND SCHEDULING WITH POWER AND TELEPHONE UTILITY COMPANIES INCLUDING (2) COMPLETE SETS OF DRAWINGS TO EACH COMPANY. ALL WORK SHALL BE INSTALLED PER EACH UTILITY COMPANIES FINAL DESIGN DRAWINGS.

I. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL EXTERIOR LIGHT FIXTURES WITH ARCHITECTURAL DRAWINGS.

NOTES BY SYMBOL (x)

1. PROVIDE W.P. J-BOX FOR EXTERIOR SIGNAGE PER NEC, COORDINATE EXACT PRIOR TO INSTALLATION. EXTEND CIRCUIT THROUGH WALL SWITCH. REFER TO SHEET E1.0 FOR MORE INFORMATION. VERIFY EXACT REQUIREMENTS W/ OWNER.
2. 4' UNDERGROUND PVC CONDUIT WITH PULL WIRE AND RIGID STEEL BENDS PER TELEPHONE COMPANY REQUIREMENTS. TRENCH AND BACKFILL AS REQUIRED. REFER TO TABLE 300.5 FOR ADDITIONAL REQUIREMENTS .
3. NEW SECONDARY FEEDERS FROM TRANSFORMER PER POWER COMPANY REQUIREMENTS. ROUTING SHOWN FOR REFERENCE ONLY. REFER TO ONE-LINE DIAGRAM.
4. PROPOSED LOCATION OF NEW SERVICE ENTRANCE SECTION IN NEMA-3R ENCLOSURE. REFER TO ONE-LINE DIAGRAM AND LOAD CALCULATIONS.
5. CIRCUIT ROUTED TO WALL SWITCH. REFER TO SHEET E1.0 FOR LOCATION.
6. PROVIDE STUB-UP FOR DRIVE THRU DIGITAL MENU BOARD, COORDINATE EXACT POWER REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION. SEE DIGITAL MENU BOARD SCHEMATIC.
7. PROVIDE W.P. J-BOX FOR DRIVE THRU SPEAKER. COORDINATE EXACT POWER REQUIREMENTS WITH MANUFACTURER PRIOR TO INSTALLATION. SEE DRIVE-THRU CONDUIT SCHEMATIC.
8. CONNECT SPEAKER PEDESTAL TO DETECTION LOOP. COORDINATE EXACT REQUIREMENT WITH MANUFACTURER PRIOR TO ROUGH-IN, SEE DRIVE-THRU CONDUIT SCHEMATIC.
9. PROVIDE STUB UP FOR DETECTION LOOP. COORDINATE EXACT REQUIREMENT WITH MANUFACTURER PRIOR TO ROUGH-IN. SEE DRIVE-THRU CONDUIT SCHEMATIC.
10. PROPOSED LOCATION OF MAIN POINT OF PRESENCE FOR TELEPHONE COMPANY DEMARCATION AND TERMINATION.
11. PROVIDE W.P. J-BOX FOR SIGN. COORDINATE EXACT LOCATION WITH ARCHITECT OR OWNER AND ELECTRICAL REQUIREMENT S WITH VENDER.
12. PROVIDE (4) ELECTRICAL NON METALLIC CONDUITS FOR DRIVE THRU DIGITAL MENU BOARD, REFER TO DRIVE THRU SCHEMATIC ON THIS SHEET FOR FURTHER INFORMATION. (1) 2" CONDUIT TO IT RACK FOR DIGITAL CABLE, (1) 1-1/2" CONDUIT TO IT RACK FOR COMMUNICATIONS, (1) 1" CONDUIT FOR BRANCH POWER (TWO 20A/1P BRANCH CIRCUITS REQUIRED) TO ELECTRICAL PANELBOARD AND (1) 1" CONDUIT FOR LOOP DETECTION ROUTED TO DRIVE-THROUGH AREA LOOP DETECTION SYSTEM.
13. TERMINATE AND STUB CONDUIT TO PROPERTY LINE OR EXISTING CABINET PER TELEPHONE COMPANY REQUIREMENT.
14. PROVIDE (3) #10" IN 3/4" NON METALLIC CONDUIT AT 24" BELOW FINISHED GRADE, PER NEC 300.5 VERIFY EXACT ROUTING PRIOR TO INSTALLATION. TRENCH, BACKFILL, AND REPAIR LANDSCAPE/ HARDSCAPE AS REQUIRED.
15. TO PROPOSED POWER COMPANY TRANSFORMER LOCATION. COORDINATE WITH UTILITY OWNER FOR EXACT LOCATION PRIOR TO TRENCHING. LOCATION SHOWN ON PLAN IS DIAGRAMMATIC
16. PROVIDE AND INSTALL FLAG POLE LIGHT REFER TO SHEET E2.01 FOR LIGHTING SCHEDULE.



DRIVE THRU CONDUIT SCHEMATIC

GHA
Architecture / Development
14901 Quorum Drive
Suite 300
Dallas Texas 75254
Ph: (972) 239-8884
Fax: (972) 239-5054

STATE OF MICHIGAN — GRANT REID CLAUSEN — PROFESSIONAL ENGINEER — License No. 6201309682
11.10.21

Engineering Firm: F-21834
GHC Engineers, LLC
14901 Quorum Dr, Ste 300
Dallas, Texas 75254
Office: 972-239-8884
Project # G21.0959.001

SCOOTER'S COFFEE — EST. 1998

PROJECT ADDRESS:
1490 WEST ANN ARBOR ROAD
PLYMOUTH, MI 48170

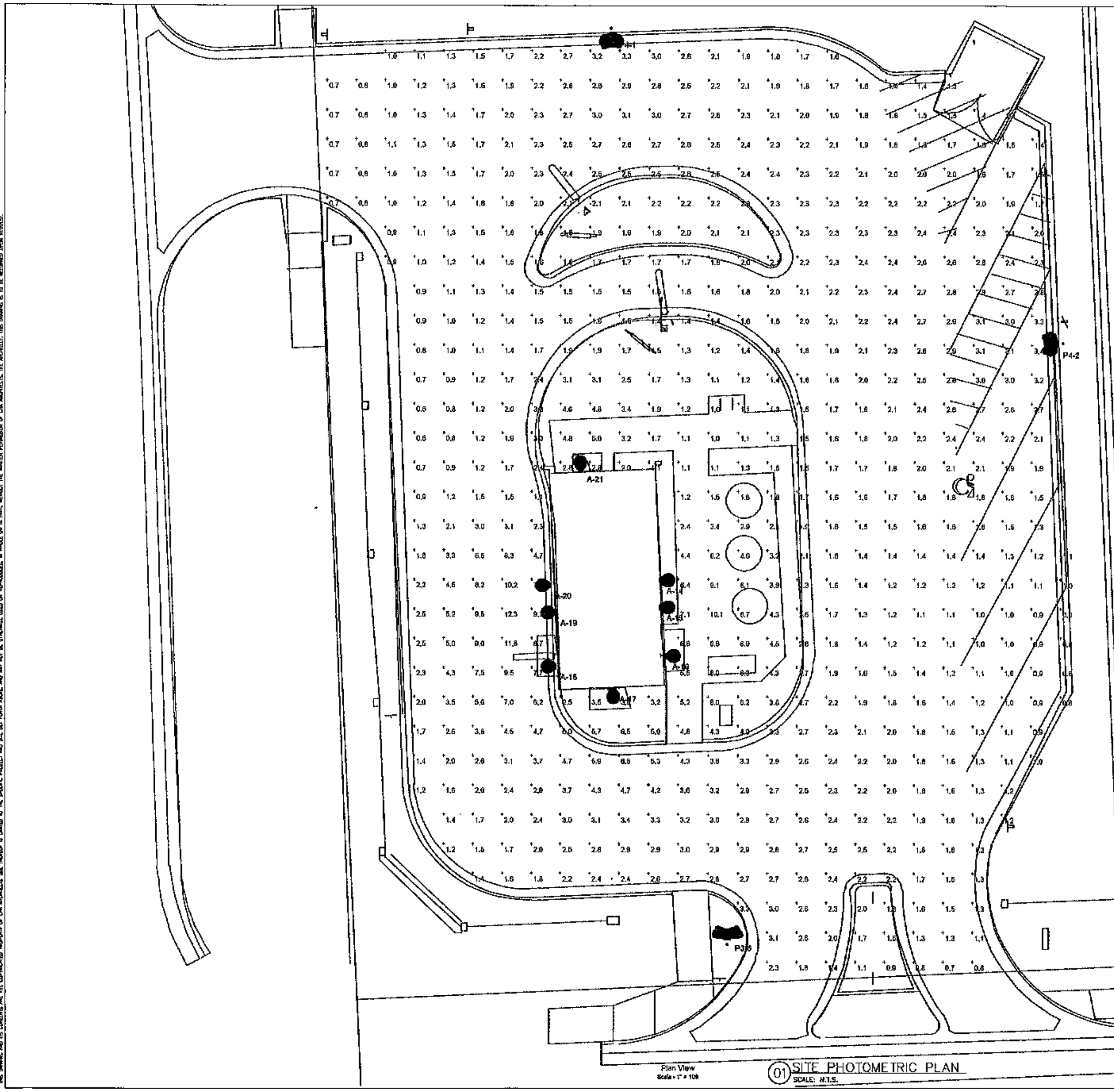
REVISIONS:
1 11/10/2021 SITE REVISION

TITLE:
ELECTRICAL SITE PLAN

DATE: 09/16/2021
PROJECT NO. 210536

☐ DESIGN DEVELOPMENT
☒ PERMIT SUBMITTAL
☐ BID PACKAGE
☐ CONSTRUCTION ISSUE

SHEET NO.
E0.01



01 SITE PHOTOMETRIC PLAN
SCALE: N.T.S.

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #4	+	2.4 fc	12.3 fc	0.6 fc	20.6:1	4.0:1

Schedule

Symbol	Label	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	P3		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	P4		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	A		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Luminaire Locations

		Location						Aim		
No.	Label	X	Y	Z	MH	Orientation	Tilt	X	Y	Z
14	A	1113598.00	26173.14	12.00	12	90.00	0.00	1113598.00	26173.14	0.00
15	A	1113588.00	26168.62	12.00	12	90.00	0.00	1113593.00	26168.62	0.00
16	A	1113598.00	26160.23	12.00	12	90.00	0.00	1113593.00	26160.23	0.00
17	A	1113590.00	26154.46	12.00	12	180.00	0.00	1113590.00	26154.46	0.00
18	A	1113580.00	26158.44	12.00	12	270.00	0.00	1113580.00	26158.44	0.00
19	A	1113580.00	26167.66	12.00	12	270.00	0.00	1113580.00	26167.66	0.00
20	A	1113578.00	26172.28	12.00	12	270.00	0.00	1113579.00	26172.28	0.00
21	A	1113584.00	26197.00	12.00	12	358.24	0.00	1113584.00	26197.00	0.00
6	P3	1113809.00	26111.27	26.00	25'	359.89	0.00	1113809.00	26112.35	0.00
1	P4	1113590.00	26287.10	26.00	25'	178.09	0.00	1113590.00	26266.02	0.00
2	P4	1113066.00	26213.50	25.00	25'	267.65	0.00	1112625.00	26213.66	0.00

GHA
Architecture / Development
14901 Quorum Drive
Suite 300
Dallas Texas 75254
Ph: (972) 239-8884
Fax: (972) 239-5054

STATE OF MICHIGAN
GRANT ROD CLAUSEN
LICENSED PROFESSIONAL ENGINEER
11.10.21

SCOOTER'S COFFEE
EST. 1998

PROJECT ADDRESS:
1490 WEST ANN
ARBOR ROAD
PLYMOUTH, MI 48170

REVISIONS:
△ 11/10/2021 SITE REVISION

TITLE:

EXTERIOR
PHOTOMETRIC
SITE PLAN

DATE:
09/16/2021

PROJECT NO.
210536

☐ DESIGN DEVELOPMENT
☒ PERMIT SUBMITTAL
☐ BID PACKAGE
☐ CONSTRUCTION ISSUE

SHEET NO.
E0.02

Carlisle | Wortman
ASSOCIATES, INC.
117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Date: November 30, 2021

Site Plan Review
For
Plymouth, Michigan

Applicant:	Westborn Market 860 Penniman Ave. Plymouth, MI 48170
Project Name:	Westborn Market Parking Lot Reconfiguration
Plan Date:	October 12, 2021
Location:	860 Penniman Ave. and 885 Fralick
Zoning:	B-2 – Central Business
Action Requested:	Site Plan Approval
Required Information:	Any deficiencies are noted in the report.

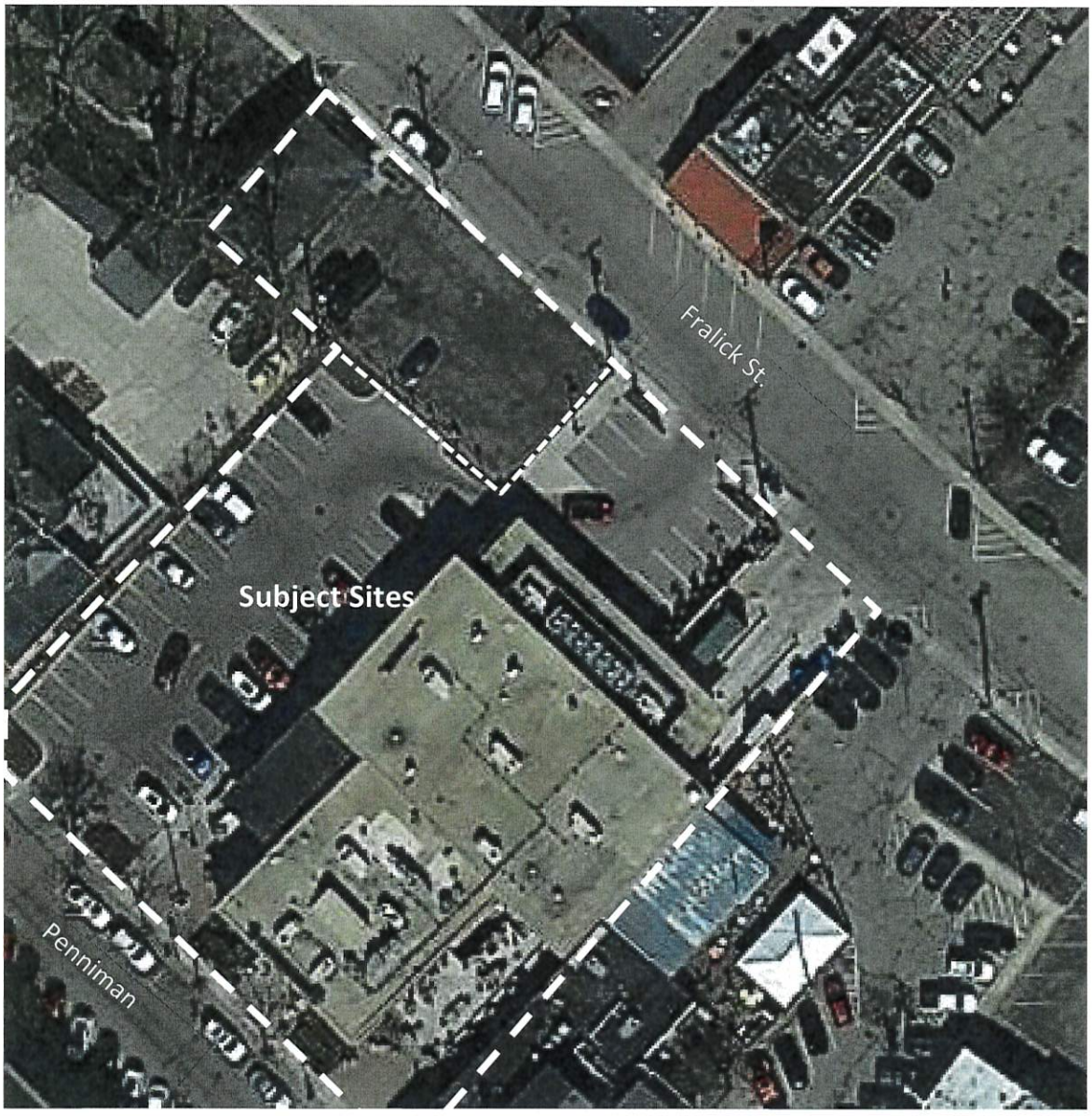
PROJECT AND SITE DESCRIPTION

The applicant has purchased the parcel to the north of the Westborn Market parking lot at 885 Fralick, and proposes to expand the existing parking lot for the market into the existing parking lot for the northern parcel.

These parcels are within the Historic District and the B-2 Central Business District.

An aerial of the subject site is shown in **Figure 1** below.

Figure 1. *Subject Site*



2015 Approvals

Repurposing the historic Plymouth Post Office building as a market was considered by the Planning Commission in 2015. The existing parking lot was designed and reviewed by the City Engineer. The Planning Commission approved the Site Plan at their April 20, 2015 meeting. During this time, the applicant also was granted the following variances:

1. To exceed the minimum 0.3 foot candles along the north and west property lines, with a maximum excess of 1.6 foot candles, conditioned upon the lights be dimmed, as determined by the Planning Commission.

2. To allow a six-foot (rather than 10-foot) landscape buffer along Fralick, conditioned upon the landscape beds are constructed as "deep well" beds.

3. To allow a private parking lot at 860 Penniman (Post Office parcel) that exceeds 19 feet in depth, six (6) spaces, and is not connected to a public alley, conditioned upon this parcel be combined with the adjoining 870 Penniman.

4. To allow a private parking lot at 870 Penniman (Vacant parcel) that exceeds 19 feet in depth, six (6) spaces, is located to the side of the building served, and is not connected to a public alley, conditioned upon this parcel be combined with the adjoining 860 Penniman.

The Zoning Board of Appeals also moved, as a recommendation, that the Planning Commission consider a through-way from Penniman to Fralick or Harvey, and that they consider requiring a traffic study with regards to the impact of the parking lot.

The applicant should confirm that the two parcels (860 and 870 Penniman) have been combined.

2021 Zoning Board of Appeals Approvals
At the October 7, 2021 Zoning Board of Appeals (ZBA) meeting, the board approved the following variances for the *new* parking lot along Fralick:

1. To allow a private parking lot at 885 Fralick that exceeds 19 feet in depth, six (6) spaces, and is located not in the rear yard.

2. To allow a 4-foot wide landscape buffer northwest of the drive entry on Fralick.

The Zoning Board of Appeals members also relayed the following comments for the Planning Commission to consider:

1. The westerly lot should be configured as one-way in from Penniman, and that no "exit" should be permitted onto Penniman.

2. Landscaping should be added in the area of the new sidewalk to the market building.

We have considered these comments later in this review.

Items to be Addressed: *Provide information on the status of the lot combination of 860 Penniman and 870 Penniman.*

PARKING, LOADING

This site plan application is proposing to modify the circulation of the existing parking lot, and connect this lot with the lot on the northern parcel.

Number of Parking Spaces: This new lot will serve two uses; the market use, and whatever use will occupy the small building on the Fralick parcel. The plans do not indicate a use for this small building, and should. The number of spaces in the new Fralick lot total 9 parking spaces (including one (1) barrier-free space).

As part of the previous site plan approval, the required parking for the market use was calculated to be 33 spaces, including two barrier-free spaces. Parking provided for the market includes 43 spaces (33 spaces in the existing westerly lot, and 10 spaces in the lot behind the market building), exceeding the requirements. No barrier-free spaces are illustrated on the plans in either the existing westerly lot, or the lot behind the market building. A barrier-free space needs to the added to the westerly lot, and a van-accessible barrier-free space needs to be added to the lot behind the market building.

Parking Lot Dimensions: The size of the proposed spaces meets ordinance requirements (9 feet x 18 feet plus overhang). The maneuvering lane in the existing and new Fralick lots and the westerly lot meets the minimum width (minimum 20 feet required).

Items to be Addressed: *1) Describe proposed use of small building on Fralick. 2) Add second barrier-free space to existing westerly lot. 3) Add van-accessible barrier-free space to lot behind market.*

SITE ACCESS AND CIRCULATION

The proposal reconfigures the circulation of the existing westerly lot, and the existing lot behind the market building. The connecting drive between these two lots has been eliminated. Now, cars using the westerly lot will be able to enter and exit this lot using the new Fralick driveway/lot. The lot behind the market building will be entered/existed through the existing driveway on Fralick. We consider this a positive change.

The previous parking lot approval was conditioned upon the City Engineer and Police Chief reviewing and approving the layout. We would recommend the same review/approval for the proposed changes, and their input on whether exiting onto Penniman is desirable.

The width of the proposed driveway to the new Fralick lot is particularly wide; in our view, this width is not necessary. The other two driveways to this site are 23-25 feet wide. The proposed driveway should be narrowed to allow for longer landscape islands adjacent to the sidewalk along Fralick.

A new sidewalk is proposed along the eastern boundary of the new Fralick lot, which provides for a direct pedestrian connection to the sidewalk along Fralick. We consider this an appropriate location for a sidewalk, as it provides for a direct pedestrian connection to the sidewalk along the west side of the market building. However, we have the following comments regarding the pedestrian facilities between the two lots along Fralick:

1. The new sidewalk is only 5-feet wide. It should be widened to 7-feet to accommodate the 2-foot overhang of the adjacent parking spaces.
2. The new sidewalk is directly next to the 7-foot wide existing sidewalk (located on the west side of the existing lot behind the market). This much pavement is unnecessary, as commented on by the Zoning Board of Appeals. We recommend that the existing pavement be removed, and replaced with a planting bed which will:
   a. Accommodate the existing light pole and catchbasin.
   b. Eliminate the small "planters." These small planters are too small, and the conditions too harsh, to support any plant material.
   c. Be a minimum of 7-8 feet wide and 50-feet long. A planting bed this size will support several parking lot trees and other plant material that will break up the expanse of pavement.
   d. Eliminate the small ornamental tree proposed in the small opening of the sidewalk (as more appropriate-sized space is provided in the large planting bed).

Items to be Addressed: *1) Assessment of proposed parking lot layout, and exiting onto Penniman, by City Engineer and Police Chief. 2) Narrow proposed driveway to allow for longer landscape islands adjacent to Fralick sidewalk. 3) Widen proposed sidewalk from 5-feet to 7-feet wide to accommodate vehicle overhang. 4) Eliminate existing sidewalk between two rear lots for reasons enumerated and replace with 7 x 50 foot planting bed. 5) Eliminate tree in small opening in sidewalk and move to large planting bed.*

LANDSCAPING AND SCREENING

The applicant has provided a landscape plan and landscaping details. The landscape plan shows installation of shrubs and deciduous trees to screen the parking areas from Fralick.

Parking Lot Screening: Section 78-203(3)(a), Parking Lot Landscaping and Screening, requires a landscaped strip of at least ten (10) feet in width or wider between a parking lot and a public right-of-way. It also requires one tree for every 30 feet of street frontage of the parking lot, and five shrubs for every 30 feet of street frontage.

Fralick Ave: The new parking lot along Fralick shows one planting bed on the east side that is 11-feet wide, and another planting bed on the west side that is 6-feet wide.

As previously mentioned, the Zoning Board of Appeals granted a variance to allow a 4-foot wide planting area in this location. Showing a wider planting bed is positive.

We calculate approximately sixty-six (66) feet of parking lot frontage along Fralick, requiring two (2) trees and eleven (11) shrubs. The landscape plan shows two (2) trees, and ten (10) shrubs. One more shrub needs to be added.

Interior Parking Lot Landscaping: Section 78-203(3)(b) requires parking lots greater than five thousand (5,000) square feet in area to provide one (1) square foot of landscaped area within interior parking lot islands for each fifteen (15) square feet of parking lot. One (1) tree shall be provided for each three hundred (300) square feet of landscaped area. Since the western and new Fralick lot are being connected, we consider both lots in evaluating this requirement. The western parking area measures 9,465 sq. ft. in area, and the new Fralick lot measures 3,988 sq. ft. in area, for a total of 13,453 sq. ft. This lot requires 897 sq. ft. of landscape area and three (3) trees.

The landscape islands in both lots equal approximately 776 sq. ft.; therefore, the proposal is deficient by approximately 121 sq. ft. of interior landscape beds (897 – 776 = 121). (Note: We don't count the "planters" or the sidewalk opening since they will not support plant material.) The large bed recommended above (under "Site Access and Circulation") could meet this requirement.

Three (3) trees are proposed, meeting this requirement.

Proposed landscape materials meet or exceed ordinance size requirements.

Items to be Addressed: *1) Increase interior parking lot landscaping area by 121 sq. ft.; recommend meeting this requirement with large landscape bed between two Fralick lots.*

LIGHTING

Parking lot lighting is proposed. In the new Fralick lot, one pole-mounted parking lot fixture is proposed on the west side of the lot (directly in front of the existing building). In the existing Fralick lot, the single-head fixture will be replaced with a two-head fixture.

The ordinance contains the following requirements for lighting intensity:

a. Per Section 78-204, small parking lots (5-10 spaces) shall have a minimum illumination level of 0.4 foot-candles (fc), while medium parking lots (11-99 spaces) shall have a minimum of 0.6 fc. Proposed lighting meets these Ordinance standards. The maximum mounting height of the parking lot lighting is twenty (20) feet, meeting Ordinance standards.

b. Section 78-204(3) also requires that the maximum light intensity should not exceed 0.3 fc along non-residential property lines. As mentioned previously, the Zoning Board of Appeals has granted a variance to allow the maximum lighting level along the property

lines to exceed this maximum by 1.6 foot candles. The proposed lighting meets this standard.

No photometric plan has been provided; therefore, we cannot confirm if the proposed lighting meets ordinance requirements for lighting intensity. A photometric plan should be provided.

Items to be Addressed: *Provide photometric plan so that lighting intensity can be evaluated.*

RECOMMENDATIONS

We consider the proposal to improve vehicular circulation on the site. However, there are a number of outstanding issues that should be addressed.

A. The applicant should respond to the following questions:

1. Have 860 and 870 Penniman been combined, as required by the previous Site Plan approval?
2. Describe the proposed use of the small building on Fralick.

B. The plans should be revised as follows:

1. Add second barrier-free space to existing westerly lot.
2. Add van-accessible barrier-free space to lot behind market.
3. Narrow proposed driveway to allow for longer landscape islands adjacent to Fralick sidewalk.
4. Widen proposed sidewalk along east side of new Fralick lot from 5-feet to 7-feet wide to accommodate vehicle overhang.
5. Eliminate existing sidewalk between two rear lots for reasons enumerated and replace with 7 x 50 foot planting bed.
6. Eliminate small sidewalk opening and move proposed ornamental tree to large planting bed to north.
7. Increase interior parking lot landscaping area by 121 sq. ft.; recommend meeting this requirement with large landscape bed located between two Fralick lots.
8. Provide photometric plan so that lighting intensity can be evaluated.

Sally M. Elmiger

CARLISLE/WORTMAN ASSOC., INC.
Sally M. Elmiger, AICP, LEED AP
Principal

cc: John Buzuvis
Marleta Barr
GreenTech Engineering, Inc., Dan LeClair, PE (dan@greentechengineering.net)

CITY OF PLYMOUTH
COMMUNITY DEVELOPMENT DEPARTMENT
SITE PLAN REVIEW APPLICATION

201 South Main Street
Plymouth, Michigan 48170
(734) 453-1234 ext. 232
www.plymouthmi.gov

GENERAL INFORMATION:

Applicants seeking site plan approval are encouraged to familiarize themselves with the City of Plymouth Zoning Ordinance, Zoning Map, and Master Plan. Review these documents in order to assure that the land is properly zoned to permit the use proposed for development of the site and the building height, bulk, density, area, off-street parking, landscaping and screening requirements of the zoning ordinance are met. Copies of the Zoning Ordinance, Zoning Maps and Master Plans may be obtained online.

Site plans for all Multiple Family Residential, Condominium/Townhome Residential, and all Non-Residential developments must be reviewed and approved by the City of Plymouth Planning Commission before building permits may be issued.

Applicants must have a pre-application meeting prior to submittal unless waived by the Community Development Director. Pre-application meeting fee is $325.

SITE PLAN REVIEW FEE(S):

Site Plan Review (initial review and one revision).....$1,500 + $50/acre or fraction thereof
Subsequent Site Plan Review (after the initial and one revision) $750
Special Land Use Review ..... $600 in addition to Site Plan Review fee
Final Site Conformance Review (Multi-Family and Non-Residential) ..... $50/acre, $200 Min.

REVIEW PROCESS:

Submit 15 copies of the Site Plan Review Application and 15 copies of the site plan drawings and any supplemental information (folded and stapled) to the Community Development Department before the review process can begin. Site plan drawings shall be on a sheet size that is legible to see details (suggested 24" by 36"), with graphics and scale. Submit one digital copy of the entire submission package (application, site plan drawings, supplemental information, etc.) via email, flash drive, or document sharing application. Site plans submitted for review must be in the hands of the City **by 12:00 PM on the third Monday of the month** in order to be on the following month's agenda. Specific deadlines and meeting dates can be found on the Planning Commission's page on the City's website. Fees shall be provided at the time of submittal.

This application will be initially reviewed for completeness by the Community Development Department. Incomplete applications will be returned for modification. Following determination of completeness, applications are distributed to the City's Planning Consultant, Fire Marshall, applicable department heads, and Planning Commissioners for review to ensure compliance with all applicable codes and ordinances.

The applicant will be provided with the Planning Consultant's comments and recommendations concerning the application in advance of the meeting.

The Planning Commission meets on the second Wednesday of the month in the City of Plymouth Commission Chambers (second floor), 201 S. Main Street, Plymouth, MI at 7:00 PM unless otherwise specified on the City's website.

CITY OF PLYMOUTH
SITE PLAN REVIEW APPLICATION

Community Development Department
201 S. Main Street Plymouth, MI 48170
Ph. 734-453-1234 ext. 232
www.plymouthmi.gov

I. Site/Project Information

Site Address	Current Zoning Classification	Date of Application
885 Fralick Avenue, Plymouth, MI 48170	B-2	10-27-2021

Name of Property Owner	Phone Number	
Westborn Market		
Mailing Address	Email Address (Required)	
860 Penniman Ave		
City	State	Zip Code
Plymouth	Michigan	48170

II. Applicant and Contact Information

Indicate Who the Applicant Is. If Property Owner, Skip to Section III.		Architect		Developer		Engineer		Lessee
Applicant/Company Name	Phone Number							
Westborn Market								
Applicant/Company Address	City		State		Zip Code			
860 Penniman Ave	Plymouth		Michigan		48170			
Email Address (Required)								

III. Site Plan Designer and Contact Information

Site Plan Designer Company Name		Phone Number		
GreenTech Engineering, Inc. Attn: Dan LeClair, PE		(248) 668-0700		
Company Address		City	State	Zip Code
51147 W. Pontiac Trail		Wixom	Michigan	48393
Registration Number	Expiration Date	Email Address (Required)		
41601	3-7-2024	dan@greentechengineering.net		

IV. Type of Project (Please Select All that Apply)

V. Historic District

☒ Commercial ☐ Multi-Family ☐ Mixed Use ☐ Industrial	☐ New ☐ Remodel ☐ Addition ☐ Interior Finish	☐ Change of Use ☐ Special Land Use	Is this project located in the Historic District? ☐Yes ☐No

VI. Description of Work

Proposed parking lot re-configuration and connection to existing Westborn Market parking lot. Addition of new concrete pedestrian sidewalks and landscape areas.

VII. Applicant Signature

Signature of Applicant	Date

VIII. Property Owner Signature

Signature of Property Owner	Date

Subscribed and sworn before me this _____day of _____, 20_____.

Notary Public:_____

My Commission expires: _____

IX. Site Plan Review Checklist

Please include the following applicable information on the site plan.		YES	NO	N/A
1.	Correct scale	[x]	[ ]	[ ]
2.	Name of person preparing plan*	[x]	[ ]	[ ]
3.	Date, north point	[x]	[ ]	[ ]
4.	Property line dimension	[x]	[ ]	[ ]
5.	Street right-of-way widths	[x]	[ ]	[ ]
6.	Existing utilities (sewer, water, gas, etc.) and easements	[ ]	[ ]	[x]
7.	Show adjacent property and buildings, including zoning	[x]	[ ]	[ ]
8.	Existing topography, trees and other features	[x]	[ ]	[ ]
9.	Off-site ground, parking lot, roadway, driveway and/or structure elevations for minimum distance of 50 feet	[x]	[ ]	[ ]
10.	On-site grid of maximum 100 feet intervals each way (closer where rolling terrain warrants) and minimum 2.0 feet contours	[x]	[ ]	[ ]
11.	Location of new structures including side and front yard setbacks and building length and width (show a general floor plan)	[ ]	[ ]	[x]
12.	Number of dwelling units per building	[ ]	[ ]	[x]
13.	Height of structure	[ ]	[ ]	[x]
14.	Percent one room apartments (efficiencies)	[ ]	[ ]	[x]
15.	Total number of rooms if multiple-family	[ ]	[ ]	[x]
16.	Parking requirements met (See Section 78-720)	[x]	[ ]	[ ]
17.	Number of units and bedrooms each building	[ ]	[ ]	[x]
18.	Parking lot layout (showing paved area) including ingress and egress and service area	[x]	[ ]	[ ]
19.	Parking lot space dimensions	[x]	[ ]	[ ]
20.	Loading and unloading space	[ ]	[ ]	[x]
21.	Site grading and drainage plan (on-site elevations for pavements, drives, parking lots, curbs, sidewalks and finish grade at bldg.)	[x]	[ ]	[ ]
22.	Utility connections (sanitary sewer, water, storm sewers)	[ ]	[ ]	[x]

Please include the following applicable information on the site plan.		YES	NO	N/A
23.	On-site storm water retention	[ ]	[ ]	[x]
24.	Fire hydrants within 300 feet (on- and off-site)	[ ]	[ ]	[x]
25.	Sidewalks and elevations	[x]	[ ]	[ ]
26.	Sedimentation and erosion control plan	[x]	[ ]	[ ]
27.	Landscape plan showing plant materials to be used	[x]	[ ]	[ ]
28.	Sign requirements met	[ ]	[ ]	[x]
29.	Require walls and fences or greenbelts	[x]	[ ]	[ ]
30.	Corner clearance	[x]	[ ]	[ ]
31.	Service drive needed	[ ]	[ ]	[x]
32.	Acceleration lanes and traffic pattern	[ ]	[ ]	[x]
33.	Trash receptacle locations including screening type and height	[ ]	[ ]	[x]
34.	Mail box locations	[ ]	[ ]	[x]
35.	Air conditioner unit locations	[ ]	[ ]	[x]
36.	Special site features (play areas, pools, etc.)	[ ]	[ ]	[x]
37.	Handicapped facilities	[x]	[ ]	[ ]
38.	Building elevation drawings	[ ]	[ ]	[x]

*Where property line surveys, topography, sewer, water or storm drains are shown, the name of the registered engineer or land surveyor preparing such elements of the plan shall be indicated on the plan.

For Office Use Only

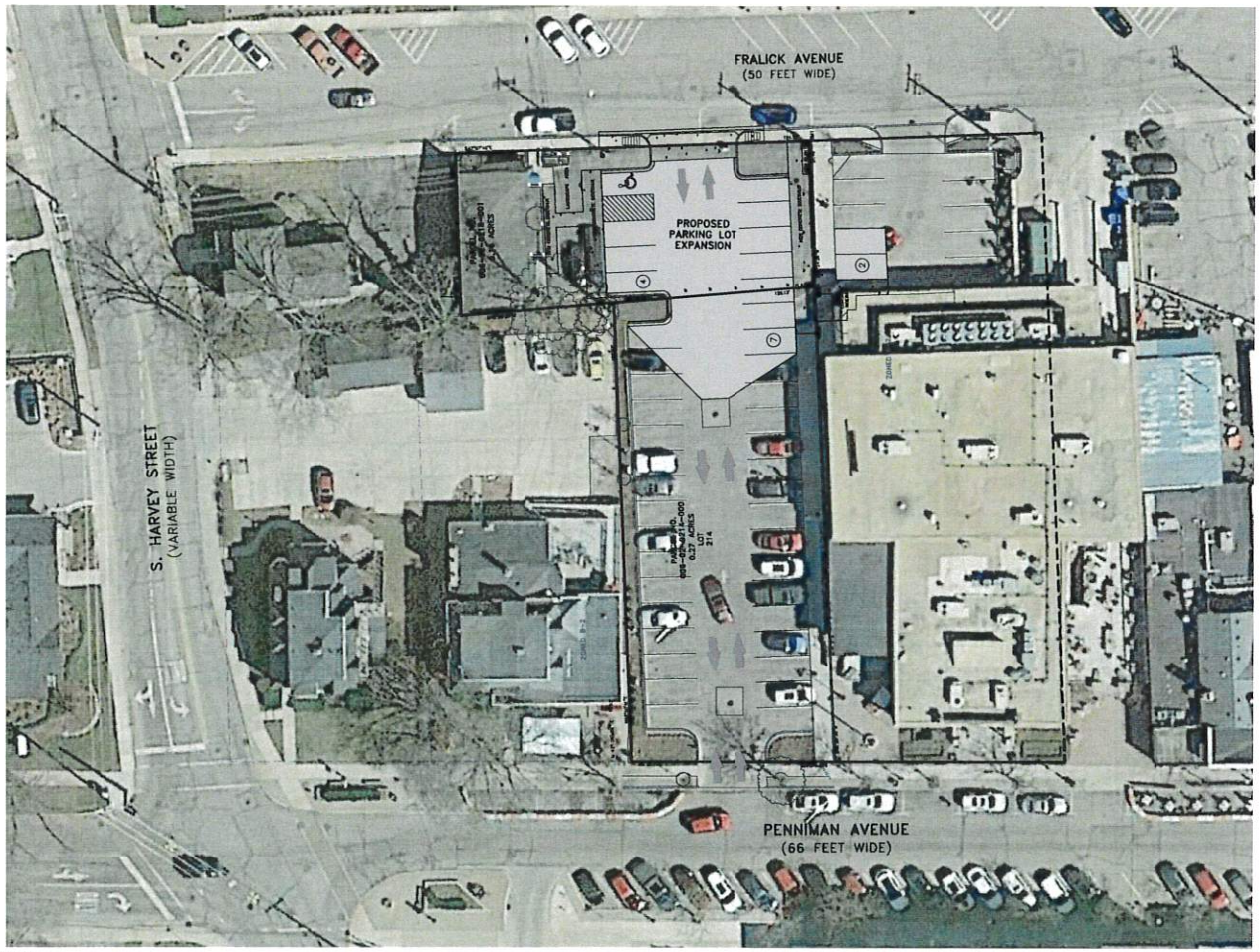
		YES/DATE	NO	N/A
1.	Pre-Application Meeting			
2.	Digital Copy of Application Package			
3.	Public Hearing Notice			
4.	CWA Review			
5.	Municipal Services Review			
6.	Fire Department Review			
7.	Engineering Review			

BENCHMARKS:

BM#1
CHISELED "X" IN CONCRETE NEAR SOUTHEAST PROPERTY CORNER OF SUBJECT PARCEL.
ELEVATION: 725.79 U.S.G.S. DATUM

BM#2
CHISELED "X" IN CONCRETE CURB NEAR SOUTHWEST PROPERTY CORNER OF SUBJECT PARCEL.
ELEVATION: 726.24 U.S.G.S. DATUM

SITE PLAN
for
WESTBORN MARKET
PARKING LOT EXPANSION
CITY OF PLYMOUTH, WAYNE COUNTY, MICHIGAN



LOCATION MAP N.T.S.

SHEET INDEX:

1. TITLE SHEET
2. SITE/ DIMENSION PLAN
3. EXISTING CONDITIONS PLAN
4. GRADING PLAN

L-1 LANDSCAPE PLAN

DEVELOPER/PROPERTY OWNER:
WESTBORN MARKET
860 PENNIMAN AVE
PLYMOUTH, MI 48170

SURVEYOR & ENGINEER:
GREENTECH ENGINEERING, INC
DAN LECLAIR, P.E.
51147 PONTIAC TRAIL
WIXOM, MICHIGAN 48393
PHONE (248) 668-0700
FAX (248) 668-0701

PROJECT NARRATIVE:
PARKING LOT EXPANSION FOR LOCAL MARKET,
HOURS OF OPERATION WILL BE FROM 8:00 AM TO 8:00 PM.

GREENTECH ENGINEERING, INC.
CIVIL ENGINEERS & LAND SURVEYORS
51147 W. Pontiac Trail, Wixom, MI 48393
Phone: (248) 668-0700 Fax: (248) 668-0701

811 Know what's below Call before you dig

CLIENT: WESTBORN MARKET

TITLE SHEET

#870 PENNIMAN - PARCEL NO. 006-02-0214-000
TOWNSHIP: 1 S.
RANGE: 8 E.
SECTION: 26
CITY OF PLYMOUTH
WAYNE COUNTY
MICHIGAN

REVISED

DATE: 10-12-2021
DRAWN BY: RMS
CHECKED BY: DJL
0 10 20
FBK: --
CHF: MM
SCALE HOR 1"=20 FT.
VER 1"=--- FT.

1
21-190

BENCHMARKS:

BM#1
CHISELED "X" IN CONCRETE NEAR SOUTHEAST PROPERTY CORNER OF SUBJECT PARCEL.
ELEVATION: 725.79 U.S.G.S. DATUM

BM#2
CHISELED "X" IN CONCRETE CURB NEAR SOUTHWEST PROPERTY CORNER OF SUBJECT PARCEL.
ELEVATION: 726.24 U.S.G.S. DATUM

LEGEND

HATCH LEGEND

ASPHALT
CONCRETE

LEGAL DESCRIPTION 006-02-0214-000 (BY OTHERS):

LOT 214 OF "ASSESSOR'S PLYMOUTH PLAT NO. 8" OF PART OF THE SOUTHWEST 1/4 OF SECTION 26, T.01S., R.08E., PLYMOUTH VILLAGE (NOW THE CITY OF PLYMOUTH), WAYNE COUNTY, MICHIGAN, AS RECORDED IN LIBER 64 PLATS, PAGE 78, WAYNE COUNTY RECORDS.

LEGAL DESCRIPTION 006-02-0218-001 (BY OTHERS):

NORTHWESTERLY PART OF LOT 218, MEASURING 124.58 FEET ON THE NORTHEASTERLY LINE AND 125.13 FEET ON THE SOUTHWESTERLY LINE OF "ASSESSOR'S PLYMOUTH PLAT NO. 8" OF PART OF THE SOUTHWEST 1/4 OF SECTION 26, T.01S., R.08E., PLYMOUTH VILLAGE (NOW THE CITY OF PLYMOUTH), WAYNE COUNTY, MICHIGAN, AS RECORDED IN LIBER 64 PLATS, PAGE 78, WAYNE COUNTY RECORDS.

NOTE:

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AS DISCLOSED BY AVAILABLE UTILITY COMPANY RECORDS AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE COMPANY. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY IF A CONFLICT IS APPARENT.

NOTICE:

CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR NEITHER THE OWNER NOR THE ENGINEER SHALL BE EXPECTED TO ASSUME ANY RESPONSIBILITY FOR SAFETY OF THE WORK, OF PERSONS ENGAGED IN THE WORK, OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

STORMWATER MANAGEMENT NOTE:

THE PROPOSED SITE IMPROVEMENTS RESULT IN A REDUCED AMOUNT OF IMPERVIOUS AREA, THEREFORE NO STORMWATER DETENTION IS PROPOSED AS PART OF THIS PROJECT

FLOOD HAZARD STATEMENT:

THIS PROPERTY IS LOCATED WITHIN A FEMA DESIGNATED ZONE X FLOOD HAZARD AREA AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP) FOR MICHIGAN FLOOD INSURANCE RATE MAP (FIRM) #26125C0605F (COMMUNITY ID NO. 260236 – CITY OF PLYMOUTH, MI) WITH AN EFFECTIVE DATE OF FEBRUARY 2, 2012. THIS STATEMENT IS BASED ON THE RESULTS OF GRAPHIC PLOTTING ONTO THE ABOVE NAMED MAP AND PANEL, WHICH IS THE CURRENT MAP FOR THE COMMUNITY IN WHICH THE PROPERTY IS LOCATED. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.

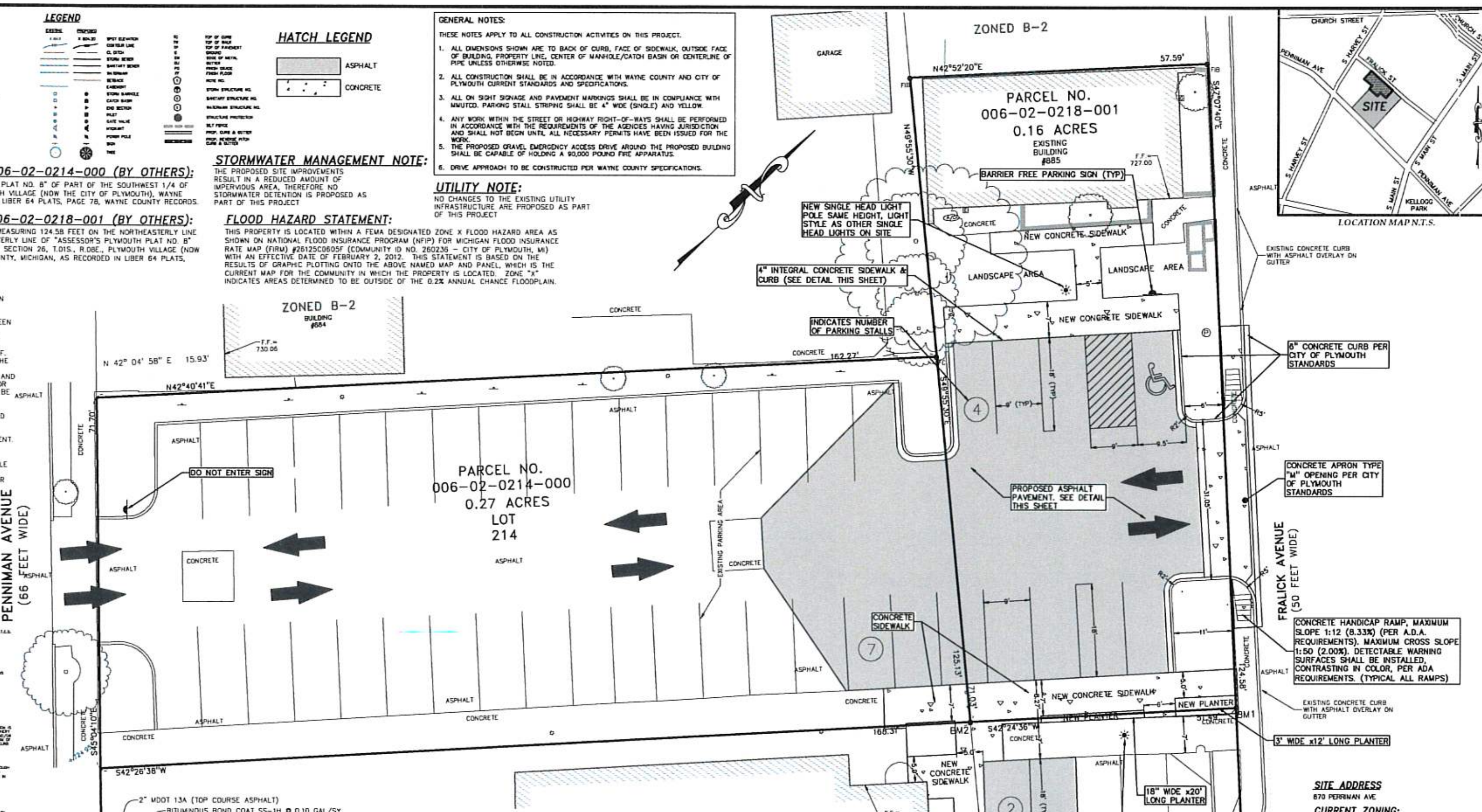
GENERAL NOTES:

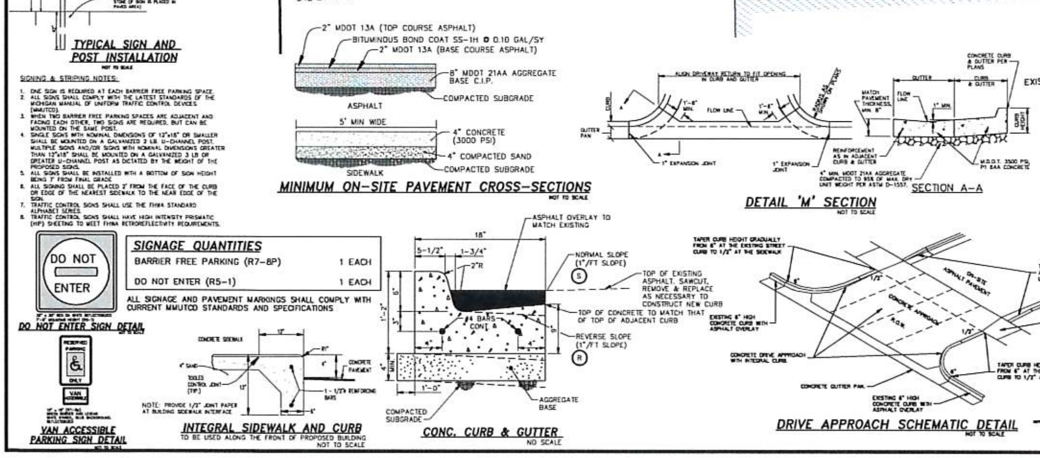
THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WAYNE COUNTY AND CITY OF PLYMOUTH CURRENT STANDARDS AND SPECIFICATIONS.
3. ALL ON SIGHT SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH MMUTCD. PARKING STALL STRIPING SHALL BE 4" WIDE (SINGLE) AND YELLOW.
4. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
5. THE PROPOSED GRAVEL EMERGENCY ACCESS DRIVE AROUND THE PROPOSED BUILDING SHALL BE CAPABLE OF HOLDING A 90,000 POUND FIRE APPARATUS.
6. DRIVE APPROACH TO BE CONSTRUCTED PER WAYNE COUNTY SPECIFICATIONS.

UTILITY NOTE:

NO CHANGES TO THE EXISTING UTILITY INFRASTRUCTURE ARE PROPOSED AS PART OF THIS PROJECT





SIGNAGE QUANTITIES

BARRIER FREE PARKING (R7-8P)	1 EACH
DO NOT ENTER (R5-1)	1 EACH

ALL SIGNAGE AND PAVEMENT MARKINGS SHALL COMPLY WITH CURRENT MMUTCD STANDARDS AND SPECIFICATIONS

SITE ADDRESS

870 PENNIMAN AVE

CURRENT ZONING:

B-2, CENTRAL BUSINESS DISTRICT

SITE AREA:

TOTAL SITE AREA: 0.84 ACRES ±

BARRIER FREE PARKING:

TOTAL NUMBER OF SPACES IN PROPOSED PARKING LOT: 14

PROPOSED BARRIER FREE SPACES: 1

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Know what's below Call before you dig.

CLIENT: WESTBORN MARKET

SITE/DIMENSION PLAN

#870 PENNIMAN – PARCEL NO. 006-02-0214-000
SECTION: 26 TOWNSHIP: 1 S. RANGE: 8 E.
CITY OF PLYMOUTH
WAYNE COUNTY
MICHIGAN

REVISED

DATE: 10-12-2021
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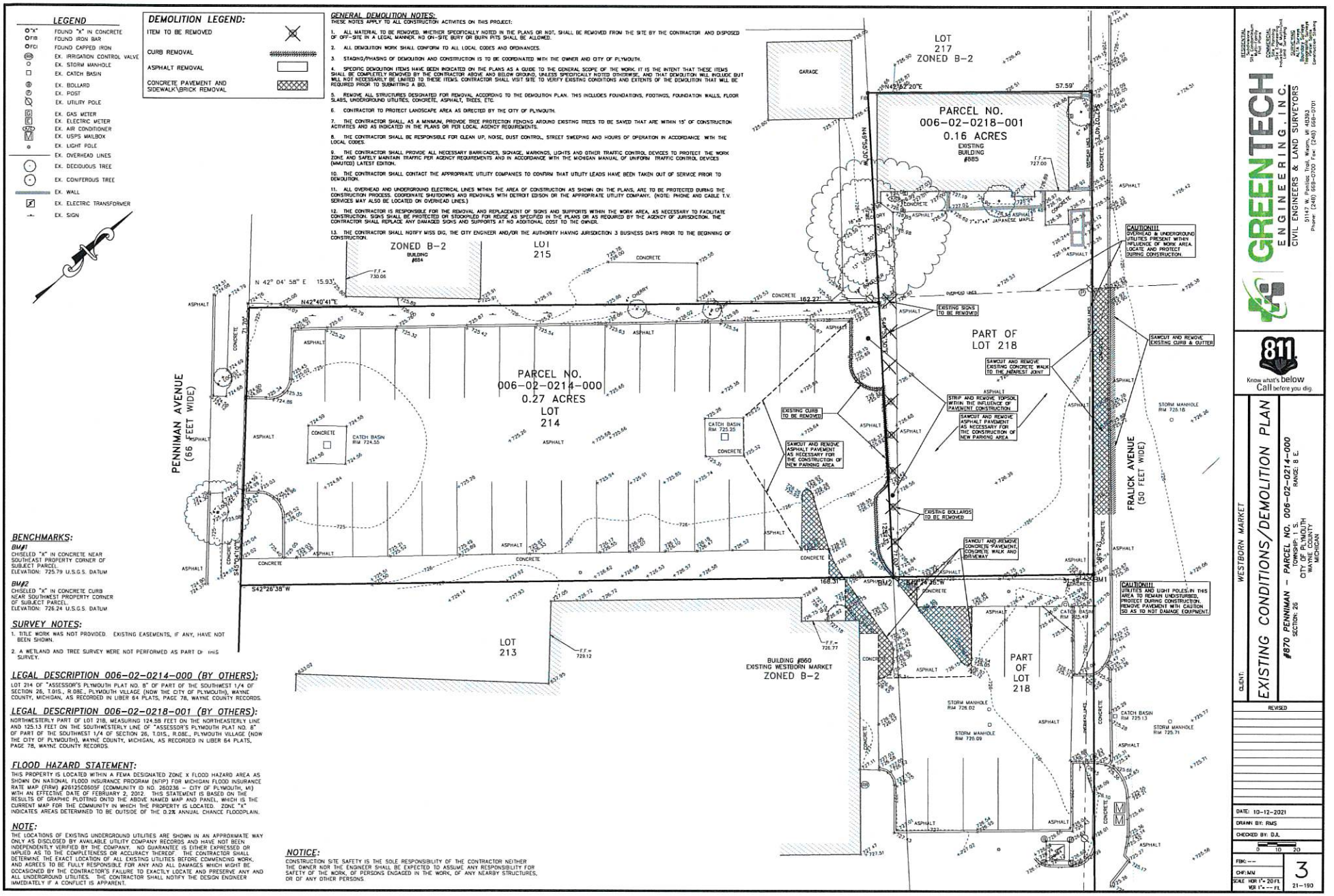
SCALE HOR 1" = 10 FT. VER 1" = -- FT.

2

21-190



BENCHMARKS:

BM#1
CHISELED "X" IN CONCRETE NEAR SOUTHEAST PROPERTY CORNER OF SUBJECT PARCEL.
ELEVATION: 725.79 U.S.G.S. DATUM

BM#2
CHISELED "X" IN CONCRETE CURB NEAR SOUTHWEST PROPERTY CORNER OF SUBJECT PARCEL.
ELEVATION: 726.24 U.S.G.S. DATUM

SURVEY NOTES:

1. TITLE WORK WAS NOT PROVIDED. EXISTING EASEMENTS, IF ANY, HAVE NOT BEEN SHOWN.
2. A WETLAND AND TREE SURVEY WERE NOT PERFORMED AS PART OF THIS SURVEY.

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EXISTING CONDITIONS/DEMOLITION PLAN

#870 PENNIMAN – PARCEL NO. 006-02-0214-000
SECTION: 26 TOWNSHIP: 1 S. RANGE: 8 E.
CITY OF PLYMOUTH
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ELEVATION: 726.24 U.S.G.S. DATUM

GENERAL NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF PLYMOUTH TOWNSHIP.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS JOB.

NOTE:

THE FINAL BUILDING FOOTPRINT MAY CHANGE, SUBJECT TO THE APPROVAL BY THE CITY/TOWNSHIP PLANNING DIRECTOR.

HATCH LEGEND

- ASPHALT
- CONCRETE
- PROPOSED BUILDING
- EXISTING BUILDING

ALL PROPOSED PAVEMENT CROSS-SECTIONS ARE PER PLYMOUTH TOWNSHIP SPECIFICATIONS, TYP

GRADING NOTES:

1. ALL PAVING AND GRADING IMPROVEMENTS SHALL CONFORM TO CITY OF PLYMOUTH ENGINEERING DESIGN STANDARDS.
2. FIELD VERIFY EXISTING PAVEMENT AND CURB ELEVATIONS WHERE PROPOSED PAVEMENT AND CURB MEETS EXISTING PAVEMENT AND CURB PRIOR TO CONSTRUCTION. PAVING CONTRACTOR SHALL TAKE EXTRA CARE TO ENSURE 1% MINIMUM PAVEMENT SLOPE IS ACHIEVED AND SHALL CONTACT DESIGN ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT IS APPARENT.
3. CONTRACTOR TO ADJUST EXISTING RIM ELEVATIONS AS NECESSARY, TO PROPOSED FINISHED GRADES

NOTES:

1) NO GRADING TO TAKE PLACE ON ADJACENT PROPERTIES
2) ALL SIDEWALKS TO BE ADA COMPLIANT.
3) ALL SPOT GRADES SHOWN ON THIS PLANS ARE PROPOSED TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
4) ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES MUST BE SHOWN AND MAINTAINED DURING GRADING AND CONSTRUCTION OPERATIONS OR UNTIL A PERMANENT GROUNDCOVER IS ESTABLISHED.

GRADING AND DRAINAGE LEGEND:

- 700.00 = PROPOSED SPOT GRADE ELEVATION
- DBL = DROP BRICK LEDGE
- TP = TOP OF PAVEMENT
- TW = TOP OF WALK
- TC = TOP OF CURB
- G = GUTTER
- T/RL = FINISH GRADE AT TOP OF RETAINING WALL
- B/RL = FINISH GRADE AT BOTTOM OF RETAINING WALL
- FG = FINISH GRADE
- FF = FINISH FLOOR
- = OVERLAND FLOW DIRECTION
- = EMERGENCY 100YR OVERLAND OVERFLOW ROUTE
- = PROPOSED SWALE

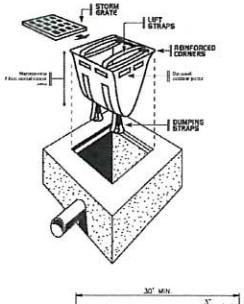
LIMITS OF DISTURBANCE

TOTAL AREA OF DISTURBANCE = 0.18 ACs

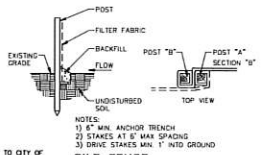
RESTORATION NOTE:

THE CONTRACTOR SHALL RESTORE AREAS DISTURBED FROM HIS CONSTRUCTION OPERATIONS TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER, AND TO THE SATISFACTION OF THE OWNER. LANDSCAPE AREAS REQUIRING RESTORATION SHALL INCLUDE MIN. 3" TOPSOIL AND SOD. PAVEMENT AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION, WITH THE APPLICABLE CROSS-SECTION TO MATCH EXISTING.

LOW POINT INLET FILTER DETAIL

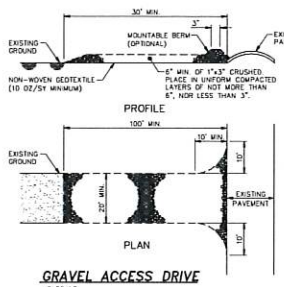


SEDIMENTATION CONTROL FILTER



NOTES:
1) 6" MIN. ANCHOR TRENCH
2) STAKES AT 8' MAX SPACING
3) DRIVE STAKES MIN. 1' INTO GROUND

SILT FENCE



GRAVEL ACCESS DRIVE

NO SCALE

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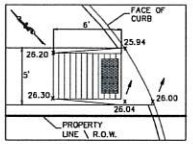
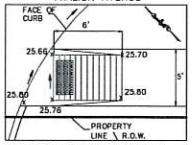
EARTHWORK BALANCING NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.



BARRIER FREE RAMP DETAIL
FRALICK AVENUE APPROACH
NORTHWESTERLY SIDE OF DRIVE



BARRIER FREE RAMP DETAIL
FRALICK AVENUE APPROACH
SOUTHEASTERLY SIDE OF DRIVE

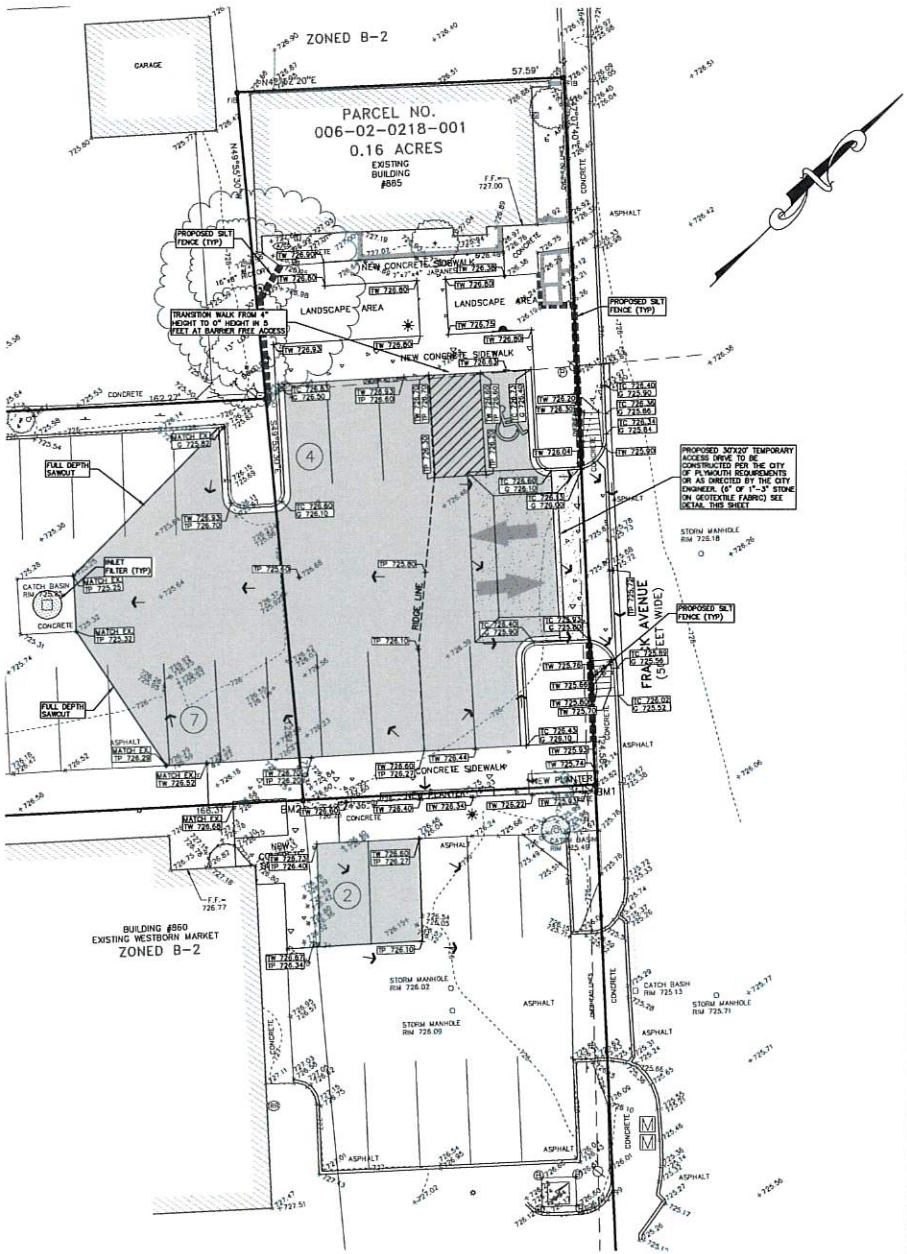
LEGEND

EXISTING	PROPOSED	
x 804.2	x 804.20	SPOT ELEVATION
810	810	CONTOUR LINE
		CL DITCH
		STORM SEWER
		SANITARY SEWER
		WATERMAIN
		SETBACK
		EASEMENT
○	●	STORM MANHOLE
□	■	CATCH BASIN
▷	▶	END SECTION
⊠	◪	INLET
⊕	●	GATE VALVE
◁	◀	HYDRANT
℄	℄	POWER POLE
		SIGN
◯		TREE

TC	TOP OF CURB
TW	TOP OF WALK
TP	TOP OF PAVEMENT
G	GROUND
EM	EDGE OF METAL
GU	GUTTER
FG	FINISH GRADE
FF	FINISH FLOOR
1	NOTE NO.
	STORM STRUCTURE NO.
	SANITARY STRUCTURE NO.
	WATERMAIN STRUCTURE NO.
	INLET FILTER
	SILT FENCE
	PROP. CURB & GUTTER
	PROP. REVERSE PITCH CURB & GUTTER

GRADING NOTES

1. SUBGRADE PREPARATION FOR PAVEMENT AND UTILITIES SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER.
2. ACCEPTABLE MATERIAL FROM UNDERCUTTING MAY BE USED AS ENGINEERED FILL AS APPROVED BY SOILS ENGINEER.
3. CONTRACTOR SHALL TEMPORARILY STOCKPILE TOP SOIL TO BE USED FOR FINAL GRADING.
4. REMOVE ANY EXISTING TOPSOIL, ORGANIC SOILS, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREES SHOULD BE COMPLETELY REMOVED.
5. THE TOP 12 INCHES OF THE EXPOSED SUBGRADE AS WELL AS INDIVIDUAL FILL LAYERS SHOULD BE COMPACTED TO ACHIEVE A 95% COMPACTION LEVEL. (MODIFIED PROCTOR – ASTM D1557).
6. THE FINAL SUBGRADE SHOULD BE THOROUGHLY PROOFROLLED USING A FULLY LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/ PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CAN NOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
7. THE AGGREGATE BASE SHOULD BE COMPACTED TO ACHIEVE A 95 PERCENT COMPACTION LEVEL (MODIFIED PROCTOR – ASTM D1557). THE BASE AND SUBGRADE COMPACTION SHOULD EXTEND A MINIMUM OF 1 FOOT BEYOND THE PAVED EDGE.
8. ALL BITUMINOUS MATERIAL SHOULD BE COMPACTED TO A DENSITY OF 97% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MARSHALL METHOD.
9. SAWCUT AND REMOVE EXISTING CURBS AND PAVEMENT AS NECESSARY FOR CONSTRUCTION.
10. FIELD VERIFY EXISTING PAVEMENT AND CURB ELEVATIONS WHERE PROPOSED PAVEMENT AND CURB MEETS EXISTING PAVEMENT AND CURB PRIOR TO CONSTRUCTION. PAVING CONTRACTOR SHALL TAKE EXTRA CARE TO ENSURE 1% MINIMUM PAVEMENT SLOPE IS ACHIEVED AND SHALL CONTACT DESIGN ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT IS APPARENT.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.



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CLIENT: WESTBORN MARKET

GRADING PLAN

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SECTION: 26 TOWNSHIP: 1 S. RANGE: 8 E.
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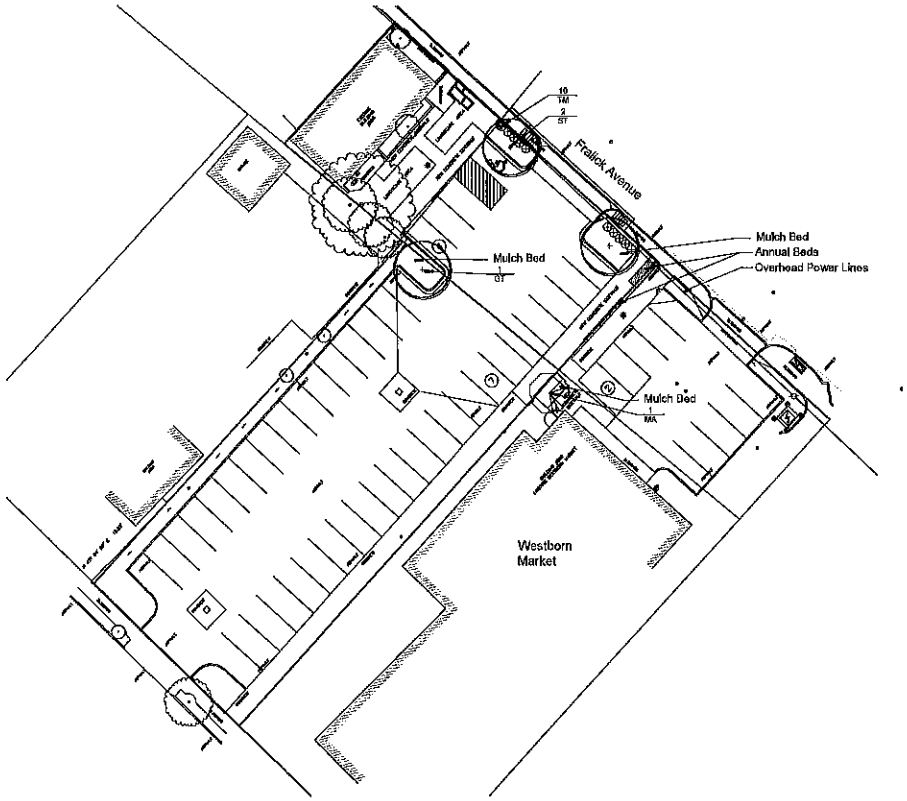
ALLEN DESIGN
LAND PLANNING / LANDSCAPE ARCHITECTURE
552 Carpenter
Northville, Michigan 48167
e. jca@alldesignworks.com
t. 248.467.4488



Landscape Summary

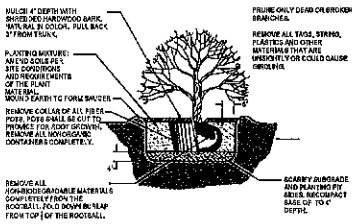
Existing Zoning	B-2
Parking Lot Screening	
Parking Lot Frontage	85 l.f.
Trees Required	2 Trees (65 / 30)
Trees Provided	2 Trees
Shrubs Required	10 Shrubs (65 / 30) x 5
Shrubs Provided	10 Shrubs
Parking Lot Landscape Area:	
Parking Lot Area	3,888 s.f.
Landscape Area Required	0 - Parking is Less than 5,000 s.f.

Plant List

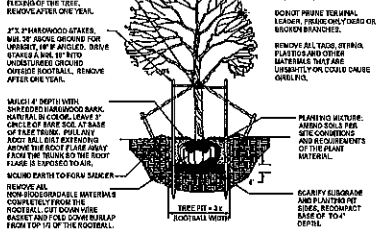
sym.	qty.	botanical name	common name	caliper	spacing	root	height
CT	1	Gleditsia t. inermis var. intermis	Honeylocust	2.5"	as shown	B&B	
MA	1	Malus 'Adirondack'	Adirondack Crabapple	2.0"	as shown	B&B	
ST	2	Syringa reticulata	Japanese Lilac Tree	2.0"	as shown	B&B	
TM	10	Taxus x. media 'Densiformis'	Dense Yew		as shown		30"

Landscape Notes

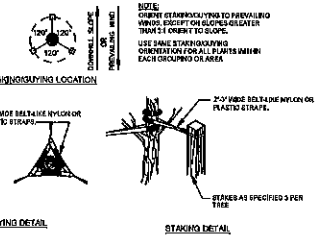
1. All plants shall be north Midwest American region grown, No. 1 grade plant materials, and shall be true to name, free from physical damage and wind burn.
2. Plants shall be full, well-branched, and in healthy vigorous growing condition.
3. Plants shall be watered before and after planting is complete.
4. All trees must be staked, fertilized and mulched and shall be guaranteed to exhibit a normal growth cycle for at least two (2) full years following Township approval.
5. All material shall conform to the guidelines established in the most recent edition of the American Standard for Nursery Stock.
6. Provide clean backfill soil, using material stockpiled on site. Soil shall be screened and free of any debris, foreign material, and stone.
7. "Agriform" tabs or similar slow-release fertilizer shall be added to the planting pits before being backfilled.
8. Amended planting mix shall consist of 1/3 screened topsoil, 1/3 sand and 1/3 peat, mixed well and spread to the depth as indicated in planting details.
9. All plantings shall be mulched per planting details located on this sheet.
10. The Landscape Contractor shall be responsible for all work shown on the landscape drawings and specifications.
11. No substitutions or changes of location, or plant types shall be made without the approval of the Landscape Architect.
12. The Landscape Architect shall be notified of any discrepancies between the plans and field conditions prior to installation.
13. The Landscape Contractor shall be responsible for maintaining all plant material in a vertical condition throughout the guaranteed period.
14. The Landscape Architect shall have the right, at any stage of the installation, to reject any work or material that does not meet the requirements of the plans and specifications, if requested by owner.
15. Contractor shall be responsible for checking plant quantities to ensure quantities on drawings and plant list are the same. In the event of a discrepancy, the quantities on the plans shall prevail.
16. The Landscape Contractor shall seed and mulch or sod (as indicated on plans) all areas disturbed during construction, throughout the contract limits.
17. A pre-emergent weed control agent, "Preen" or equal, shall be applied uniformly on top of all mulching in all planting beds.
18. All landscape areas shall be provided with an underground automatic sprinkler system.
19. Sod shall be two year old "Bonar/Chantadelphi" Kentucky Blue Grass grown in a sod nursery on loam soil.



SHRUB PLANTING DETAIL
NOT TO SCALE



DECIDUOUS TREE PLANTING DETAIL



TREE STAKING DETAIL
not to scale

Seal:

Title:
Landscape Plan

Project:
Westborn Market
Plymouth, Michigan

Prepared for:
Greentech Engineering
51147 Pontiac Trail
Wixom, Michigan 48393
248.668.0700

Revision:	Issued:
Submission	October 7, 2021
Revised	October 12, 2021

Job Number:
21-055

Drawn By: jca
Checked By: jca

0' 5' 10' 20'
NORTH
1"=20'

Sheet No.
L-1

811 Know what's below. Call before you dig.