AGENDA
PLANNING COMMISSION PUBLIC HEARING/REGULAR MEETING
CITY OF FARMINGTON HILLS
MARCH 19, 2026 @ 7:30 P.M.
FARMINGTON HILLS CITY HALL – CITY COUNCIL CHAMBER
31555 W. ELEVEN MILE ROAD, FARMINGTON HILLS, MICHIGAN 48336
Cable TV: Spectrum – Channel 203; AT&T – Channel 99
YouTube Channel: https://www.youtube.com/user/FHChannel8
www.fhgov.com (248) 871-2540

1. Call Meeting to Order
2. Roll Call
3. Approval of Agenda

4. Public Hearing

A. SPECIAL APPROVAL 53-3-2025

LOCATION:	29372 Grand River Avenue
PARCEL I.D.:	22-23-36-301-002
PROPOSAL:	Renovate and expand existing gas station with convenience store within the B-3: General Business District
ACTION REQUESTED:	Special Approval Use
APPLICANT:	Hatem Hannawa
OWNER:	Grand Fuel Property LLC

B. SPECIAL APPROVAL 67-10-2025

LOCATION:	27900 Orchard Lake Rd
PARCEL I.D.:	22-23-11-351-013
PROPOSAL:	Construct new fast food restaurant with drive-through within the B-3: General Business District.
ACTION REQUESTED:	Special Approval Use
APPLICANT:	Brewtopia Michigan, LLC
OWNER:	Farmington Hills Beef Company

5. Regular Meeting

A. CLUSTER SITE PLAN 59-4-2019

LOCATION:	29150 Farmington Rd
PARCEL I.D.:	23-10-101-002
PROPOSAL:	One-family cluster option subdivision (10 units) in RA-2, One-Family Residential District
ACTION REQUESTED:	Set item for Public Hearing
APPLICANT:	Cedar of Farmington, LLC (Ayman Rida)
OWNER:	Cedar of Farmington, LLC

B. SITE PLAN APPROVAL52-2-2026

LOCATION:	31130 Orchard Lake Rd
PARCEL I.D.:	22-23-02-103-025
PROPOSAL:	Expansion of existing building and parking lot for restaurant use within the B-3: General Business Zoning District and P1: Vehicular Parking District
ACTION REQUESTED:	Site Plan Approval
APPLICANT:	Bret Hart, Priority Engineering LLC
OWNER:	Hannawa-Lahser Road Development LLC

C. ELECTION OF OFFICERS

6. Approval of Minutes — **Planning Commission Special Meeting, February 19, 2026**
Planning Commission Regular Meeting, February 19, 2026

7. Public Comment
8. Commissioner/Staff Comments
9. Adjournment

Respectfully Submitted,

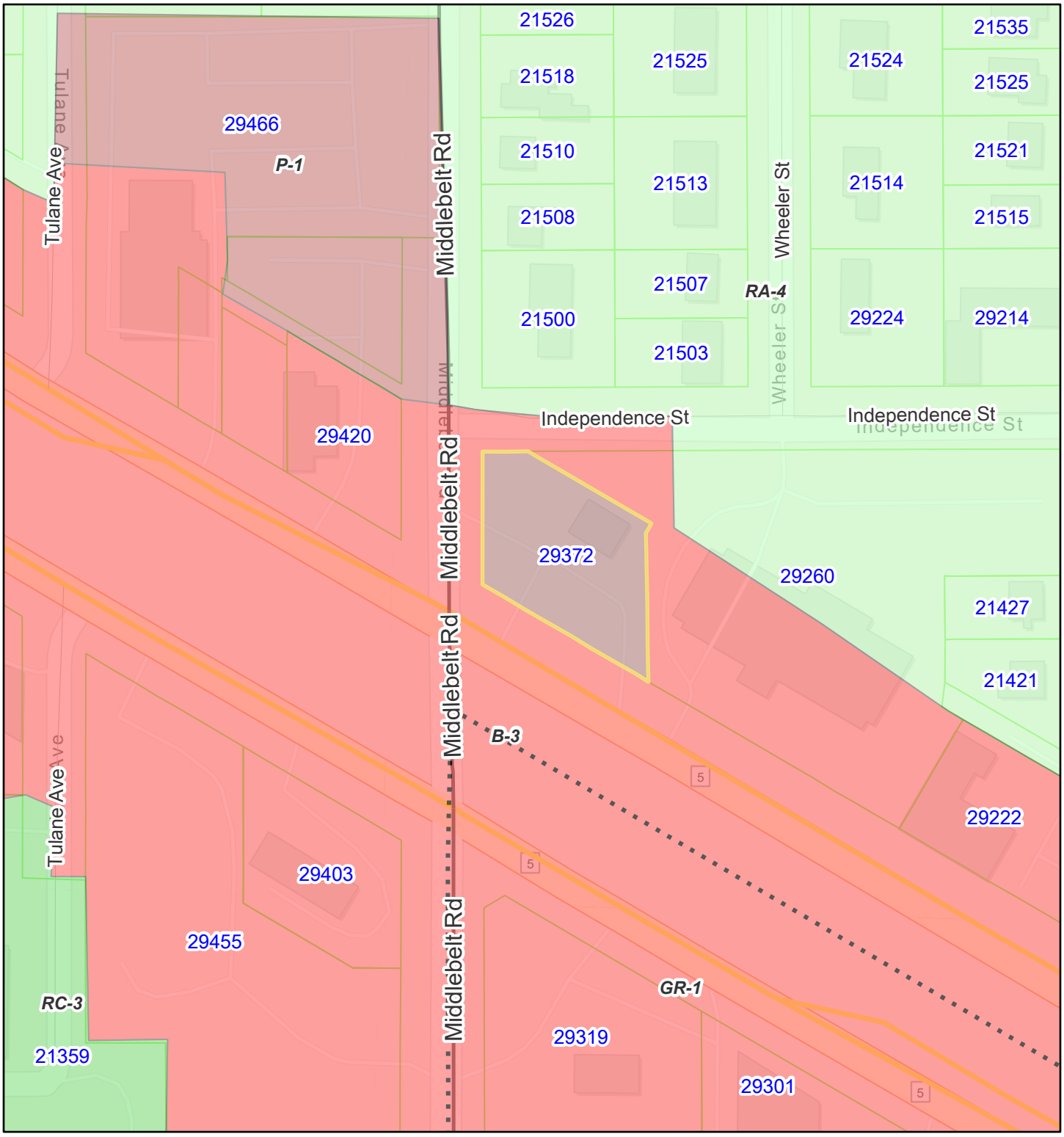
_____, Planning Commission Secretary

Staff Contact:

Diane Mulville-Friel
City Planner
Planning and Community Development Department
(248) 871-2540
dmulville-friel@fhgov.com

NOTE: Anyone planning to attend the meeting who has need of special assistance under the Americans with Disabilities Act (ADA) is asked to contact the City Clerk's Office at (248) 871-2410 at least two (2) business days prior to the meeting, wherein arrangements/accommodations will be made. Thank you.

Current Zoning - 29372 Grand River Ave



3/6/2026, 4:05:37 PM

1:1,812

0 0.01 0.02 0.04 mi

0 0.02 0.04 0.07 km

Zoning districts

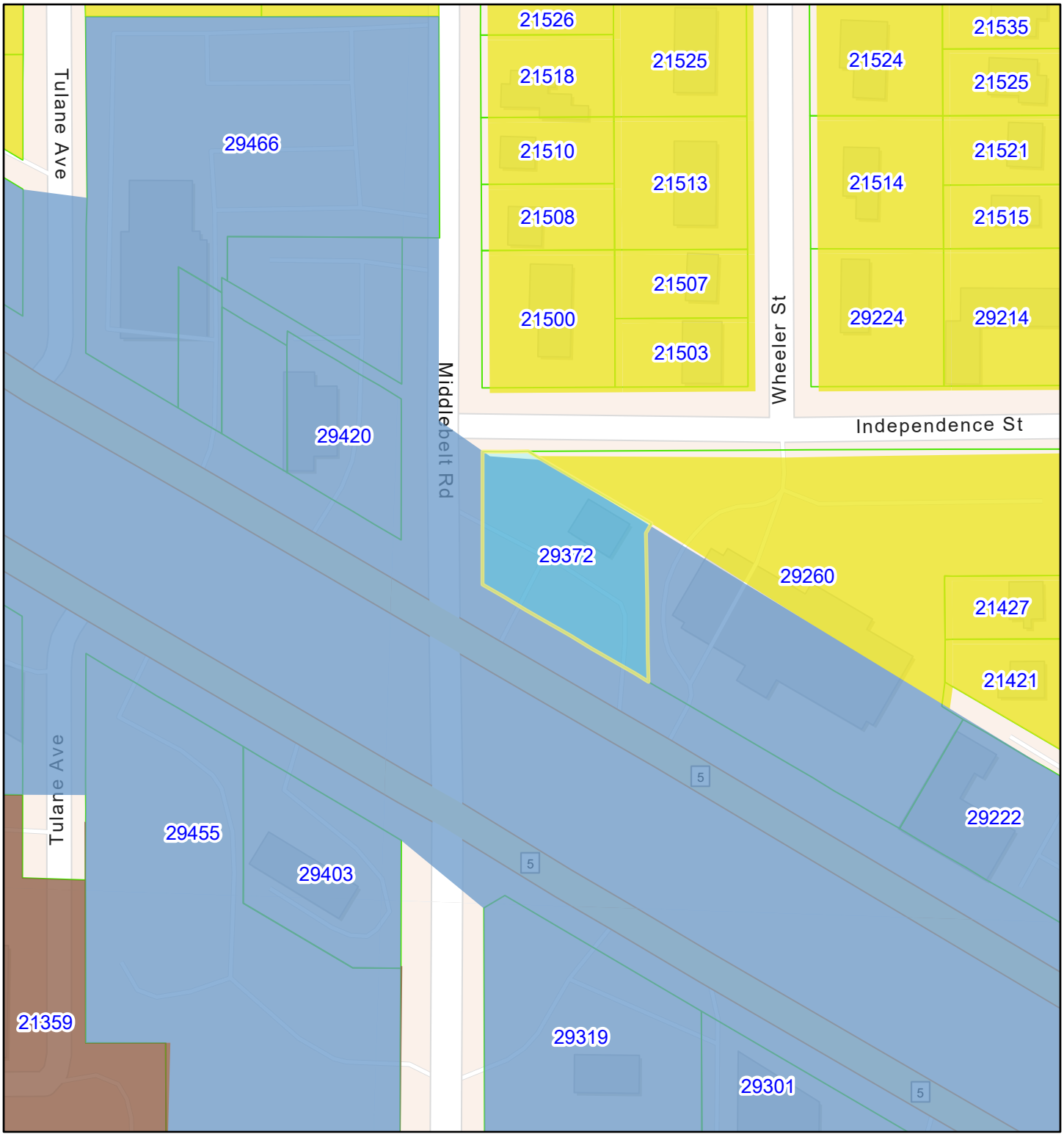
B-1	FRW-1	MH	RA-1	RA-4	SP-1
B-2	FRW-2	OS-1	RA-1A	RC-1	SP-2
B-3	FRW-3	OS-2	RA-1B	RC-2	SP-3
B-4	GR-1	OS-3	RA-2	RC-3	SP-5
ES	IRO	OS-4	RA-2B	RP-1	Other
	LI-1	P-1	RA-3	RP-2	Tax Parcels

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Farmington Hills, MI

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Future Land Use - 29372 Grand River Ave



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Master Plan (2024)

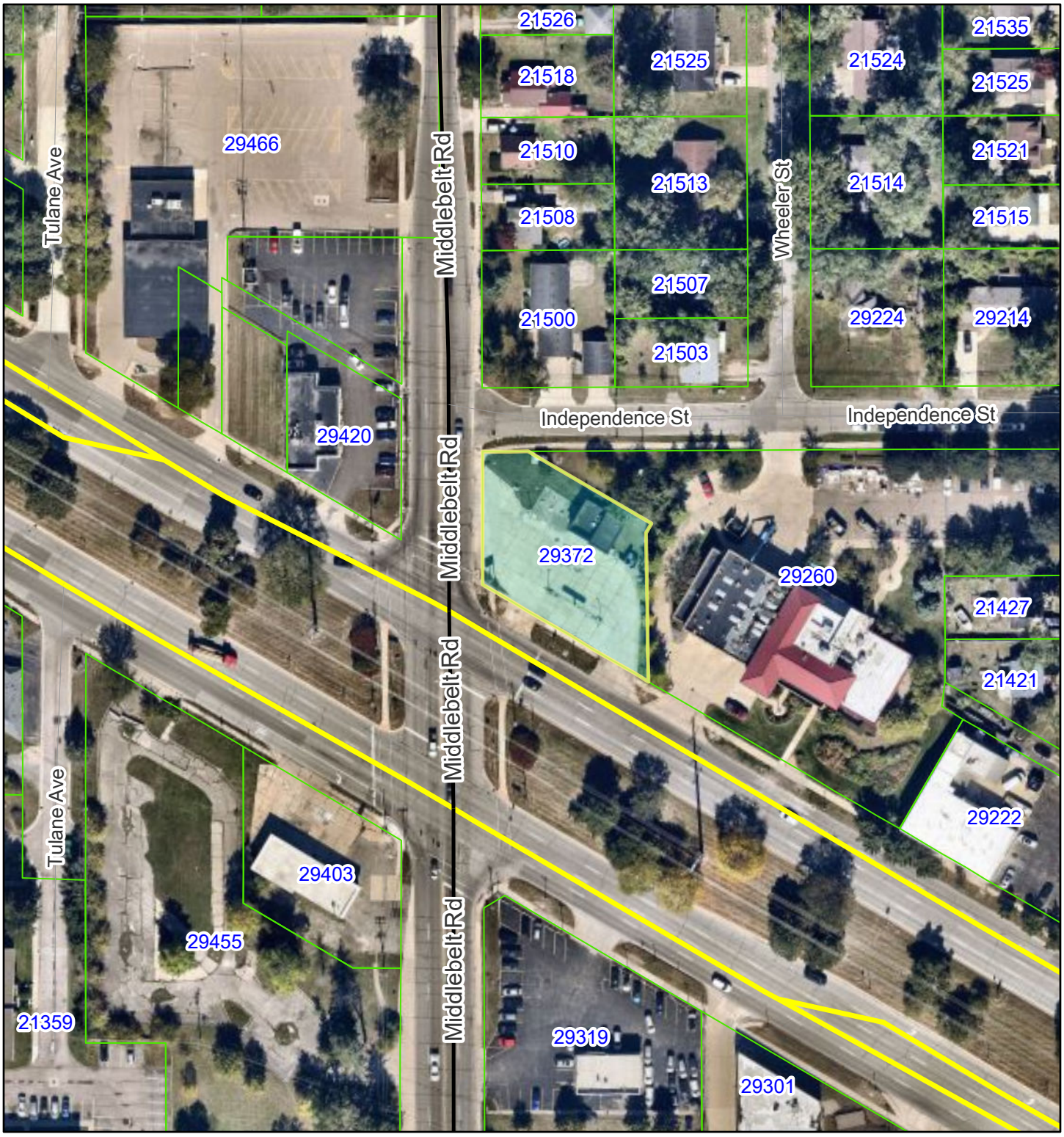
- 12 Mile Mixed Use
- 14 Mile Mixed Use
- 8 Mile Industrial
- Commercial
- Expressway Service
- Flex Overlay
- Flex Residential
- Flex Residential/Office
- Freeway Redevelopment
- Grand River Corridor
- Industrial
- Industrial-Research
- Institutional
- Large Office
- M-5
- Multi-Family Residential
- Orchard Lake Rd Corridor
- Park
- Private Recreation
- School
- Single-Family Cluster
- Single-Family Residential
- Small Office
- Tax Parcels

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Location Map - 29372 Grand River Ave



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Tax Parcels

1:1,812

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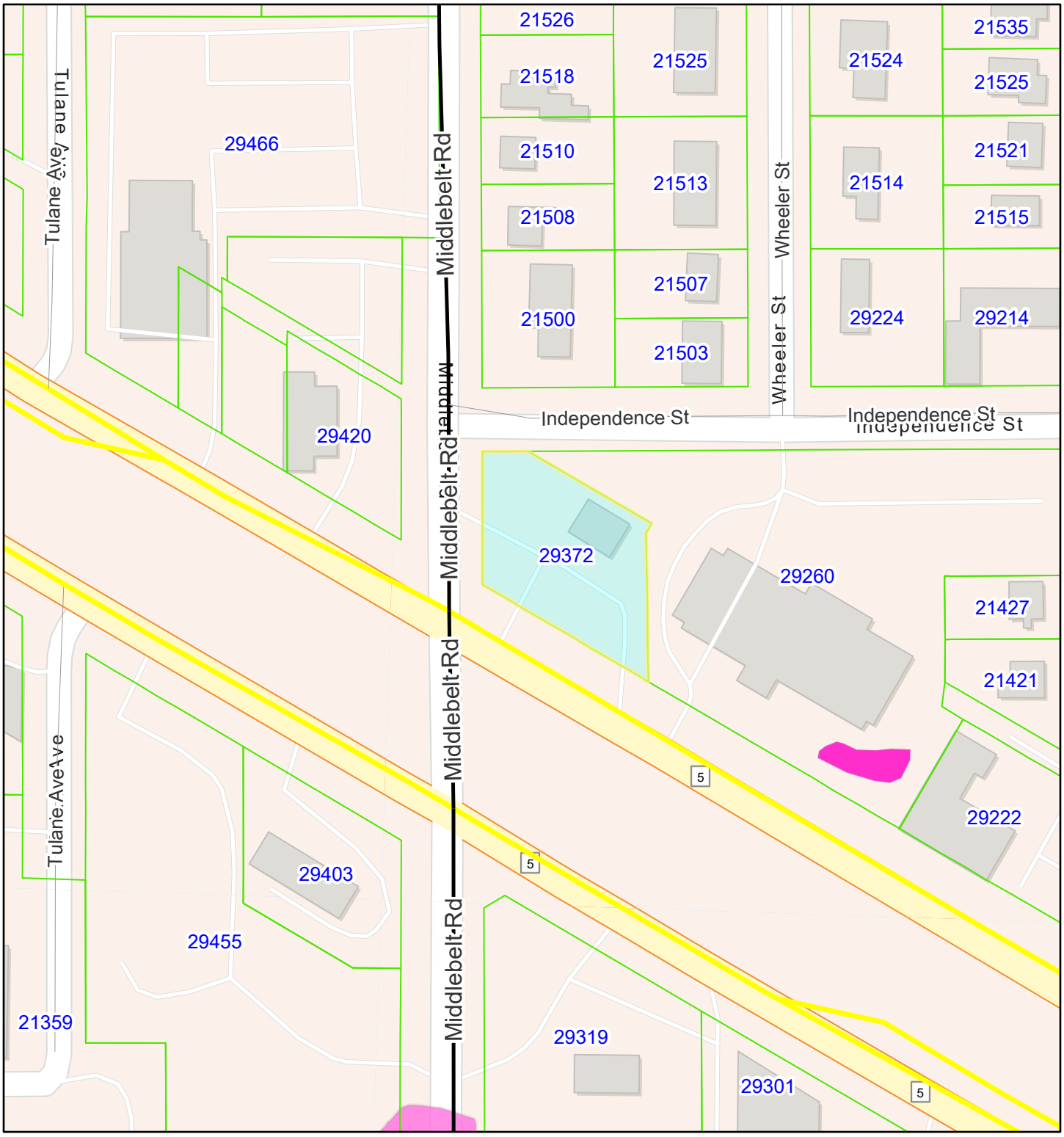
0 0.02 0.04 0.07 km

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Natural Features - 29372 Grand River Ave



3/6/2026, 4:06:05 PM

1:1,812

0 0.01 0.02 0.04 mi

0 0.02 0.04 0.07 km

Drain open
- Stream-river
- Channel
- Spillway

Drain waterbody
- Detention pond
- Retention pond
- Lake-pond
- Swamp-marsh
- Channel
- Stream-river

Tax Parcels

Flood Hazard Area
- A
- AE
- 500 yr floodplain
- X

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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

Reviews	Plan Date
1. 3/20/2025 (GW)	2/27/2025
2. 10/1/2025 (GW)	7/25/2025
3. 1/20/2026 (GW)	11/12/2025
4. 3/7/2026 (CWA)	2/10/2026

Special Approval Review
for
The City of Farmington Hills

Case Number: SA 53-3-2025

Applicant: Hatem Hannawa

Project Name: Grand Fuel Gas Station Renovation (22-23-36-301-002)

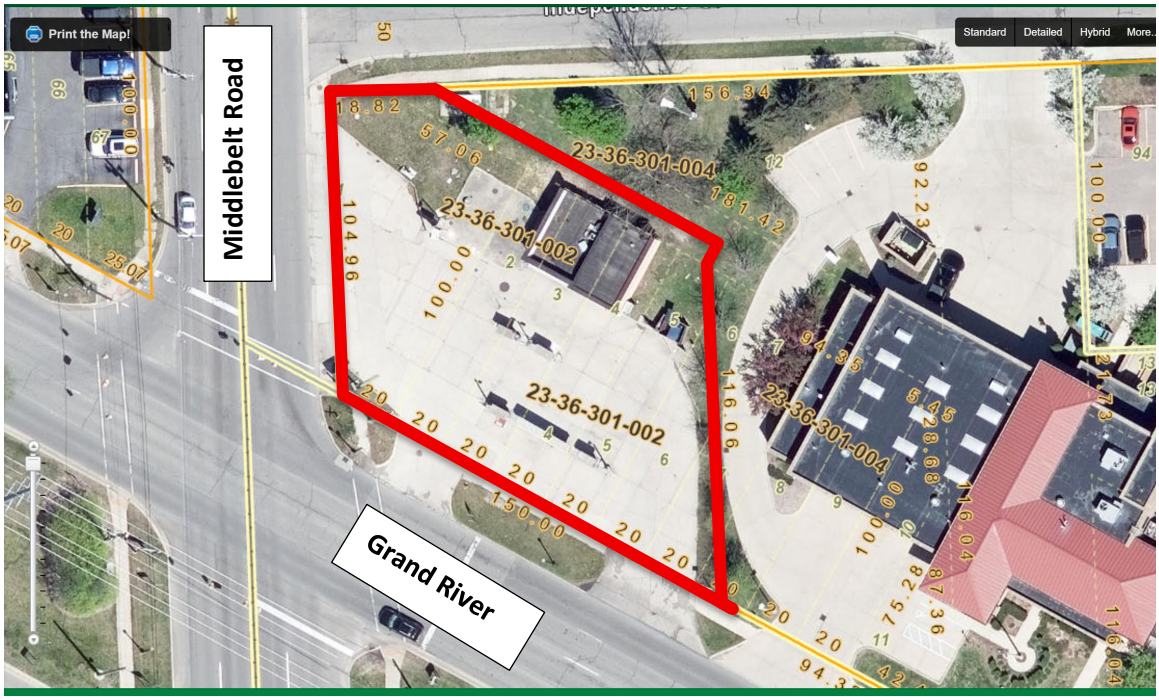
Location: 29372 Grand River

Plan Date: Revised February 10, 2026

Zoning: B-3 General Business

We have completed a review of the application for site plan approval and a summary of our findings is below. Please note that items in **bold** reflect a need for a variance or deficient information.

Benjamin R. Carlisle, *President* John L. Enos, *Vice President* Douglas J. Lewan, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal* Craig Strong, *Principal*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal*
Richard K. Carlisle, *Past President/Senior Principal*



Summary of Proposal

The applicant proposes to expand the existing 990-square-foot convenience store and gas station with a 1,175 sq/ft addition. In addition, the applicant proposes to add a pump canopy. The current gas station has nine fueling pump islands and no full canopy (there is a small canopy between the pumps). The plan would reduce this to six pump islands under a canopy. Other site improvements include landscaping, lighting, new curbing, circulation and access improvements, and vehicular and pedestrian striping. Note that plan discrepancies exist, some sheets report proposed building addition as 1,164 sq/ft and others state 1,175 sq/ft.

History

In 1983, Consent Judgement 34 was issued for the owner of this property to remove a fuel station canopy that had been constructed in the setback without receiving a variance from the Zoning Board of Appeals. It appears that the previously denied canopy was projecting into the front setback, along Grand River, which is the same location as the new canopy being proposed. The City Attorney opined that, “the mere existence of an old consent judgement on the same general subject -- resulting from someone building a canopy without ever getting any sort of approvals -- does NOT preclude the current owner from going through all the proper channels to get a canopy approved (nor would it preclude the City from denying such approval if a variance is needed)".

Summary for PC Consideration

This plan proposes to modify a site with multiple existing nonconformities. While it is always the goal to eliminate nonconformities when a site is redeveloped, partial modification to an existing site may leave some nonconformities in place. The PC should consider where it is reasonable to permit existing nonconformities to persist, and where they can be eliminated or diminished.

Missing or Incorrect Information:

In general, the applicant should review the list of required plan elements in Section 34-6.1 of the Zoning Ordinance and Article III or Chapter 21 of the Farmington Hills Code of Ordinances.
The site plan is still missing some required informational elements, including but not limited to:

- Lighting plan calculations and details
- The canopy and setback dimensions shown on Sheet SP100 and Sheet C-3 are not consistent.
- Missing canopy dimensions to Middlebelt
- Corner clearance dimensions

Non-Conformities

The plan also has several issues of conformity with the standards of the Zoning Ordinance:

- Front yard open space will be made less noncompliant, but not fully compliant
- Minimum parking setback and circulation encroaches into 10-foot minimum parking setback
- Landscape area abutting Grand River is less than 10 feet in depth.

Variances:

We note that the dimensions shown on the engineering site plan (Sheet C-3) are inconsistent with the dimension on the architectural site plan (Sheet SP100). We've listed Sheet C-3 dimensions. Actual dimensions need confirmation. The Plan also needs the following variances:

- Building Rear setback: 20 feet required, 0.37 feet proposed (dimensions need to be confirmed).
- Building Side Setback: 10 feet required, 1.18 feet proposed) (dimensions need to be confirmed)
- Canopy: 25 feet required: 12-feet from Grand River and 5-feet from future Middlebelt ROW (dimensions need to be confirmed)
- Transparency: 60% required, 19.8% on Grand River and 19.3% along Middlebelt
- Parking: parking is within Middlebelt future ROW
- The existing dumpster enclosure is located in the front yard. The applicant is improving with masonry screening; however, a variance is required to allow the dumpster in this location.
- Deficient by one canopy tree in parking lot

Existing Conditions

1. **Zoning.** The site is 16,095 square feet (0.37 acres) and zoned B-3.
2. **Existing site.** The site is currently developed with a gas station and convenience store.
3. **Adjacent properties.**

Direction	Zoning	Land Use
North	B-3/RA-4	Fire Dept/Single Family (across Independence)
South	B-3	Commercial
East	B-3	Fire Department
West	B-3	Commercial

4. **Site configuration and access.** The site is accessed via three driveways: one from Middlebelt Road, and two others from Grand River. The western driveway to Grand River is within 30 feet of the intersection with Middlebelt Road. The plan proposes to close the western driveway onto Grand River and significantly narrows the driveway onto Middlebelt from about 80 feet to 28 feet.

Site Plan and Use

1. **Use.** A gas station is permitted as a special approval use in the B-3 district, provided that the site is used as a gas station as of 12/31/2024, and subject to the standards of Section 4.28 (see below).

2. **Dimensional Standards (B-3 district).** See footnotes after the table for remarks on compliance issues. The canopy and setback dimensions shown on Sheet SP100 and Sheet C-3 are not consistent. This must be corrected. Dimensions shown in table below are based on Sheet C-3 measurements.

Item	Required	Proposed/Comments
Standards of Sec 34-3.1.25.E		
Min. Lot Size	N/A	0.37 acres
Min. Lot Width	N/A	75 ft/ 245 ft
Lot Coverage	N/A	13.4%
Front Setback (south)	25 ft (from Grand River ROW)	71.67 to building/**12 feet to canopy (canopy requires variance)[1]**
Rear Setback (north)	20 ft	**0.37 ft to building (requires variance)[1]**
Side Setback (east)	10 ft	**1.18 ft to building (requires variance)[1]**
Side Setback (west)	25 ft (from Middlebelt future ROW)	Setback dimensions for canopy and building were not provided on Sheet C-3. All setbacks for canopy and building must be shown. Setbacks from a public street shall

		be measured from the existing or proposed right-of-way lines, whichever is greater. **Based on scaled measurements the canopy is setback 5 feet and building is setback 42 feet from the future ROW. This measurement needs to be confirmed and canopy requires a variance.[1]**
Building Height	50 feet	Canopy 18.5 ft total height and 15.5 ft bottom of fascia /building 15 ft
Front Yard Open Space	50%	Dimensions not provided but appears to be less than 50%. Existing nonconformity to remain**.[2]**
Other Applicable Dimensional Standards		
Yard Landscaping (34-3.5.2.A)	For all uses except one-family detached residential units, landscaping of all yards abutting a street shall be provided	See landscaping comments below
Minimum Parking Setback (34-3.5.2.J)	10 feet	Standard applies to both parking and circulation. Nonconformities exist and are proposed to remain.[2]
Loading Space (34-3.5.2.N)	10 feet of loading space per front foot of building = 650 sq/ ft	650 sq ft space labeled in front yard
Rooftop Equipment (34-3.5.2.T)	Rooftop equipment shall be screened in accordance with Section 34-5.17	Roof-top screening devices are shown on Sheet A-201 and note added to sheet SP100 indicates that no ground mounted mechanical equipment is proposed.
Landscape area abutting street or freeway (34-3.5.2.U)	A landscaped area not less than ten (10) feet deep	Nonconformities exist and are proposed to remain.[2]

1. All noncompliant setbacks will require variances.

2. Existing nonconformities may be approved by Planning Commission.

3. Dumpster (34-5.1.3.D).

Item	Required	Proposed/Comments
Location	Rear yard or interior side yard	**There is an existing wooden dumpster enclosure in front yard; the applicant proposes to upgrade the enclosure to meet the construction requirements of the ordinance while leaving it in its not compliant location. A variance is required to maintain it in its current location.**
Screening	Permanent building wall or earth mound not less than 6 feet or 1 foot above the enclosed dumpster, whichever is greater.	
Setback	20 feet from any residential property	

4. Mechanical Equipment (34-5.1.4.D). Roof-top screening devices are shown on Sheet A-201 and note added to sheet SP100 indicates that no ground mounted mechanical equipment is proposed.

5. Minimum Parking (34-5.2.10). Proposed parking is compliant. Calculations and references to parking on sheet SP100 need to reference Section 34-5.2.10.C.i/x. *and Section 34-4.28.1.L*.

Requirement	Required	Provided
Per Section 34-5.2.10.C.i, Retail store: One (1) for each one hundred seventy-five (175) square feet of usable floor area.[1] Per Section 34-5.2.10.C.x, Self-service gas station: One (1) space plus one (1) space for each employee on the largest working shift. Additional parking shall be provided for any accessory retail use as required for such use.	2,154 x 0.8 = 1,723 [1] 1,723/175 = 10 + 1 employee largest shift Total required = 11	9 spaces plus 50% of 6 fueling positions[2] = 12 spaces
Barrier-Free Spaces	1 space (van accessible)	1 space

1. *Usable floor area is not provided on the floor plan (sheet A100). The applicant used 80% of gross floor area as the benchmark for estimates of usable floor area.*
2. *Per Section 34-4.28.1.L Up to fifty (50) percent of fueling positions may be considered toward fulfilling the parking requirement for the gasoline service station for purposes of Section 34-5.2.*

6. **Off-street parking dimensions (34-5.3.3.A & B.).** The spaces meet the minimum requirements for parking spaces.

Item	Required	Proposed/Comments
Maneuvering lane width	15 ft. for 60-degree parking	Compliant: 15 ft / 21 ft to pump islands
Parking space width	9 ft	9 ft
Parking space length	20 ft. for minimum required (May include two-foot unobstructed vehicle overhand area at the front of the parking space) 17 ft. for additional parking (May include one-foot unobstructed vehicle overhand area at the front of the parking space)	Space dimensions are compliant.

7. **Acceleration-Deceleration-Passing Lanes (34-5.6.2.)** Driveways providing ingress and egress to all three-lane paved major or secondary thoroughfares shall be provided with paved acceleration and deceleration lanes. If in the opinion of the director of public services no useful purpose would be served or if unusual difficulty would be encountered by reason of grade changes, intersections, bridges, or other land restrictions, the director may waive or modify the requirements of this section. We defer to engineering to address this issue.

8. **Relocated Pumps.** Based on scaled measurements, the new pump canopy is well within the required 25-foot setback (approximately 5 feet from the Middlebelt Road future ROW and 12 feet from Grand River). The encroachments are **not permitted without a variance from the Zoning Board of Appeals.** Canopy setbacks distances from the future right-of-way for Middlebelt Road and Grand River must be confirmed and shown on sheets C-3 and SP100. The precise measurements are needed to request a variance.

9. **Standards for gas stations in the B-3 district.** Per Section 34-4.28, gas stations in the B-3 district shall meet the following standards:

   A. The minimum lot area for gasoline service stations shall be fifteen-thousand (15,000) square feet. This standard is met.
   B. Pump canopies shall be no closer than one-hundred (100) feet from any residentially-zoned and/or -used property unless such property is separated from the gasoline service station use by a major or secondary thoroughfare. This standard is met.
   C. No more than one (1) driveway access shall be permitted per street frontage. This standard is met.

D. Vehicular access drives shall be located no closer than twenty-five (25) feet from the right-of- way of any intersecting street. This standard is met.

E. Parking areas and areas for vehicular circulation shall be located not less than ten (10) feet from any lot line. **Parking and circulation areas along the western property line are more than 10 feet from the existing Middlebelt ROW; however, if the full planned future ROW for Middlebelt Road were to be dedicated, the property line will move, and the parking and circulation areas on the western side of the site will not be compliant with this setback.**

F. All sides of the building shall incorporate a consistent architectural style, including horizontal or vertical design elements that have sufficient relief to create shadow lines, and the type of element (i.e. horizontal or vertical) shall be determined by the intended design aesthetic of the building. The applicant is incorporating the use of glass store front windows, metal awnings, and metal sunscreen on the south (Grand River) and west (Middlebelt) elevations. This standard is met.

G. The building shall have a minimum transparency of sixty (60) percent on any façade facing a pump island or the front lot line. Such transparency shall be measured based on the total wall area of the façade. False windows, spandrel glass or similar façade or architectural features shall not be counted towards the transparency requirement. **Transparency is 19.8% on Grand River and 19.3% along Middlebelt. A variance is required.**

H. Any canopy structure shall be designed and constructed in a manner that is architecturally consistent with the principal building. Elevations of the canopy were provided on sheet CA2. The canopy is fabricated steel construction without architectural embellishments. The Planning Commission should consider whether this is architecturally consistent with the principal building.

I. The parcel or zoning lot shall be separated from any public thoroughfare by a masonry wall a minimum of two (2) feet in height notwithstanding Section 34-5.14.5. Such wall shall be architecturally consistent with the principal building. This standard is met. Sheet SP100 shows a wall along 75 feet of the Grand River frontage and the brick wall elevation details are shown.

J. Gas stations may be developed according to the following design standards that allow for the principal building to be closer to the street with the pump islands and canopy located behind the building. The standards of this Subsection J shall take precedence over any conflicting design or dimensional requirement contained elsewhere in this Ordinance:

   a. The principal building shall be located not less than five (5) feet from the front lot line; and

   b. Any pump canopy shall be located to the rear of the principal building.

   Standard not applicable.

K. The storage, sale, or rental of new or used cars, trucks, trailers and/or any other vehicles on the zoning lot is prohibited. This standard appears to be met.

L. Up to fifty (50) percent of fueling positions may be considered toward fulfilling the parking requirement for the gasoline service station for purposes of 34-5.2. See discussion on minimum parking requirements.

Within the B-3 District, gasoline service stations shall be permitted only on a zoning lot that is being actively used and occupied as a lawfully-conforming gasoline service station on the effective date of the ordinance adding this Subsection 34-4.28.2. This site meets this standard (the standard became effective at the end of 2024).

Within the B-1, B-3, and ES districts, off-street loading and unloading space shall be provided in the ratio of at least ten (10) square feet per front foot of building but may be located within any
required yard notwithstanding Section 34-5.4. The building is 65 feet in length and a 650 sq ft loading space is labeled on the plans in the front yard. This standard is met.

10. Circulation. Circulation on the site is compliant.

11. Corner Clearance (34-5.10). Corner clearance standards cannot be confirmed. It appears that the proposed sign is within the required corner clearance area. There is an existing nonconforming pole sign near the southwest corner of the site. Signage is not approved with the site plan and will require a separate permit and review.

12. Screening (34-5.15). The site has no residential property lines; there is currently a chain-link fence along the rear property line. This area is heavily vegetated at present.

13. Landscaping (34-5.14). The site is mostly pavement at present, with a few grass areas. The plan proposes additional landscaping areas along the Middlebelt right-of-way.

Item	**Required**			**Proposed/Comments**
Minimum distance from the property line (34-5.14.C.ii)	4 ft. from the property line for trees and large shrubs			Standard is met
Minimum parking lot island area (34-5.14.3.C.iv)	Minimum of 180 sq/ft; 3 feet minimum radius at the trunk of the tree			N/A
Cost estimate	Not required			N/A
Minimum size and spacing requirements at planting (34-5.14.F)	Size	Center to center distance (max)		
	Height/Width	Groupings	Rows	
-Evergreen Trees	8 ft. height	20 ft	12 ft	N/A
-Narrow Evergreen Trees	5 ft height	10 ft	5 ft	N/A
-Large Shrubs	30 in. height	10 ft	5 ft	Applicant proposes hostas and spirea
-Small Shrubs	24 in. width	4 ft	4 ft	N/A

-Large Deciduous	3 in. caliper	30 ft	-	Applicant proposes Japanese Maples and Lindens
-Small Deciduous Trees	2 in. caliper	15 ft		N/A
-Hedge Shrubs	24 in. height	3 ft.	3 ft	N/A
Canopy Trees	Shall be large deciduous. PC may permit large evergreens			Standard not met (see parking lot tree discussion below)
Minimum number of parking lot trees (34-5.14.4.C)	1 per every 2,800 sq/ft of paved surface area: 8,720 sq/ft = 3 trees			Sheet SP100 shows 2 canopy trees (Lindens) and 3 canopy trees are required.
Parking lot screening from public throughfare (34-5.14.5)	A planted hedge of small shrubs or a masonry wall of berm of 2 feet high			Knee wall and elevation labeled on plan.
Wall or berm (34-5.15)	Required when abutting a residential district			N/A
Tree Replacement (34-5.18)	Tree removal / replace plan required			N/A

14. **Tree Replacement (34-5.18).** Based on Demolitions Plan sheet C-2, no existing trees are proposed to be removed.

15. **Lighting (34-5.16).**
    a. Operation hours (34-5.16.3.B.v.). The following notes must be added to or addressed on the plan; it is unclear from the existing plans whether these standards are met. The applicant should clarify how these standards are met.
        I. Exterior lighting shall not operate during daylight hours.
        II. Building façade and landscape lighting shall be turned off between midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
        III. All other exterior lighting shall be reduced to no greater than 70% of maximum from midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
        IV. Use of occupancy sensors to turn off or reduce lighting within 15 minutes of zero occupancy is recommended.

    b. **Illumination Levels**. The following illumination levels shall act as standards for all exterior lighting.

Item	Required	Proposed/Comments
Maximum height (34-5.16.3.A)	30 feet minimum	Standard is met
Building Lighting (34-5.16.3.A. iii.)	Relevant building elevation drawings showing all fixtures and the portions of the walls to be illuminated	Elevations show light fixtures
Average to minimum illumination ratio (34-5.16.3.C)	4:1	**Calculation not provided**
Maximum illumination at the property line	0.3 fc	Standard met
Illumination Levels- Hardscape areas (e.g., parking areas, sidewalks)	2.5 lumens per sq ft of hardscape area	**Calculation not provided**
Illumination Levels Building Entrances – within 20 ft of door	2,000 lumens per door	**Calculation not provided**
Additional lighting standards for sites abutting a residential district (34-5.16.3.B.iii.)	No direct light source visible at ground level Max illumination 0.3 fc Light fixtures designed to limit visibility of the light source	N/A Property does not directly abut residential district

Note that per Section 34-5.16.3.C, the planning commission may modify these levels if such modifications are deemed necessary and appropriate to protect public safety.

16. Pedestrian Connection (34-5.19).

A marked pedestrian connection to the 12 Mile Rd sidewalk has been provided.

Summary

The Planning Commission should consider whether the applicant needs to address missing information items identified in this report and summarized on Page 3 prior to approval.

CARLISLE/WORTMAN ASSOC., INC.
Benjamin R. Carlisle, AICP, LEED-AP
President

CARLISLE/WORTMAN ASSOC., INC.
Mike Auerbach, AICP
Senior Associate

DEPARTMENT OF PUBLIC SERVICES
JACOB RUSHLOW, P.E., DIRECTOR

INTEROFFICE CORRESPONDENCE

DATE: March 6, 2026

TO: Diane Mulville-Friel, City Planner

FROM: ShonQuase Dawkins, Civil Engineer

SUBJECT: Gas Station Renovation NE corner of Grand River and Middlebelt
Special Approval 53-03-2025
PJ #36-25-111
29372 Grand River Avenue
22-23-36-301-002

This office has performed a preliminary review of the above referenced special Approval plan submitted to the Planning Department on February 17, 2026. Our preliminary comments are as follows:

1. An 8" watermain exists along the north side of Grand River and east side of Middlebelt Road across the frontage of this site. In addition, a 12" water main exists along the north side of Independence Ave across the frontage of this site. All of these lines are available for service. The onsite water service must be identified.

2. An 8" public sanitary sewer exists along the south side of Independence Avenue across the frontage of this site. It is available for service. The plans need to identify the existing onsite sanitary sewer lead. If the existing sanitary sewer lead is being considered for re-use, it must be televised and any infiltration/inflow issues or deficiencies must be corrected. The video of this televising also needs to be provided to the City for review. This must be done in advance of any construction approvals.

3. A public sidewalk currently exists along the Grand River Avenue frontage of this site. On the Middlebelt Road frontage the entire right of way appears to be paved based on the GIS. The plan needs to provide a new 5' wide sidewalk along the entire Middlebelt Road frontage. It must be ADA compliant.

   Note that if the existing walk is not within the right of way, an additional easement for it will be necessary. Note also that any damage to the existing walk during construction must be repaired as part of the site development.

4. Attached are the original comments with respect to the Storm water sewer system and stormwater treatment from our Environmental Engineer, Tyler Sonoga. The proponent needs to address these items. Any questions regarding these comments should be referred to Tyler at 248-871-2533.

5. The north and east building walls butt up close to City Fire Station property. The proponent needs to address drainage in more detail along this common property line.

6. The plans indicate that the applicant will dedicate 60 feet from the centerline of Middlebelt Road to their property line. This is appropriate and will be further addressed during the Engineering Department's review.

7. It is suggested that the proponent and their engineer meet with the City engineering staff in person or virtually to discuss this site in further detail. We have had some meetings on this earlier.

DEPARTMENT OF PUBLIC SERVICES
JACOB RUSHLOW, P.E., DIRECTOR

City of Farmington Hills
Environmental Review

Project Name: Gas Station Renovation

Address: 29372 Grand River
Project Job #: 36-25-111; SA #53-3-2025
Plan Dated: 2-10-2026

Plan Received:
Review #: 2
Review Date: 3-5-2026

As requested, I have conducted a plan review of the above reference engineering plans. I have the following comments:

1. As a site for a higher risk for oils and contaminants discharging from stormwater, an oil water separator design should be incorporated into the water quality unit.

Respectfully submitted,

Tyler Sonoga
Civil/Environmental Engineer
Department of Public Services

cc: City of Farmington Hills, M. Saksewski

FIRE

FARMINGTON HILLS

INTEROFFICE CORRESPONDENCE

DATE: March 2, 2026

TO: Planning Commission

FROM: Jason Baloga, Fire Marshal

SUBJECT: 2nd Revised Special Approval 53-3-2025 (29372 Grand River)

This Fire Department has no objection to this pre-existing site.

a. Proponent agreed during recent meeting to add a standby generator or other means of backup power so fuel may be dispensed during a power failure to satisfy Alternative Protection Provision.

1. Underground storage tanks and hazardous materials shall be regulated according to State of Michigan requirements as well as City of Farmington Hills adopted Ordinance and Code requirements.

2. Propane exchange shall be permitted through the Building Department.

3. Pumps shall **only** dispense fuel with attendant present.

4. Fire lanes shall be posted and strictly enforced.

5. The minimum clearance between the finished roadway surface and any overhead obstructions shall be 13' 6".

6. Building shall be maintained in accordance with minimum Fire Prevention Code requirements.

Jason Baloga, Fire Marshal

JB/ss

GRAND FUEL STATION IMPROVEMENTS
City of Farmington Hills,
Oakland County, Michigan
Construction Plan
Prepared For
Jeff Yono

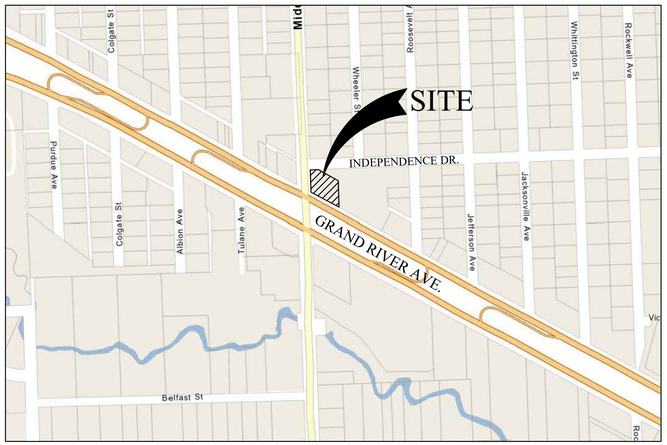
OWNER
JEFF YONO
29372 GRAND RIVER
FARMINGTON HILLS, MI 48336

CIVIL ENGINEER
Orman Engineering, LLC
5476 Vivian Lane
Waterford, MI 48327
Phone (248) 682-6001
Email: alex@ormanengineering.com

Contact: Mr. Alexander Orman, P.E.

ARCHITECT
BD and E Group, LLC

Contact: Hatem Hannawa
28124 Orchard Lake Rd.
Suite 102
Farmington Hills, MI 48334
Phone: (248) 508-9897



Location Map
N.T.S.

SHEET INDEX

NO.	SHEET NAME
C-1	COVER SHEET
C-2	DEMOLITION PLAN
C-3	CONSTRUCTION PLAN
C-4	CONTECH CALCULATIONS & DETAILS
C-5	DUMPSTER SERVICE TRUCK MOVEMENT PLAN
C-6	FUEL DELIVERY TRUCK MOVEMENT PLAN

ISSUANCE DATE:

DATE	REVISION OR SUBMITTAL
11/11/2025	SPA
02/10/2026	REVISED PER CITY

LEGAL DESCRIPTION

THE LAND IS DESCRIBED AS FOLLOWS:

SITUATED IN THE CITY OF FARMINGTON HILLS, COUNTY OF OAKLAND, STATE OF MICHIGAN:

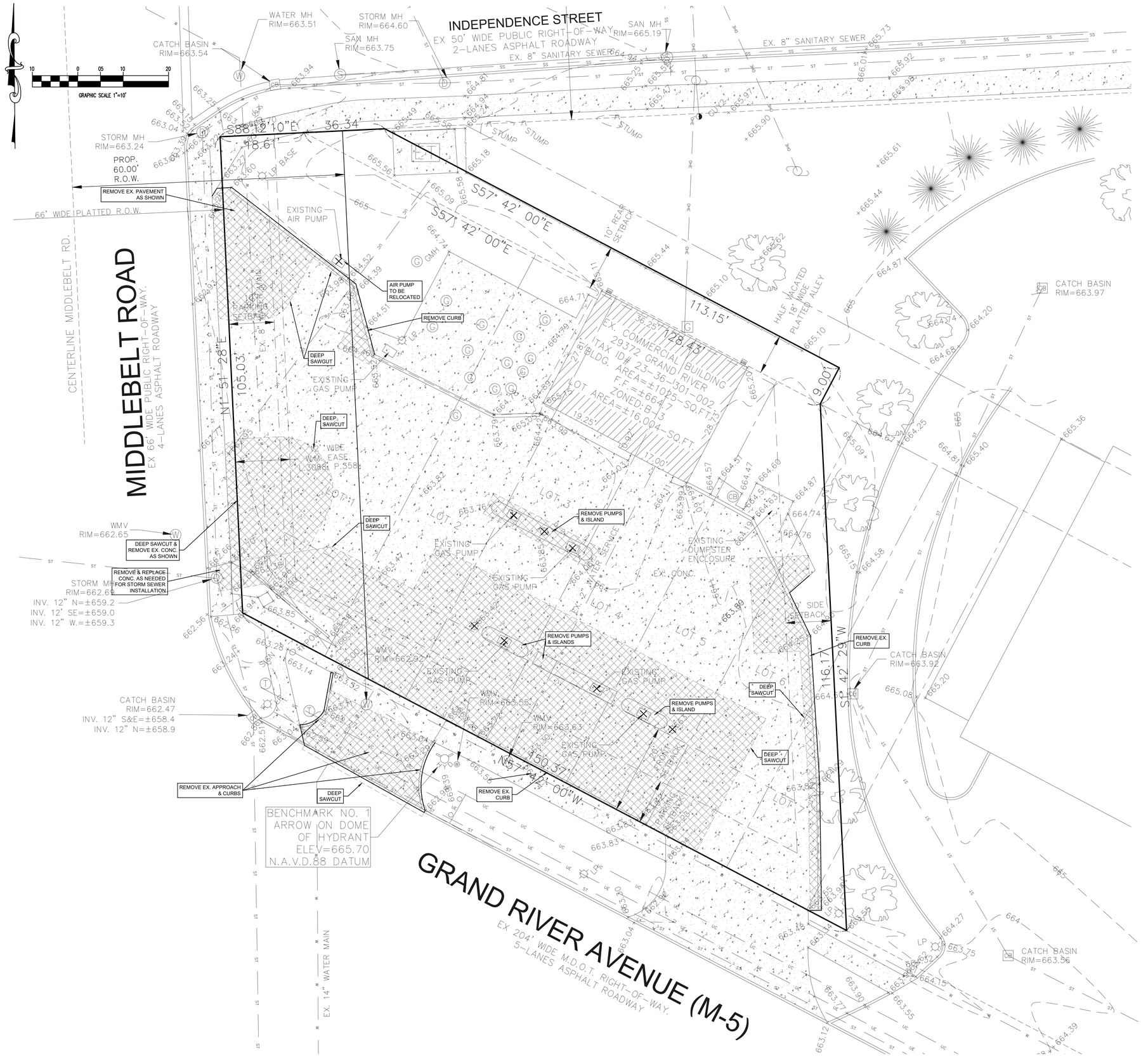
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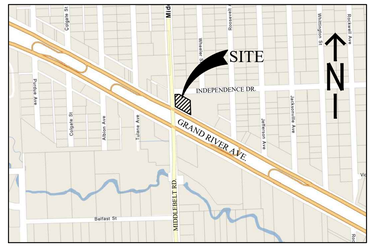
STATE OF MICHIGAN
ALEXANDER ORMAN
ENGINEER NO. 6201048878
LICENSED PROFESSIONAL ENGINEER

OE Engineering
Civil Engineers • Land Planning
Land Surveying

Orman Engineering, LLC
5476 Vivian Lane
Waterford, MI 48327
phone: 248.682.6001
email: alex@ormanengineering.com

CITY FILE #
Orman Engineering LLC # 1498





LOCATION MAP
N.T.S.

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DEMOLITION LEGEND

- PROPOSED REMOVAL
- PROPOSED ITEM REMOVAL
- PROPOSED SAWCUT

LEGEND

AMERITECH		SIGNAL POLE	
WATER SHUT OFF		PUBLIC LIGHTING MH.	
TELEPHONE RISER		ELECTRIC RISER OR METER	
TELEPHONE		CATHODIC PROTECTION	
C.O.	SEWER CLEAN OUT	GUY WIRE	
GAS METER		HIGH TENSION TOWER	
GAS VALVE /GAS MARKER		FLAG POLE	
SANITARY M.H. (SAN.)		BOLLARD	
STORM MANHOLE (STM. MH.)		STEEL COLUMN	
CATCH BASIN (C.B.)		MAILBOX	
GATE VALVE IN WELL (G.V.W)		SIGN	
FIRE HYDRANT		ELECTRIC TRANSFORMER	TRANS
LIGHT POLE		EXISTING	EX.
UTILITY POLE		PROPOSED	PROP.
UTILITY POLE W/ LAMP EXTENSION		WATER FLOW INDICATOR	

OE Engineering

Orman Engineering, LLC
5476 Vivian Lane
Waterford, MI 48327
phone: 248.682.6001
email: alex@ormanengineering.com

PROJECT
GRAND FUEL STATION IMPROVEMENTS

CLIENT
BD & E Group, LLC

Contact: Hatem Hannawa
28124 Orchard Lake Rd.
Suite 102
Farmington Hills, MI 48334

Phone: (248) 508-9897

SEAL

SHEET
DEMOLITION PLAN

PROJECT LOCATION
29372 Grand River Ave.
City of Farmington Hills,
Oakland County, MI 48336

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

REVISIONS

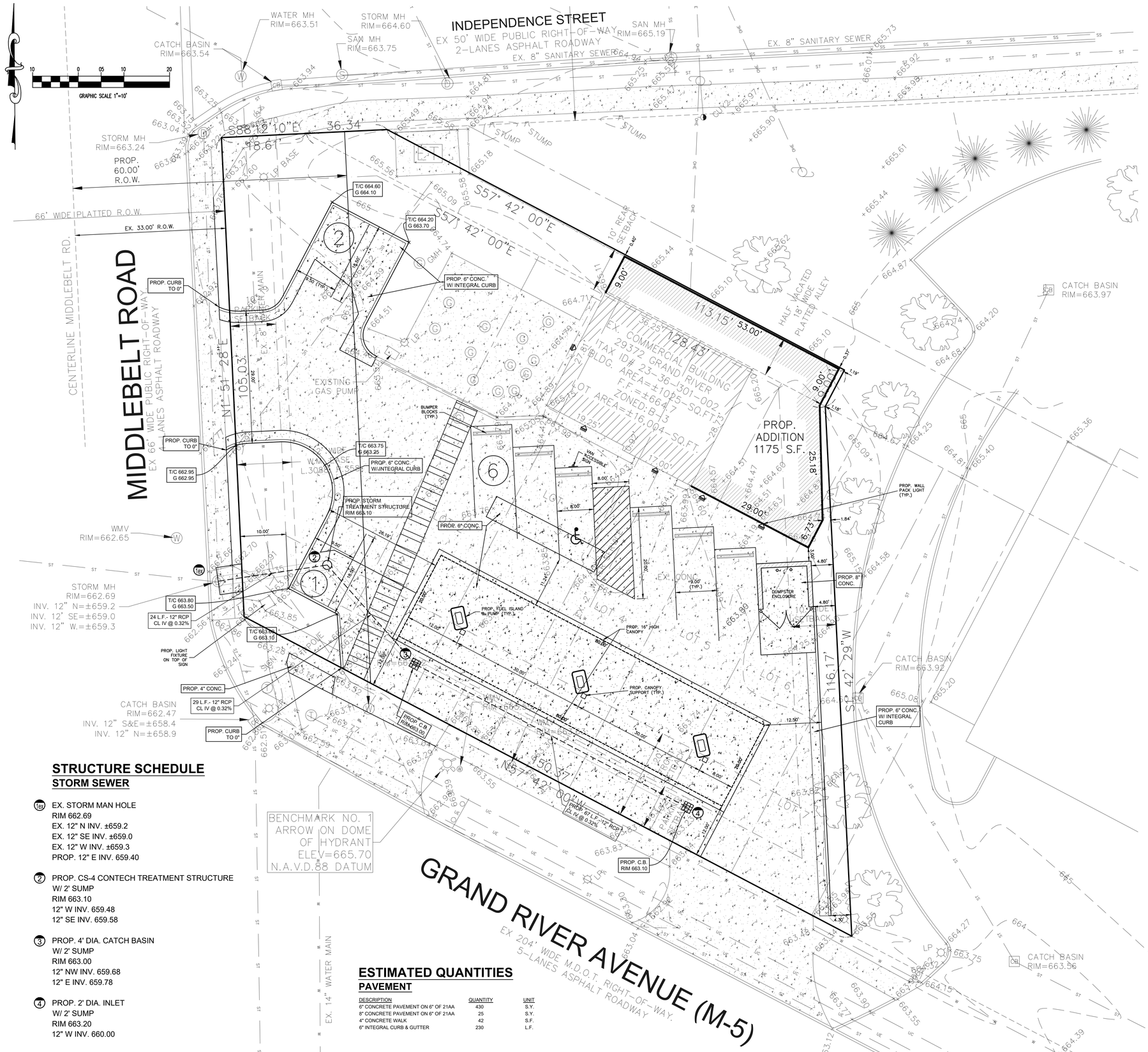
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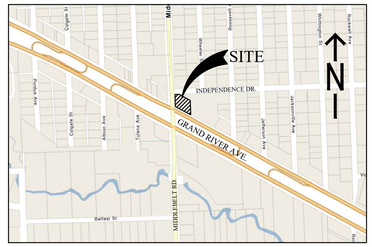
Designed by:	Drawn by:
A.O.	S.D.M.

Approved by:	Date:
A.O.	07-25-25

Scale:
1" = 10'

Job No.:	Sheet:
#1498	C-2





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QUANTITIES
STORM SEWER

ITEM	QUANTITY	UNIT
4' DIA. CATCH BASIN	1	EA.
CONTECH CS-4 TREATEMENT STRUCTURE	1	EA.
2' DIA. INLET	1	EA.
12" RCP CL IV PIPE	120	L.F.

STRUCTURE SCHEDULE
STORM SEWER

(1ex) EX. STORM MAN HOLE
RIM 662.69
EX. 12" N INV. ±659.2
EX. 12" SE INV. ±659.0
EX. 12" W INV. ±659.3
PROP. 12" E INV. 659.40

(2) PROP. CS-4 CONTECH TREATMENT STRUCTURE
W/ 2' SUMP
RIM 663.10
12" W INV. 659.48
12" SE INV. 659.58

(3) PROP. 4' DIA. CATCH BASIN
W/ 2' SUMP
RIM 663.00
12" NW INV. 659.68
12" E INV. 659.78

(4) PROP. 2' DIA. INLET
W/ 2' SUMP
RIM 663.20
12" W INV. 660.00

ESTIMATED QUANTITIES
PAVEMENT

DESCRIPTION	QUANTITY	UNIT
6" CONCRETE PAVEMENT ON 6" OF 21AA	430	S.Y.
8" CONCRETE PAVEMENT ON 6" OF 21AA	25	S.Y.
4" CONCRETE WALK	42	S.F.
6" INTEGRAL CURB & GUTTER	230	L.F.

GRADING LEGEND

T/C 888.88	TOP OF CURB GRADE
G 888.88	GUTTER GRADE
T/P 888.88	TOP OF PAVEMENT GRADE
T/W 888.88	TOP OF WALK GRADE
TOW 888.88	TOP OF WALL GRADE
B/W 888.88	BOTTOM OF WALL GRADE
F.G. 888.88	FINISHED GRADE

PAVING LEGEND

PROPOSED CONCRETE PAVEMENT
PROPOSED ASPHALT PAVEMENT
CURB / GUTTER — PROPOSED CURB & GUTTER

LEGEND

AMERITECH		SIGNAL POLE	
WATER SHUT OFF		PUBLIC LIGHTING MH.	
TELEPHONE RISER		ELECTRIC RISER OR METER	
TELEPHONE		CATHODIC PROTECTION	
SEWER CLEAN OUT		GUY WIRE	
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UTILITY POLE	PROP.	PROPOSED	
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SEAL

SHEET
CONSTRUCTION PLAN

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City of Farmington Hills,
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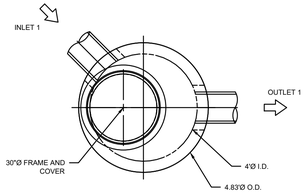
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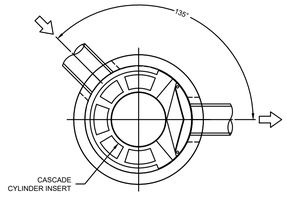
Approved by:	Date:
A.O.	07-25-25

Scale: 1" = 10'

Job No.:	Sheet:
#1498	C-3



PLAN VIEW
INTERNALS NOT SHOWN



PLAN VIEW FOR PIPE ORIENTATION
TOP SLAB NOT SHOWN

MATERIAL LIST - PROVIDED BY CONTECH

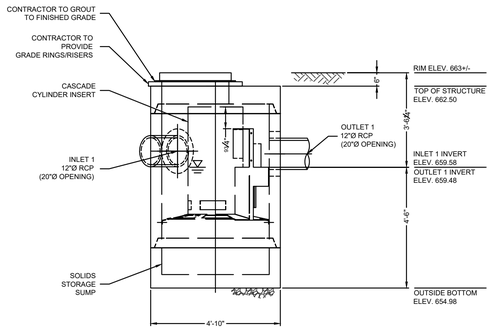
COUNT	DESCRIPTION	INSTALLED BY
1	CS-4 CYLINDER INSERT, STD.	CONTECH
4	CS-4 ALUMINUM INSTALLATION BRACKETS	CONTECH
1	CS-4 HARDWARE KIT	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	30"Ø X 4" FRAME AND COVER, EJ #41600483, OR EQUIV.	CONTRACTOR

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

STRUCTURE WEIGHT
APPROXIMATE HEAVIEST PICK = 4500 LBS.
OF 3 PIECES

MAXIMUM FOOTPRINT = 4.83'Ø



ELEVATION VIEW

CONTECH
PROPOSAL
DRAWING

LAYOUT 1A

NO SHEET 1 OF 1

REVISION DESCRIPTION	MARK	DATE	BY

CS-4 - 823476-15
29372 GRAND RIVER AVE.
CHESTERFIELD TOWNSHIP, MI
SITE DESIGNATION: WQU

CONTECH ENGINEERED SOLUTIONS LLC
800.338.1122 | www.ContechES.com
CASCADE SEPARATOR

DATE: 7/14/25

DESIGNED:	DRAWN:
JGB	JGB
CHECKED:	APPROVED:
MSB	MSB
PROJECT No.:	SEQUENCE No.:
823476	15

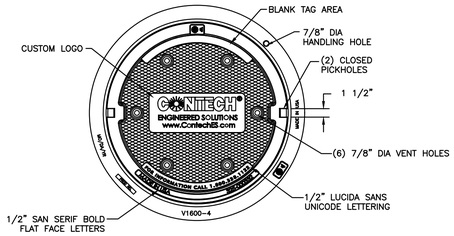
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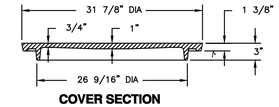
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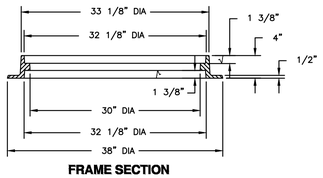
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1810B4 V1600-4 Assembly





COVER SECTION



FRAME SECTION

ej.

Product Number
41600483

Design Features
-Materials
Cover
Gray Iron (CL35B)
Frame
Gray Iron (CL35B)

-Design Load
Heavy Duty
-Open Area
n/a
-Coating
Undipped
-√Designates Machined Surface

Certification
-
- ASTM A48
-
-Country of Origin:USA

Major Components
00180783
41600410

Drawing Revision
05/09/2007 Designer: SMH
6/26/2017 Revised By: DAE

Disclaimer
Weights (lbs./kg) dimensions (inches/mm) and drawings provided for your guidance. We reserve the right to modify specifications without prior notice.

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Contact
800 626 4653
ejco.com

Project: 29372 Grand River Ave.
Location: Farmington Hills, MI
Structure: CB-4

CONTECH ENGINEERED SOLUTIONS

Oakland County Water Resources Commissioner's Office
Manufactured Treatment Device Sizing Calculation

Area (acres) = 0.37
Runoff Coefficient, C = 0.77
Tc (min) = 20.0

1-year I1 (in/hr) = 30.20/(Tc+9.17)0.81 = 1.97
1-year Peak Flow (cfs) = QWQ = C x I1 x A = 0.56

Recommended Model: CS-4

CASCADE SEPARATOR™ MODEL SPECIFICATIONS PER NJDEP CERTIFICATION LETTER

Model	MTFR (cfs)
CS-4	1.80
CS-5	2.81
CS-6	4.05
CS-8	7.20
CS-10	11.30
CS-12	16.20

Engineering

Orman Engineering, LLC
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Waterford, MI 48327
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email: alex@ormanengineering.com

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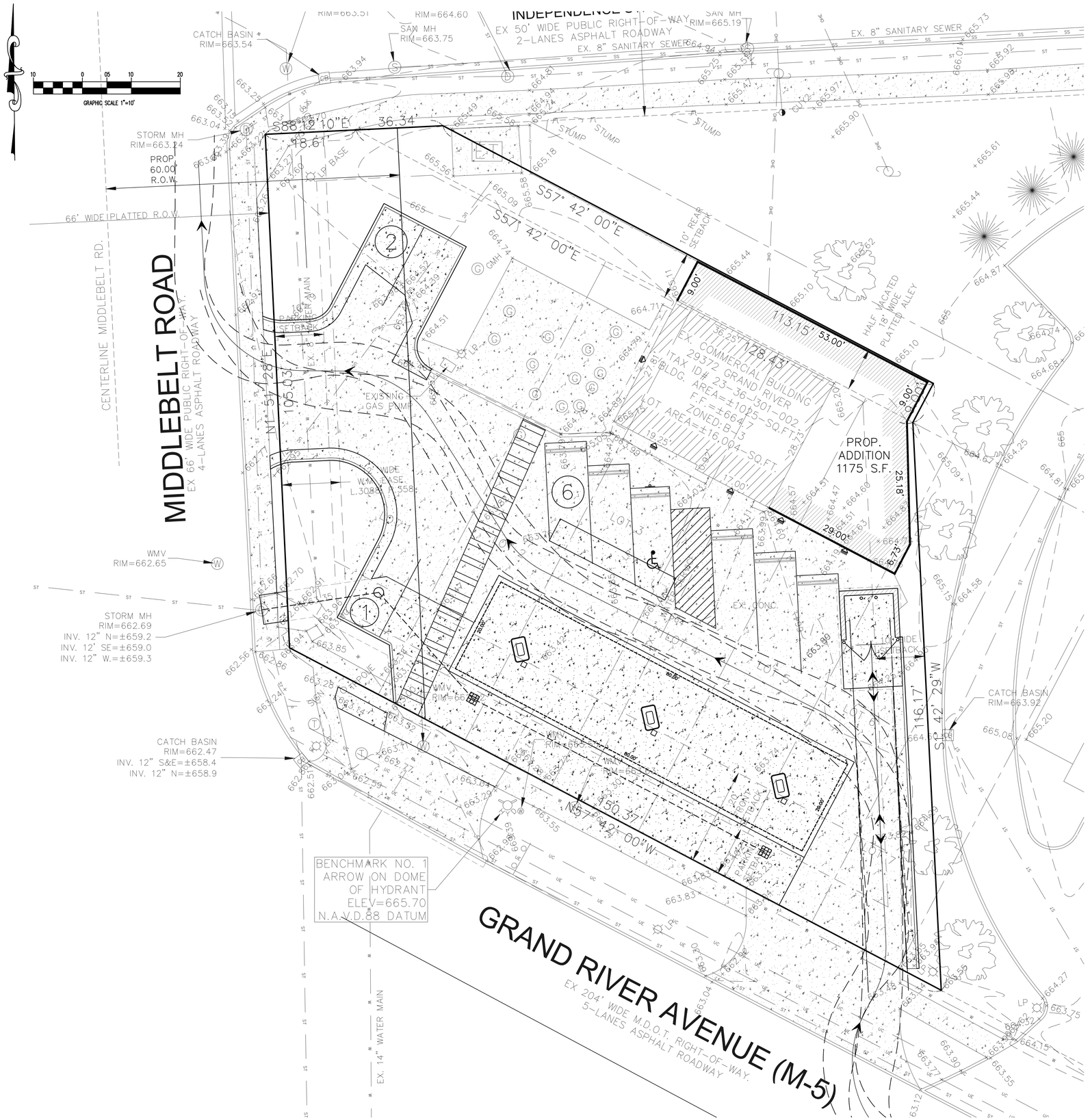
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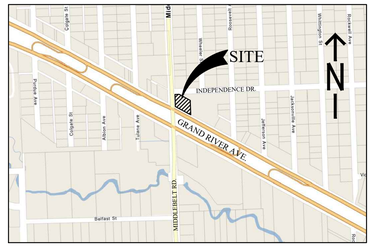
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02-10-2026	REVISED PER CITY
11-11-2025	SPA

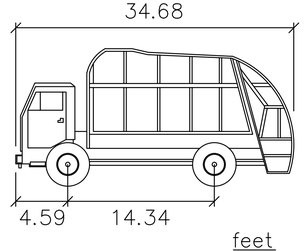
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A.O.	S.D.M.
Approved by:	Date:
A.O.	07-25-25
Scale:	
N/A	
Job No.:	Sheet:
#1498	C-4





LOCATION MAP
N.T.S.

WHEEL TRACK LINE
BODY SWEEP LINE
DIRECTION OF TRAVEL



	feet
Width	: 8.20
Track	: 7.84
Lock to Lock Time	: 6.0
Steering Angle	: 41.8

DUMPSTER SERVICE TRUCK
NOT TO SCALE

TRUCK TEMPLATE USED

OE Engineering

Orman Engineering, LLC
5476 Vivian Lane
Waterford, MI 48327
phone: 248.682.6001
email: alex@ormanengineering.com

PROJECT
GRAND FUEL STATION IMPROVEMENTS

CLIENT
BD & E Group, LLC

Contact: Hatem Hannawa
28124 Orchard Lake Rd.
Suite 102
Farmington Hills, MI 48334

Phone: (248) 508-9897

SEAL

SHEET
DUMPSTER SERVICE TRUCK MOVEMENT PLAN

PROJECT LOCATION
29372 Grand River Ave.
City of Farmington Hills,
Oakland County, MI 48336

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

REVISIONS

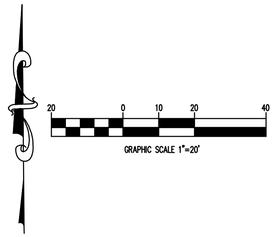
Date	Description
02-10-2026	REVISED PER CITY
11-11-2025	SPA

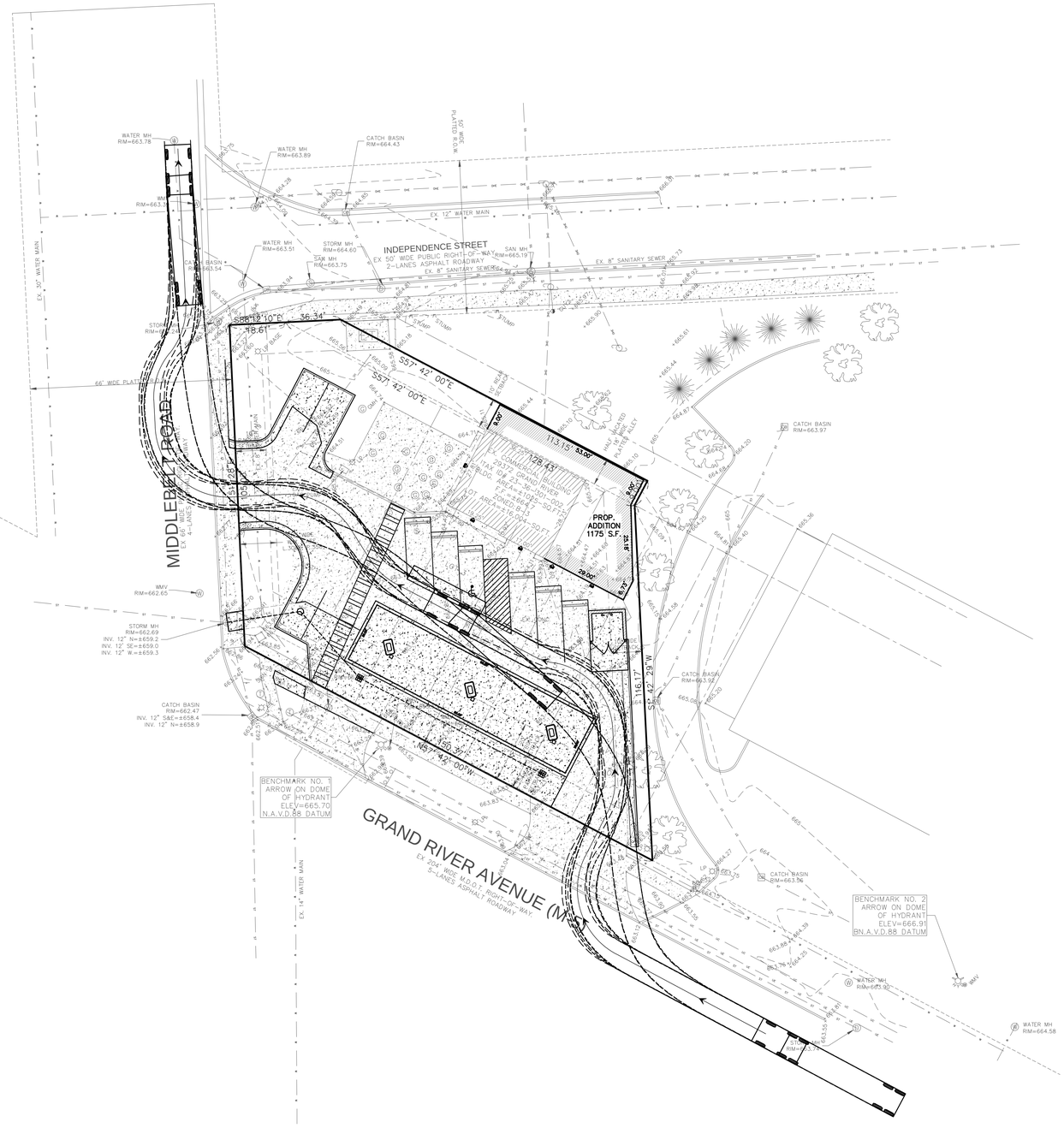
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A.O.	S.D.M.

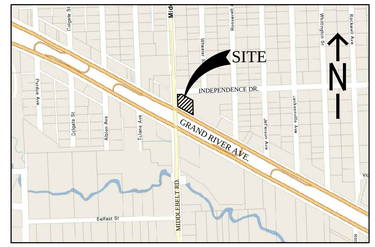
Approved by:	Date:
A.O.	07-25-25

Scale:
1" = 10'

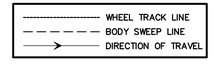
Job No.:	Sheet:
#1498	C-5

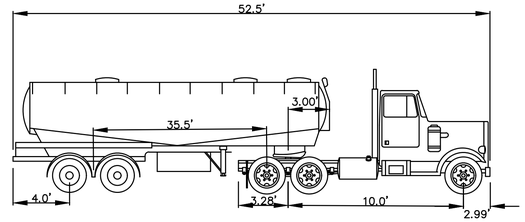






LOCATION MAP
N.T.S.





WB-50 TANKER TRUCK DETAILS
N.T.S.

LOCK TO LOCK TIME = 7 SECONDS
MAX. WHEEL TURNING ANGLE (1ST SEGMENT) = 25.0°
MAX. ANGLE BETWEEN SEGMENTS = 70°

MODEL USED

Engineering

Orman Engineering, LLC
5476 Vivian Lane
Waterford, MI 48327
phone: 248.682.6001
email: alex@ormanengineering.com

PROJECT
GRAND FUEL STATION IMPROVEMENTS

CLIENT
BD & E Group, LLC

Contact: Hatem Hannawa
28124 Orchard Lake Rd.
Suite 102
Farmington Hills, MI 48334

Phone: (248) 508-9897

SEAL

SHEET
FUEL DELIVERY TRUCK MOVEMENT PLAN

PROJECT LOCATION
29372 Grand River Ave.
City of Farmington Hills,
Oakland County, MI 48336

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

REVISIONS

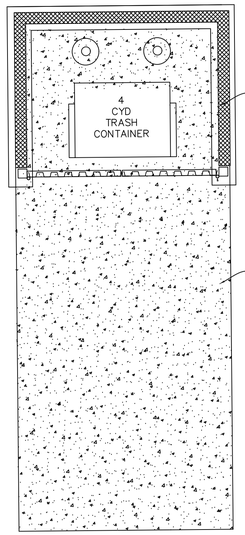
Date	Description
11-11-2025	SPA

Designed by:	Drawn by:
A.O.	S.D.M.

Approved by:	Date:
A.O.	07-25-25

Scale:
1" = 20'

Job No.:	Sheet:
#1498	C-6

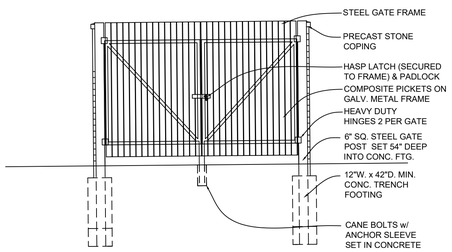


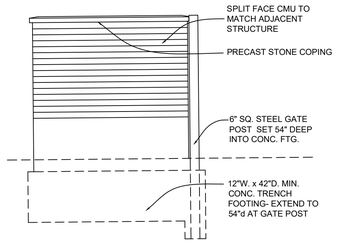
SPLIT FACE CMU TO MATCH ADJACENT STRUCTURE

EXISTING CONC WALK

8" CONC PAVEMENT

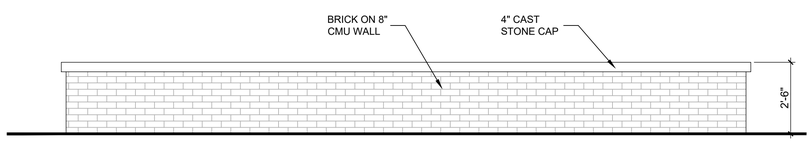
EXISTING CONC. DRIVE TO BE REDUCED



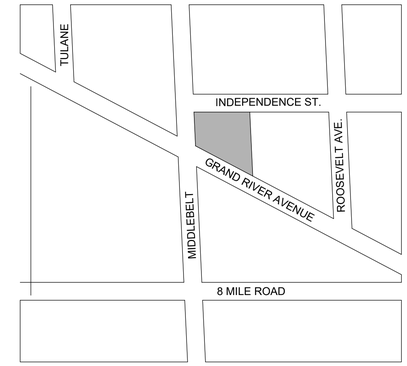


INDEPENDENCE STREET
50' PUBLIC RIGHT OF WAY
ASPHALT

RA-4 ONE FAMILY RESIDENTIAL



STREET SCAPE WALL
SCALE: NONE



EASEMENT

S57° 42' 00"E 113.15'

S57° 42' 00"E 128.43'

NEW CONC CURB

18.00'

20' REAR BUILDING SETBACK

12.00'

20'

2

EXISTING CONCRETE OVER FUEL TANKS

21.00'

45.95'

EXISTING CURB

25' SIDE BUILDING SETBACK

26.06'

42.09'

EXISTING CONCRETE PAVEMENT TO REMAIN

MIDDLEBELT ROAD
66' PUBLIC RIGHT OF WAY
ASPHALT

N1° 51' 28"E 105.03'

28.00'

EASEMENT

37.98'

1

9.00'

34.04'

26.19'

60' FUTURE R.O.W.

5' WIDE PEDESTRIAN PATH

25' BUILDING SETBACK FROM FUTURE R.O.W.

6

B3 ZONE

VAN ACCESSIBLE

16' HIGH CANOPY

12.00'

25' FRONT BUILDING SETBACK

80.00'

16' HIGH CANOPY

30.00'

12.00'

EASEMENT

EASEMENT

10'x65' LOADING ZONE

16' HIGH CANOPY

30.00'

12.00'

75.0' STREETSCAPE WALL

GRAND RIVER AVENUE
204' PUBLIC RIGHT OF WAY
ASPHALT

N57° 42' 00"W 150.37'

35'

EXISTING CONCRETE DRIVE

B3 ZONE

PROPOSED BUILDING 1164 s.f.

EXISTING BUILDING 990 s.f.

.25'

53'

8.00'

.73'

9.00'

8.96'

24.98'

1.42'

36.00'

6.42'

29.00'

6.73'

33.95'

116.17'

S1° 42' 29"W

21.62'

2.00'

16' HIGH CANOPY

8.00'

25'

20.00'

19'

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

BD & E GROUP
BUILDING DESIGN & ENGINEERING
28124 ORCHARDLAKE ROAD
(SUITE 102)
FARMINGTON HILLS, MI 48334
TEL: (248) 508-9255
EMAIL: bdandegroup@gmail.com

CLIENT INFORMATION

JEFF YONO

29372 GRAND RIVER AVENUE
FARMINGTON HILLS, MI.

PROJECT INFORMATION

CONVENIENCE STORE

FUELING STATION

HOT FOOD CARRY-OUT

29372 GRAND RIVER AVENUE
FARMINGTON HILLS, MI.

SHEET TITLE

ZONING INFORMATION

PROPOSED SITE PLAN

SITE DETAILS

SITE & PARKING DATA

SECTION 34.3.1.25 - GENERAL BUSINESS DISTRICTS - B3

SCHEDULE OF REGULATIONS

MAXIMUM BUILDING HEIGHT = UNLIMITED

FRONT YARD SETBACK	25 ft (ALONG GRAND RIVER)
SIDE YARD SETBACK	25 ft (ALONG MIDDLEBELT)
SIDE YARD SETBACK	10 FT (EAST SIDE - VARIANCE REQUIRED)
REAR YARD SETBACK	20 ft (VARIANCE REQUIRED)
LOADING ZONE	(1) 10 ft x 50 ft

MINIMUM LOT AREA FOR GASOLINE FILLING STATIONS = 15,000 S.F.
LOT AREA: 16,095 S.F. (0.37 ACRES)
BUILDING AREA: 2,154 S.F.

LOT COVERAGE: 13.4%

SECTION 5-30 - OFF-STREET PARKING REQUIREMENTS

FILLING STATION	1 SPACE + 1 / EMPLOYEE
RETAIL / COMMERCIAL	1 / 175 S.F. U.F.A.

PARKING REQUIRED:

1 SPACE FOR FUELING STATION + 1 EMPLOYEES	=	1 SPACES
1 / 175 S.F. U.F.A.		
2154 x 0.80 = 1723 / 175 U.F.A.	=	10 SPACES
TOTAL PARKING SPACES REQUIRED	=	11 SPACES
TOTAL PARKING SPACES PROVIDED	=	9 SPACES

- 1 ADA PARKING SPACES
- 8 STANDARD PARKING SPACES

BUILDING DATA

23972 GRAND RIVER AVENUE
STORY: 1 STORY < 2 STORY
HEIGHT: < 25'
USE: RETAIL / FUELING STATION / CARRY OUT

FUELING STATION	3 PUMPS (6 NOZZLES)
RETAIL / COMMERCIAL	1,978 G.S.F.
CARRY OUT HOT FOOD	176 S.F.

CONSTRUCTION TYPE: 3B

USE GROUP: M - MERCANTILE

NOTE: ALL MECHANICAL EQUIPMENT TO BE SCREENED FROM ALL SIDES OF BUILDING. ANY GROUND MOUNTED MECHANICAL EQUIPMENT SHALL BE SCREENED (NONE IS PROPOSED FOR THIS DEVELOPMENT)

VARIANCES REQUIRED

VARIANCE - 1 - BUILDING SETBACKS (NORTH & EAST)
VARIANCE - 2 - CANOPY SETBACK (ALONG GRAND RIVER)
VARIANCE - 3 - LANDSCAPE BUFFER (ALONG GRAND RIVER)
OPEN SPACE NOT PROVIDED, A 30" HIGH MASONRY WALL IS PROPOSED IN LIEU OF THE REQUIREMENT
VARIANCE - 4 - DUMPSTER LOCATION

SUBMITTALS

2-27-2025
SPECIAL APPROVAL

11-12-2025
REVISED PER CITY COMMENTS

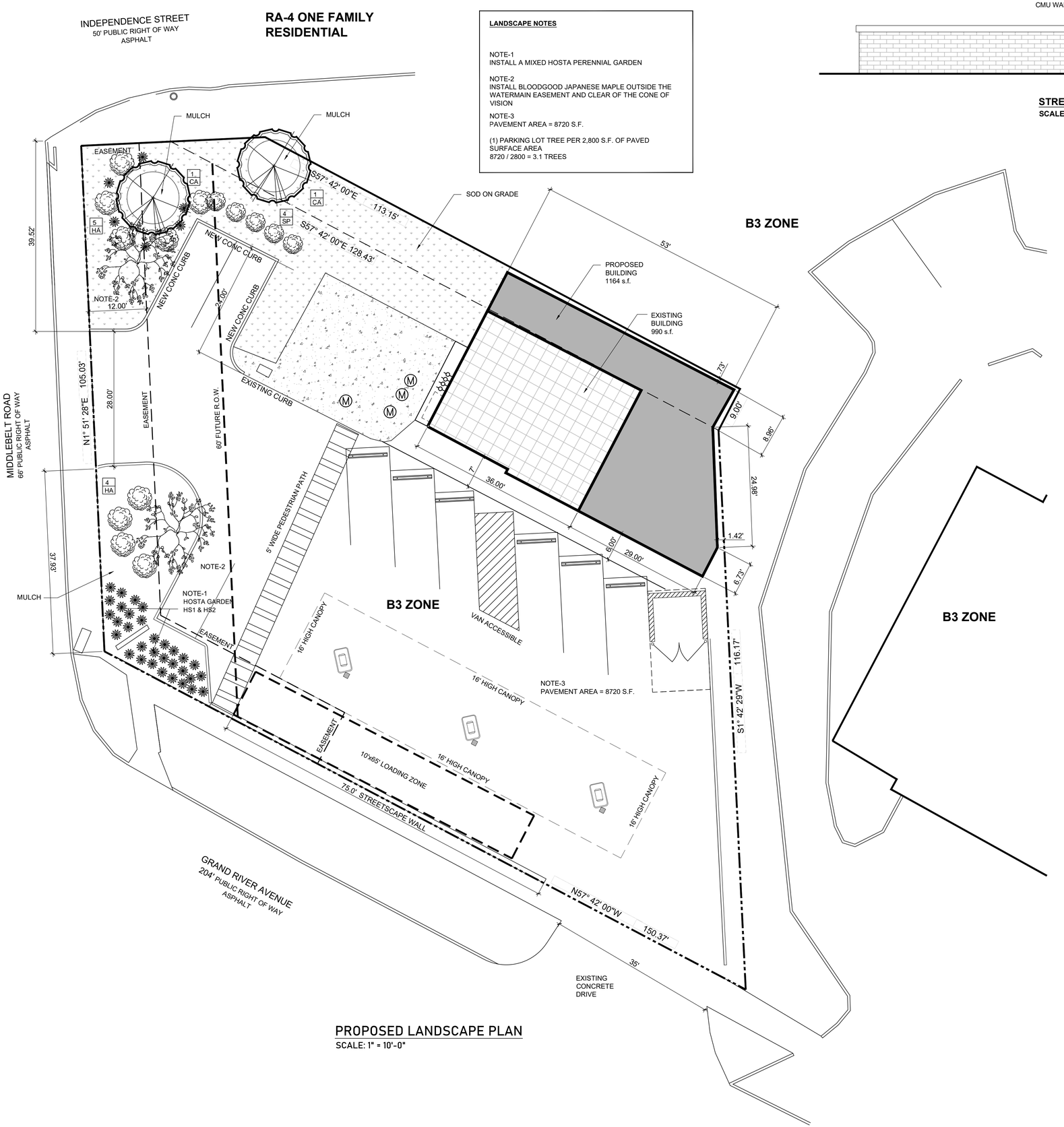
PROJECT #

972-24

SHEET NO.

SP100

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS



PROPOSED LANDSCAPE PLAN
SCALE: 1" = 10'-0"

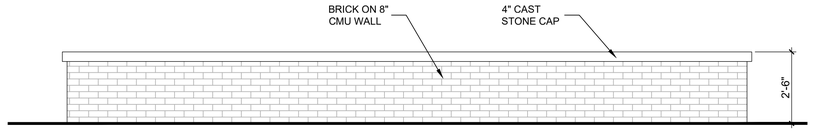
LANDSCAPE NOTES

NOTE-1
INSTALL A MIXED HOSTA PERENNIAL GARDEN

NOTE-2
INSTALL BLOODGOOD JAPANESE MAPLE OUTSIDE THE WATERMAIN EASEMENT AND CLEAR OF THE CONE OF VISION

NOTE-3
PAVEMENT AREA = 8720 S.F.

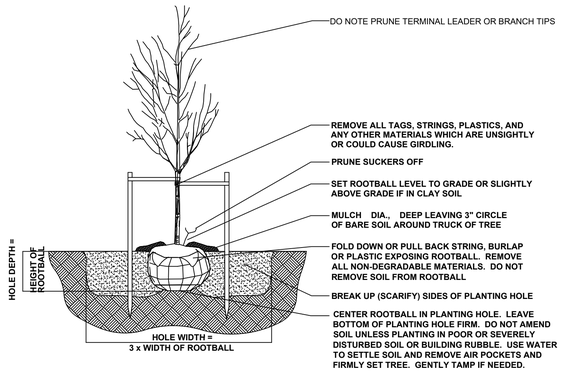
(1) PARKING LOT TREE PER 2,800 S.F. OF PAVED SURFACE AREA
8720 / 2800 = 3.1 TREES



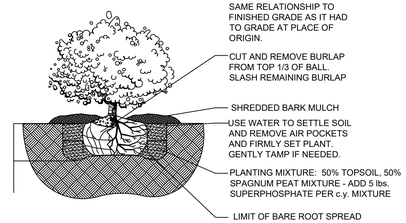
STREET SCAPE WALL
SCALE: NONE

STREET SCAPE WALL
SCALE: NONE

PLANT SCHEDULE					
DECIDUOUS TREES					
KEY	QTY	BOTANICAL / COMMON NAME	ROOT	SIZE	COMMENT
CA	2	TILIA TOMENTOSA / SILVER LINDEN	B & B	3" CALIPER	8' MIN. BRANCH HEIGHT
ORNAMENTAL TREES					
KEY	QTY	BOTANICAL / COMMON NAME	ROOT	SIZE	COMMENT
JP	2	ACER PALMATUM "BLOODGOOD" / BLOODGOOD JAPANESE MAPLE	B & B	2" CALIPER	
SHRUBS					
KEY	QTY	BOTANICAL / COMMON NAME	ROOT	SIZE	COMMENT
HA	9	CORNUS SERICEA FLAVIRAMEA / YELLOW TWIG DOGWOOD	B & B	24" HEIGHT	
SP	6	SPIRAEA JAPONICA 'LITTLE PRINCESS' / LITTLE PRINCESS SPIRAEA	B & B	24" HEIGHT	
PERENNIALS AND GROUND COVERS					
KEY	QTY	BOTANICAL / COMMON NAME	ROOT	SIZE	COMMENT
HS1	30	HOSTA FORTUNEI 'GOLD STANDARD' / GOLD STANDARD HOSTA	POTTED	2 GALLON	
HS2	30	HOSTA x 'SUM AN SUBSTANCE' / SUM AND SUBSTANCE HOSTA	POTTED	2 GALLON	



TREE PLANTING DETAIL
NO SCALE



SHRUB PLANTING DETAIL
NO SCALE

BD & E GROUP
BUILDING DESIGN & ENGINEERING
28124 ORCHARDLAKE ROAD
(SUITE 102)
FARMINGTON HILLS, MI 48334
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EMAIL: bdandegroup@gmail.com

CLIENT INFORMATION

JEFF YONO

29372 GRAND RIVER AVENUE
FARMINGTON HILLS, MI.

PROJECT INFORMATION

CONVENIENCE STORE
FUELING STATION
HOT FOOD CARRY-OUT

29372 GRAND RIVER AVENUE
FARMINGTON HILLS, MI.

SHEET TITLE

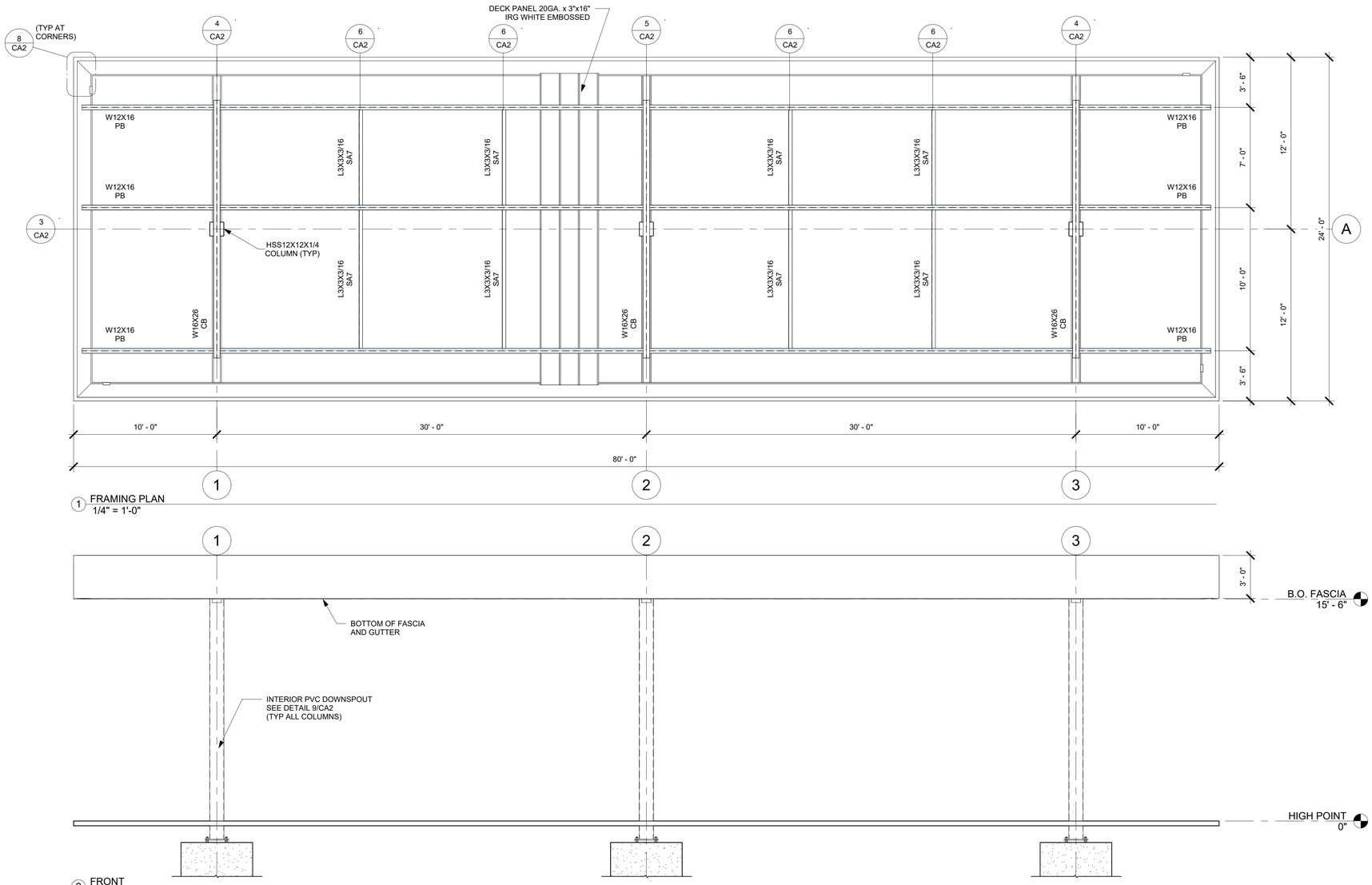
LANDSCAPE PLAN
PLANT SCHEDULE
PLANT DETAILS

SUBMITTALS

PROJECT #
972-24

SHEET NO.
LP100

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS



1 FRAMING PLAN
1/4" = 1'-0"

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

STEEL NOTES
1. DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST AISC SPECIFICATIONS. DESIGN, FABRICATION AND ERECTION OF COLD FORMED STEEL SECTIONS SHALL CONFORM TO THE LATEST AISI SPECIFICATIONS.
2. STRUCTURAL MATERIALS:
WIDE FLANGE SECTIONS - ASTM A992 OR A572 GRADE 50 (Fy = 50 KSI)
ANGLES / CHANNELS - ASTM A36 (Fy = 36 KSI)
HOLLOW STRUCTURAL SECTIONS (TUBE) - ASTM A500 GRADE B (Fy = 46 KSI)
PIPE SECTIONS - ASTM A53, GRADE B (Fy = 35 KSI)
PLATE - ASTM A36 (Fy = 36 KSI)
ROOF DECK - ASTM A653, GRADE 50 (Fy = 50 KSI), GALVANIZED (G60) WITH FULL COAT OF POLYESTER PAINT BAKED ON OVER AN EPOXY PRIMER.
STEEL OUTRIGGERS - ASTM A653 GR. CS (Fy = 25 KSI), GALVANIZED (G90) PER ASTM 924
STRUCTURAL BOLTS - ASTM F3125 GR A325
ANCHOR BOLTS - ASTM F1554 GR. 55 (Fy = 55 KSI)
3. WELDING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH LATEST ANSI / AWS D1.1
4. FIELD CONNECTIONS SHALL BE BOLTED CONNECTIONS UNLESS SPECIFIED ON DRAWING.
5. ALL STRUCTURAL BOLTED CONNECTIONS SHALL USE ASTM F3125 GR A325 BOLTS. BOLTED JOINTS SHALL BE TIGHTENED TO SNUG TIGHT PER LATEST RCSC SPECIFICATION.
6. STRUCTURAL STEEL SHALL BE SHOP COATED WITH A RED-OXIDE RUST INHIBITIVE PRIMER. FIELD TOUCH-UP, FINISH PAINTING, AND MAINTENANCE SHALL BE THE RESPONSIBILITY OF THE OWNER (UNLESS OTHERWISE SPECIFIED).
7. DESIGN LOADS PER ASCE7-16 AND 2018 IBC:

RISK CATEGORY II

ROOF LIVE LOAD = 20 PSF (ERECTION & MAINTENANCE ONLY – NO PUBLIC ACCESS

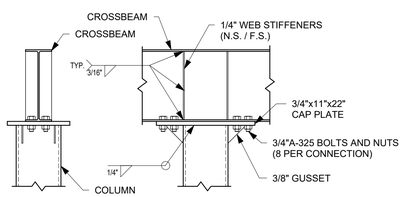
FLAT ROOF SNOW LOAD = 25 PSF
BASED ON GROUND SNOW LOAD= 25 PSF
Is = 1.0; Ct = 1.2; Ce = 1.0

WIND LOADS:
LATERAL = +/- 25 PSF (MWFRS)(USING 0.6 W FOR ASD)
UPLIFT = +/- 20 PSF (MWFRS)(USING 0.6 W FOR ASD)
BASED ON 120 MPH ULTIMATE WIND SPEED PER ASCE 7 EXPOSURE "B"
IMPORTANCE FACTOR = 1.0; OPEN STRUCTURE, NO INTERNAL PRESSURE

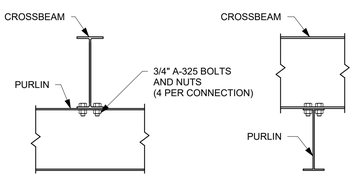
SEISMIC LOADS:
SEISMIC RISK CATEGORY II, SITE CLASS "D", SEISMIC DESIGN CATEGORY "B"
Sds = 0.10G (Ss = 0.10G, Fa = 1.6), Sd1 = 0.075G (S1 = 0.045G, Fv = 2.4)
SEISMIC FORCE RESISTING SYSTEM IS INVERTED PENDULUM CANTERLEVERED COLUMN, R =2.0
Cs = 0.055 DESIGN BASE SHEAR, Cs x W = 0.45K/COLUMN USING EQUIVILENT LATERAL FORCE PROCEDURE

DEAD LOADS:
DECK / GUTTER / LIGHTS - 5 PSF
FASCIA - 10 PLF
STRUCTURAL STEEL - SELF WT
CONCRETE - 145 PCF

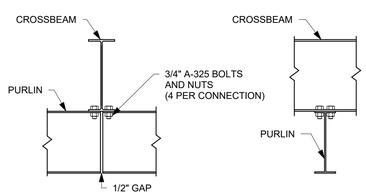
8. CANOPY USE GROUP "M" / CONSTRUCTION TYPE II-B



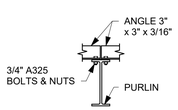
3 S10 - CB TO CL 8 BOLT W/ GUSSETS
3/4" = 1'-0"



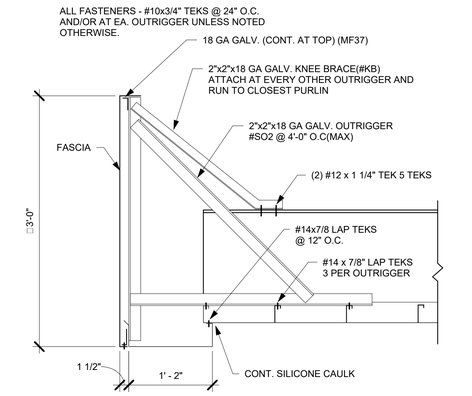
4 S20 CB TO PB
3/4" = 1'-0"



5 S24 CB TO PB
3/4" = 1'-0"

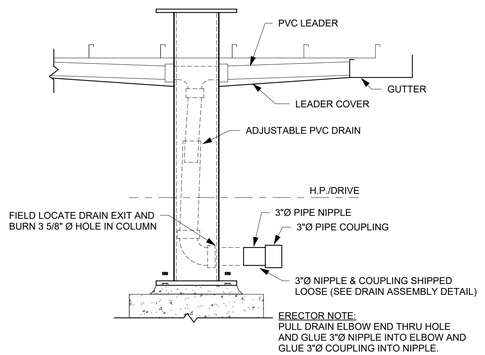


6 S30 ANGLE BRACE
3/4" = 1'-0"



7 TYP. 1 1/2 ACM FASCIA SECTION
1" = 1'-0"

8 G2 SECONDARY OVERFLOW DETAIL
3/4" = 1'-0"



9 G9 DRAIN DETAIL (BELOW GRADE)
3/4" = 1'-0"

V:\Designs\Jobs (FUEL)\460000\464000\464800 Farmington Hills, MI\464800 E_Drawings Rev_0.rvt

IMAGE RESOURCE GROUP

REV.	DATE	BY	DESCRIPTION

REVISION HISTORY

STATE OF MICHIGAN
DAVID E. SCHATTE
ENGINEER
No. 39513
LICENSED PROFESSIONAL ENGINEER
12/11/24
3DH464800

DAVID E. SCHATTE, PE
10609 99TH STREET
OVERLAND PARK, KS 66214
LICENSE # 39513

Fashion

1019 E. North Street
Ottawa, Kansas 66067
Phone: 785.242.8111

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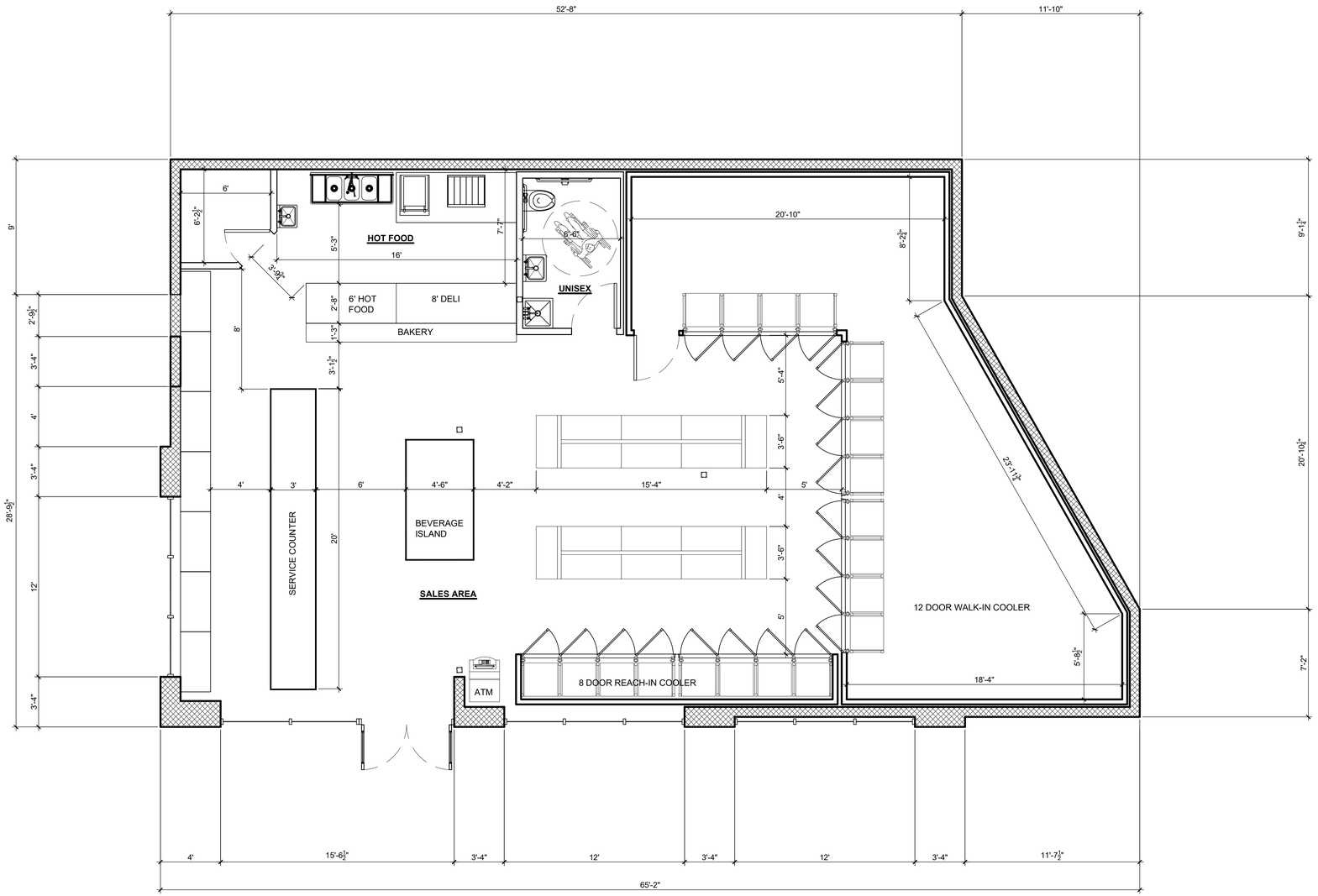
SITE:
UNBRANDED
FARMINGTON HILLS, MI
24' x 80' (3) COLUMN CANOPY

ISSUE DATE:	DRAWN BY:	CHECKED BY:
12/10/24	TJH	DES

JOB NUMBER: 464800

SHEET TITLE: FRAMING PLAN

SHEET NUMBER: CA2



FLOOR PLAN
SCALE: ¼" = 1'-0"

BD & E
GROUP
BUILDING DESIGN & ENGINEERING
28124 ORCHARDLAKE ROAD
(SUITE 102)
FARMINGTON HILLS, MI 48334
TEL: (248) 508-9255
EMAIL: bdandegroup@gmail.com

CLIENT INFORMATION

JEFF YONO

29372 GRAND RIVER AVENUE
FARMINGTON HILLS, MI.

PROJECT INFORMATION

CONVENIENCE STORE

FUELING STATION

HOT FOOD CARRY-OUT

29372 GRAND RIVER AVENUE
FARMINGTON HILLS, MI.

SHEET TITLE

PROPOSED FLOOR PLAN

SUBMITTALS

12-2-2024
SITE PLAN SUBMITTAL

2-12-2026
UPDATED FLOOR PLAN

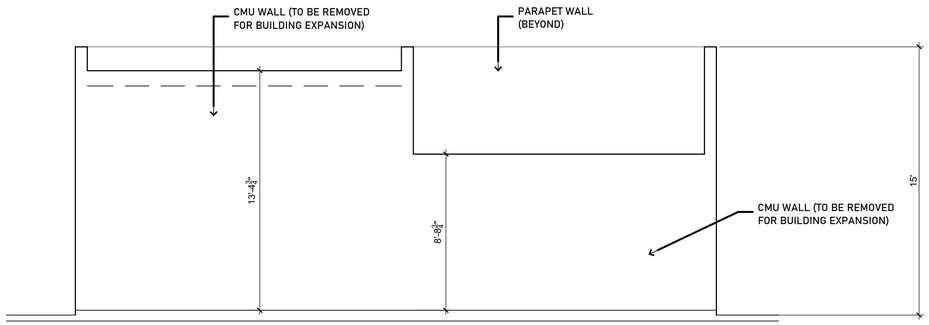
PROJECT #

972-24

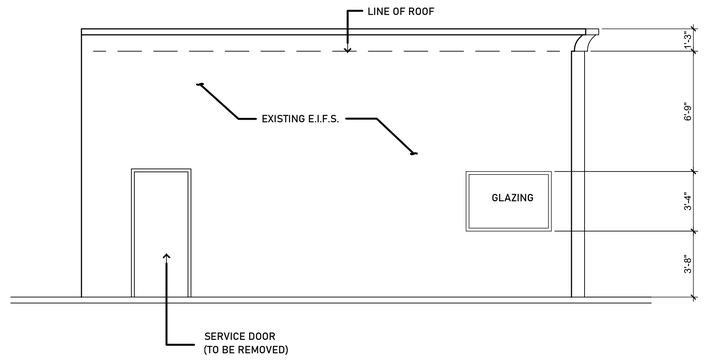
SHEET NO.

A100

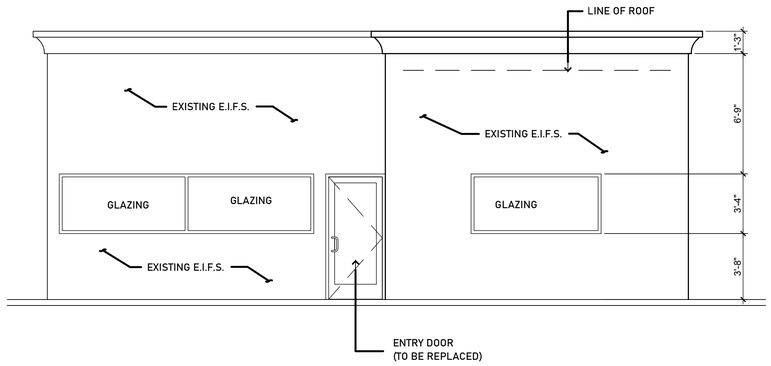
DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS



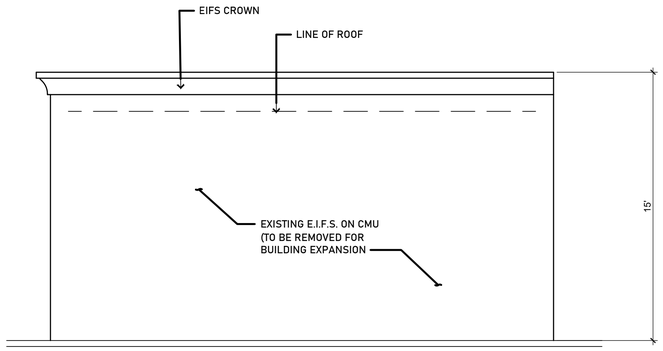
EXISTING - NORTH ELEVATION
SCALE: ¼" = 1'-0"



EXISTING - WEST ELEVATION
SCALE: ¼" = 1'-0"



EXISTING - SOUTH ELEVATION
SCALE: ¼" = 1'-0"



EXISTING - EAST ELEVATION
SCALE: ¼" = 1'-0"

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FARMINGTON HILLS, MI.

SHEET TITLE

EXISTING EXTERIOR

BUILDING ELEVATIONS

SUBMITTALS

12-2-2024
SITE PLAN SUBMITTAL

PROJECT #

972-24

SHEET NO.

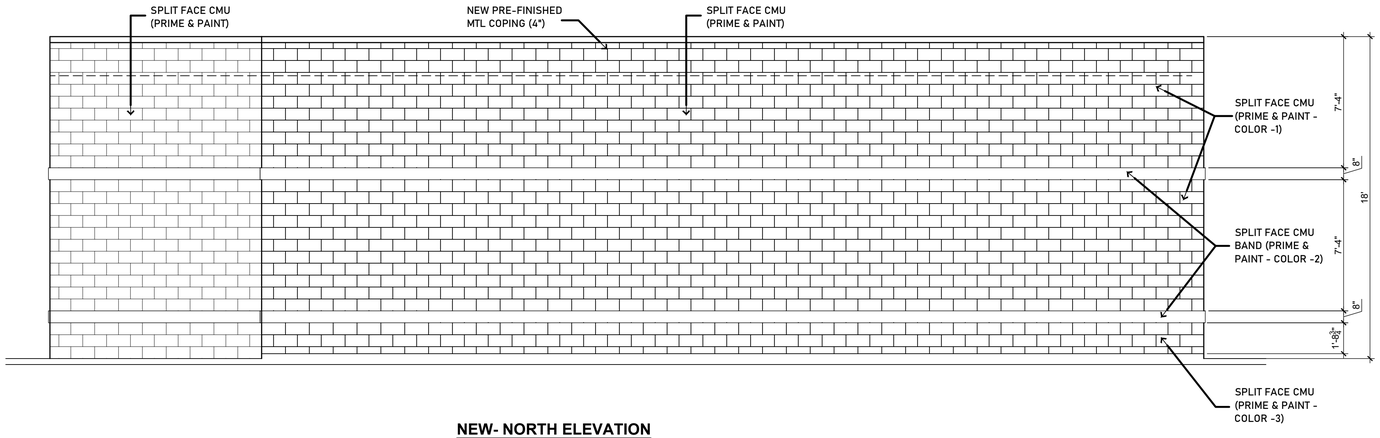
A200

DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS



NOTE:
ROOFTOP EQUIPMENT
SHALL BE SHIELDED WITH
ALUMINUM EQUIPMENT
SCREENS SECURELY
ATTACHED TO THE ROOF

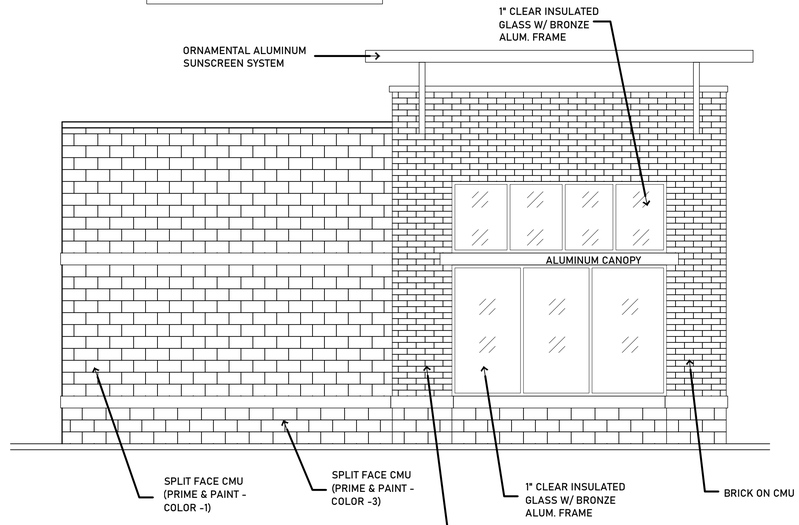
MECHANICAL EQUIPMENT SCREEN
SCALE: NONE



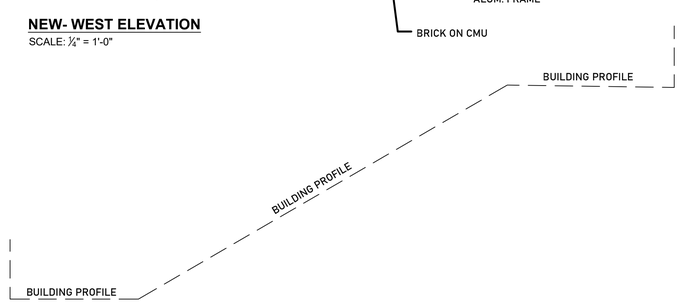
NEW- NORTH ELEVATION
SCALE: ¼" = 1'-0"

TOTAL SURFACE AREA
NEW WEST ELEVATION = 706 S.F.

TOTAL CLEAR GLAZING = 136 S.F.
19.3% OF NEW WEST ELEVATION



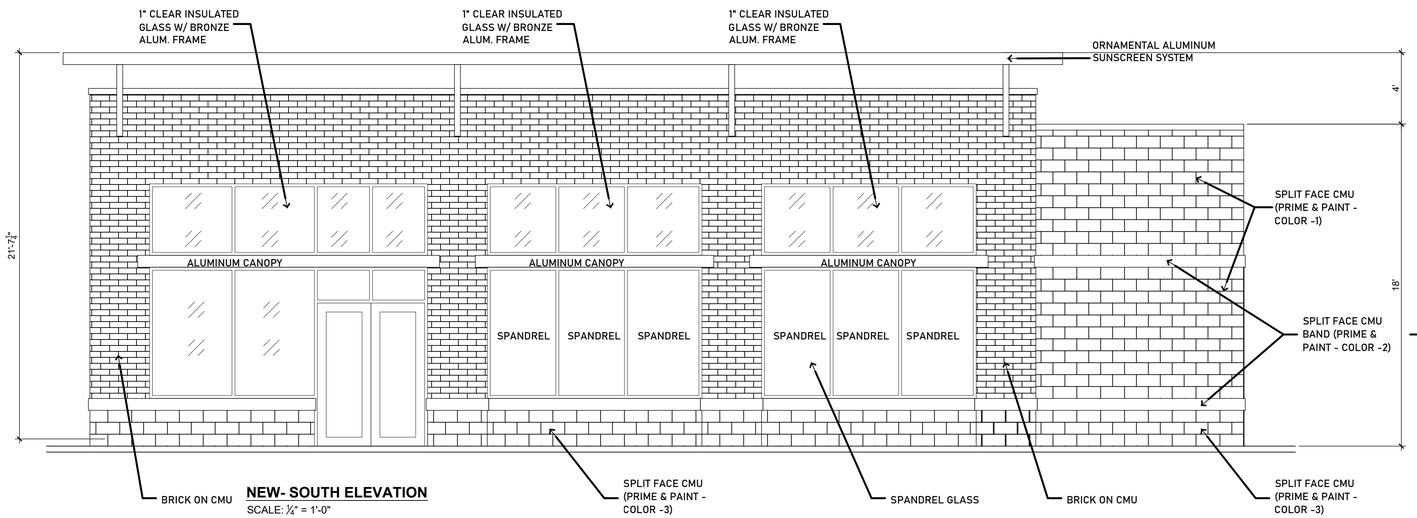
NEW- WEST ELEVATION
SCALE: ¼" = 1'-0"



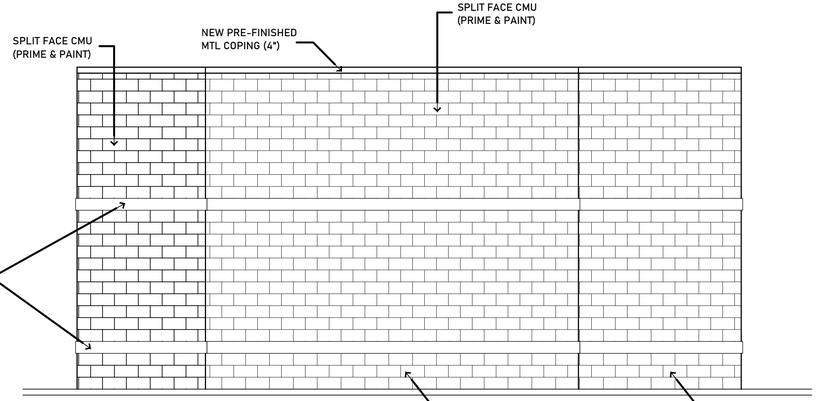
TOTAL SURFACE AREA
NEW SOUTH ELEVATION = 1260 S.F.

TOTAL CLEAR GLAZING = 249 S.F.
19.8% OF NEW SOUTH ELEVATION

TOTAL SPANDREL GLASS = 176 S.F.
7.2% OF NEW SOUTH ELEVATION



NEW- SOUTH ELEVATION
SCALE: ¼" = 1'-0"



NEW- EAST ELEVATION
SCALE: ¼" = 1'-0"

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FARMINGTON HILLS, MI.

SHEET TITLE

NEW EXTERIOR

BUILDING ELEVATIONS

SUBMITTALS

2-12-2026
UPDATED EXTERIOR ELEVATIONS

PROJECT #

972-24

SHEET NO.

A201

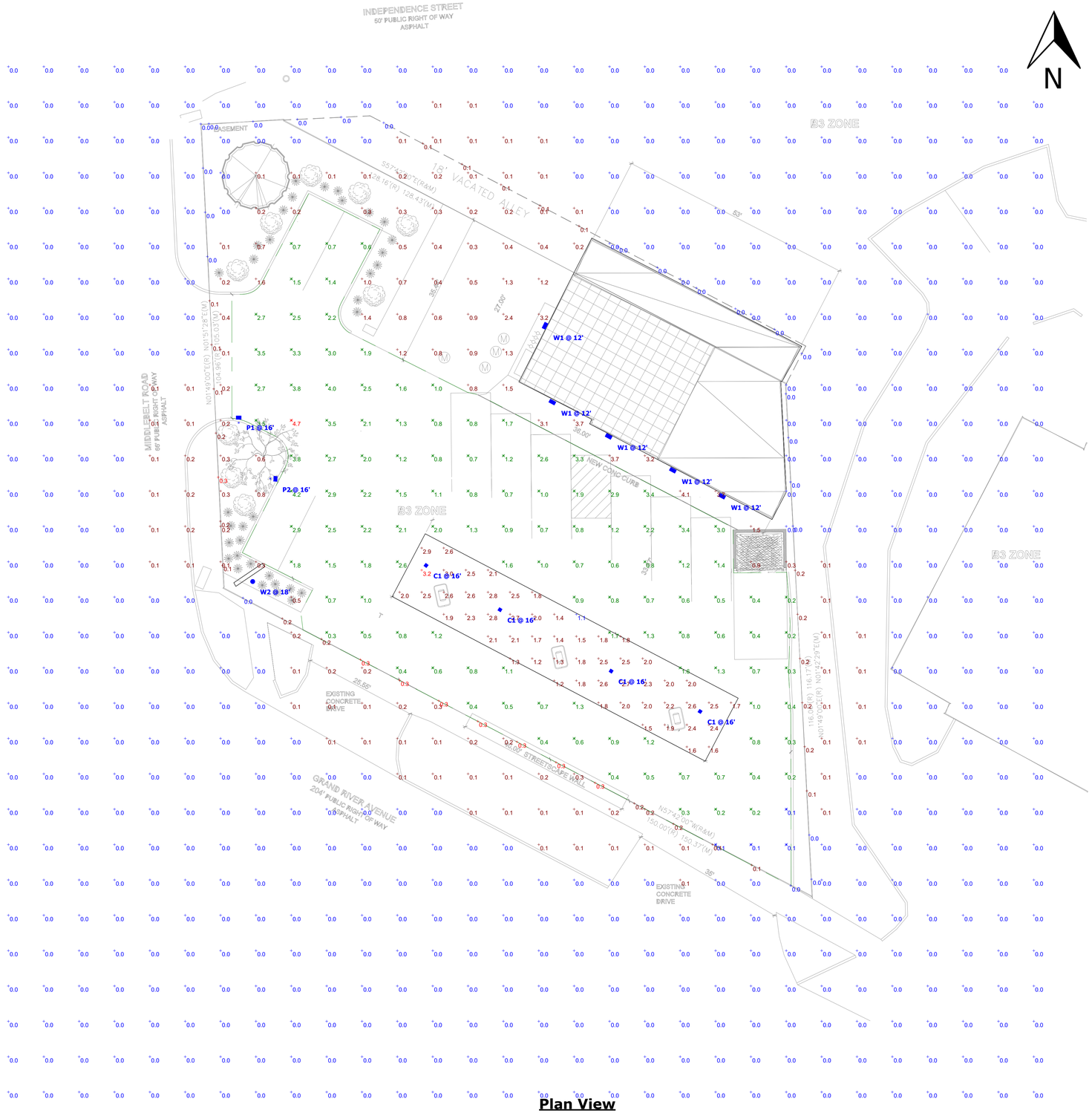
DO NOT SCALE DRAWINGS
USE FIGURED DIMENSIONS

Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Description	Lamp Output	LLF	Input Power	Mounting Height
	C1	4	Lithonia Lighting	RCNY LED SYMF ALO1 Setting 1 80CRI 40K MVOLT	Recessed Canopy Symmetric Lens Diffused Adjustable Lumen Output 2,000-10,000 Lumens 80CRI 4000K 120-277V	1765	0.9	14.132	16'-0"
	P1	1	Lithonia Lighting	DSX0 LED P2 40K 80CRI LCCO EGS	D-Series Size 0 Area Luminaire P2 Performance Package 4000K CCT 80 CRI Left Corner Cutoff Extreme Backlight Control External Glare Shield	4127	0.9	45.14	16'-0"
	P2	1	Lithonia Lighting	DSX0 LED P1 40K 80CRI T4LG	D-Series Size 0 Area Luminaire P1 Performance Package 4000K CCT 80 CRI Type 4 Low G Rating	4058	0.9	33.21	16'-0"
	P3	0	Lithonia Lighting	DSX0 LED P1 40K 80CRI BLC3 EGS	D-Series Size 0 Area Luminaire P1 Performance Package 4000K CCT 80 CRI Type 3 Extreme Backlight Control External Glare Shield	2963	0.9	33.21	16'-0"
	W1	5	Lithonia Lighting	WDGE1 LED P1 40K 80CRI VF	WDGE1 LED WITH P1 - PERFORMANCE PACKAGE, 4000K, 80CRI, VISUAL COMFORT FORWARD OPTIC	1227	0.9	10.0002	12'-0"
	W2	1	Spectrum Lighting	AR1214GV-15L-35K-EX-TF1-MWI	Angled Reflector 12" Nom. Diam Open Aperture x 14" H	1049	0.9	10	18'-0'

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Overall/Grade	+	0.3 fc	4.7 fc	0.0 fc	N/A	N/A
Parking & Drive Lanes	✳	1.4 fc	4.7 fc	0.1 fc	47.0:1	14.0:1
Property Line	+	0.1 fc	0.3 fc	0.0 fc	N/A	N/A
Under Canopy	+	2.1 fc	3.2 fc	1.1 fc	2.9:1	1.9:1



Plan View
Scale - 1" = 12ft

General Note
1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: GRADE

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIRMENTS DEFINED IN ASHRAE 90.1 2019. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT CONTROLS@GASSERBUSH.COM OR 734-266-6705.

Alternates Note
THE USE OF FIXTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

Ordering Note
FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

Drawing Note
THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

Mounting Height Note
MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

GRAND FUEL STATION IMPROVEMENTS
EXTERIOR PHOTOMETRIC PLAN
GASSER BUSH ASSOCIATES
WWW.GASSERBUSH.COM

Designer
BK
Date
07/31/2025
REV 02/17/2026
Scale
Not to Scale
Drawing No.
#25-46502 V2



WDGE1 LED
Architectural Wall Sconce

Catalog Number

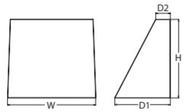
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 5.5"
Depth (D2): 1.5"
Height: 8"
Width: 9"
Weight: 9 lbs
(without options)



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

WDGE LED Family Overview

Luminaire	Standard EM, 0°C	Cold EM, -20°C	Sensor	Lumens (4000K)					
				P1	P2	P3	P4	P5	P6
WDGE1 LED	4W	--	--	1,200	2,000	--	--	--	--
WDGE2 LED	10W	18W	Standalone / nLight	1,200	2,000	3,000	4,500	6,000	--
WDGE3 LED	15W	18W	Standalone / nLight	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	--	--	Standalone / nLight	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE1 LED	P1 P2	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K[1] 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347[2]	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry/damp locations only)[3] **Shipped separately** AWS 3.0inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry) Use when there is no junction box available.

Options		Finish			
E4WH[1]	Emergency battery backup, Certified in CA Title 20 MAEDBS (4W, 0°C min)	DDBXD	Dark bronze	DDBTXD	Textured dark bronze
PE[2]	Photocell, Button Type	DBLXD	Black	DBLBXD	Textured black
DS	Dual switching (comes with 2 drivers and 2 light engines; see page 3 for details)	DNAXD	Natural aluminum	DNATXD	Textured natural aluminum
DMG	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)	DWHXD	White	DWHGXD	Textured white
BCE	Bottom conduit entry for back box (PBBW). Total of 4 entry points.	DSSTXD	Sandstone	DSSTXD	Textured sandstone
BAA	Buy America(n) Act Compliant				

Accessories
Ordered and shipped separately

WDGEAWS DDBXD — WDGE 3.0inch Architectural Wall Spacer (specify finish)
WDGEPBBW DDBXD U — WDGE1 surface-mounted back box (specify finish)

NOTES
1 50K not available in 90CRI.
2 347V not available with E4WH, DS or PE.
3 E4WH not available with PE or DS.
4 PE not available with DS.
5 Not qualified for DLC. Not available with E4WH.

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D-Series Size 0
LED Area Luminaire

Catalog Number

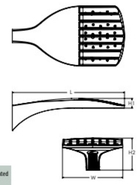
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 0.44 ft² (0.04 m²)
Length: 26.18" (66.5 cm)
Width: 14.06" (35.7 cm)
Height H1: 2.26" (5.7 cm)
Height H2: 7.46" (18.9 cm)
Weight: 23 lbs (10.4 kg)



Design Select options indicated by this color background.

Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect. *See ordering tree for details

Ordering Information

EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series	LEDs	Color temperature[1]	Color Rendering Index[1]	Distribution	Voltage	Mounting
DSX0 LED	**Forward optics** P1 P5 P2 P6 P3 P7 P4 **Rotated optics** P10[1] P12[1] P11[1] P13[1]	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 80CRI 80CRI 80CRI 80CRI 80CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare[2] T4M Type IV medium T4LG Type IV low glare[2] TFTM Forward throw medium T5M Type V medium T5LG Type V low glare T5W Type V wide BLC3 Type III backlight control[2] BLC4 Type IV backlight control[2] LCCO Left corner cutoff[2] RCCO Right corner cutoff[2]	MVOLT (120V-277V)[3] HVOLT (347V-480V)[3,4] XVOLT (277V-480V)[3,4] 120 [5,6] 208 [5,6] 240 [5,6] 277 [5,6] 347 [5,6] 480 [5,6]	**Shipped included** SPA Square pole mounting (Ø3 drilling, 3.5" min. SQ pole) RPA Round pole mounting (Ø3 drilling, 3" min. RND pole) SPA5 Square pole mounting (Ø5 drilling, 3" min. SQ pole)[7] RPA5 Round pole mounting (Ø5 drilling, 3" min. RND pole)[7] SPAWN Square narrow pole mounting (Ø3 drilling, 3" min. SQ pole) WBA Wall bracket [8] MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options		Other options		Finish (required)	
Shipped installed		**Shipped installed**		DDBXD Dark Bronze	DDBTXD Textured dark bronze
NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8–40' mounting height, ambient sensor enabled at 2fc.[9,10,11,12]		HS Houseside shield (black finish standard)[20]		DBLXD Black	DBLBXD Textured black
PIR High/low, motion/ambient sensor, 8–40' mounting height, ambient sensor enabled at 2fc.[9,10,11,12]		L90 Left rotated optics[1]		DNAXD Natural Aluminum	DNATXD Textured natural aluminum
PER NEMA twist-lock receptacle only (controls ordered separate)[16]		R90 Right rotated optics[1]		DWHXD White	DWHGXD Textured white
PERS Five-pin receptacle only (controls ordered separate)[17,18]		CCE Coastal Construction[21]			
PER7 Seven-pin receptacle only (controls ordered separate)[16,18]		HA 50°C ambient operation[22]			
FAO Field adjustable output[13,14]		BAA Buy America(n) Act Compliant			
BL30 Bi-level switched dimming, 30%[14,15]		SF Single fuse (120, 277, 347V)[20]			
BL50 Bi-level switched dimming, 50%[14,15]		DF Double fuse (208, 240, 480V)[20]			
DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17]		**Shipped separately**			
		EGSR External Glare Shield (reversible, field install required, matches housing finish)			
		BSDB Bird Spikes (field install required)			

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RCNY LED
Recessed LED Canopy/Ceiling Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

	RCNY LED
Width:	11.5"
Height:	5.9"
Length:	11.5"
Weight:	14lbs

Introduction

The RCNY LED recessed luminaire is designed to provide exceptional energy savings and versatility in one fixture. With a compact design the RCNY provides superior illumination while blending into the canopy space seamlessly. The RCNY is unique in that as a recessed canopy it can be installed in both 12" and 16" canopy decks. Features such as Adjustable Lumen Output Dial with 8 Settings and forward throw distribution (ASYC) option make the RCNY one of the most versatile gas station canopies in the market. Lumen dial and driver are both accessible from below. With up to 158 LPW the RCNY LED delivers up to 80% in energy savings when replacing metal halide luminaires. With over 100,000 hour life expectancy (12+ years of 24/7 continuous operation), the RCNY LED luminaire provides significant maintenance savings over traditional luminaires. Class 1 Division 2 also available. Wet location junction box available upon request.

Ordering Information

EXAMPLE: RCNY LED ALO2 50K 70CRI SYMC MVOLT BZS DWHXD

RCNY LED

Series	Package	Color Temperature	CRI	Lens
RCNY LED	ALO1 5,000-10,000 Lumens[1] ALO2 10,000-20,000 Lumens	30K 3000K 40K 4000K 50K 5000K 57K 5700K	70CRI 80CRI 90CRI[1]	SYMC Symmetric Clear Lens ASYC Asymmetric Clear Lens SYMF Symmetric Frost Lens

Voltage	Trim	Trim Finish	Option
MVOLT 120-277V HVOLT 347-480V	BZS 11.5" Square Bezel	DWHXD White DBLXD Black DDBXD Bronze DNAXD Natural Aluminum	CCE Costal Protection SPD10KV 10K Surge Protection DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)[2]

Accessories
Ordered and shipped separately

Catalog	Description	Use	Dimensions
FP12RM*	RCNY Backplate for 12" Decks	Covers Existing Hole if Larger than Fixture	15.5" x 24" x 18GA Galv Steel
FP16RM*	RCNY Backplate for 16" Decks	Covers Existing Hole if Larger than Fixture	15.5" x 24" x 18GA Galv Steel
BP18RM*	RCNY 18" Beautyplate	Covers Existing Footprint of Existing Fixture	18" x 18" x 16GA Aluminum
BP26RM*	RCNY 26" Beautyplate	Covers Existing Footprint of Existing Fixture	26" x 26" x 16GA Aluminum

* Add "U" to the end of the catalog number for individual unit pack or "36" for packs of 6 units

NOTES
1. 90CRI not available with 57K.
2. FAO not included with fixture, ALO2 will be set at 20,000 lumens and ALO1 at 10,000 Lumens.

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RLM CLASSICS

ANGLED REFLECTOR
DAMP / WET LOCATION
SIGN LIGHTS

PROJECT:
QUANTITY: TYPE:





SERIES	LUMENS[1]	CCT	DRIVER / DIMMING[2]	ACCESSORIES[3]	MOUNTING[4]	FINISH[5]	WET KIT
ARD8DBDV ARD12SDV AR12140V	15L 1600 Lm 27L 2700 Lm	80 CRI 27K 2700K 30K 3000K 35K 3500K 40K 4000K 90 CRI 27HK 2700K 30HK 3000K 35HK 3500K 40HK 4000K	EX Electronic Driver, 120V-277V DOV0K[6] 1%, 0-10V, 120V-277V DS2WY Eco Mid. 120V DLTEY Lutron® 2-Wire Forward Phase (MAL), 120V DL3EY 1%, Lutron® EcoSystem®, Factes to Black, 120V-277V	ENCLOSURES TFY[7] 3" Frosted Dome TDY 3" Dome Wire Guard MY1 3" Frosted Mini MDY 3" Short Wire Guard FJY 3" Frosted Tall FDY 3" Tall Wire Guard	WALL MOUNT CP1D4 Small Driver Canopy CP1D4KD Small Driver Canopy w/ Knockouts CP1D6 Large Driver Canopy CP1D-TRAY Remote Mount Driver SPSO_[8] Straight Arm PA_[8] Mounting Arm Style FAJ3 Mounting Arm Style CEILING MOUNT RDCS Small Driver Canopy CP1S Large Driver Canopy HM_[8] Hang Straight AT_[8] Hang Straight All Thread FM_[8] Rigid Pendant Mount EMDM Remote Driver Canopy EM EMEM 7W Remote EM EMEN 7W Remote with Enclosure	MW[9] Matte White MB Matte Black PT[9] Platinum Silver CC Custom Color	WLKA Wet Location Kit

QUICK SHIP
EXAMPLE: AR1012GVZ7L27KD010X/TF1/CP106PA23/MW

NOTES:
1 Nominal Source Lumens at 35K 2 Contact Factory for Additional Options 3 Available with CP106/RDCS/CP1S Only 4 Available with CP106/CP1S Only 5 Enclosure, Wire Guard Required - Choose One Option 6 Standard Enclosure 7 TDY Not Available With AR12K360V 8 See Mounting Page for Details on Components and Finishes 9 See Mounting Page for Available Arm Options 10 Specify Length in Inches. See Mounting Page for Available Lengths. 11 EMDE Replaces RDCS or CP1S 12 Reference Color Sheet Located on Product Webpage for Full List of Available Colors 13 Standard Finishes

Spectrum Lighting

ILLUMINATING WHAT'S POSSIBLE.

Dimensions and values shown are nominal. Spectrum Lighting continually works to improve products and reserves the right to make changes which may alter the performance or appearance of products.
ES-SGOO1_RG

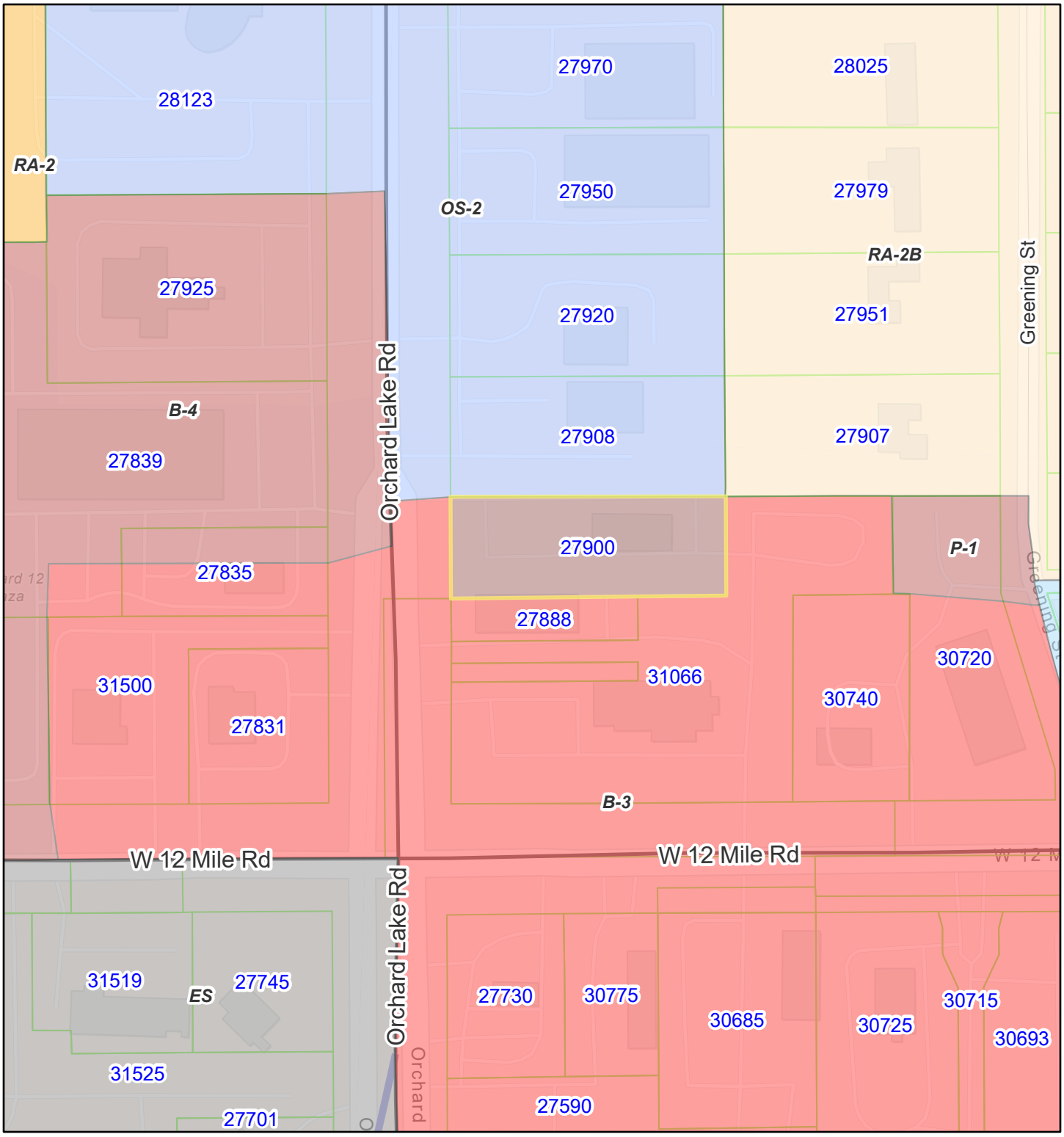
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GRAND FUEL STATION IMPROVEMENTS
EXTERIOR PHOTOMETRIC PLAN
GASSER BUSH ASSOCIATES
WWW.GASSERBUSH.COM

Designer
BK
Date
07/31/2025
REV 02/17/2026
Scale
Not to Scale
Drawing No.
#25-46502 V2

Current Zoning - 27900 Orchard Lake Rd



3/6/2026, 4:11:47 PM

1:2,453

0 0.01 0.03 0.06 mi

0 0.02 0.04 0.09 km

Zoning districts

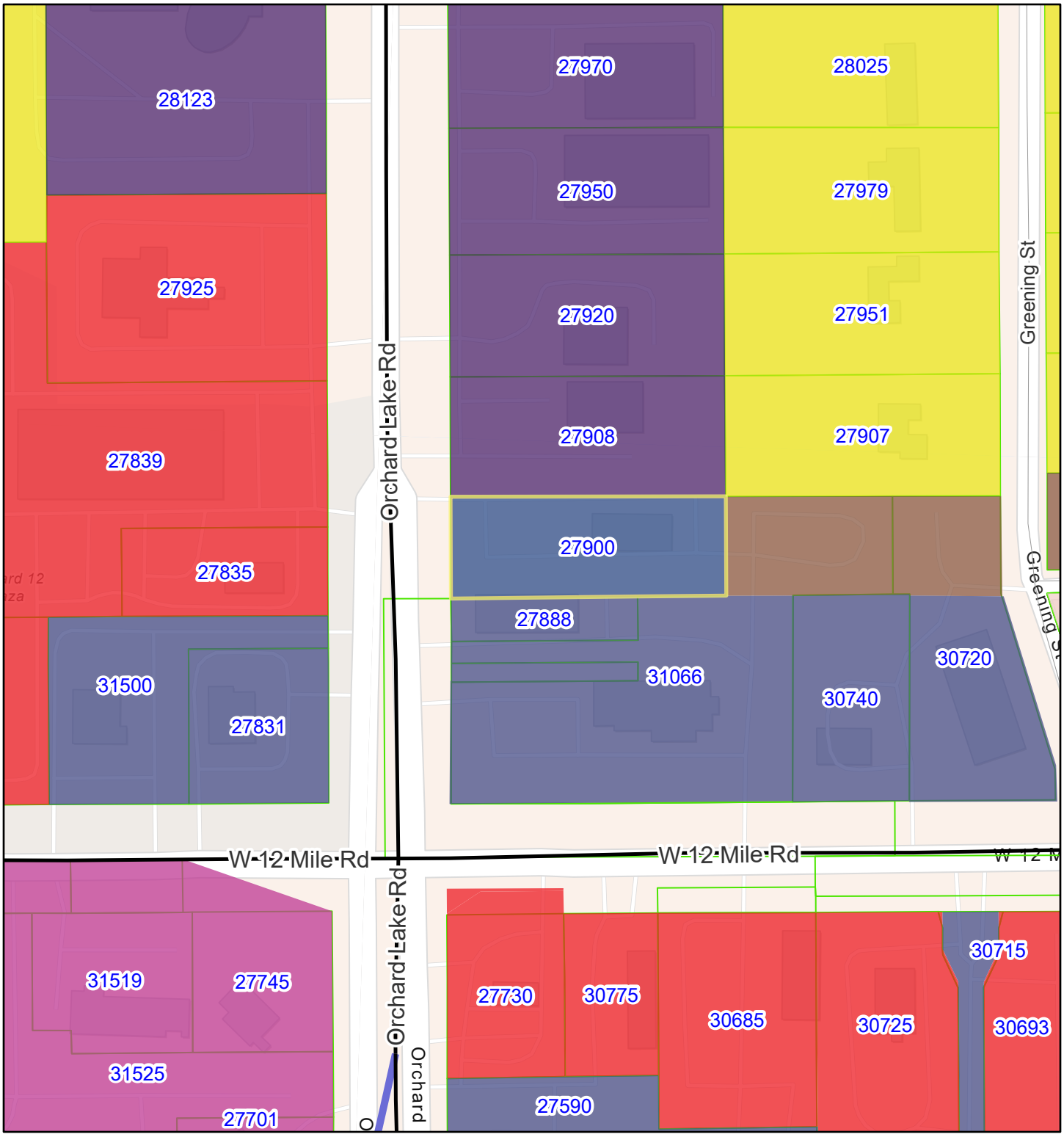
B-1	FRW-1	MH	RA-1	RA-4	SP-1
B-2	FRW-2	OS-1	RA-1A	RC-1	SP-2
B-3	FRW-3	OS-2	RA-1B	RC-2	SP-3
B-4	GR-1	OS-3	RA-2	RC-3	SP-5
ES	IRO	OS-4	RA-2B	RP-1	Other
	LI-1	P-1	RA-3	RP-2	Tax Parcels

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Farmington Hills, MI

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Future Land Use - 27900 Orchard Lake Rd



3/6/2026, 4:12:18 PM

1:2,453

0 0.01 0.03 0.06 mi

0 0.02 0.04 0.09 km

Master Plan (2024)

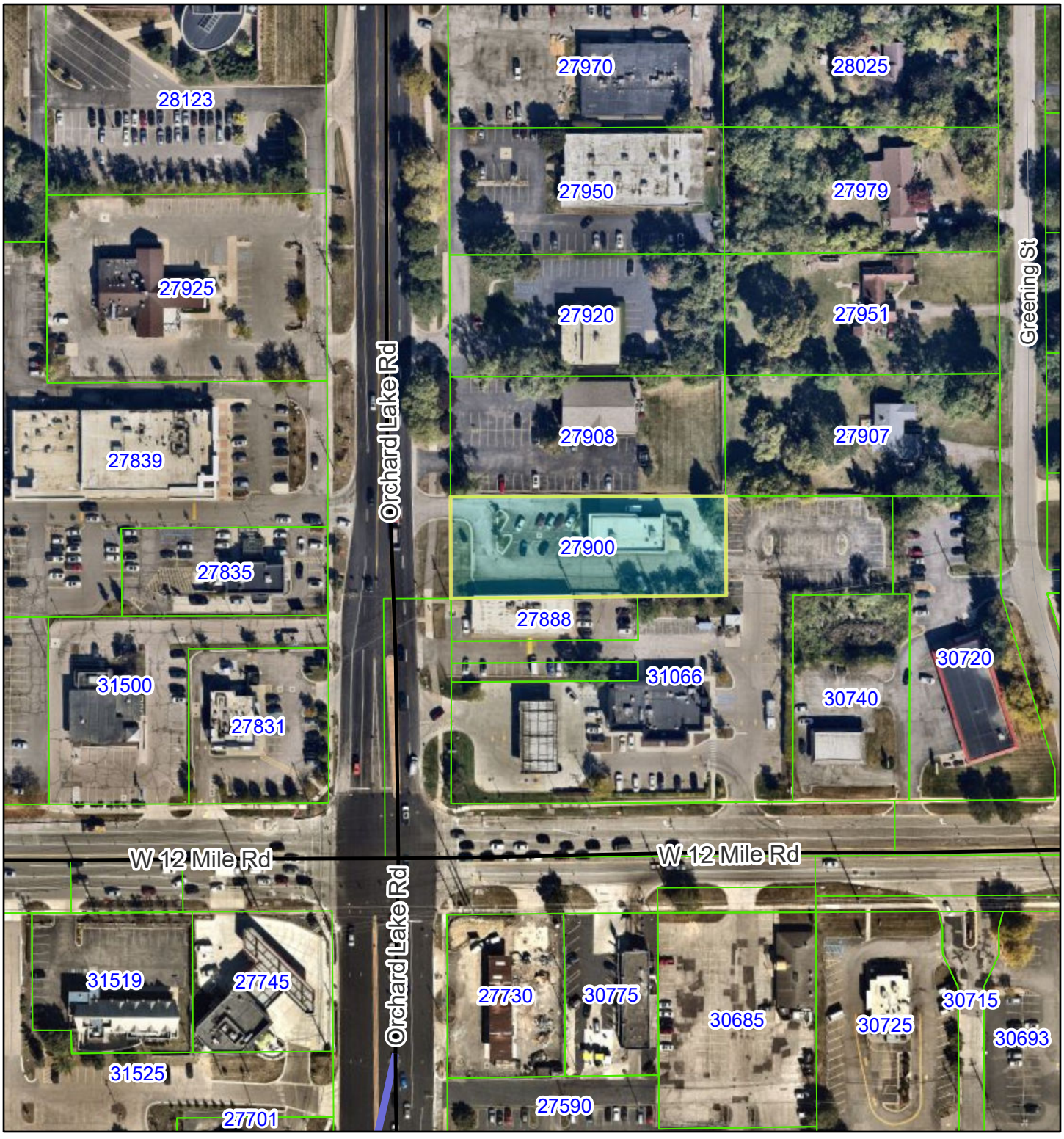
- 12 Mile Mixed Use
- 14 Mile Mixed Use
- 8 Mile Industrial
- Commercial
- Expressway Service
- Flex Overlay
- Flex Residential
- Flex Residential/Office
- Freeway Redevelopment
- Grand River Corridor
- Industrial
- Industrial-Research
- Institutional
- Large Office
- M-5
- Multi-Family Residential
- Orchard Lake Rd Corridor
- Park
- Private Recreation
- School
- Single-Family Cluster
- Single-Family Residential
- Small Office
- Tax Parcels

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Location Map - 27900 Orchard Lake Rd



3/6/2026, 4:11:09 PM

Tax Parcels

1:2,453

0 0.01 0.03 0.06 mi

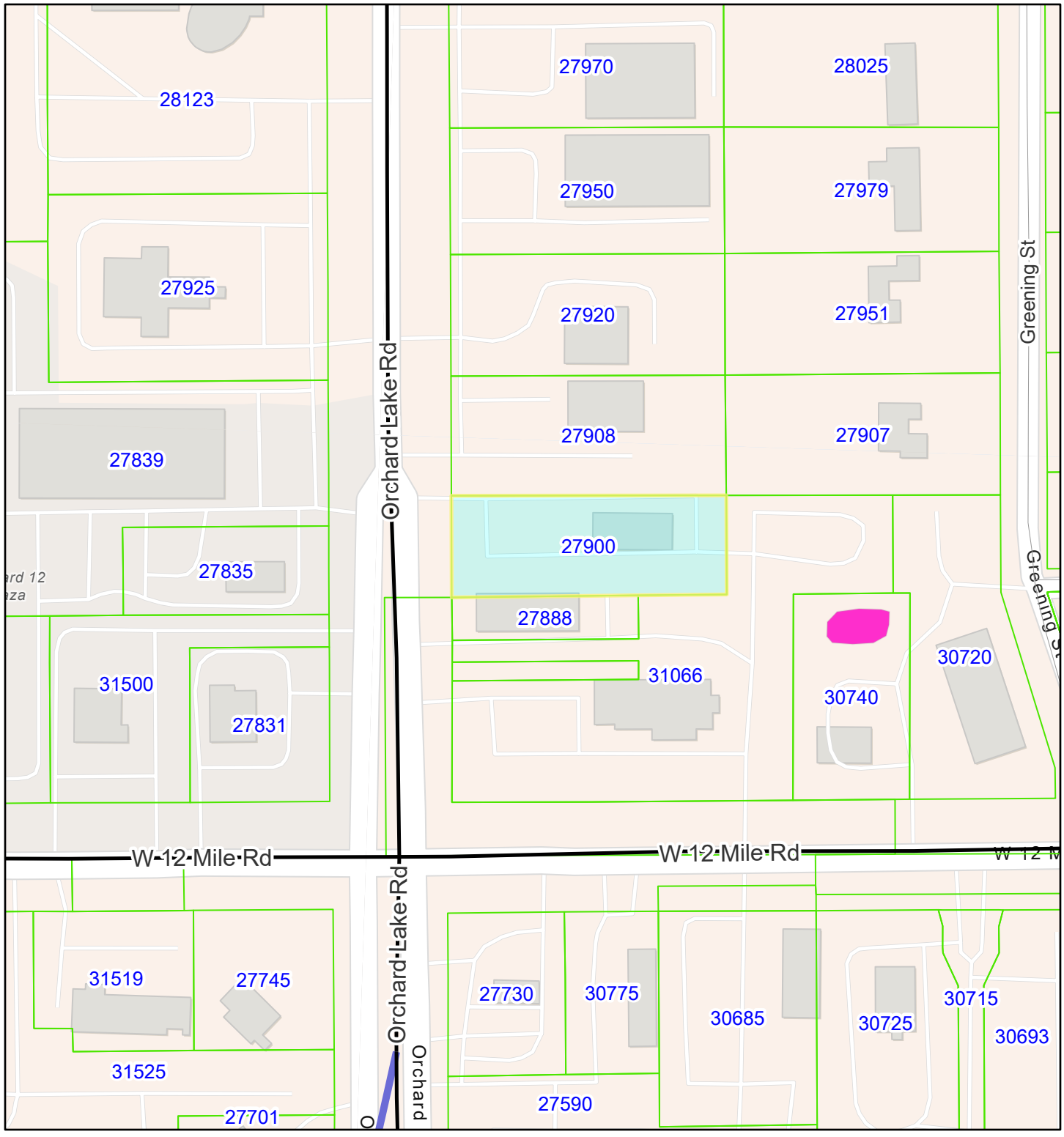
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Natural Features - 27900 Orchard Lake Rd



3/6/2026, 4:13:05 PM

1:2,453

0 0.01 0.03 0.06 mi

0 0.02 0.04 0.09 km

Drain open
- Stream-river
- Channel
- Spillway

Drain waterbody
- Detention pond
- Retention pond
- Lake-pond
- Swamp-marsh
- Channel
- Stream-river

Tax Parcels

Flood Hazard Area
- A
- AE
- 500 yr floodplain
- X

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Reviewer	Plan Date	Review Date
GW Review #1	10-10-2025	11-18-2025
CWA Review #2	1-22-2026	3-7-2026

Special Approval Review
for
The City of Farmington Hills

Case: SA 67-10-2025

Site: 27900 Orchard Lake Road (22-23-11-35-10-13)

Applicant: Brewtopia Michigan, LLC (John Iski)

Zoning: B-3 General Business

We have completed a review of the application for Special Approval Use site plan and a summary of our findings is below.



Benjamin R. Carlisle, *President* John L. Enos, *Vice President* Douglas J. Lewan, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal* Craig Strong, *Principal*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal*
Richard K. Carlisle, *Past President/Senior Principal*

PREVIOUS PLANNING COMMISSION ACTION

At their December 18, 2025, Regular Meeting, the Planning Commission denied a special approval site plan (SA 67-10-2025) to construct a new fast-food restaurant with drive-through within the B-3: General Business District. The denial was primarily based on the applicant needing to obtain a use variance from the Zoning Board of Appeals (ZBA). Drive-through restaurants are permitted in the B-3 District with a special use approval from the Planning Commission and are subject to use standards for drive-in restaurants (including drive-through windows) under Section 34-4.35. One of the use standard is that a drive-through restaurant must provide a minimum 1,100-square-foot area with indoor seating for at least twenty (20) people (Section 34-4.35.1.B). The applicant has designed the restaurant drive-through without indoor or outdoor seating provided and the City Attorney opined that the applicant needed to obtain a use variance from the Zoning Board of Appeals (ZBA) to permit a zoning lot to be occupied by a drive-in restaurant use without the minimum indoor seating required.

ZONING BOARD OF APPEALS

February 10, 2026, the Zoning Board of Appeals granted the use variance requested with the following conditions:

1. That the use variance is granted solely to permit occupancy of the property by a drive-through restaurant described in the application materials and is not a general authorization for any other drive-through use.
2. That the variance is subject to approval by the Planning Commission and all other applicable City departments with respect to site plan approval and compliance with all other applicable ordinances and requirements.
3. That the structure shall be placed in the location indicated in the plans and constructed consistent with the size and configuration set forth in those plans.

SUMMARY OF PROPOSAL

The applicant proposes to demolish an existing 2,769 SF commercial building (previously occupied by Arby's) and construct a new 510 SF coffee drive-through business, with an additional 335 SF building to house the cooler. The parking lot is proposed to be redesigned in a manner that accommodates two drive-thru lanes with bypass and six parking spaces.

EXISTING CONDITIONS

1. **Zoning.** The site is 0.72 acres and zoned B-3.
2. **Existing site.** The site is currently developed with an existing 2,769 SF commercial building previously occupied by Arby's.
3. **Adjacent properties.**

Direction	Zoning	Land Use
North	OS-2	Professional Office
South	B-3	Retail
East	B-4/B-3	Shopping Center
West	B-3	Parking Lot

4. **Site configuration and access.** The site has primary access from Orchard Lake Road. In addition, the site has access to the parking lot to the east, which is also connected to the Shell Gas Station.

SITE PLAN & USE:

1. **Use.** The applicant is proposing to use the site for a drive-through restaurant, a Special Approval Use in the B-3 District.

2. **Dimensional Standards (B-3 district).** See footnotes after the table for remarks on compliance issues

Item	Required	Proposed/Comments
Standards of Sec. 34-3.1.25.E		
Min. Lot Size	None Specified	0.74 Acres
Min. Lot Width	None Specified	108.28 Ft
Front Setback-West	25 ft	>60 ft[1]
Side Setback-North	10 ft	52 ft
Side Setback-South	10 ft	35.4 ft
Rear Setback-East	20 ft	154.9 ft
Building Height	50 feet	19 ft 8 in[2]
Front Yard Open Space	50%	>50%
Other Dimensional Standards		
Yard landscaping (34-3.5.2.A,)	For all uses except one-family detached residential units, landscaping of all yards abutting a street shall be provided.	See landscaping comments below
Minimum parking setback (34-3.5.2.J)	10 feet	Compliant
Loading space (34-3.5.2.N)	10 feet of loading space per front foot of building = 157 sq ft	See review of off-street loading below
Rooftop equipment (34-3.5.2.T.)	Rooftop equipment shall be screened in accordance with Section 34-5.17.	Compliant. A cooler condenser is proposed on the rooftop and sheet A7.1 notes “cooler condenser to be fully screened by parapet wall”.
Landscape area abutting street or freeway (34-3.5.2.U.)	A landscaped area not less than ten (10) feet deep	Compliant

[1] Front yard setback for B-3 is minimum of 25 ft. Correct all plan sheets which call out 60 ft front setback.
[2] Building height needs to be confirmed. Dimensions on Architectural Plans are expressed as feet when they appear to represent inches.

3. **Drive-In Restaurants (34-4.35)**

The following standards apply for drive-through facilities in the B-3 District:

- Any space for the stacking of vehicles shall be located no closer than thirty-five (35) feet from any residentially-zoned and/or - used property. Complies.
- A minimum 1,100-square-foot area with indoor seating for at least twenty (20) people shall be provided. There is no indoor seating provided. This standard is not met; however, the Zoning Board of Appeals (ZBA) approved a variance from this provision on 2/10/26.
- An outdoor space for seating accessory to the drive-in restaurant comprised of at least six (6) seats shall be provided. Section 34-4.32 shall not apply to such outdoor seating space. No outdoor seating is provided.

  The applicant is seeking a waiver from the Planning Commission and has provided the following justification:

  "The outdoor dining requirement is intended to support establishments where customers are expected to remain on site; however, this project is designed as a drive-thru–only use with no indoor public access. Requiring an outdoor seating requirement would create a regulatory hardship by forcing on-site dining where none is operationally intended. This hardship results from applying a standard tailored to sit-down or walkin restaurants to a fundamentally different type".

  Per Section 34-4.35.C, the Planning Commission may reduce the outdoor seating requirement, or waive it entirely, if it finds that there is insufficient area available to appropriately place the seating, or that its location would make it unlikely that it would be utilized or would make it difficult to be utilized, or if the unique circumstances of the use make providing the seating undesirable.

- Vehicular access drives shall be at least 60' from an intersection. Complies.

4. **Accessory Buildings and Structures (34-5.1).** The plans include detached cooler that is considered an accessory building. Accessory buildings shall be located at least 10 feet from the main building. This standard is met. The cooler placement has been moved from the previous location proposed and is now 10 feet from the rear of the main building.

5. **Dumpster (34-5.1.3.D)**

Item	Required	Proposed/Comments
Location	Rear yard or interior side yard and is clearly accessible to servicing vehicles.	Dumpster location has been moved from its previous location in the interior side yard to the rear yard. As currently proposed the dumpster is compliant and accessible from the existing cross access driveway along the east property boundary.
Screening	Permanent building wall or earth mound not less than 6 feet or 1 foot above the enclosed dumpster whichever is greater. Gates providing access shall also provide screening.	Compliant. Dumpster is gated and surrounded by a 6'9" wall

Setback	At least 20 feet from any residential property and far as practicable from adjoining residential district or use.	Compliant.

6. Minimum parking (34-5.2). The drive-through only use does not have usable floor area for the purposes of computing parking. Parking is needed for staff only.

Item	Required	Proposed/Comments
Drive-in Restaurants (34-5.2.10.C.xviii)	One space for each 30 SF of UFA 0 sf UFA = 0 spaces	6 spaces. Compliant
Barrier-Free Spaces (34-5.2.10)	1 van accessible	1 space. Compliant

7. Drive-Thru Requirements (34-5.2.12)

The plans propose two lanes of drive-thru stacking with a total of 21 stacking spaces (combined).

Item	Required	Proposed/Comments
Circulation	Separated from circulation lanes, ingress and egress	Compliant
Location	Stacking and waiting not permitted in front yard or in space necessary for access to parking spaces	Compliant
Setback	10’ from rear and side lot lines	Compliant
Landscape Buffer	Required for drive-thru lanes adjacent ROW	N/A
Bypass Lane	1 bypass lane required	Compliant
Pedestrian Areas	Clearly marked with pavement stripping or other means if pass through stacking or by-pass lanes	N/A
Minimum Width	9’ minimum lane width	Compliant
Stacking Length	20’ minimum length per vehicle	Compliant
Turning Radius	25’ minimum centerline turning radius	Compliant. Note that radius is less than 25-feet if dumpster screen doors are open
Stacking Requirement	10 vehicles, with 5 in advance of the ordering station	All stacking is in advance of the ordering station because the menu is at the window. Compliant.

8. Off-street parking dimensions (34-5.3.3.A & B.)

Item	Required	Proposed/Comments
Maneuvering lane width	15 ft for 60 degree parking	15 ft / Compliant
Parking space width	8 ft 6 inches	8 ft 6 in / Compliant
Parking space length	20 ft. for minimum required (May include a maximum two-foot unobstructed vehicle overhang area at the front of the parking space.) 17 ft. for additional parking (May include a maximum one-foot unobstructed vehicle overhang area at the front of the parking space)	20 ft / Complaint

9. Off-street loading. (34-5.4). Although noted to occur off hours, the area designated for loading/unloading shall be identified on the plans. The calculation is based on frontage, and with a frontage of only 15.7', this amounts to 157' of loading. The applicant shall demonstrate that the size of the loading space provided is sufficient to meet the needs of the business or provide a loading space of greater size (157 sf is smaller than a standard parking space). The loading space shall be provided in the rear yard or, with approval by the Planning Commission, in an interior side yard that is screened from view from any public street.

10. Signs (34-5.5). The elevation drawings indicate the location of proposed wall signs. Signs are not approved through the site plan review process and require a separate permit.

11. Acceleration-Deceleration-Passing Lanes (34-5.6.2.) Driveways providing ingress and egress to all three-lane paved major or secondary thoroughfares shall be provided with paved acceleration and deceleration lanes. If in the opinion of the director of public services no useful purpose would be served or if unusual difficulty would be encountered by reason of grade changes, intersections, bridges, or other land restrictions, the director may waive or modify the requirements of this section. We defer to engineering to address this issue.

12. Circulation. The applicant has proposed a loop around the site in a one-way direction. Two-way traffic is permitted to the parking area in the rear. A pedestrian crossing and sidewalk connection to Orchard Lake Road are proposed.

13. Landscape Development (34-5.14). The applicant has provided a tree survey with size, species, and conditions. The applicant proposes to remove eight (8) trees on site, none of which are regulated. We note that the applicant is adding a significant amount of pervious surface and new landscaping.

Item	Required			Proposed/Comments
Minimum parking lot island area	Minimum of 180 square feet; 3 feet minimum radius at the trunk of the tree			N/A
Cost estimate	Not Required			N/A
Minimum size and spacing requirements at planting (34-5.14.F)	Size	Center to Center Distance		
	Height/Width	Groupings	Rows	
-Evergreen Trees	8 ft height	20 ft	12 ft	N/A
-Narrow Evergreen Trees	5 ft height	10 ft	5 ft	Compliant
-Large Shrubs	30 in height	10 ft	5 ft	Compliant
-Small Shrubs	24 in height	4 ft	4 ft	Compliant
-Large Deciduous	3 in caliper	30 ft	-	Compliant
-Small Deciduous	2 in caliper	15 ft	-	N/A
-Hedge Shrubs	24 in height	3 ft	3 ft	Compliant
Canopy Trees	Required for drive-thru lanes adjacent ROW			N/A
Minimum number of parking lot trees (34-5.14.4.C)	1 per every 2,800 square feet of paved surface area 21,564 sf of paved area/ 2,800= 8 trees required			3 large deciduous trees were provided around the parking lot perimeter. The applicant has also counted 5 existing trees towards this requirement, but they are evergreen trees. The Planning Commission shall determine whether these trees may be used to satisfy this requirement where it would be in the best interest of the city and would not interfere with visual clearance. It should be noted that the existing trees are grouped in the rear of the parking area and not distributed throughout the paved area.
Parking lot screening from public thoroughfare	A planted hedge of small shrubs, or A masonry wall or berm of 2 feet high			Provided. The Planning Commission should consider if

(34-5.14.5)		there is sufficient screening south of the pedestrian pathway
Wall or Berm (34-5.15)	Required when abutting a residential district. (See 34-5.15)	None required. An existing wall is proposed to remain
Tree replacement (34-5.18)	All trees proposed for removal shall be replaced in accordance with this section	No trees proposed for removal

14. Lighting (34-5.16).

a. Operation hours (34-5.16.3.B.v.). The following notes must be added to or addressed on the plan; it is unclear from the existing plans whether these standards are met. The applicant should clarify how these standards are met.

I. Exterior lighting shall not operate during daylight hours.
II. Building façade and landscape lighting shall be turned off between midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
III. All other exterior lighting shall be reduced to no greater than 70% of maximum from midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier.
IV. Use of occupancy sensors to turn off or reduce lighting within 15 minutes of zero occupancy is recommended.

A note was added to the photometric plan that notes "lighting hours are from 4:30 a.m. to 11:00 p.m."

b. Illumination Levels. The following illumination levels shall act as standards for all exterior lighting.

Item	**Required**	**Proposed/Comments**
Maximum height (34-5.16.3.A.)	30 feet maximum	24 feet mounting height/ Compliant
Building Lighting (34-5.16.3.A. iii)	Specifications for all existing and proposed lighting, elevation drawings showing fixtures and portions of wall to be illuminated	Compliant
Average to minimum illumination ratio (34-5.16.3.C)	4:1	Average: 1:1. Compliant
Maximum illumination at the property line	0.3 fc	Compliant
Illumination Levels Hardscape areas (e.g., parking areas, sidewalks)	2.5 lumens per sq ft of hardscape area maximum	Compliant
illumination Levels Building Entrances – within 20 ft of door	2,000 lumens per door maximum	Compliant

15. **Design Standards (34-5.20).** The design standards apply to all walls facing a right-of-way, this includes the proposed accessory building.

    Building Materials. Building materials appear to be labeled, but a corresponding legend was not provided. Though materials were not indicated on the elevations, the primary material is brick, which is permitted. Architectural scaling requirements are met. Roof/parapet standards are met; this building will have a flat roof. Buildings facing a major thoroughfare are required to have 60% window coverage on the ground floor. This standard appears to have met but a calculation has not been provided.

16. **Pedestrian Connection (34-5.19).** A pedestrian connection to Orchard Lake Road was provided and an internal pedestrian walkway is provided from the building to the parking area.

17. **Special Use Standards (34-6.3).** Planning Commission shall consider the following standards in consideration of the application:
    a. Taking into consideration the size, location and character of the proposed land use, viewed within the context of surrounding land uses and land use planning for such area, the proposed use shall not be incompatible nor inharmonious, as determined by the application of generally accepted planning standards and/ or principles, with:
        i. The surrounding uses; and/or
        ii. The orderly development of the surrounding neighborhood and/or vicinity
    b. The proposed use shall be of a nature that will make vehicular and pedestrian traffic no more hazardous than is normal for the district involved, taking into consideration vehicular turning movements in relation to routes of traffic flow, proximity and relationship to intersections, adequacy of sight distances, location and access of off-street parking and provisions for pedestrian traffic, with particular attention to minimizing pedestrian-vehicle interfacing.
    c. The proposed use shall not unreasonably impact upon surrounding property in terms of noise, dust, fumes, smoke, air, water, odor, light and/or vibration, and shall not unreasonably impact upon a person perceiving the operation in terms of aesthetics. Where such concerns can be remedied by way of design, construction and/or use, the proposed use shall be designed, constructed and used so as to eliminate the effects of the use which would otherwise substantiate denial thereof, taking into consideration the location, size, intensity, layout and periods of operation of such use.
    d. The proposed use shall be such that the proposed location and height of buildings or structures and the proposed location, nature and height of walls, fences and landscaping will not interfere with or discourage the appropriate development and use of adjacent land and buildings or unreasonably affect their value.
    e. The proposed use shall relate harmoniously with the physical and economic aspects of adjacent land uses as regards prevailing shopping habits, convenience of access by prospective patrons, continuity of development, and need for particular services and facilities in specific areas of the City.
    f. The proposed use is so designed, located, planned and to be operated so that the public health, safety and welfare will be protected.
    g. The proposed use shall not cause substantial injury to the value of other property in the neighborhood in which it is to be located and will not be detrimental to existing and/or other permitted land uses in the zoning district. The proposed use shall not result in an

impairment, pollution and/or destruction of the air, water, natural resources and/or public trust therein.

h. The proposed use shall not unreasonably burden the capacity of public services and/or facilities.

i. The proposed use shall have appropriate physical, visual and spatial characteristics based upon compatible design and architectural elements that relate harmoniously to the design characteristics of area development.

SUMMARY

Planning Commission is asked to discuss the following:

1. Outdoor Seating Waiver: The Planning Commission should review the plan to determine if outdoor seating should be provided or if a waiver is granted.
2. Loading Space:
    a. Size and location on Site Plan: Location not indicated on size and confirm if size is sufficient.
    b. Waiver: Planning Commission may allow in interior side yard if screened from view from any public street. If located in side yard, it shall be screened accordingly.
3. Landscaping:
    a. Existing Landscaping: Planning Commission shall determine whether evergreen trees may be used to satisfy the required onsite tree requirements.
    b. Landscape Location: Planning Commission should determine if additional landscaping should be added south of the pedestrian sidewalk.
4. Special Use Standards. Planning Commission shall consider if the development is complaint with Special Use Standards set forth in Section 34-6.3.

If the Planning Commission does approve the Site Plan and Special Use, we recommend that the following items be conditions of approval:

1. Correct front setback on plan set
2. Confirm building height on plan set
3. Provide material details
4. Provide fenestration calculations

Based on the discussion with the applicant, these items may be reviewed and approved administratively.

Sincerely,

Benj R. Carl

CARLISLE/WORTMAN ASSOC., INC.
Benjamin R. Carlisle, AICP, LEED-AP
President

FARMINGTON HILLS Michigan

DEPARTMENT OF PUBLIC SERVICES
JACOB RUSHLOW P.E., DIRECTOR

INTEROFFICE CORRESPONDENCE

DATE: March 3, 2025

TO: Nora Brock, Secretary to the Director of Planning & Community Development

FROM: Mirandi Alexander, Civil Engineer II

SUBJECT: Seven Brew
Site Plan
SP #67-10-2025
22-23-11-351-013

This office has performed a secondary review of the above referenced site plan submitted to the Planning Department on February 19, 2025. Our preliminary comments from the November 4th letter are noted below. The first four items below have been addressed. The engineering division has no objection to the approval of the site plan, pending review of the traffic study. Any other items will be reviewed during the engineering plan review.

1. An 8" watermain currently runs directly through the site. It appears that the building is currently proposed right over the existing watermain. An easement for the watermain was not located, therefore a new easement will be required. **Addressed.**

2. A 15" public sanitary sewer exists along the South side of the property. It is available for service. The plans identify this line and the onsite sanitary sewer lead. If the existing sanitary sewer lead is being considered for re-use, it must be televised and any infiltration/inflow issues or deficiencies must be corrected. The video of this televising also needs to be provided to the City for review. **New sanitary lead proposed.**

3. A public sidewalk currently exists along the Orchard Lake frontage of this site. The plan needs to provide a new 5' wide sidewalk along the entire Orchard Lake frontage. It must be ADA compliant. **New sidewalk proposed.**

4. Attached are the original comments from our Environmental Engineer, Tyler Sonoga. The proponent needs to address these items. Any questions regarding these comments should be referred to Tyler at 248-871-2533. **Additional water quality unit details required in engineering review.**

5. **The engineering division has not received the updated traffic study for review.**

FIRE
FARMINGTON HILLS

INTEROFFICE CORRESPONDENCE

Date: March 2, 2026

To: Planning Commission

From: Jason Baloga, Fire Marshal

Subject: Revised SP 67-10-2025 (27900 Orchard Lake)

The Fire Department has no objection to approval contingent upon compliance with the following:

1. Chapter 12-11(1) Site Access; site must be designed to accommodate fire apparatus with a fifty-foot (50') turning radius.

2. Building shall be maintained in accordance with minimum Fire Prevention Code requirements.

Jason Baloga, Fire Marshal

JB/ss

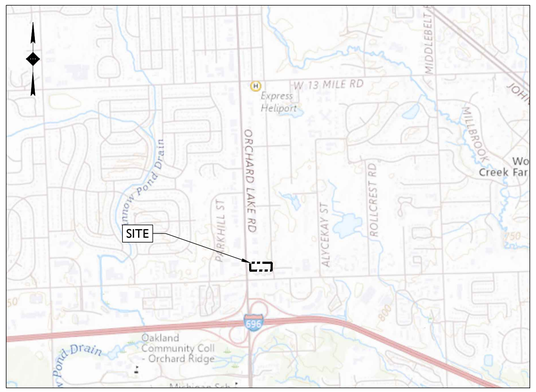
SITE DEVELOPMENT PLANS

FOR

SEVEN 7 BREW DRIVE THRU COFFEE

PROPOSED RESTAURANT WITH DRIVE THRU

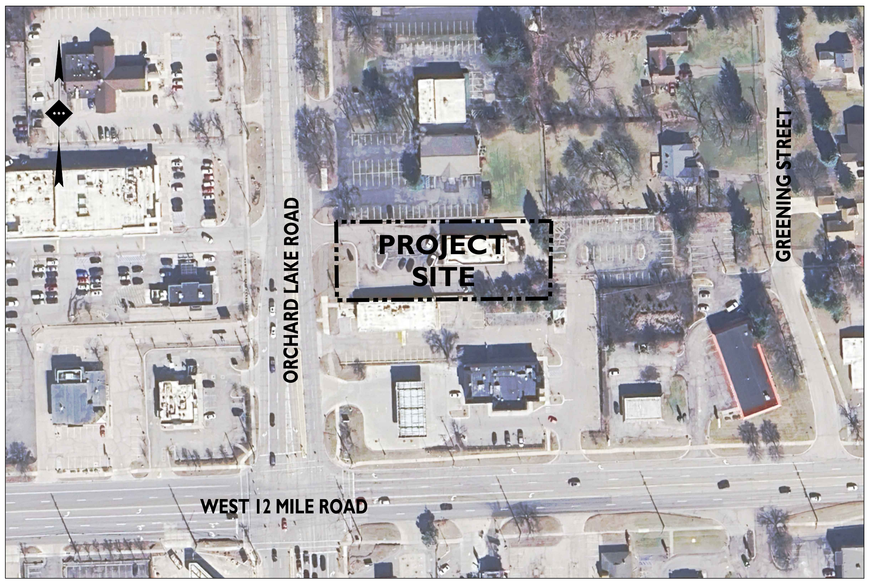
PARCEL ID: 23-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN 48334



SOURCE: USGS MAPPING SYSTEM

LOCATION MAP

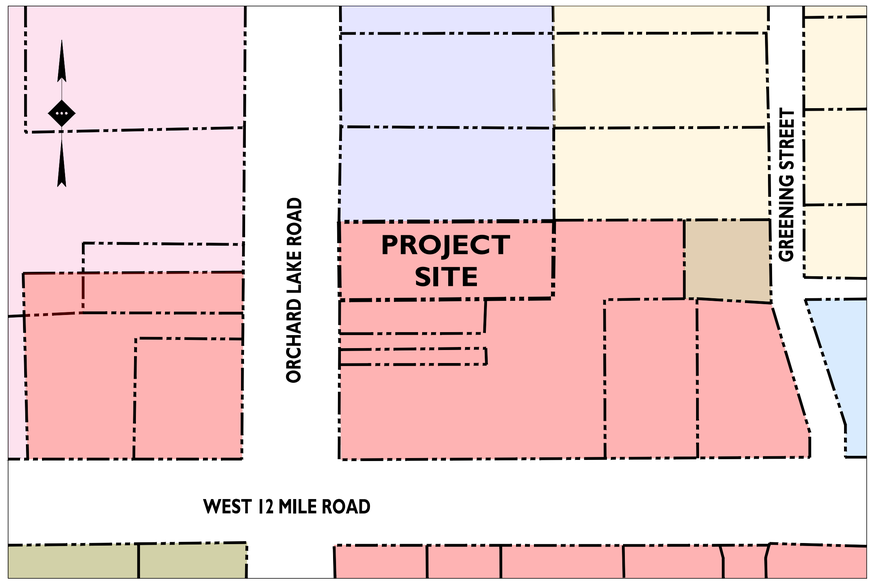
SCALE: 1" = 2,000'±



SOURCE: GOOGLE EARTH PRO

AERIAL MAP

SCALE: 1" = 100'±



SOURCE: CITY OF TAYLOR, WAYNE COUNTY, MICHIGAN OFFICIAL ZONING MAP

ZONING KEY

- B-3: GENERAL BUSINESS DISTRICT
- P-1: VEHICULAR PARKING DISTRICT
- B4: PLANNED GENERAL BUSINESS DISTRICT
- ES: EXPRESSWAY SERVICE DISTRICT
- RA-1: ONE FAMILY RESIDENTIAL DISTRICT
- OS-2: PLANNED OFFICE SERVICE DISTRICT
- OS-1: OFFICE SERVICE DISTRICT

ZONING MAP

SCALE: 1" = 100'±

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

PLAN REFERENCE MATERIALS:

1. THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO:
   - ALTA/NSPS LAND TITLE SURVEY PREPARED BY STONEFIELD ENGINEERING AND DESIGN DATED 10/27/2025
   - ARCHITECTURAL PLANS PREPARED BY KINETIC DESIGN DATED 10/10/2025
   - AERIAL MAP OBTAINED BY GOOGLE EARTH PRO
   - LOCATION MAP OBTAINED FROM USGS MAPPING SYSTEM
2. ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.

PLANS PREPARED BY:

STONEFIELD engineering & design

Birmingham, MI · New York, NY · Salem, MA
Princeton, NJ · Tampa, FL · Rutherford, NJ
www.stonefieldeng.com

555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

ADDITIONAL SHEETS

DRAWING TITLE	SHEET #
ALTA / NSPS LAND TITLE SURVEY	1 OF 1
CITY ASPHALT PAVING STANDARDS	1 OF 1
CITY CONCRETE PAVING STANDARDS	1 OF 1
CITY GENERAL STANDARDS	1 OF 1
COUNTY SOIL EROSION & SEDIMENT CONTROL DETAILS	1 OF 1
CITY STABILIZATION AND PAVEMENT STANDARDS	1 OF 1
CITY STORM SEWER STANDARDS	1 OF 1

SHEET INDEX

DRAWING TITLE	SHEET #
COVER SHEET	C-1
DEMOLITION & TREE REMOVAL PLAN	C-2
SITE PLAN	C-3
GRADING PLAN	C-4
STORMWATER MANAGEMENT PLAN	C-5
DRAINAGE AREA MAPS	C-6
UTILITY PLAN	C-7
SOIL EROSION SEDIMENT & CONTROL PLAN	C-8
LANDSCAPING PLAN	C-9
LANDSCAPING DETAILS	C-10
CONSTRUCTION DETAILS	C-11 TO C-12
FIRE TRUCK TURNING ANALYSIS	C-13

APPLICANT

BREWTOPIA MICHIGAN, LLC
JOHN ISKI
42500 W 11 MILE ROAD, SUITE C
NOVI, MICHIGAN 48375
440-821-5802
JOHN@ONLYBREWTOPIA.COM

OWNER

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27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS, MICHIGAN 48334

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ISSUE	DATE	BY	DESCRIPTION
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1	10/10/2025	JS/EM	FOR SITE PLAN SUBMISSION

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SITE DEVELOPMENT PLANS

SEVEN 7 BREW DRIVE THRU COFFEE

PROPOSED RESTAURANT WITH DRIVE THRU

PARCEL ID: 23-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334

STATE OF MICHIGAN · JONATHAN REID COOKSEY · ENGINEER · No. 6201060428 · PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250348

TITLE: COVER SHEET

DRAWING: C-1

V:\DET\2025\DET-250348 (SEVEN HOSPITALITY GROUP) - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\PLOT\DP24_COVER.DWG

TREE REPLACEMENT REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
§ 205-40.6.A.	REPLACEMENT OF TREES (6" D.B.H. OR GREATER) 1:1 REPLACEMENT REQUIRED 2 TREES TO BE REMOVED = 2 REPLACEMENT TREES	2 TREES[1]

(1) REFER TO THE LANDSCAPING PLAN FOR PROPOSED TREE LOCATIONS.

TREE INVENTORY & RECOMMENDATION SCHEDULE (*)

TREE #	SIZE (DBH)	BOTANICAL NAME	COMMON NAME	CONDITION	COMMENTS	REGULATED (1)	LANDMARK TREE	RECOMMENDATION
1791	4	PYRUS CALLERYANA	CALLERY PEAR	POOR	LEANING	N (S)	NO	TO BE REMOVED
1792	4	PYRUS CALLERYANA	CALLERY PEAR	FAIR	-	N (S)	NO	TO BE REMOVED
1793	5	PYRUS CALLERYANA	CALLERY PEAR	FAIR	-	N (S)	NO	TO BE REMOVED
1794	6	PYRUS CALLERYANA	CALLERY PEAR	FAIR	BARK DAMAGE	Y	NO	TO BE REMOVED
1795	6	PYRUS CALLERYANA	CALLERY PEAR	POOR	DEAD LIMBS, EXPOSED ROOTS, ONE-SIDED GROWTH	Y	NO	TO BE REMOVED
1796	5	PYRUS CALLERYANA	CALLERY PEAR	FAIR	-	N (S)	NO	TO BE REMOVED
1797	21	PINUS NIGRA	AUSTRIAN PINE	DEAD	-	N (C)	NO	TO BE REMOVED
1798	9, 14	PINUS NIGRA	AUSTRIAN PINE	DEAD	-	N (C)	NO	TO BE REMOVED
1799	9, 15	PINUS NIGRA	AUSTRIAN PINE	FAIR	-	Y	NO	TO REMAIN
1800	16	PINUS NIGRA	AUSTRIAN PINE	FAIR	-	Y	NO	TO REMAIN
1801	16	PINUS NIGRA	AUSTRIAN PINE	FAIR	-	Y	NO	TO REMAIN
1802	17	PINUS NIGRA	AUSTRIAN PINE	FAIR	-	Y	NO	TO REMAIN
1803	17	PINUS NIGRA	AUSTRIAN PINE	FAIR	-	Y	NO	TO REMAIN

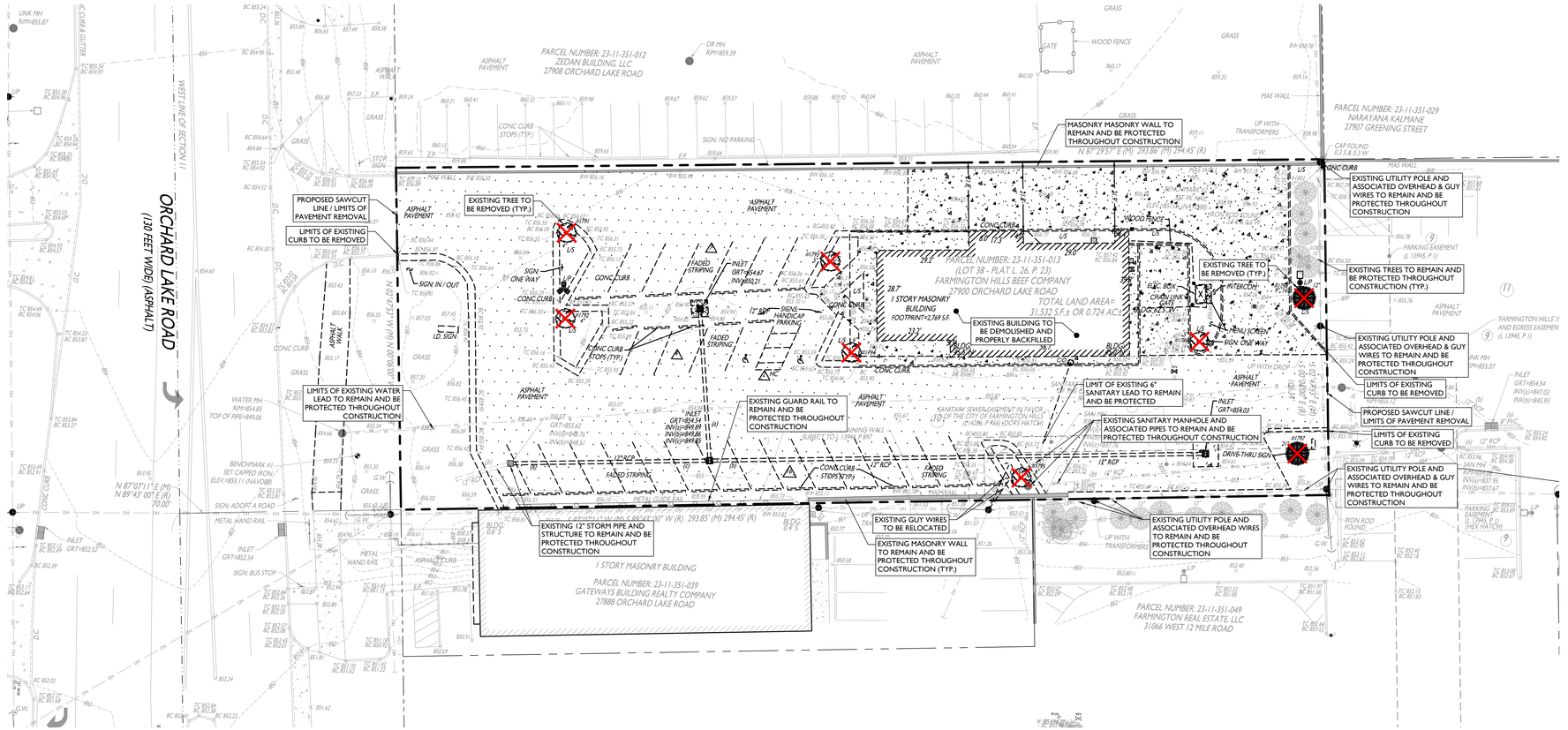
(*) TREE INVENTORY WAS COMPLETED BY NAGY DEVLIN LAND DESIGN, LLC ON 10/20/2025.
(1) N (C) - NON REGULATED (CONDITION - DEAD OR DYING)
N (S) - NON REGULATED (SIZE)
Y - REGULATED

ALL SITE FEATURES WITHIN THE PROPERTY LINES ARE TO BE REMOVED / DEMOLISHED UNLESS OTHERWISE NOTED. ALL SITE FEATURES OUTSIDE THE PROPERTY LINES ARE TO REMAIN AND BE PROTECTED THROUGHOUT THE CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF SIGNIFICANT DISCREPANCIES ARE DISCERNED BETWEEN THIS PLAN AND FIELD CONDITIONS

TOTAL EXISTING TREES ON SITE: 13 TREES
TOTAL REGULATED TREES ON SITE: 7 TREES
TOTAL NON-REGULATED TREES ON SITE: 6 TREES

TOTAL TREES TO BE REMOVED: 8 TREES
TOTAL REGULATED TREES TO BE REMOVED: 2 TREES
TOTAL NON-REGULATED TREES TO BE REMOVED: 6 TREES

SYMBOL	DESCRIPTION
	FEATURE TO BE REMOVED / DEMOLISHED
	PROPERTY LINE
	PROPOSED SAWCUT LINE
	ASPHALT REMOVAL
	CONCRETE REMOVAL
	EXISTING TREE TO REMAIN
	EXISTING TREE TO BE REMOVED


ORCHARD LAKE ROAD
(130 FEET WIDE) (ASPHALT)
PARCEL NUMBER: 23-11-351-012
ZEDAN BUILDING, LLC
27908 ORCHARD LAKE ROAD
PARCEL NUMBER: 23-11-351-013
(LOT 38 - PLAT L. 26, P. 23)
FARMINGTON HILLS BEEF COMPANY
27900 ORCHARD LAKE ROAD
TOTAL LAND AREA= 31,532 S.F.± OR 0.724 AC.
1 STORY MASONRY BUILDING FOOTPRINT=2,769 S.F.
PARCEL NUMBER: 23-11-351-039
GATEWAYS BUILDING REALTY COMPANY
27888 ORCHARD LAKE ROAD
PARCEL NUMBER: 23-11-351-029
NARAYANA KALMANE
27907 GREENING STREET
PARCEL NUMBER: 23-11-351-049
FARMINGTON REAL ESTATE, LLC
31066 WEST 12 MILE ROAD
PROPOSED SAWCUT LINE / LIMITS OF PAVEMENT REMOVAL
LIMITS OF EXISTING CURB TO BE REMOVED
EXISTING TREE TO BE REMOVED (TYP.)
LIMITS OF EXISTING WATER LEAD TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION
EXISTING GUARD RAIL TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION
EXISTING BUILDING TO BE DEMOLISHED AND PROPERLY BACKFILLED
LIMIT OF EXISTING 6" SANITARY LEAD TO REMAIN AND BE PROTECTED
EXISTING SANITARY MANHOLE AND ASSOCIATED PIPES TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION
EXISTING 12" STORM PIPE AND STRUCTURE TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION
EXISTING GUY WIRES TO BE RELOCATED
EXISTING MASONRY WALL TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION (TYP.)
MASONRY MASONRY WALL TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION
EXISTING UTILITY POLE AND ASSOCIATED OVERHEAD & GUY WIRES TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION
EXISTING TREES TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION (TYP.)
EXISTING UTILITY POLE AND ASSOCIATED OVERHEAD & GUY WIRES TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION
EXISTING UTILITY POLE AND ASSOCIATED OVERHEAD WIRES TO REMAIN AND BE PROTECTED THROUGHOUT CONSTRUCTION
WOOD FENCE
CHAIN LINK FENCE
CONC CURB
ASPHALT PAVEMENT
GRASS
SIGN: ONE WAY
SIGN: IN / OUT
SIGN: ADOPT A ROAD
SIGN: BUS STOP
SIGN: NO PARKING
SIGN: HANDICAP PARKING
SIGN: DRIVE-THRU ONLY
SIGN: ONE WAY
FADED STRIPING
CONC CURB STOPS (TYP.)
I.D. SIGN
BENCHMARK #1
SET CAPPED IRON
ELEV.=855.11 (NAVD88)
N 87°07'11" E (M)
N 89°43' 00" E (R)
70.00'
N 00°00'00" W (M) N 00°43'51" W (R)
293.85' (M) 294.45' (R)
S 87°29'57" E (M) 293.86' (M) 294.45' (R)
I 1 STORY MASONRY BUILDING
28.7
22.3'
12" RCP
15" RCP
6" PVC
INLET GRT=854.54 INV(S)=849.69 INV(N)=849.86 INV(E)=849.85
INLET GRT=855.62 INV(S)=850.76 INV(N)=850.93
INLET GRT=852.54
INLET GRT=853.22
INLET GRT=854.54 INV(S)=847.03 INV(S)=845.93
INLET GRT=859.03
DIR MH RIM=859.39
WATER MH RIM=854.85 TOP OF PIPE=849.86
SANITARY SEWER EASEMENT IN FAVOR OF THE CITY OF FARMINGTON HILLS (1,428L P 966) (DOTS HATCH)
FARMINGTON HILLS II AND EGRESS EASEMEN (L 13945, P 1)
PARKING EASEMENT (L 29145, P 1)
(HEX HATCH)
CAP FOUND 0.3 S & 0.3 W
IRON ROD FOUND
MAS WALL
UP WITH TRANSFORMERS
G.W.
U/S
E/P
BW 858.78
BW 858.98
BW 859.14
BW 859.33
TC 852.40 BC 851.18
TC 851.97 BC 851.58
TC 852.23 BC 851.83
TC 852.48 BC 851.74
TC 852.54 BC 851.80
TC 852.64 BC 851.90
TC 852.74 BC 852.00
TC 852.84 BC 852.10
TC 852.94 BC 852.20
TC 853.04 BC 852.30
TC 853.14 BC 852.40
TC 853.24 BC 852.50
TC 853.34 BC 852.60
TC 853.44 BC 852.70
TC

LAND USE AND ZONING

PID: 2311351013		
GENERAL BUSINESS DISTRICT (B-3)		
PROPOSED USE		
FAST FOOD RESTAURANT	PERMITTED USE	
ZONING REQUIREMENT	**REQUIRED**	**PROPOSED**
MINIMUM LOT AREA	N/A	31,533 SF (0.72 AC)
MINIMUM LOT WIDTH	N/A	108.3 FT
MAXIMUM BUILDING HEIGHT	50 FT (3 STORIES)	19.7 FT
MINIMUM FRONT YARD SETBACK	60 FT	60.0 FT
MINIMUM SIDE YARD SETBACK	10 FT	35.4 FT
MINIMUM REAR YARD SETBACK	20 FT	154.9 FT
MINIMUM FRONT YARD OPEN SPACE	50% (3,244 SF)	50% (3,264 SF)
MINIMUM RESIDENTIAL SETBACK	29.4 FT (1)	164.0 FT
MINIMUM FRONT YARD PARKING SETBACK	10 FT	115.1 FT
MINIMUM R.O.W. LANDSCAPE BUFFER	10 FT	39.0 FT
MINIMUM DRIVE-THRU LANE SETBACK	10 FT	10.0 FT

(1) § 34-3.5.2.L: THE SETBACK FROM ANY RESIDENTIAL DISTRICT SHALL BE 10% OF THE DEPTH OF THE LOT: (293.9 FT)(0.10) = 29.39 FT

OFF-STREET PARKING REQUIREMENTS

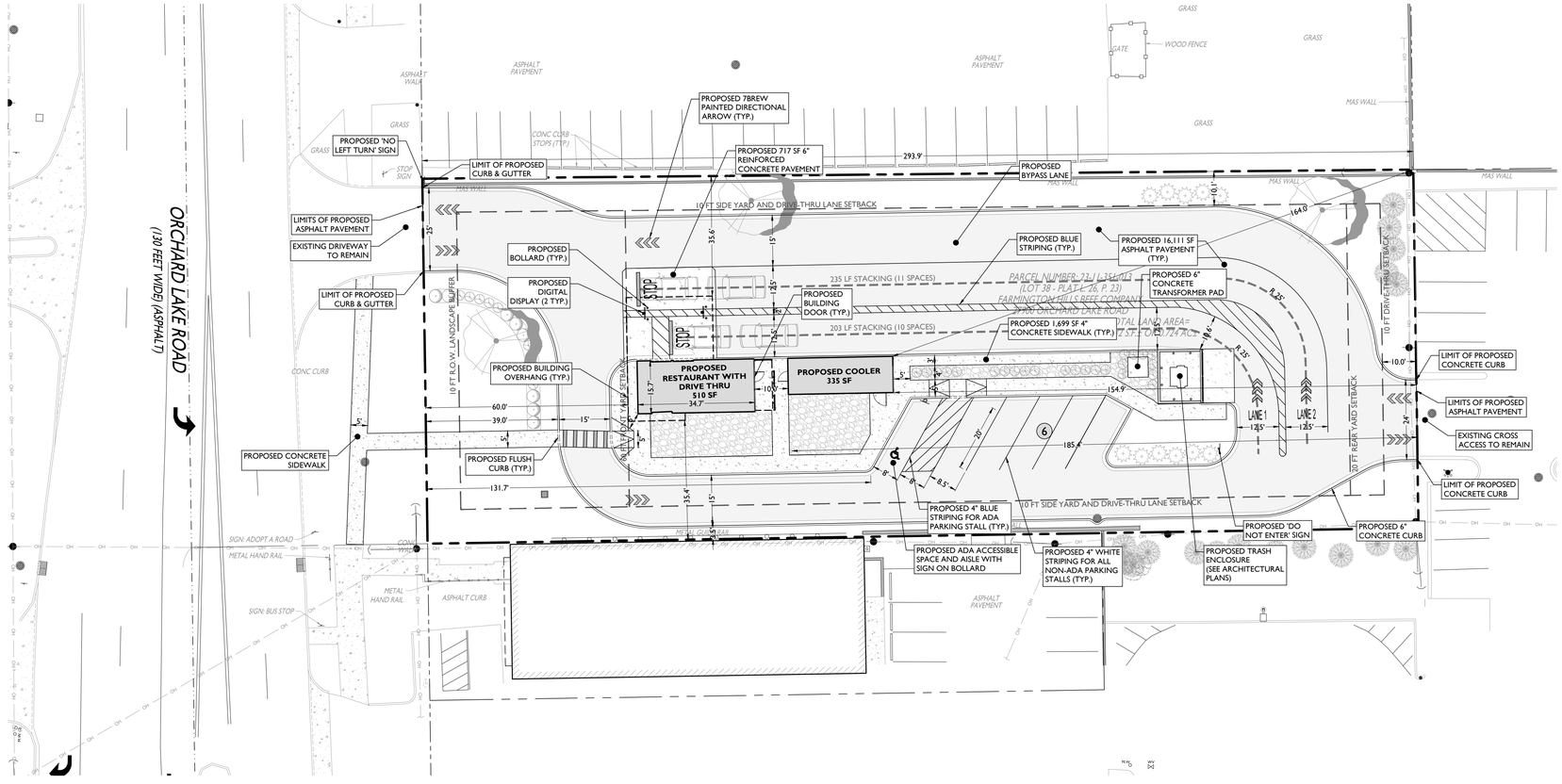
CODE SECTION	REQUIRED	PROPOSED
§ 34-5.2.11.C.xviii	1 SPACE PER 30 SF OF UFA (0 SF)(1 SPACE/30 SF) = 0 SPACES	6 SPACES
§ 34-5.3.3.A	60° PARKING: 8.5 FT X 20 FT W/ 15 FT DRIVE AISLE	8.5 FT X 20 FT W/ 15 FT DRIVE AISLE
§ 34-5.2.12.L	STACKING: 9 FT X 20 FT 10 SPACES(1)	21 SPACES 12.5 FT X 20 FT
§ 34-5.4.2	LOADING: 10 SF PER FRONT FOOT OF BLDG(2) (15.7 FT)(10 SF/1 FT OF BLDG) = 157 SF	TO OCCUR OFF HOURS

(1) § 34-5.2.12.L: AT LEAST 5 SPACES MUST BE IN ADVANCE OF THE ORDERING STATION; DRIVE THRU LANE MUST BE MIN. 9 FT WIDE; BYPASS LANE REQUIRED

(2) § 34-5.4.2: LOADING SHALL BE PROVIDED IN REAR YARD

SYMBOL / DESCRIPTION

- PROPERTY LINE
- SETBACK LINE
- PROPOSED CURB & GUTTER
- PROPOSED FLUSH CURB
- PROPOSED SIGNS / BOLLARDS
- PROPOSED BUILDING
- PROPOSED 6" REINFORCED CONCRETE
- PROPOSED 4" CONCRETE
- PROPOSED ASPHALT
- PROPOSED BUILDING DOORS



GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.
3. ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC. AND IT'S SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE.
4. THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN, LLC.
5. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF CONSTRUCTION.
6. THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY.
7. THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTORS EXPENSE.
8. CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC. WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET.
9. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
10. THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS.
11. THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES.
12. SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC. BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.

20' 0' 20' 40'
GRAPHIC SCALE IN FEET
1" = 20'

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SITE DEVELOPMENT PLANS

SEVEN BREW DRIVE THRU COFFEE >>>

PROPOSED RESTAURANT WITH DRIVE THRU

PARCEL ID: 23-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334

STATE OF MICHIGAN
MATTHEW REED COOKSEY
ENGINEER
No. 6201060428
PROFESSIONAL ENGINEER

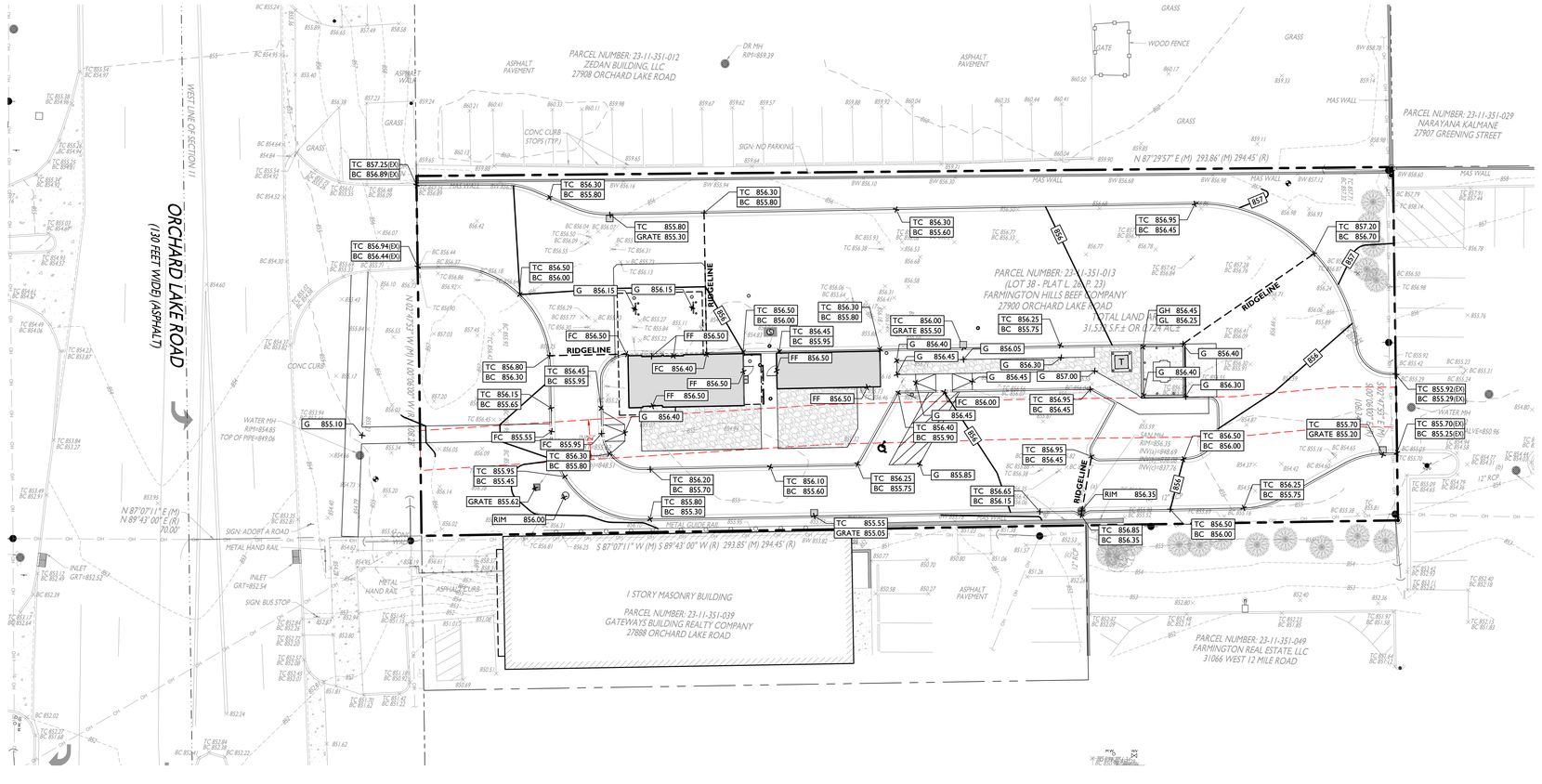
STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250348

TITLE: SITE PLAN

DRAWING: C-3

V:\DET\2025\DET-250348 SEVEN HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\DET\DET-SD-SITE PLAN.DWG



SYMBOL / DESCRIPTION

SYMBOL	DESCRIPTION
	PROPERTY LINE
100	PROPOSED GRADING CONTOUR
RIDGELINE	PROPOSED GRADING RIDGELINE
	PROPOSED DIRECTION OF DRAINAGE FLOW
G 100.00	PROPOSED GRADE SPOT SHOT
TC 100.50 / BC 100.00	PROPOSED TOP OF CURB / BOTTOM OF CURB SPOT SHOT
FC 100.00	PROPOSED FLUSH CURB SPOT SHOT

GRADING NOTES

1. ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
2. THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES, INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES, TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
3. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
4. THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
5. MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
   - CURB GUTTER: 0.50%
   - CONCRETE SURFACES: 1.00%
   - ASPHALT SURFACES: 1.00%
6. A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IF THIS CONDITION CANNOT BE MET.
7. FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

ADA NOTES

1. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
2. THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
3. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
4. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP, AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL. THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
5. THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00% IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP. FOR ALTERATIONS, A CURB RAMP FLARE SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
6. ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
7. A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
8. THE CONTRACTOR SHALL ENSURE A MAXIMUM OF ¼ INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN ¼ INCHES AND ½ INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP ¼ INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
9. THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ½ INCH.

20' 0' 20' 40'
GRAPHIC SCALE IN FEET
1" = 20'

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CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334



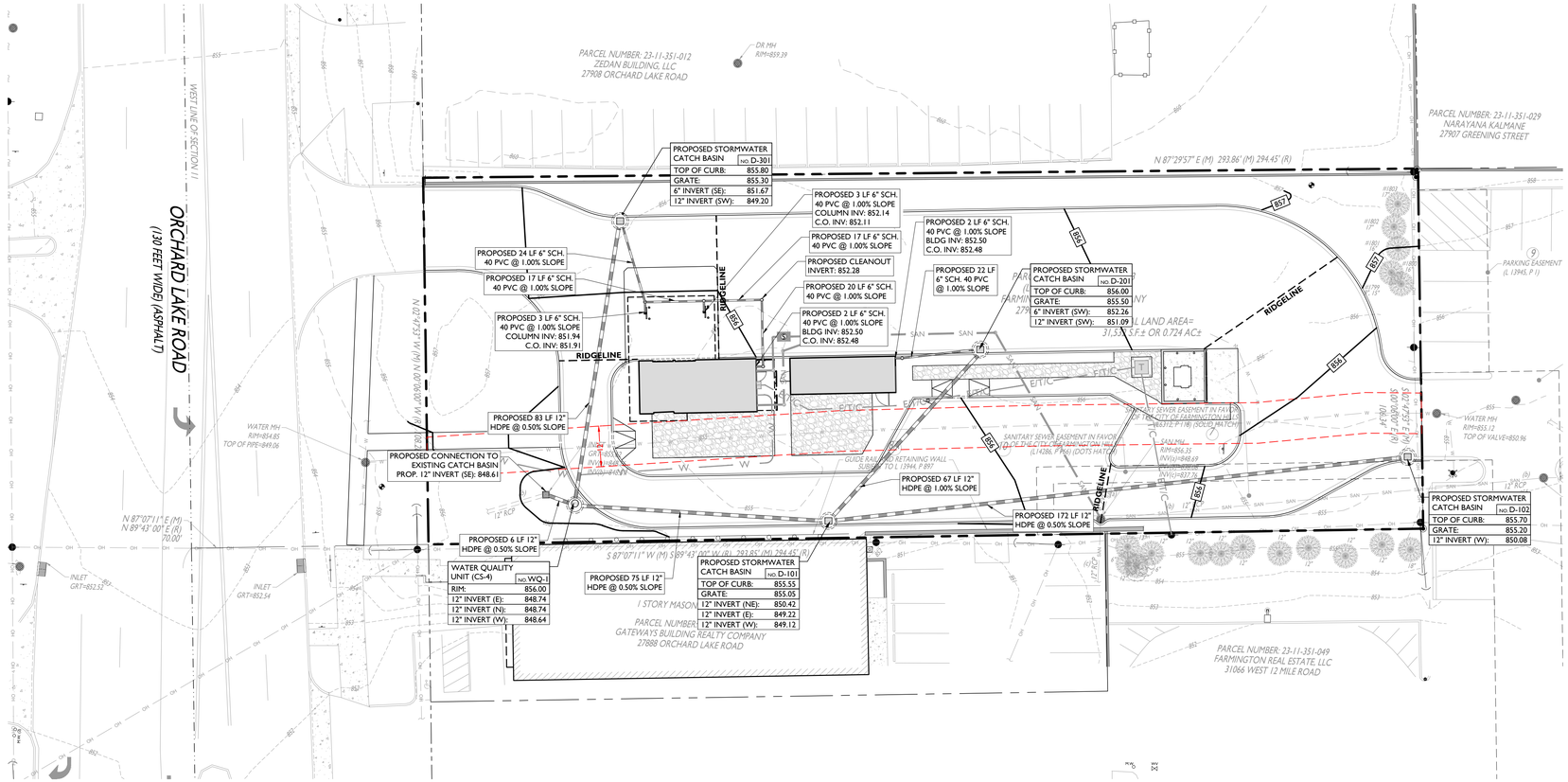
STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250348

TITLE: GRADING PLAN

DRAWING: C-4

V:\DET\2025\DET-250348 SEVEN HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\PLOTS\DP-04-GRADING



SYMBOL	DESCRIPTION
	PROPERTY LINE
100	PROPOSED GRADING CONTOUR
RIDGELINE	PROPOSED GRADING RIDGELINE
	PROPOSED STORMWATER STRUCTURES
	PROPOSED STORMWATER PIPING

DRAINAGE AND UTILITY NOTES

1. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR STORMWATER IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING.
2. CONTRACTOR SHALL START CONSTRUCTION OF STORM LINES AT THE LOWEST INVERT AND WORK UP-GRADIENT.
3. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IMMEDIATELY IN WRITING.
4. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

EXCAVATION, SOIL PREPARATION, AND DEWATERING NOTES

1. THE CONTRACTOR IS REQUIRED TO REVIEW THE REFERENCED GEOTECHNICAL DOCUMENTS PRIOR TO CONSTRUCTION. THESE DOCUMENTS SHALL BE CONSIDERED A PART OF THE PLAN SET.
2. THE CONTRACTOR IS REQUIRED TO PREPARE SUBGRADE SOILS BENEATH ALL PROPOSED IMPROVEMENTS AND BACKFILL ALL EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS BY THE GEOTECHNICAL ENGINEER OF RECORD.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING FOR ALL EXCAVATIONS AS REQUIRED. CONTRACTOR SHALL HAVE THE SHORING DESIGN PREPARED BY A QUALIFIED PROFESSIONAL. SHORING DESIGNS SHALL BE SUBMITTED TO STONEFIELD ENGINEERING & DESIGN, LLC. AND THE OWNER PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL OPEN EXCAVATIONS ARE PERFORMED AND PROTECTED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
5. THE CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING DESIGN AND OPERATIONS, AS REQUIRED, TO CONSTRUCT THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL OBTAIN ANY REQUIRED PERMITS FOR DEWATERING OPERATIONS AND GROUNDWATER DISPOSAL.

20' 0' 20' 40'
GRAPHIC SCALE IN FEET
1" = 20'

ISSUE	DATE	BY	DESCRIPTION
2	01/22/2026	EM	REVISED PER CITY REVIEWS
1	10/10/2025	JS/EM	FOR SITE PLAN SUBMISSION

NOT APPROVED FOR CONSTRUCTION

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SEVEN 7 BREW COFFEE >>> DRIVE THRU

PROPOSED RESTAURANT WITH DRIVE THRU

PARCEL ID: 23-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334

STATE OF MICHIGAN
MATTHEW RED COOKSEY
ENGINEER
No. 6201060428
PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250348

TITLE:

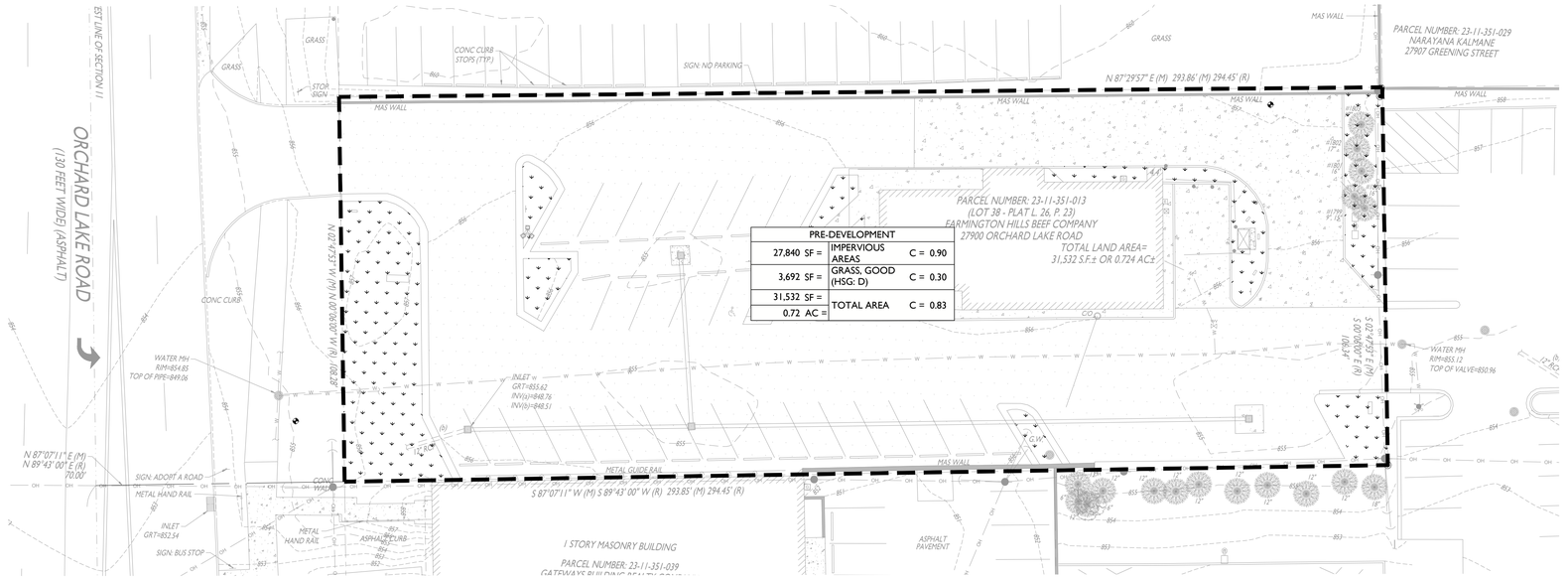
STORMWATER MANAGEMENT PLAN

DRAWING:

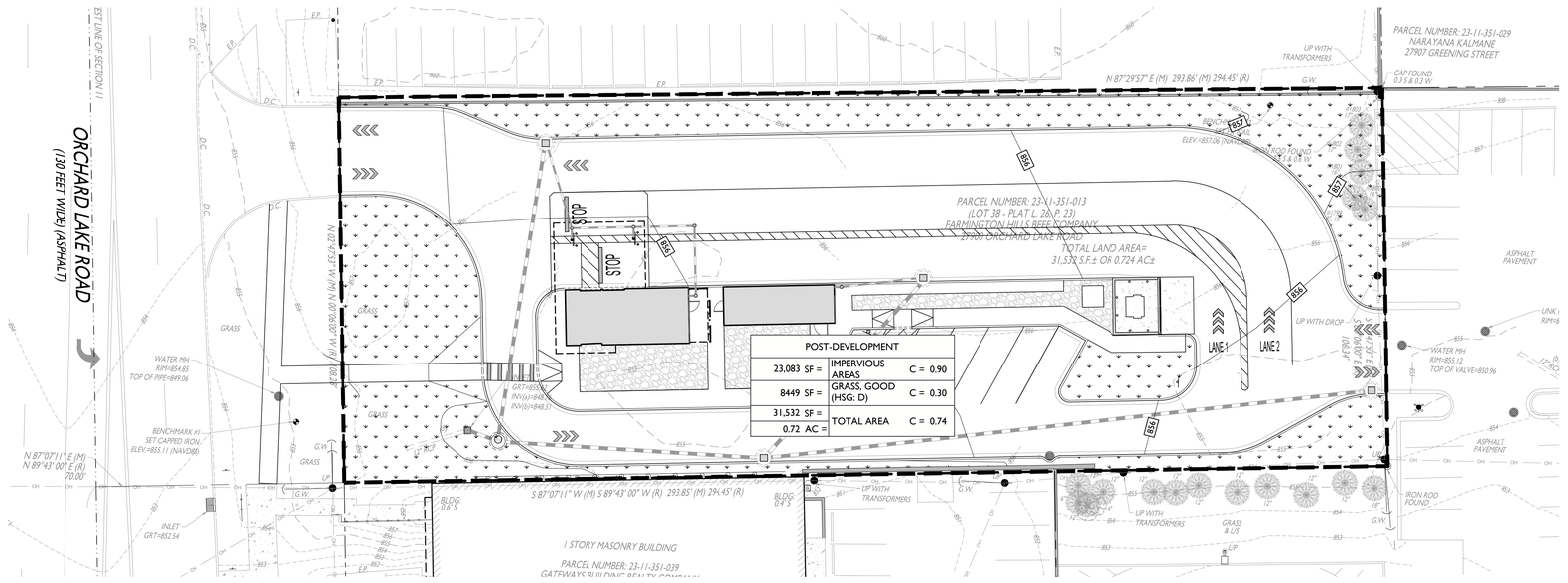
C-5

V:\DET\2025\DET-250348 SEVEN HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\PLOTS\DP-C5-STORM.DWG

PRE-DEVELOPMENT DRAINAGE MAP



POST-DEVELOPMENT DRAINAGE MAP



SYMBOL	DESCRIPTION
	PROPERTY LINE
	DRAINAGE AREA
	PERVIOUS AREA

PER OAKLAND COUNTY STORMWATER ENGINEERING DESIGN STANDARDS, DETENTION IS NOT REQUIRED FOR SITES UNER 1.0 AC OF DISTURBED AREA.

PROPOSED DISTURBANCE: 0.67 AC

PROPOSED 17.09% (4,757 SF) REDUCTION IN IMPERVIOUS AREA

OAKLAND COUNTY LAND USE SUMMARY

CHARACTERISTIC	EXISTING CONDITIONS	PROPOSED CONDITIONS
TOTAL DEVELOPMENT AREA (ACRES)	0.72	0.72
IMPERVIOUS AREA (ACRES)	0.64	0.53
TOTAL PERVIOUS AREA (ACRES)	0.08	0.19
17.09% REDUCTION IN IMPERVIOUS AREA POST-DEVELOPMENT		
PERVIOUS AREA BREAKDOWN BY COVER TYPE		
MEADOW/FALLOW/NATURAL AREAS (NON-CULTIVATED) PREDOMINANT NRCS SOIL TYPE (A, B, C, OR D)	0	0
IMPROVED AREAS (TURF GRASS, LANDSCAPE, ROW CROPS) PREDOMINANT NRCS SOIL TYPE (A, B, C, OR D)	0.08 (HSG A/C/D)	0.19 (HSG A/C/D)
WOODED AREAS PREDOMINANT NRCS SOIL TYPE (A, B, C, OR D)	0	0
CALCULATED CPVC VOLUME (CUBIC FEET)		0
CPVC VOLUME PROVIDED (CUBIC FEET)		0
CPRC VOLUME PROVIDED (CUBIC FEET)		0

THE PROFESSIONAL ENGINEER WHO SIGNS AND SEALS THIS SITE PLAN CERTIFIES THAT THE VALUES IN THIS TABLE REFLECT THE OAKLAND COUNTY STORMWATER CALCULATIONS REQUIRED FOR THIS DEVELOPMENT AND THAT GEOTECHNICAL INVESTIGATIONS WERE PERFORMED THAT PROVIDE CONCLUSIVE DOCUMENTATION THAT DEMONSTRATES WHETHER INFILTRATION (I.E. CPVC VOLUME CONTROL) IS PRACTICABLE.

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SITE DEVELOPMENT PLANS

SEVEN 7 BREW DRIVE THRU COFFEE >>>

PROPOSED RESTAURANT WITH DRIVE THRU

PARCEL ID: 23-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334

STATE OF MICHIGAN
JONATHAN REED COCKEY
ENGINEER
No. 6201063428
PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250348

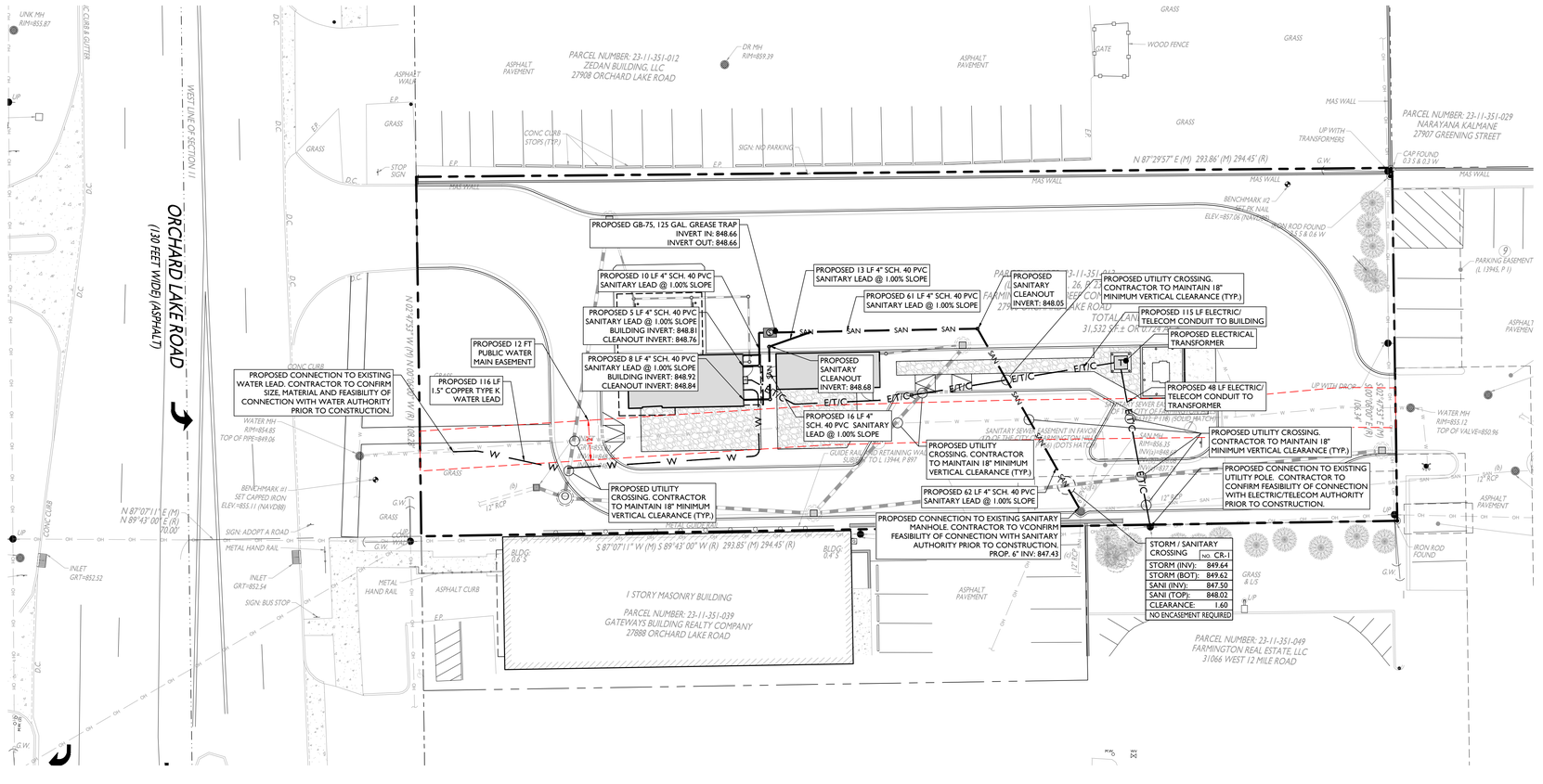
TITLE:

DRAINAGE AREA MAPS

DRAWING:

C-6

V:\DET\2025\DET-250348 SEVEN 7 HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\PLOT\DP-06 GRADING.DWG



SYMBOL	DESCRIPTION
	PROPERTY LINE
SAN	PROPOSED SANITARY LATERAL
W	PROPOSED DOMESTIC WATER SERVICE
E/T/C	PROPOSED ELECTRICAL/DATA CONDUITS
	PROPOSED SANITARY MANHOLE / CLEANOUT
T	PROPOSED TRANSFORMER ON CONCRETE PAD WITH BOLLARDS

DRAINAGE AND UTILITY NOTES

1. THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IMMEDIATELY IN WRITING.
2. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION.
4. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
5. ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 INCHES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASEMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
6. THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC. IN WRITING.
7. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY.
8. CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK UP-GRADIENT.
9. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.
10. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

20' 0' 20' 40'
GRAPHIC SCALE IN FEET
1" = 20'

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SITE DEVELOPMENT PLANS

SEVEN 7 BREW COFFEE DRIVE THRU

PROPOSED RESTAURANT WITH DRIVE THRU

PARCEL ID: 22-11-351-013
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CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334

STATE OF MICHIGAN
MATTHEW D. COOKSEY
ENGINEER
No. 6201060428
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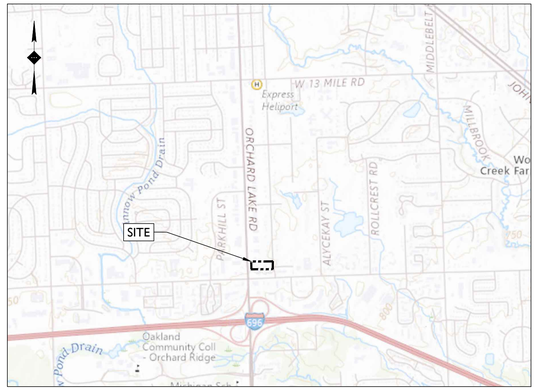
STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250348

TITLE: UTILITY PLAN

DRAWING: C-7

V:\DET\2025\DET-250348 SEVEN 7 HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\PLOT\DP-SITE.DWG

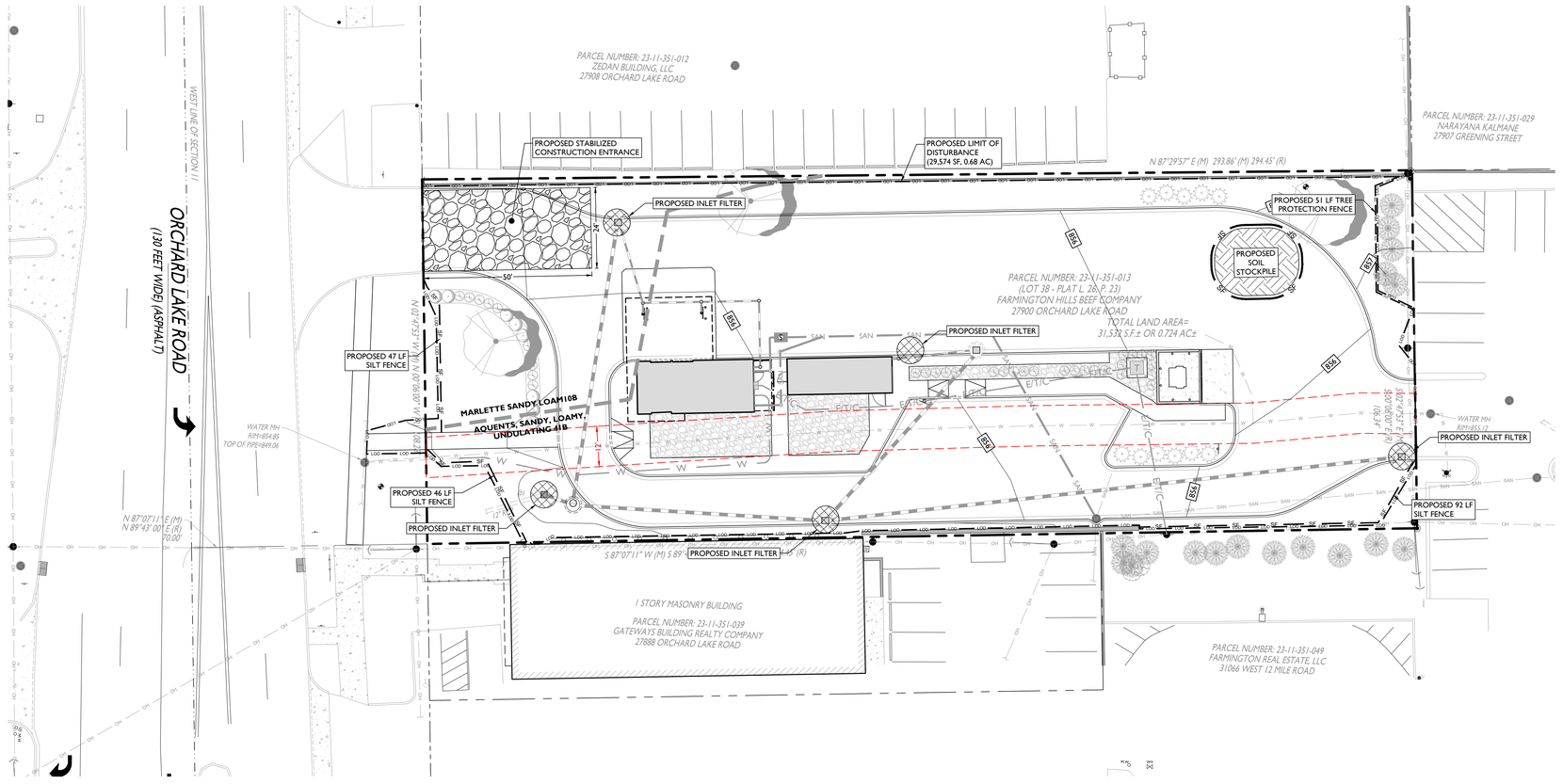


SOURCE: USGS MAPPING SYSTEM

LOCATION MAP

SCALE: 1" = 2,000'±

SYMBOL	DESCRIPTION
	PROPERTY BOUNDARY
LOD	PROPOSED LIMIT OF DISTURBANCE
SF	PROPOSED SILT FENCE
TPF	PROPOSED TREE PROTECTION FENCE
	PROPOSED STOCKPILE & EQUIPMENT STORAGE
	PROPOSED STABILIZED CONSTRUCTION ENTRANCE
	PROPOSED INLET PROTECTION FILTER



SOIL CHARACTERISTICS CHART	
TYPE OF SOIL	MARLETTE SANDY LOAM (10B)
PERCENT OF SITE COVERAGE	17.2%
HYDROLOGIC SOIL GROUP	C
DEPTH TO RESTRICTIVE LAYER	>80 INCHES
SOIL PERMEABILITY	0.20 TO 0.57 IN / HR
DEPTH TO WATER TABLE	30 TO 72 INCHES

SOIL CHARACTERISTICS CHART	
TYPE OF SOIL	AQUENTS, SANDY, LOAMY, UNDULATING (41B)
PERCENT OF SITE COVERAGE	82.8%
HYDROLOGIC SOIL GROUP	A/D
DEPTH TO RESTRICTIVE LAYER	> 80 INCHES
SOIL PERMEABILITY	5.95 TO 19.98 IN / HR
DEPTH TO WATER TABLE	0 INCHES

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

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR SOIL EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS.
2. THE CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL AIR QUALITY STANDARDS.
3. THE CONTRACTOR IS RESPONSIBLE TO INSPECT ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES WEEKLY AND AFTER A PRECIPITATION EVENT GREATER THAN 1 INCH. THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG ON SITE AND DOCUMENT CORRECTIVE ACTION TAKEN THROUGHOUT THE COURSE OF CONSTRUCTION AS REQUIRED.

20' 0' 20' 40'
GRAPHIC SCALE IN FEET
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SITE DEVELOPMENT PLANS

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CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334

STATE OF MICHIGAN · JONATHAN REED COOKSEY · ENGINEER · No. 6201069428 · PROFESSIONAL ENGINEER

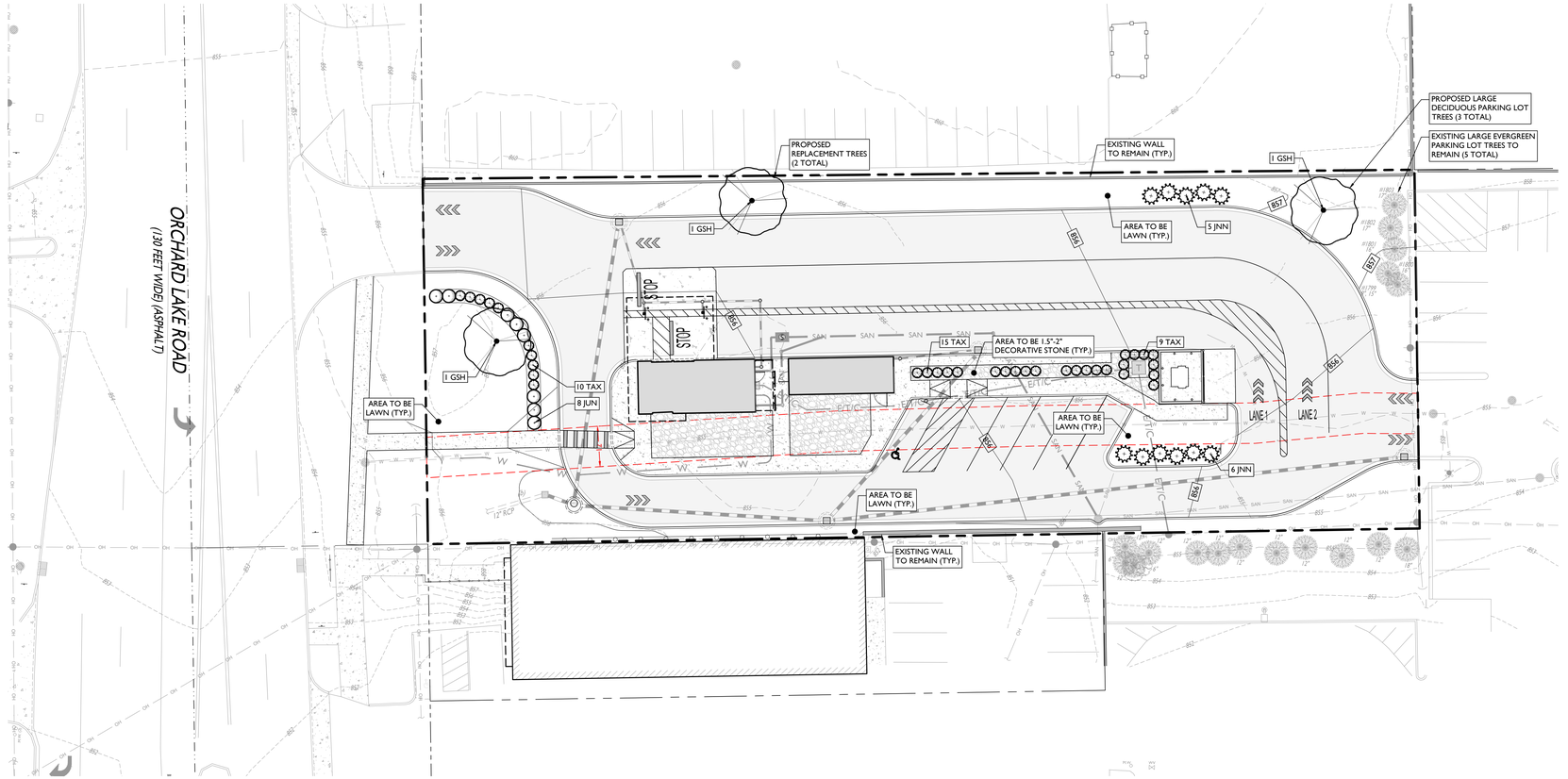
STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250348

TITLE: **SOIL EROSION & SEDIMENT CONTROL PLAN**

DRAWING: **C-8**

V:\DET\2025\DET-250348 SEVEN HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\PLOTS\SP-08 SESC.DWG



LANDSCAPING REQUIREMENTS

CODE SECTION	REQUIRED	PROPOSED
	SITE REQUIREMENTS	
§ 34-5.14.4.C.	1 TREE FOR EVERY 2,800 SF OF PAVED SURFACE (21,564 SF) ÷ (1 TREE / 2,800 SF) = 8 TREES	5 EXISTING TREES 3 PROPOSED TREES
§ 34-5.14.4.D.	MINIMUM PLANTING AREA: 180 SF	COMPLIES
	PARKING LOT SCREENING	
§ 34-5.14.5.	PARKING LOTS SHALL BE SCREENED FROM PUBLIC ROADS BY A SHRUB HEDGE, WALL, OR BERM	SHRUB HEDGE PROPOSED

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
DECIDUOUS TREES						
	GSH	3	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	SHADEMASTER HONEY LOCUST	3" - 3.5" CAL	B&B
EVERGREEN TREES						
	JNN	11	JUNIPERUS VIRGINIANA 'J.N. SELECT GREEN'	EMERALD FEATHER EASTERN REDCEDAR	5' - 6' HT	B&B
EVERGREEN SHRUBS						
	JUN	8	JUNIPERUS X PFITZERIANA 'SEA GREEN'	SEA GREEN PFITZER JUNIPER	30" - 36"	POT
	TAX	34	TAXUS X MEDIA 'DENSIFORMIS'	DENSE ANGLO-JAPANESE YEW	30" - 36"	POT

NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE LANDSCAPE PLAN AND WITHIN THE PLANT LIST, THE PLAN SHALL DICTATE.

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

PAUL DEVITTO, L.L.A.
MICHIGAN LICENSE No. 3901001797
LICENSED LANDSCAPE ARCHITECT

LANDSCAPING NOTES

1. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED.
3. THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM 3 INCH LAYER OF MULCH .
4. THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION AREAS SHALL BE 3 FEET HORIZONTAL TO 1 FOOT VERTICAL (3:1 SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
5. THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPING DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION WITHIN AREAS OF DISTURBANCE.
6. THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING AREAS.

20' 0' 20' 40'
GRAPHIC SCALE IN FEET
1" = 20'

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MATTHEW FRED COOKSEY
ENGINEER
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PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250348

TITLE:

LANDSCAPING PLAN

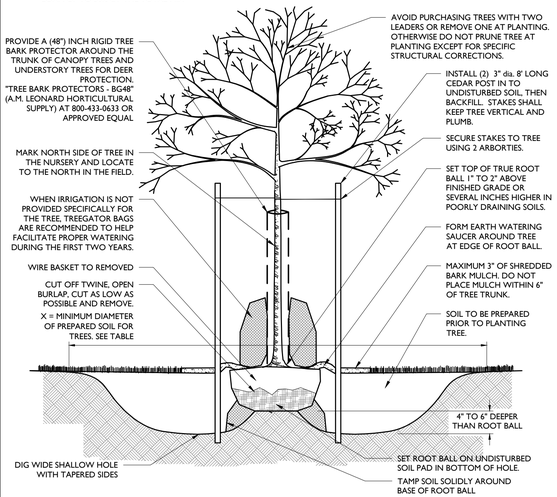
DRAWING:

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V:\DET\2025\DET-250348 SEVEN HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\PLOTS\PDF\PP-19-LANDSCAPING

NOTES:

1. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
3. SOIL AMENDMENTS:
   - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
   - MODIFY EXTREMELY SANDY SOILDS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX



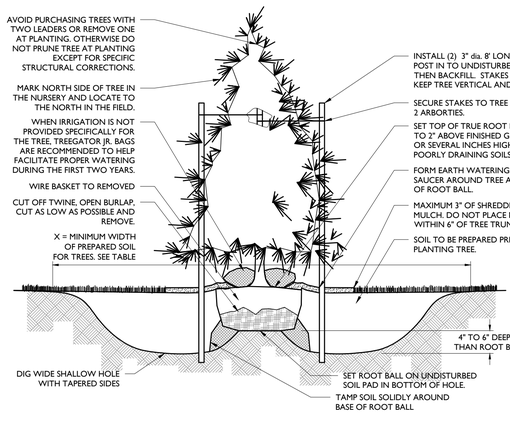
DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

1

NOTES:

1. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
3. SOIL AMENDMENTS:
   - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
   - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX



CONIFEROUS TREE PLANTING DETAIL

NOT TO SCALE

2

GENERAL LANDSCAPING NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH THESE SPECIFICATIONS, APPROVED OR FINAL DRAWINGS, AND INSTRUCTIONS PROVIDED BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIALS, OR OWNER/OWNER'S REPRESENTATIVE. ALL WORK COMPLETED AND MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH THE INTENTION OF THE SPECIFICATIONS, DRAWINGS, AND INSTRUCTIONS AND EXECUTED WITH THE STANDARD LEVEL OF CARE FOR THE LANDSCAPE INDUSTRY.
2. WORK MUST BE CARRIED OUT ONLY DURING WEATHER CONDITIONS FAVORABLE TO LANDSCAPE CONSTRUCTION AND TO THE HEALTH AND WELFARE OF PLANTS. THE SUITABILITY OF SUCH WEATHER CONDITIONS SHALL BE DETERMINED BY THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL.
3. IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, BEFORE ORDERING OR PURCHASING MATERIALS, TO PROVIDE SAMPLES OF THOSE MATERIALS TO THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL FOR APPROVAL, IF SO REQUESTED.
4. IF SAMPLES ARE REQUESTED, THE LANDSCAPE CONTRACTOR IS TO SUBMIT CERTIFICATION TAGS FROM TREES, SHRUBS AND SEED VERIFYING TYPE AND PURITY.
5. UNLESS OTHERWISE AUTHORIZED BY THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL, THE LANDSCAPE CONTRACTOR SHALL PROVIDE NOTICE AT LEAST FORTY-EIGHT HOURS (48 HRS.) IN ADVANCE OF THE ANTICIPATED DELIVERY DATE OF PLANT MATERIALS TO THE PROJECT SITE. A LEGIBLE COPY OF THE INVOICE, SHOWING VARIETIES AND SIZES OF MATERIALS INCLUDED FOR EACH SHIPMENT SHALL BE FURNISHED TO THE PROJECT LANDSCAPE DESIGNER, OR GOVERNING MUNICIPAL OFFICIAL.
6. THE PROJECT LANDSCAPE DESIGNER OR GOVERNING MUNICIPAL OFFICIAL RESERVES THE RIGHT TO INSPECT AND REJECT PLANTS AT ANY TIME AND AT ANY PLACE.

PROTECTION OF EXISTING VEGETATION NOTES:

1. BEFORE COMMENCING WORK, ALL EXISTING VEGETATION WHICH COULD BE IMPACTED AS A RESULT OF THE PROPOSED CONSTRUCTION ACTIVITIES MUST BE PROTECTED FROM DAMAGE BY THE INSTALLATION OF TREE PROTECTION FENCING. FENCING SHALL BE LOCATED AT THE DRIP-LINE OR LIMIT OF DISTURBANCE AS DEPICTED WITHIN THE APPROVED OR FINAL PLAN SET, ESTABLISHING THE TREE PROTECTION ZONE. INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE PROTECTION FENCE DETAIL." NO WORK MAY BEGIN UNTIL THIS REQUIREMENT IS FULFILLED. THE FENCING SHALL BE INSPECTED REGULARLY BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
2. IN ORDER TO AVOID DAMAGE TO ROOTS, BARK OR LOWER BRANCHES, NO VEHICLE, EQUIPMENT, DEBRIS, OR OTHER MATERIALS SHALL BE DRIVEN, PARKED OR PLACED WITHIN THE TREE PROTECTION ZONE. ALL ON-SITE CONTRACTORS SHALL USE ANY AND ALL PRECAUTIONARY MEASURES WHEN PERFORMING WORK AROUND TREES, WALKS, PAVEMENTS, UTILITIES, AND ANY OTHER FEATURES EITHER EXISTING OR PREVIOUSLY INSTALLED UNDER THIS CONTRACT.
3. IN RARE INSTANCES WHERE EXCAVATING, FILL, OR GRADING IS REQUIRED WITHIN THE DRIP-LINE OF TREES TO REMAIN, THE WORK SHALL BE PERFORMED AS FOLLOWS:
   - TRENCHING: WHEN TRENCHING OCCURS AROUND TREES TO REMAIN, THE TREE ROOTS SHALL NOT BE CUT, BUT THE TRENCH SHALL BE TUNNELED UNDER OR AROUND THE ROOTS BY CAREFUL HAND DIGGING AND WITHOUT INJURY TO THE ROOTS. NO ROOTS, LIMBS, OR WOODS ARE TO HAVE ANY PAINT OR MATERIAL APPLIED TO ANY SURFACE.
   - RAISING GRADES: WHEN THE GRADE AT AN EXISTING TREE IS BELOW THE NEW FINISHED GRADE, AND FILL NOT EXCEEDING 6 INCHES (6") IS REQUIRED, CLEAN, WASHED GRAVEL FROM ONE TO TWO INCHES (1" - 2") IN SIZE SHALL BE PLACED DIRECTLY AROUND THE TREE TRUNK. THE GRAVEL SHALL EXTEND OUT FROM THE TRUNK ON ALL SIDES A MINIMUM OF 18 INCHES (18") AND FINISH APPROXIMATELY TWO INCHES (2") ABOVE THE FINISH GRADE AT TREE. INSTALL GRAVEL BEFORE ANY EARTH FILL IS PLACED. NEW EARTH FILL SHALL NOT BE LEFT IN CONTACT WITH THE TRUNK OF ANY TREE REQUIRING FILL. WHERE FILL EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID TREE WELL SHALL BE CONSTRUCTED. IF APPLICABLE, TREE WELL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE WELL DETAIL."
   - LOWERING GRADES: EXISTING TREES LOCATED IN AREAS WHERE THE NEW FINISHED GRADE IS TO BE LOWERED, SHALL HAVE RE-GRADING WORK DONE BY HAND TO THE INDICATED ELEVATION, NO GREATER THAN SIX INCHES (6"). ROOTS SHALL BE CUT CLEANLY THREE INCHES (3") BELOW FINISHED GRADE UNDER THE DIRECTION OF A LICENSED ARBORIST. WHERE CUT EXCEEDING 6 INCHES (6") IS REQUIRED, A DRY LAID RETAINING WALL SHALL BE CONSTRUCTED. IF APPLICABLE, THE RETAINING WALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE PROVIDED "TREE RETAINING WALL DETAIL."

SOIL PREPARATION AND MULCH NOTES:

1. LANDSCAPE CONTRACTOR SHALL OBTAIN A SOIL TEST OF THE IN-SITU TOPSOIL BY A CERTIFIED SOIL LABORATORY PRIOR TO PLANTING. LANDSCAPE CONTRACTOR SHALL ALLOW FOR A TWO WEEK TURNAROUND TIME FROM SUBMITTAL OF SAMPLE TO NOTIFICATION OF RESULTS.
2. BASED ON SOIL TEST RESULTS, ADJUST THE RATES OF LIME AND FERTILIZER THAT SHALL BE MIXED INTO THE TOP SIX INCHES (6") OF TOPSOIL. THE LIME AND FERTILIZER RATES PROVIDED WITHIN THE "SEED SPECIFICATION" OR "SOD SPECIFICATION" IS APPROXIMATE AND FOR BIDDING PURPOSES ONLY. IF ADDITIONAL AMENDMENTS ARE NECESSARY, ADJUST THE TOPSOIL AS FOLLOWS:
   - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM.
   - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.
3. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMING CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL OBTAINED FROM A WELL-DRAINED ARABLE SITE, FREE FROM ALL CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIAL GREATER THAN ONE INCH (1").
4. TOPSOIL SHALL HAVE A PH RANGE OF 6.0 TO 7.0 AND SHALL NOT CONTAIN LESS THAN 6% ORGANIC MATTER BY WEIGHT.
5. OBTAIN TOPSOIL ONLY FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THAT FOUND AT THE PROJECT SITE.
6. CONTRACTOR SHALL PROVIDE A SIX INCH (6") DEEP LAYER OF TOPSOIL IN ALL PLANTING AREAS. TOPSOIL SHALL BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN SOIL CONDITIONS.
7. UNLESS OTHERWISE NOTED IN THE CONTRACT, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBED AREA OF THE SITE.
8. LANDSCAPE CONTRACTOR SHALL VERIFY THAT THE SUB-GRADE ELEVATION MEETS THE FINISHED GRADE ELEVATION (LESS THE REQUIRED TOPSOIL), IN ACCORDANCE WITH THE APPROVED OR FINAL GRADING PLAN.
9. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THE APPROVED OR FINAL CONSTRUCTION SET UNLESS OTHERWISE DIRECTED BY THE PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SURFACE AND SUBSURFACE PLANT BED DRAINAGE PRIOR TO THE INSTALLATION OF PLANTINGS. IF POOR DRAINAGE CONDITIONS EXIST, CORRECTIVE ACTION SHALL BE TAKEN PRIOR TO INSTALLATION. ALL PLANTING AND LAWN AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW A FREE FLOW OF SURFACE WATER.
11. DOUBLE SHREDDED HARDWOOD MULCH OR APPROVED EQUAL SHALL BE USED AS A THREE INCH (3") TOP DRESSING IN ALL SHRUB PLANTING BEDS AND AROUND ALL TREES PLANTED BY LANDSCAPE CONTRACTOR. GROUND COVER, PERENNIAL, AND ANNUAL PLANTING BEDS SHALL BE MULCHED WITH A TWO INCH (2") TOP DRESSING. SINGLE TREES OR SHRUBS SHALL BE MULCHED TO AVOID CONTACT WITH TRUNK OR PLANT STEM. MULCH SHALL BE OF SUFFICIENT CHARACTER AS NOT TO BE EASILY DISPLACED BY WIND OR WATER RUNOFF.
12. WHENEVER POSSIBLE, THE SOIL PREPARATION AREA SHALL BE CONNECTED FROM PLANTING TO PLANTING.
13. SOIL SHALL BE LOOSENED WITH A BACKHOE OR OTHER LARGE COARSE-TILING EQUIPMENT UNLESS THE SOIL IS FROZEN OR EXCESSIVELY WET. TILING THAT PRODUCES LARGE, COARSE CHUNKS OF SOIL IS PREFERABLE TO TILING THAT RESULTS IN FINE GRAINS UNIFORM IN TEXTURE. AFTER THE AREA IS LOOSENED IT SHALL NOT BE DRIVEN OVER BY ANY VEHICLE.
14. APPLY PRE-EMERGENT WEED CONTROL TO ALL PLANT BEDS PRIOR TO MULCHING. ENSURE COMPATIBILITY BETWEEN PRODUCT AND PLANT MATERIAL.
15. ALL PLANTING SOIL SHALL BE AMENDED WITH THE FOLLOWING:
    MYCRO® TREE SAVER - A DRY GRANULAR MYCORRHIZAL FUNGI INOCULANT THAT IS MIXED IN THE BACKFILL WHEN PLANTING TREES AND SHRUBS. IT CONTAINS SPORES OF BOTH ECTOMYCORRHIZAL AND VA MYCORRHIZAL FUNGI (VAM), BENEFICIAL RHIZOSPHERE BACTERIA, TERRA-SORB SUPERABSORBENT HYDROGEL TO REDUCE WATER LEACHING, AND SELECTED ORGANIC MICROBIAL NUTRIENTS.
    - DIRECTIONS FOR USE: USE 3-OZ PER EACH FOOT DIAMETER OF THE ROOT BALL, OR 3-OZ PER INCH CALIPER. MIX INTO THE BACKFILL WHEN TRANSPLANTING TREES AND SHRUBS. MIX PRODUCT IN A RING-SHAPED VOLUME OF SOIL AROUND THE UPPER PORTION OF THE ROOT BALL, EXTENDING FROM THE SOIL SURFACE TO A DEPTH OF ABOUT 8 INCHES, AND EXTENDING OUT FROM THE ROOT BALL ABOUT 8 INCHES INTO THE BACKFILL. APPLY WATER TO SOIL SATURATION.
    - MYCOR® TREE SAVER® IS EFFECTIVE FOR ALL TREE AND SHRUB SPECIES EXCEPT RHODODENDRONS, AZALEAS, AND MOUNTAIN LAUREL WHICH REQUIRE ERICOID MYCORRHIZAE
    - SOIL PH: THE FUNGI IN THIS PRODUCT WERE CHOSEN BASED ON THEIR ABILITY TO SURVIVE AND COLONIZE PLANT ROOTS IN A PH RANGE OF 3 TO 9.
    - FUNGICIDES: THE USE OF CERTAIN FUNGICIDES CAN HAVE A DETRIMENTAL EFFECT ON THE INOCULATION PROGRAM. SOIL APPLICATION OF ANY FUNGICIDE IS NOT RECOMMENDED FOR TWO WEEKS AFTER APPLICATION.
    - OTHER PESTICIDES: HERBICIDES AND INSECTICIDES DO NOT NORMALLY INTERFERE WITH MYCORRHIZAL FUNGAL DEVELOPMENT, BUT MAY INHIBIT THE GROWTH OF SOME TREE AND SHRUB SPECIES IF NOT USED PROPERLY.

    HEALTHY START MACRO TABS 12-8-8
    - FERTILIZER TABLETS ARE PLACED IN THE UPPER 4 INCHES OF BACKFILL SOIL WHEN PLANTING TREES AND SHRUBS.
    - TABLETS ARE FORMULATED FOR LONG-TERM RELEASE BY SLOW BIODEGRADATION, AND LAST UP TO 2 YEARS AFTER PLANTING. TABLETS CONTAIN 12-8-8 NPK FERTILIZER, AS WELL AS A MINIMUM OF SEVEN PERCENT (7%) HUMIC ACID BY WEIGHT, MICROBIAL NUTRIENTS DERIVED FROM SEA KELP, PROTEIN BYPRODUCTS, AND YUCCA SCHIDIGERA, AND A COMPLEMENT OF BENEFICIAL RHIZOSPHERE BACTERIA. THE STANDARD 21 GRAM TABLET IS SPECIFIED HERE. DIRECTIONS FOR USE: FOR PLANTING BALLED & BURLAPPED (B&B) TREES AND SHRUBS, MEASURE THE THICKNESS OF THE TRUNK, AND USE ABOUT 1 TABLET (21-G) PER HALF-INCH. PLACE THE TABLETS DIRECTLY NEXT TO THE ROOT BALL, EVENLY DISTRIBUTED AROUND ITS PERIMETER, AT A DEPTH OF ABOUT 4 INCHES.

PLANT QUALITY AND HANDLING NOTES:

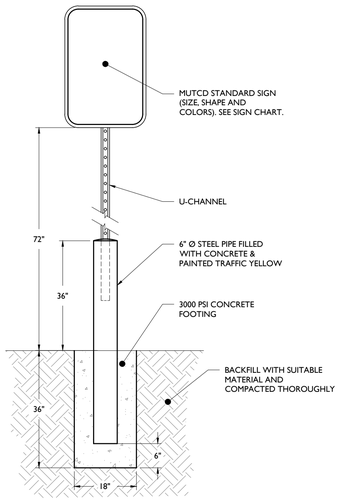
1. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2004) OR LATEST REVISION AS PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
2. IN ALL CASES, BOTANICAL NAMES LISTED WITHIN THE APPROVED OR FINAL PLANT LIST SHALL TAKE PRECEDENCE OVER COMMON NAMES.
3. ALL PLANTS SHALL BE OF SELECTED SPECIMEN QUALITY, EXCEPTIONALLY HEAVY, TIGHTLY KNIT, SO TRAINED OR FAVORED IN THEIR DEVELOPMENT AND APPEARANCE AS TO BE SUPERIOR IN FORM, NUMBER OF BRANCHES, COMPACTNESS AND SYMMETRY. ALL PLANTS SHALL HAVE A NORMAL HABIT OR SOUND, HEALTHY, VIGOROUS PLANTS WITH WELL DEVELOPED ROOT SYSTEM. PLANTS SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS OR LARVAE.
4. PLANTS SHALL NOT BE PRUNED BEFORE DELIVERY. TREES WITH ABRASION OF THE BARK, SUNSCALDS, DISFIGURING KNOTS OR FRESH CUTS OF LIMBS OVER ONE AND ONE-FOURTH INCHES (1-1/4") WHICH HAVE NOT COMPLETELY CALLOUSED SHALL BE REJECTED.
5. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH AND BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE.
6. THE ROOT SYSTEM OF EACH PLANT SHALL BE WELL PROVIDED WITH FIBROUS ROOTS. ALL PARTS SHALL BE SOUND, HEALTHY, VIGOROUS, WELL-BRANCHED AND DENSELY FOLIATED WHEN IN LEAF.
7. ALL PLANTS DESIGNATED BALL AND BURLAP (B&B) MUST BE MOVED WITH THE ROOT SYSTEM AS SOLID UNITS WITH BALLS OF EARTH FIRMLY WRAPPED WITH BURLAP. THE DIAMETER AND DEPTH OF THE BALLS OF EARTH MUST BE SUFFICIENT TO ENCOMPASS THE FIBROUS ROOT FEEDING SYSTEMS NECESSARY FOR THE HEALTHY DEVELOPMENT OF THE PLANT. NO PLANT SHALL BE ACCEPTED WHEN THE BALL OF EARTH SURROUNDING ITS ROOTS HAS BEEN BADLY CRACKED OR BROKEN PREPARATORY TO OR DURING THE PROCESS OF PLANTING. THE BALLS SHALL REMAIN INTACT DURING ALL OPERATIONS. ALL PLANTS THAT CANNOT BE PLANTED AT ONCE MUST BE HEELED-IN BY SETTING IN THE GROUND AND COVERING THE BALLS WITH SOIL OR MULCH AND THEN WATERING. HEMP BURLAP AND TWINE IS PREFERABLE TO TREATED. IF TREATED BURLAP IS USED, ALL TWINE IS TO BE CUT FROM AROUND THE TRUNK AND ALL BURLAP IS TO BE REMOVED.
8. PLANTS TRANSPORTED TO THE PROJECT IN OPEN VEHICLES SHALL BE COVERED WITH TARPS OR OTHER SUITABLE COVERS SECURELY FASTENED TO THE BODY OF THE VEHICLE TO PREVENT INJURY TO THE PLANTS. CLOSED VEHICLES SHALL BE ADEQUATELY VENTILATED TO PREVENT OVERHEATING OF THE PLANTS. EVIDENCE OF INADEQUATE PROTECTION FOLLOWING DIGGING, CARELESSNESS WHILE IN TRANSIT, IMPROPER HANDLING OR STORAGE SHALL BE CAUSE FOR REJECTION OF PLANT MATERIAL. ALL PLANTS SHALL BE KEPT MOIST, FRESH, AND PROTECTED. SUCH PROTECTION SHALL ENCOMPASS THE ENTIRE PERIOD DURING WHICH THE PLANTS ARE IN TRANSIT, BEING HANDLED, OR ARE IN TEMPORARY STORAGE.
9. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE CORRESPONDING LANDSCAPE PLAN AND PLANTING DETAILS.
10. LANDSCAPE CONTRACTOR SHALL MAKE BEST EFFORT TO INSTALL PLANTINGS ON THE SAME DAY AS DELIVERY. IF PLANTS ARE NOT PLANTED IMMEDIATELY ON SITE, PROPER CARE SHALL BE TAKEN TO PLACE THE PLANTINGS IN PARTIAL SHADE WHEN POSSIBLE. THE ROOT BALL SHALL BE KEPT MOIST AT ALL TIMES AND COVERED WITH MOISTENED MULCH OR AGED WOODCHIPS. PROPER IRRIGATION SHALL BE SUPPLIED SO AS TO NOT ALLOW THE ROOT BALL TO DRY OUT. PLANTINGS SHALL BE UNTIED AND PROPER SPACING SHALL BE ALLOTTED FOR AIR CIRCULATION AND TO PREVENT DISEASE. WILTING, AND LEAF LOSS. PLANTS THAT REMAIN UNPLANTED FOR A PERIOD OF TIME GREATER THAN THREE (3) DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH AND WATERED AS REQUIRED TO PRESERVE ROOT MOISTURE.
11. NO PLANT MATERIAL SHALL BE PLANTED IN MUDDY OR FROZEN SOIL.
12. PLANTS WITH INJURED ROOTS OR BRANCHES SHALL BE PRUNED PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY DISEASED OR INJURED PLANTS SHALL BE REMOVED.
13. IF ROCK OR OTHER UNDERGROUND OBSTRUCTION IS ENCOUNTERED, THE LANDSCAPE DESIGNER RESERVES THE RIGHT TO RELOCATE OR ENLARGE PLANTING PITS OR DELETE PLANT MATERIAL FROM THE CONTRACT.
14. IF PLANTS ARE PROPOSED WITHIN SIGHT TRIANGLES, TREES SHALL BE LIMBED AND MAINTAINED TO A HEIGHT OF EIGHT FEET (8') ABOVE GRADE, AND SHRUBS, GROUND COVER, PERENNIALS, AND ANNUALS SHALL BE MAINTAINED TO A HEIGHT NOT TO EXCEED TWO FEET (2') ABOVE GRADE UNLESS OTHERWISE NOTED OR SPECIFIED BY THE GOVERNING MUNICIPALITY OR AGENCY.
15. INSTALLATION SHALL OCCUR DURING THE FOLLOWING SEASONS:
    PLANTS (MARCH 15 - DECEMBER 15)
    LAWNS (MARCH 15 - JUNE 15 OR SEPTEMBER 1 - DECEMBER 1)
16. THE FOLLOWING TREES ARE SUSCEPTIBLE TO TRANSPLANT SHOCK AND SHALL NOT BE PLANTED DURING THE FALL SEASON (STARTING SEPTEMBER 15):

ABIES CONCOLOR	CORNUS VARIETIES	OSTRYA VIRGINIANA
ACER BUERGERIANUM	CRATAEGUS VARIETIES	PINUS NIGRA
ACER FREEMANII	CUPRESSOCYPARIS LEYLANDII	PLATANUS VARIETIES
ACER RUBRUM	FAGUS VARIETIES	POPULUS VARIETIES
ACER SACCHARINUM	HALESIA VARIETIES	PRUNUS VARIETIES
BETULA VARIETIES	ILEX X FOSTERII	PYRUS VARIETIES
CARPINUS VARIETIES	ILEX NELLIE STEVENS	QUERCUS VARIETIES (NOT Q. PALUSTRIS)
CEDRUS DEODARA	ILEX OPACA	SALIX WEEPING VARIETIES
CELTIS VARIETIES	JUNIPERUS VIRGINIANA	SORBUS VARIETIES
CERCIDIPHYLLUM VARIETIES	KOELREUTERIA PANICULATA	TAXODIUM VARIETIES
CERCIS CANADENSIS	LIQUIDAMBAR VARIETIES	TAXUX B REPANDENS
CORNUS VARIETIES	LIRIODENDRON VARIETIES	TILIA TOMENTOSA VARIETIES
CRATAEGUS VARIETIES	MALUS IN LEAF	ULMUS PARVIFOLIA VARIETIES
	NYSSA SYLVATICA	ZELKOVA VARIETIES

17. IF A PROPOSED PLANT IS UNATTAINABLE OR ON THE FALL DIGGING HAZARD LIST, AN EQUIVALENT SPECIES OF THE SAME SIZE MAY BE REQUESTED FOR SUBSTITUTION OF THE ORIGINAL PLANT. ALL SUBSTITUTIONS SHALL BE APPROVED BY THE PROJECT LANDSCAPE DESIGNER OR MUNICIPAL OFFICIAL PRIOR TO ORDERING AND INSTALLATION.
18. DURING THE COURSE OF CONSTRUCTION/PLANT INSTALLATION, EXCESS AND WASTE MATERIALS SHALL BE CONTINUOUSLY AND PROMPTLY REMOVED AT THE END OF EACH WORK DAY. ALL DEBRIS, MATERIALS, AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF AND ALL PAVED AREAS SHALL BE CLEANED.
19. THE LANDSCAPE CONTRACTOR SHALL DISPOSE OF ALL RUBBISH AND EXCESS SOIL AT HIS EXPENSE TO AN OFF-SITE LOCATION AS APPROVED BY THE LOCAL MUNICIPALITY.
20. A 90-DAY MAINTENANCE PERIOD SHALL BEGIN IMMEDIATELY AFTER ALL PLANTS HAVE BEEN SATISFACTORILY INSTALLED.
21. MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, REPLACING MULCH THAT HAS BEEN DISPLACED BY EROSION OR OTHER MEANS, REPAIRING AND RESHAPING WATER RINGS OR SAUCERS, MAINTAINING STAKES AND GUYS IF ORIGINALLY REQUIRED, WATERING WHEN NEEDED OR DIRECTED, WEEDING, PRUNING, SPRAYING, FERTILIZING, MOWING THE LAWN, AND PERFORMING ANY OTHER WORK REQUIRED TO KEEP THE PLANTS IN A HEALTHY CONDITION.
22. MOW ALL GRASS AREAS AT REGULAR INTERVALS TO KEEP THE GRASS HEIGHT FROM EXCEEDING THREE INCHES (3"). MOWING SHALL BE PERFORMED ONLY WHEN GRASS IS DRY. MOWER BLADE SHALL BE SET TO REMOVE NO MORE THAN ONE THIRD (1/3) OF THE GRASS LENGTH. WHEN THE AMOUNT OF GRASS IS HEAVY, IT SHALL BE REMOVED TO PREVENT DESTRUCTION OF THE UNDERLYING TURF. MOW GRASS AREAS IN SUCH A MANNER AS TO PREVENT CLIPPINGS FROM BLOWING ON PAVED AREAS, AND SIDEWALKS. CLEANUP AFTER MOWING SHALL INCLUDE SWEEPING OR BLOWING OF PAVED AREAS AND SIDEWALKS TO CLEAR THEM FROM MOWING DEBRIS.
23. GRASSED AREAS DAMAGED DURING THE PROCESS OF THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, WHO SHALL RESTORE THE DISTURBED AREAS TO A CONDITION SATISFACTORY TO THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIAL, OR OWNER/OWNER'S REPRESENTATIVE. THIS MAY INCLUDE FILLING TO GRADE, FERTILIZING, SEEDING, AND MULCHING.
24. SHOULD THE OWNER REQUIRE MAINTENANCE BEYOND THE STANDARD 90-DAY MAINTENANCE PERIOD, A SEPARATE CONTRACT SHALL BE ESTABLISHED.
25. LANDSCAPE CONTRACTOR SHALL WATER NEW PLANTINGS FROM TIME OF INSTALL AND THROUGHOUT REQUIRED 90-DAY MAINTENANCE PERIOD UNTIL PLANTS ARE ESTABLISHED. IF ON-SITE WATER IS NOT AVAILABLE AT THE PROJECT LOCATION, THE LANDSCAPE CONTRACTOR SHALL FURNISH IT BY MEANS OR A WATERING TRUCK OR OTHER ACCEPTABLE MANNER.
26. THE QUANTITY OF WATER APPLIED AT ONE TIME SHALL BE SUFFICIENT TO PENETRATE THE SOIL TO A MINIMUM OF EIGHT INCHES (8") IN SHRUB BEDS AND SIX INCHES (6") IN TURF AREAS AT A RATE WHICH WILL PREVENT SATURATION OF THE SOIL.
27. IF AN AUTOMATIC IRRIGATION SYSTEM HAS BEEN INSTALLED, IT CAN BE USED FOR WATERING PLANT MATERIAL. HOWEVER, FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY OF PLANT HEALTH AND ESTABLISHMENT.

PLANT MATERIAL GUARANTEE NOTES:

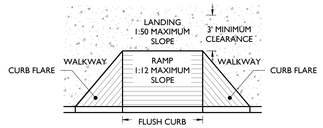
1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE YEAR (1 YR.) FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE PROJECT LANDSCAPE DESIGNER, MUNICIPAL OFFICIAL, OR OWNER/OWNER'S REPRESENTATIVE.
2. THE LANDSCAPE CONTRACTOR SHALL REMOVE AND REPLACE DYING, DEAD, OR DEFECTIVE PLANT MATERIAL AT HIS EXPENSE. THE LANDSCAPE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS COMPANY'S OPERATIONS.
3. ALL REPLACEMENT PLANTS SHALL BE OF THE SAME SPECIES AND SIZE AS SPECIFIED ON THE APPROVED OR FINAL PLANT LIST. REPLACEMENT



SIGN POST WITH BOLLARD DETAIL

NOT TO SCALE

1

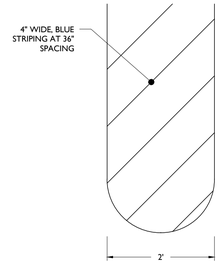


CURB RAMP WITH FLARES DETAIL

NOT TO SCALE

NOTES:
1. CROSS SLOPE ON RAMP SHALL NOT EXCEED 1:50 SLOPE.
2. WHERE A 60" X 60" LANDING EXISTS AT THE TOP OF RAMP, RAMP FLARE SHALL NOT EXCEED 1:10 SLOPE. WHERE LANDING IS NOT PROVIDED RAMP FLARE SHALL NOT EXCEED 1:12 SLOPE.
3. A FLUSH CURB SHALL HAVE A MINIMUM WIDTH OF 36". SEE PLAN FOR EXACT WIDTH.
4. RAMP SHALL HAVE A MAXIMUM RISE OF 6" WITHOUT A HANDRAIL.

2

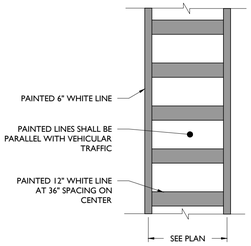


NOTES:
1. PARKING STALL MARKINGS ARE TO BE MEASURED FROM CENTER OF MARKING TO CENTER OF MARKING.

PAINTED DRIVE-THROUGH STRIPING DETAIL

NOT TO SCALE

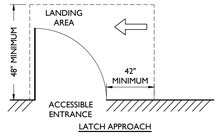
3



CROSS WALK DETAIL

NOT TO SCALE

4

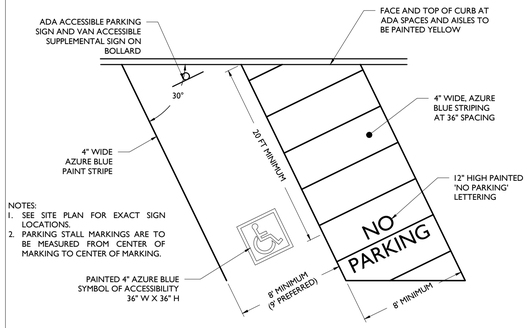


ACCESSIBLE ENTRANCE LANDING DETAIL

NOT TO SCALE

NOTES:
1. MAXIMUM SLOPE ON LANDING SHALL BE 1:50 IN ALL DIRECTIONS
2. DIMENSIONS SHOWN HERE ARE THE MINIMUM DIMENSIONS REQUIRED FOR AN ADA COMPLIANT LANDING AT THE ACCESSIBLE ENTRANCE. REFER TO SITE PLAN FOR SITE SPECIFIC DIMENSIONS THAT MAY SPECIFY A LARGER LANDING AREA.
3. CONTRACTOR SHALL CONTACT THE ENGINEER BEFORE CONSTRUCTION IF THE ACCESSIBLE ENTRANCE ON SITE DOES NOT MATCH THE SCENARIO SHOWN ABOVE.

5

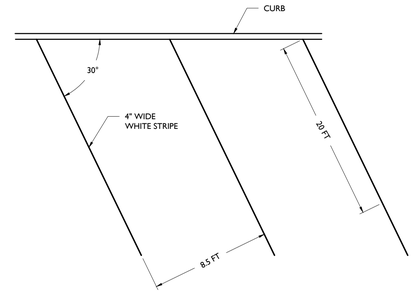


NOTES:
1. SEE SITE PLAN FOR EXACT SIGN LOCATIONS.
2. PARKING STALL MARKINGS ARE TO BE MEASURED FROM CENTER OF MARKING TO CENTER OF MARKING.

ACCESSIBLE PARKING STALL MARKINGS

NOT TO SCALE

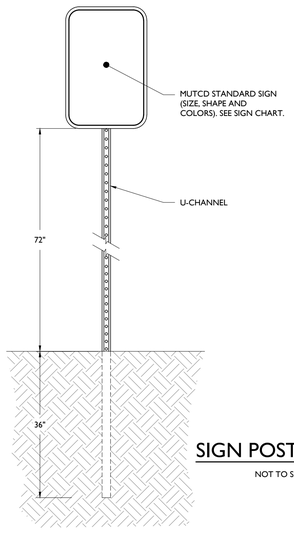
6



ANGLED PARKING STALL MARKINGS

NOT TO SCALE

7



SIGN POST DETAIL

NOT TO SCALE

M.U.T.C.D. NUMBER	TEXT	COLOR		SIZE OF SIGN (WIDTH X HEIGHT)	TYPE OF MOUNT
		LEGEND	BACKGROUND		
DO NOT ENTER (R5-1)	DO NOT ENTER	RED	WHITE	30"x30"	GROUND

NOTE:
1. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), EXCEPT AS NOTED.
2. ALL SIGNS SHALL BE MOUNTED AS TO NOT OBSTRUCT THE SHAPE OF "STOP" (R1-1) AND "YIELD" (R1-2) SIGNS.

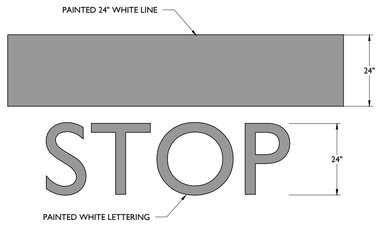
SIGN DATA TABLE

NOT TO SCALE

8

PAVEMENT STRIPING & MARKINGS NOTES:
1. ALL SIGNING AND STRIPING IN EXISTING CONDITION IN CONFLICT WITH THE PROPOSED DESIGN PLAN SHALL BE REMOVED.
2. ALL PROPOSED SIGNING AND STRIPING SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. PAVEMENT STRIPING AND MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS.
4. UNLESS OTHERWISE SPECIFIED, ALL STRIPING AND MARKINGS IN THE PUBLIC RIGHT-OF-WAY SHALL BE OF THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.
5. UNLESS OTHERWISE SPECIFIED, ON SITE PARKING STALL STRIPING, FIRE LANE STRIPING AND DIRECTIONAL ARROWS SHALL BE EPOXY PAINT. ON SITE STOP BARS, "DO NOT ENTER" BARS, AND ASSOCIATED LETTERING SHALL BE THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.

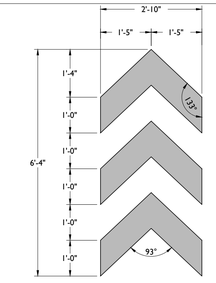
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STOP BAR DETAIL

NOT TO SCALE

10

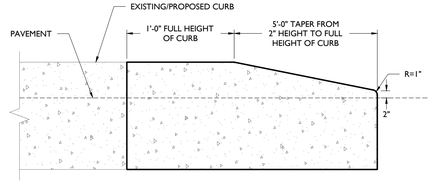


PAINTED DIRECTIONAL ARROW DETAIL

NOT TO SCALE

NOTES:
1. PAVEMENT MARKINGS IN CONCRETE AREAS SHALL BE PAINTED RED
2. PAVEMENT MARKINGS IN ASPHALT AREAS SHALL BE PAINTED WHITE
3. PAINT TYPE SHALL BE SHERWIN-WILLIAMS PRO PARK, SETFAST, HOTLINE OR AN APPROVED EQUAL

11

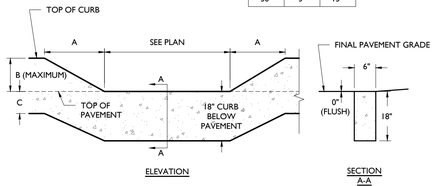


CURB TAPER DETAIL

NOT TO SCALE

12

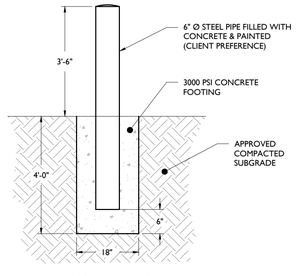
FLUSH CURB DIMENSIONS		
A	B	C
72"	6"	12"
60"	5"	13"
48"	4"	14"
36"	3"	15"



FLUSH CURB DETAIL

NOT TO SCALE

13



BOLLARD

NOT TO SCALE

14

ISSUE	DATE	BY	DESCRIPTION
2	01/22/2026	EM	REVISED PER CITY REVIEWS
1	10/10/2025	JS/EM	FOR SITE PLAN SUBMISSION

NOT APPROVED FOR CONSTRUCTION

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SEVEN 7 BREW DRIVE THRU COFFEE >>>

PROPOSED RESTAURANT WITH DRIVE THRU

PARCEL ID: 22-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334



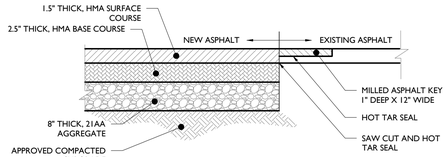
STONEFIELD engineering & design

SCALE: AS SHOWN | PROJECT ID: DET-250348

TITLE: CONSTRUCTION DETAILS

DRAWING: C-11

V:\DET\2025\DET-250348 SEVEN HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\DWG\DET-250348 11-13-25 PTS.DWG

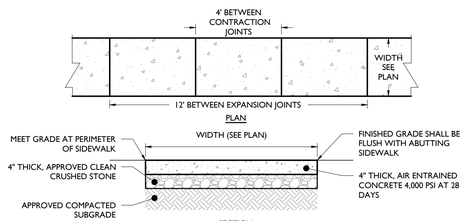


FULL DEPTH ASPHALT PAVEMENT DETAIL

NOT TO SCALE

NOTE:
1. THE GRANULAR BASE SHOULD BE COMPACTED TO 98% OF ITS MODIFIED PROCTOR MAXIMUM DRY DENSITY (MPMDD) DETERMINED IN ACCORDANCE WITH ASTM D-1557.
2. THE ASPHALT SHOULD BE PLACED IN ACCORDANCE WITH MDOT SPECIFICATIONS AS WELL AS APPLICABLE LOCAL REQUIREMENTS AND IS RECOMMENDED TO BE COMPACTED TO A MINIMUM OF 92% OF THE THEORETICAL MAXIMUM DENSITY (TMD).

1

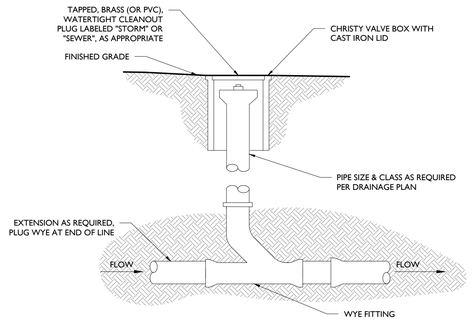


CONCRETE WALKWAY DETAIL

NOT TO SCALE

NOTES:
1. MAXIMUM CROSS SLOPE SHALL BE ¼" PER FOOT.
2. ½" EXPANSION JOINTS SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED ¼" FROM THE SURFACE.
3. 1" DEEP BY ¼" WIDE, TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT 4' INTERVALS.
4. EXPANSION JOIN SHALL BE PROVIDED WHERE ADJACENT TO A BUILDING.

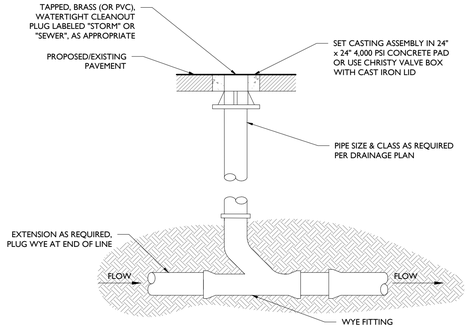
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SOFTSCAPE CLEAN-OUT

NOT TO SCALE

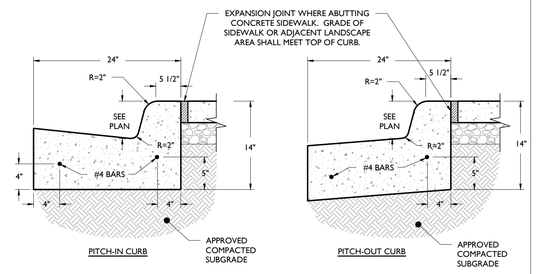
3



HARDSCAPE CLEAN-OUT

NOT TO SCALE

4

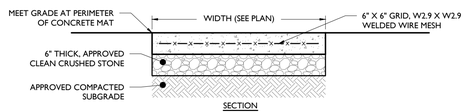


CONCRETE CURB AND GUTTER DETAIL

NOT TO SCALE

NOTES:
1. CONCRETE SHALL BE 3500 PSI AT 28 DAYS, AIR-ENTRAINED.
2. TRANSVERSE EXPANSION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED ½" FROM SURFACE.
3. HALF DEPTH CONTRACTION JOINTS SHALL BE PROVIDED AT 10 FOOT INTERVALS.
4. 14" CURB DEPTH SHALL BE MAINTAINED AT DEPRESSED OR FLUSH CURBED AREAS.

5

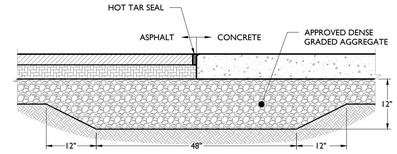


REINFORCED 6" CONCRETE

NOT TO SCALE

NOTES:
1. THE AGGRIGATE BASE SHOULD BE COMPACTED TO 95% OF ITS MODIFIED PROCTOR MAXIMUM DRY DENSITY (MPMDD) DETERMINED IN ACCORDANCE WITH ASTM D-1557
2. ½" EXPANSION JOINTS WITH WATER SEAL SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED ½" FROM THE SURFACE. LONGITUDINAL REBAR TO BE CUT AT EXPANSION JOINTS.
3. 1" DEEP BY ¼" WIDE, TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT MID-POINT BETWEEN EXPANSION JOINTS OR 6' INTERVALS MAX.
4. CONCRETE SHALL RECEIVE BROOM FINISH.
5. ALL EXPOSED CORNERS TO HAVE 12" CHAMFER.

6



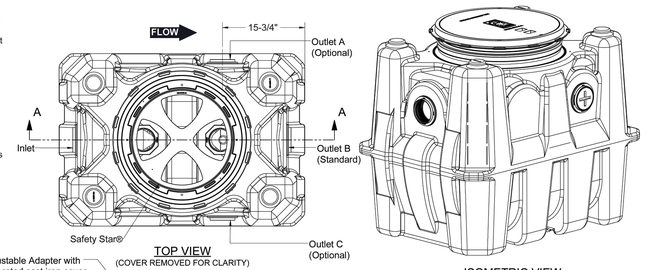
CONCRETE TO ASPHALT TRANSITION DETAIL

NOT TO SCALE

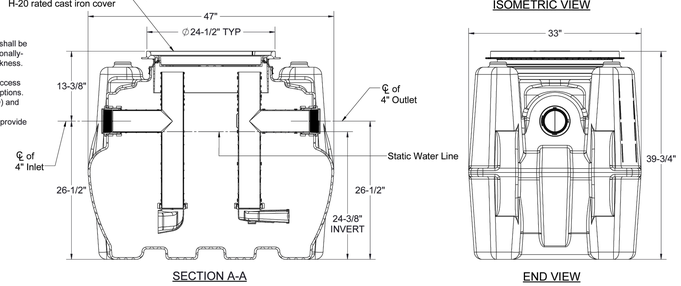
7

SPECIFICATIONS

Notes:
1. 4" FPT inlet/outlet with 4" plain end adapters, single inlet and triple outlet.
2. Unit weight - w/ cast iron covers: 190 lbs. (For wet weight add 1,043 lbs.)
3. Maximum operating temperature: 150º F continuous
4. Capacities - Liquid: 125 gal.
   Grease: 861 lbs. (118 gal.) @75 GPM
   Solids: 31 gal.
5. For gravity drainage applications only.
6. Do not use for pressure applications.
7. Cover placement allows full access to tank for proper maintenance.
8. Vent not required unless per local code.
9. Engineered inlet and outlet diffusers with inspection ports are removable to inspect / clean piping.
10. Integral air relief / Anti-siphon / Sampling access.
11. Adjustable cover adapter provides up to 4" of additional height.
12. Designed for below-grade, above-grade, indoor and outdoor installations.
13. Safety Star®, access restrictor built into cover adapter, prevents accidental entry to tank (450 lb rating).



ISOMETRIC VIEW



ENGINEER SPECIFICATION GUIDE

Schier Great Basin™ grease interceptor model # GB-75 shall be lifetime guaranteed and made in USA of seamless, rotationally-molded polyethylene with minimum 3/8" uniform wall thickness. Interceptor shall be furnished for above or below-grade installation with adjustable cover adapter, Safety Star® access restrictor built into each cover adapter, and three outlet options. Interceptor shall be certified to ASME A112.14.3 (Type D) and CSA B481.1. Interceptor flow rate shall be 75 GPM. Interceptor grease capacity shall be 861 lbs. Cover shall provide water/gas-tight seal and have minimum 16,000 lbs. load capacity.

CERTIFIED PERFORMANCE

Great Basin™ hydromechanical grease interceptors are third party performance-tested and listed by IAPMO to ASME #A112.14.3 and CSA B481.1 grease interceptor standards and greatly exceed requirements for grease separation and storage. They are compliant to the Uniform Plumbing Code and the International Plumbing Code.

Type D certification does not require a flow control

SPECIFICATION SHEET

MODEL NUMBER:	PART NUMBER: 4045-007-02			
GB-75	DESCRIPTION: GB-75 GREASE INTERCEPTOR 75 GPM, 4" INLET/OUTLET, H-20 RATED CAST IRON COVER			
PROPRIETARY AND CONFIDENTIAL	DWG BY: C. BUSENITZ	DATE: 4/14/2022	REV: -	ECO: -

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UPC ® UPC C ®

SCHIER
6455 Woodland Dr
Shawnee, KS 66218
Tel: 913-951-3300
Fax: 913-951-3399
schierproducts.com

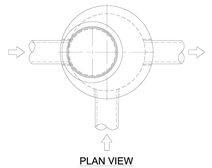
GREASE TRAP DETAIL

NOT TO SCALE

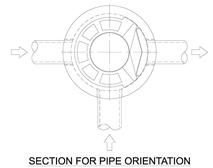
8

PROJECT SUMMARY

DESIGN PARAMETERS
- TREATMENT METHOD = Cascade Separator
- MODEL = CS-4

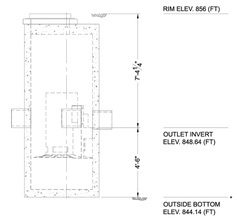


PLAN VIEW
(INTERNALS NOT SHOWN)
SCALE: 1"=40'



SECTION FOR PIPE ORIENTATION
(TOP SLAB NOT SHOWN)
SCALE: 1"=40'

MATERIAL LIST		
COUNT	DESCRIPTION	INSTALLED BY
1	CS-4 CYLINDER INSERT, STD	CONTECH
1	SEALANT FOR JOINTS	CONTRACTOR
1	30"Ø 4" FRAME & COVER, EJ#1600484, OR EQUIV.	CONTRACTOR



INLET 1 INVERT ELEV. 848.74 (FT)

INLET 2 INVERT ELEV. 848.74 (FT)

ELEVATION VIEW

SCALE: 1"=50'

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH REPRESENTATIVE. www.ContechES.com
3. CASCADE SEPARATOR WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 LOAD RATING, ASSUMING EARTH COVER OF 0' - 2', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 AND BE CAST WITH THE CONTECH LOGO.
5. CASCADE SEPARATOR STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CASCADE SEPARATOR MANHOLE STRUCTURE.
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN. ALL PIPE CENTERLINES TO MATCH PIPE OPENING CENTERLINES.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

* OUTSIDE TOP AND BOTTOM OF SYSTEM MAY DIFFER DEPENDING ON MANUFACTURING LOCATION.

CONTECH
DYOHDS
DRAWING

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MARK	DATE	REVISION DESCRIPTION	BY

Cascade Separator CS-4
7BREW - FARMINGTON HILLS
WATER QUALITY UNIT
FARMINGTON,MI

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com

CASCADE separator™

DATE: 01/22/2026

DESIGNED	DRAWN
DYO	DYO
CHECKED	APPROVED
DYO	DYO
PROJECT No. 71691	DESIGN No. 98049
SHEET: 1 OF 1	

V:\DET\2025\DET-250348 (BREW HOSPITALITY GROUP - 27000 ORCHARD LAKE RD, FARMINGTON HILLS, MI)\CAD\PLOT\SDP-11-13-DETS.DWG

C:\EXPORTS\TEMP_KTEST\REVIZTO\ACSPREPARATION_TEMPLATE.DWG 2/20/2019 1:45 PM

WATER QUALITY UNIT

NOT TO SCALE

9

ISSUE	DATE	BY	DESCRIPTION
2	01/22/2026	EM	REVISED PER CITY REVIEWS
1	10/10/2025	JS/EM	FOR SITE PLAN SUBMISSION

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Salem, MA · Princeton, NJ · Tampa, FL
www.stonefieldeng.com
555 S. Old Woodward Avenue, Suite 12L, Birmingham, MI 48009
Phone 248.247.1115

SITE DEVELOPMENT PLANS

SEVEN7 BREW DRIVE THRU COFFEE >>>

PROPOSED RESTAURANT WITH DRIVE THRU

PARCEL ID: 23-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334

STATE OF MICHIGAN
SCOTT M. REED
COOSEY
ENGINEER
No. 6201060428
PROFESSIONAL ENGINEER

STONEFIELD engineering & design

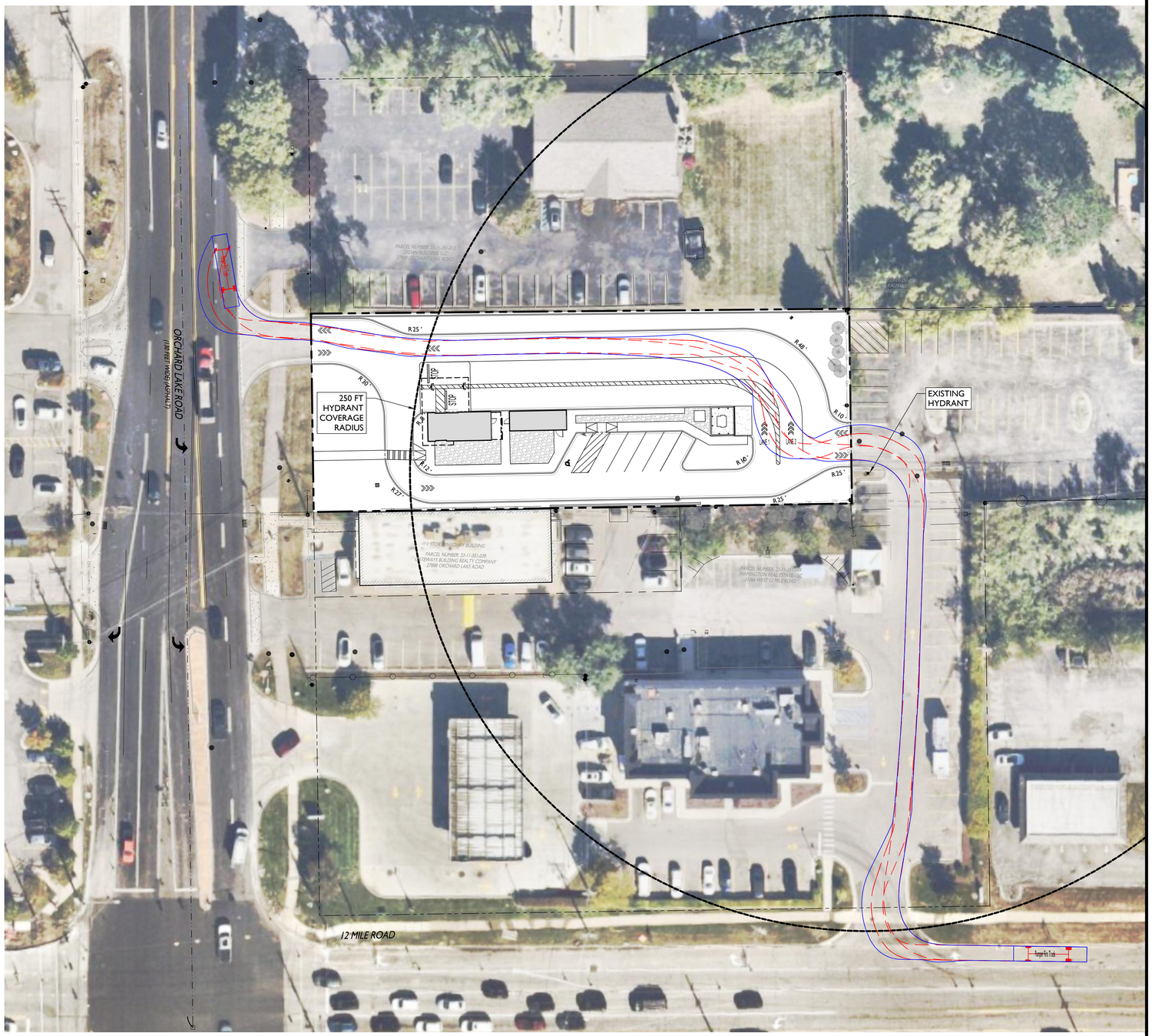
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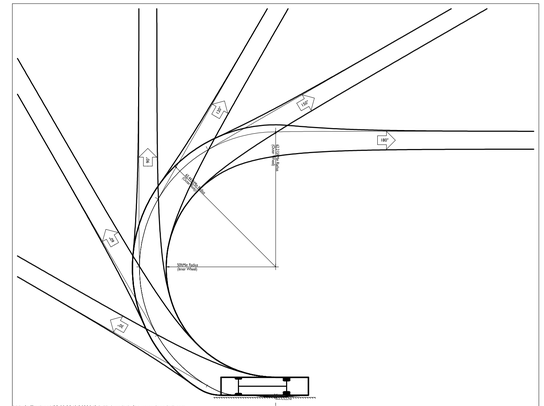
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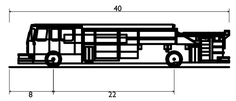
CONSTRUCTION DETAILS

DRAWING:

C-12







Pumper Fire Truck	
Overall Length	40.000ft
Overall Width	8.167ft
Overall Body Height	7.745ft
Min Body Ground Clearance	0.656ft
Track Width	8.167ft
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°



GRAPHIC SCALE IN FEET
1" = 20'

ISSUE	DATE	BY	DESCRIPTION
2	01/22/2026	EM	REVISED PER CITY REVIEWS
1	10/10/2025	JS/EM	FOR SITE PLAN SUBMISSION

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

SEVEN 12 BREW DRIVE THRU COFFEE >>>

PROPOSED RESTAURANT WITH DRIVE THRU

PARCEL ID: 23-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN 48334

STATE OF MICHIGAN
JONATHAN REID COOKSEY
ENGINEER
No. 6201068428
PROFESSIONAL ENGINEER

STONEFIELD engineering & design

SCALE: 1" = 20' | PROJECT ID: DET-250348

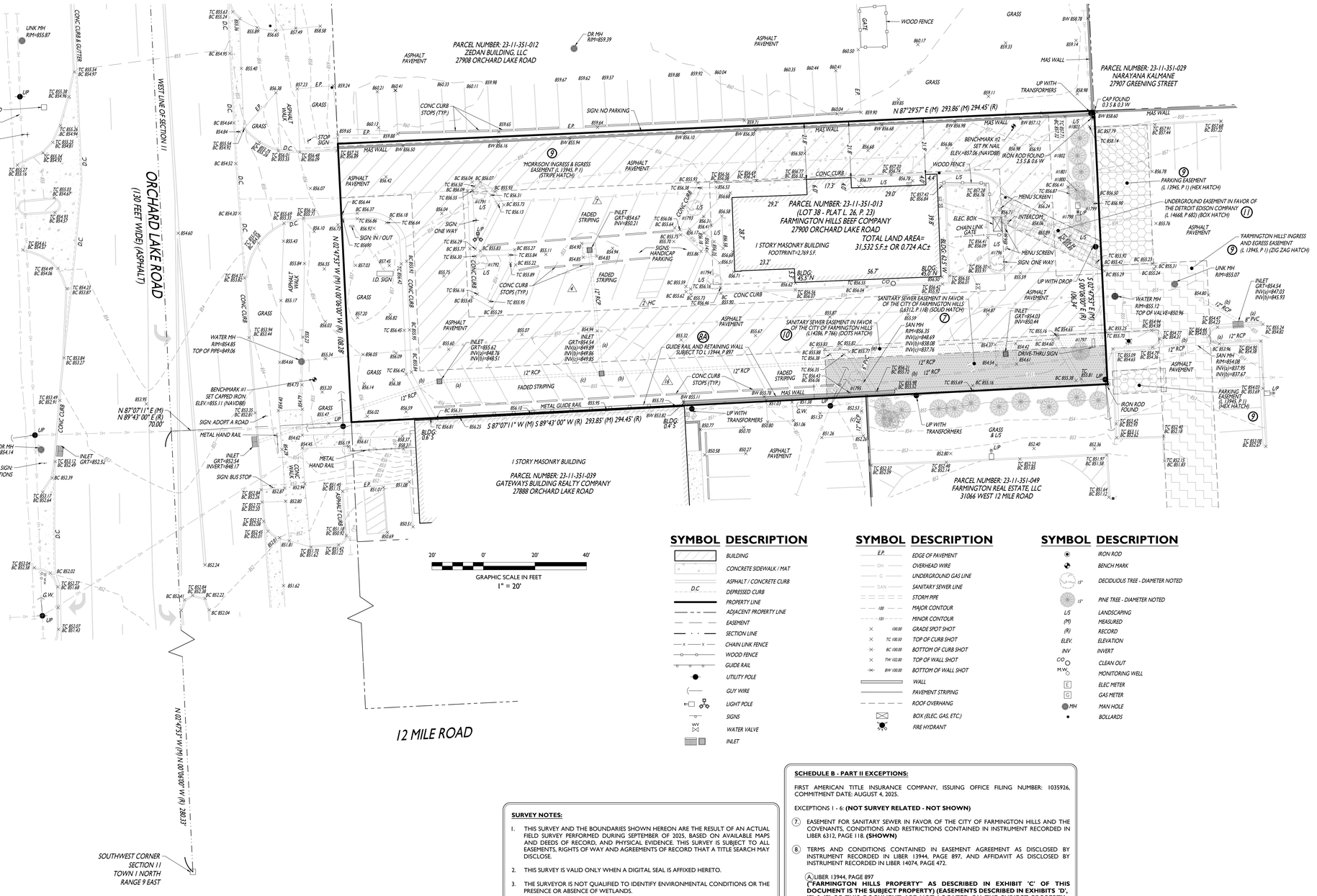
TITLE:

FIRE TRUCK TURNING ANALYSIS

DRAWING:

C-13

V:\DET\2025\DET-250348 SEVEN 12 HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI\CAD\DWG\FOTOPI-13 TRCK.DWG



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

SYMBOL DESCRIPTION

SYMBOL	DESCRIPTION
	BUILDING
	CONCRETE SIDEWALK / MAT
	ASPHALT / CONCRETE CURB
D.C.	DEPRESSED CURB
	PROPERTY LINE
	ADJACENT PROPERTY LINE
	EASEMENT
	SECTION LINE
X X	CHAIN LINK FENCE
	WOOD FENCE
	GUIDE RAIL
	UTILITY POLE
	GUY WIRE
	LIGHT POLE
	SIGNS
	WATER VALVE
	INLET

SYMBOL DESCRIPTION

SYMBOL	DESCRIPTION
E.P.	EDGE OF PAVEMENT
OH	OVERHEAD WIRE
G	UNDERGROUND GAS LINE
SAN	SANITARY SEWER LINE
	STORM PIPE
100	MAJOR CONTOUR
101	MINOR CONTOUR
100.00	GRADE SPOT SHOT
TC 100.50	TOP OF CURB SHOT
BC 100.00	BOTTOM OF CURB SHOT
TW 102.00	TOP OF WALL SHOT
BW 100.00	BOTTOM OF WALL SHOT
	WALL
	PAVEMENT STRIPING
	ROOF OVERHANG
	BOX (ELEC, GAS, ETC.)
	FIRE HYDRANT

SYMBOL DESCRIPTION

SYMBOL	DESCRIPTION
	IRON ROD
	BENCH MARK
15"	DECIDUOUS TREE - DIAMETER NOTED
15"	PINE TREE - DIAMETER NOTED
LS	LANDSCAPING
(M)	MEASURED
(R)	RECORD
ELEV.	ELEVATION
INV	INVERT
C/O	CLEAN OUT
M.W.	MONITORING WELL
E	ELEC METER
G	GAS METER
MH	MAN HOLE
	BOLLARDS

FLOOD NOTE:

BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS IN ZONE X UNSHADED (AREAS DETERMINED TO BE OUTSIDE THE 0.2 % ANNUAL CHANCE FLOODPLAIN) OF THE FLOOD INSURANCE RATE MAP, COMMUNITY NO. 260172, MAP NUMBER 26125C0513F WHICH BEARS AN EFFECTIVE DATE OF SEPTEMBER 29, 2006.

EXISTING STRIPED PARKING:

*THE PARKING STRIPING ON THE SUBJECT PROPERTY IS VERY FADED AND NOT VISIBLE IN SOME PLACES. THE PARKING COUNT HEREON IS BASED ON THE LIMITED STRIPING THAT IS STILL VISIBLE, ALONG WITH SIGNS AND CURB STOPS.

REGULAR SPACES = 27 SPACES
HANDICAP SPACES = 2 SPACES
TOTAL SPACES = 29 SPACES

SURVEY REFERENCES:

1. DEED BETWEEN ORCHARD RIDGE PLAZA (GRANTOR) AND FARMINGTON HILLS BEEF COMPANY (GRANTEE), DATED AUGUST 27, 1993 AND RECORDED IN THE OFFICE OF THE REGISTER OF DEEDS, OAKLAND COUNTY, MICHIGAN, IN LIBER 13926, PAGE 87.
2. "OAKLAND HILLS ORCHARDS" SUBDIVISION LOCATED ON THE WEST 1/2 OF THE NORTHWEST 1/4 AND THE WEST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 11, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP, OAKLAND COUNTY, MICHIGAN DATED DECEMBER 18, 1920 AND RECORDED IN THE OAKLAND COUNTY REGISTER OF DEEDS OFFICE IN LIBER 26 OF PLATS ON PAGE 23.
3. A TITLE COMMITMENT PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, ISSUING OFFICE FILE NUMBER: 1035926, COMMITMENT DATE: AUGUST 4, 2025.

SURVEY NOTES:

1. THIS SURVEY AND THE BOUNDARIES SHOWN HEREON ARE THE RESULT OF AN ACTUAL FIELD SURVEY PERFORMED DURING SEPTEMBER OF 2025, BASED ON AVAILABLE MAPS AND DEEDS OF RECORD, AND PHYSICAL EVIDENCE. THIS SURVEY IS SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND AGREEMENTS OF RECORD THAT A TITLE SEARCH MAY DISCLOSE.
2. THIS SURVEY IS VALID ONLY WHEN A DIGITAL SEAL IS AFFIXED HERETO.
3. THE SURVEYOR IS NOT QUALIFIED TO IDENTIFY ENVIRONMENTAL CONDITIONS OR THE PRESENCE OR ABSENCE OF WETLANDS.
4. THE CERTIFICATION SHOWN HEREON IS NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.
5. ANY SUBSURFACE UTILITIES SHOWN HAVE BEEN LOCATED FROM MARKOUTS OBSERVED ON SITE DURING THE FIELD SURVEY, AND SURFACE FEATURES SUCH AS VALVES, MANHOLES AND GRATES. STORM DRAINAGE AND OR SANITARY INVERTS ARE DEPICTED BASED ON OBSERVATIONS MADE IN THE FIELD. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION USED. THE SURVEY HAS NOT PHYSICALLY LOCATED THE UTILITIES. BEFORE ANY EXCAVATIONS ARE BEGUN, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
6. BEARINGS ARE REFERENCED TO THE MICHIGAN STATE PLANE COORDINATE SYSTEM (NAD83) SOUTH ZONE. ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88), ESTABLISHED VIA RTK GPS OBSERVATIONS UTILIZING MICHIGAN DEPARTMENT OF TRANSPORTATION CONTINUOUSLY OPERATING REFERENCE SYSTEM (MDOT CORS).
7. BASEMENT OR BELOW GRADE STRUCTURES (IF ANY) ARE UNKNOWN.
8. BENCHMARK #1 = SET CAP = 855.11 (NAVD88)
   - CAP IN GRASS IN FRONT OF SUBJECT PARCEL
   BENCHMARK #2 = SET PK NAIL = 857.06 (NAVD88)
   - PK NAIL IN CONCRETE NORTHEAST OF BUILDING ON SUBJECT PARCEL

SCHEDULE B - PART II EXCEPTIONS:

FIRST AMERICAN TITLE INSURANCE COMPANY, ISSUING OFFICE FILING NUMBER: 1035926, COMMITMENT DATE: AUGUST 4, 2025.

EXCEPTIONS 1 - 6: **(NOT SURVEY RELATED - NOT SHOWN)**

7. EASEMENT FOR SANITARY SEWER IN FAVOR OF THE CITY OF FARMINGTON HILLS AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 6312, PAGE 118. **(SHOWN)**
8. TERMS AND CONDITIONS CONTAINED IN EASEMENT AGREEMENT AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 13944, PAGE 897, AND AFFIDAVIT AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 14074, PAGE 472.

   A. LIBER 13944, PAGE 897
   ("FARMINGTON HILLS PROPERTY" AS DESCRIBED IN EXHIBIT 'C' OF THIS DOCUMENT IS THE SUBJECT PROPERTY) (EASEMENTS DESCRIBED IN EXHIBITS 'D', 'E' & 'F' OF THIS DOCUMENT ARE NOT LOCATED ON THE SUBJECT PROPERTY - NOT SHOWN) (GUIDE RAIL & RETAINING WALL ON SUBJECT PROPERTY SUBJECT TO THIS AGREEMENT SHOWN)

   B. LIBER 14074, PAGE 472.
   ("FARMINGTON HILLS PROPERTY" AS DESCRIBED IN EXHIBIT 'C' OF THIS DOCUMENT IS THE SUBJECT PROPERTY) (EASEMENTS DESCRIBED IN EXHIBITS 'D', 'E' & 'F' OF THIS DOCUMENT ARE NOT LOCATED ON THE SUBJECT PROPERTY - NOT SHOWN)
9. TERMS AND CONDITIONS CONTAINED IN EASEMENT AGREEMENT AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 13945, PAGE 1. **(INGRESS & EGRESS EASEMENTS AND PARKING EASEMENTS SHOWN)**
10. EASEMENT FOR SANITARY SEWER IN FAVOR OF THE CITY OF FARMINGTON HILLS AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 14286, PAGE 766. **(SHOWN)**
11. UNDERGROUND EASEMENT (RIGHT OF WAY) IN FAVOR OF THE DETROIT EDISON COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 14668, PAGE 682. **(SHOWN)**
12. EASEMENT(S), RESTRICTIONS AND/OR SETBACK LINES, IF ANY, AS DISCLOSED BY THE RECORDED PLAT. **(RECORDED PLAT IN LIBER 26, PAGE 23 DOES NOT SHOW ANY EASEMENTS, RESTRICTIONS AND/OR SETBACK LINES FOR THE SUBJECT PROPERTY - NOT SHOWN)**

EXCEPTIONS 13 - 16: **(NOT SURVEY RELATED - NOT SHOWN)**

PARCEL DESCRIPTION:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF FARMINGTON HILLS, COUNTY OF OAKLAND, STATE OF MICHIGAN, AND IS DESCRIBED AS FOLLOWS:

LOT(S) 38 OF OAKLAND HILLS ORCHARDS ACCORDING TO THE PLAT THEREOF RECORDED IN LIBER 26 OF PLATS, PAGE 23 OF OAKLAND COUNTY RECORDS.

BEING THE SAME PROPERTY AS DESCRIBED IN FIRST AMERICAN TITLE INSURANCE COMPANY, ISSUING OFFICE FILING NUMBER: 1035926, COMMITMENT DATE: AUGUST 4, 2025.

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ALTA / NSPS LAND TITLE SURVEY

MAP OF SURVEY OF:

PARCEL NUMBER: 23-11-351-013
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN

ISSUE	DATE	DRAFT BY	CHECK BY	FIELD DATE	FIELD CREW	DESCRIPTION
2	10/27/25	AG	AG	10/24/25	JU/SM	ADD TREES & GPR
1	10/03/25	PL	AG	09/24/25	JU/SM	FOR ISSUE

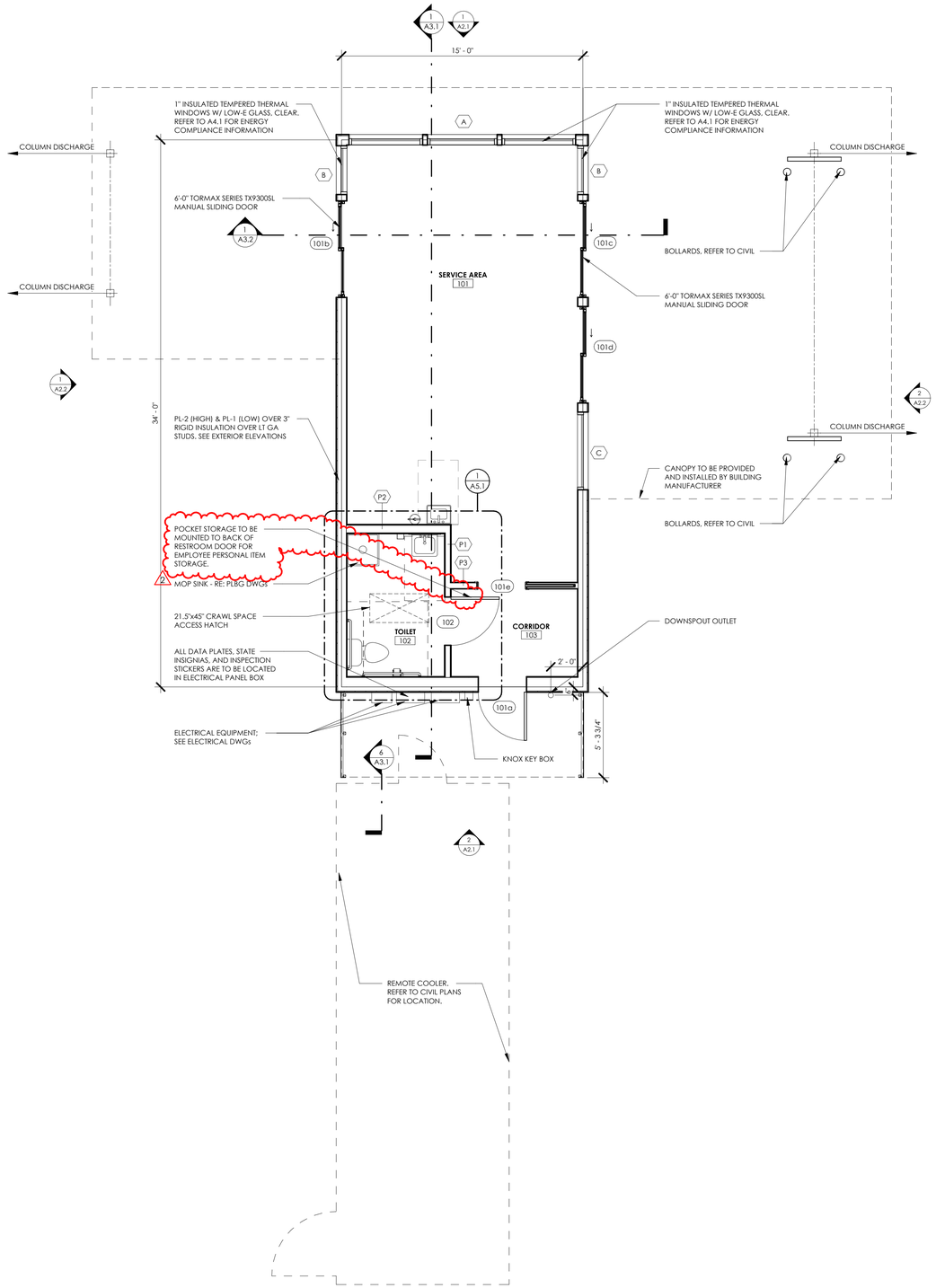
THIS IS TO DECLARE THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 7(a), 7(b)(1), 8, 9 AND 13 OF TABLE A THEREOF.

THE FIELDWORK WAS COMPLETED ON SEPTEMBER 24, 2025.

ROBERT E. HORNYAK, PS
MICHIGAN PROFESSIONAL SURVEYOR No. 4001044286

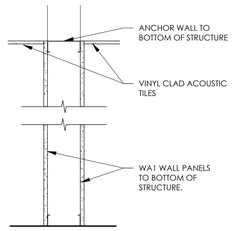
SCALE: 1"=20'	PROJECT ID: DET-250348	SHEET: 1 OF 1

Z:\BUTLER\DRAWINGS\PHOENIX\SURVEY\PHOENIXDET250348 (DAVE HOSPITALITY GROUP - 27900 ORCHARD LAKE RD, FARMINGTON HILLS, MI)_SURVEY\DWG\ADDSDET250348 - V2.DWG



2 GROUND LEVEL
1/4" = 1'-0"

PARTITION TYPES



P1 USES 3-1/2" METAL STUDS

P2 USES 6" METAL STUDS

P3 REFER TO 8/A4.1

ROOM FINISH SCHEDULE

RM NO.	RM NAME	FLR	BASE	WALLS TOP	WALLS RT	WALLS BOT	WALLS LT	CLG	CLG HGT
101	SERVICE AREA	F1	B1	WA1/2	WA1/2	WA1	WA1/2	C1	8' - 6 7/8"
102	TOILET	F1	B1	WA1	WA1	WA1	WA1	C1	8' - 6 7/8"
103	CORRIDOR	F1	B1	WA1	WA1	WA1	WA1	C1	8' - 6 7/8"
201	MECH ACCESS RM	F2	B2	WA3	WA3	WA3	WA3	C2	VARIES

FINISH LEGEND:

FLOORS
F1 PROTECT-ALL VINYL
F2 UNFINISHED PLYWOOD

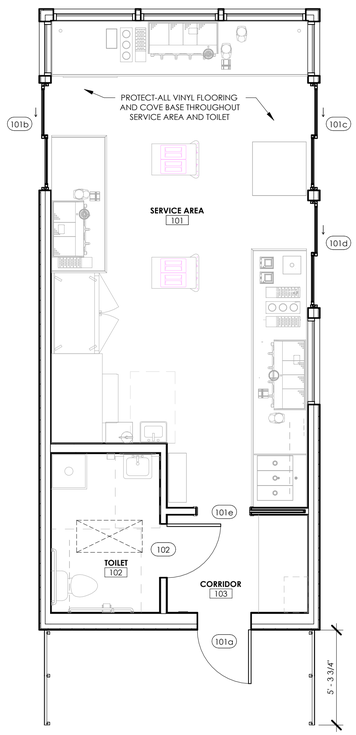
BASE
B1 METAL COVE BASE
B2 NONE

WALLS
WA1 STRATIFICATO WALL PANELS
WA2 ALUM STOREFRONT SYSTEM
WA3 EXPOSED STRUCTURE

CEILINGS
C1 VINYL CLAD ACOUSTICAL TILES
C2 EXPOSED STRUCTURE

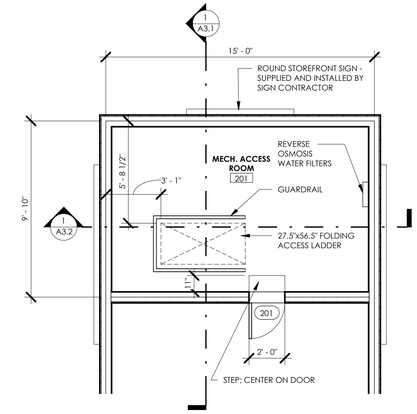
NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF THE LANDLORDS CRITERIA PRIOR TO CONSTRUCTION. FAILURE TO ACCOUNT HIMSELF WITH THIS KNOWLEDGE DOES NOT RELIEVE HIM FROM ANY RESPONSIBILITY.
2. CONTRACTOR SHALL THOROUGHLY VERIFY ALL EXISTING CONDITIONS PRIOR TO BIDDING AND CONSTRUCTION. ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT.
3. REFER TO FINISH SCHEDULE ON G0.1 FOR FLOOR AND CEILING INTERIOR FINISH CLASSIFICATION.



A7.1 5

3 FLOOR FINISH PLAN
1/4" = 1'-0"



1 UPPER MECHANICAL ROOM
1/4" = 1'-0"

DESIGN + DEVELOPMENT
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FIRM LICENSE NO. NLP000883

INTERIM REVIEW ONLY

These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, bidding, permit, or construction purposes.

ARCHITECT OF RECORD:
NAME: ADAM JOSEPH KREHER
LICENSE NO. 1301072185

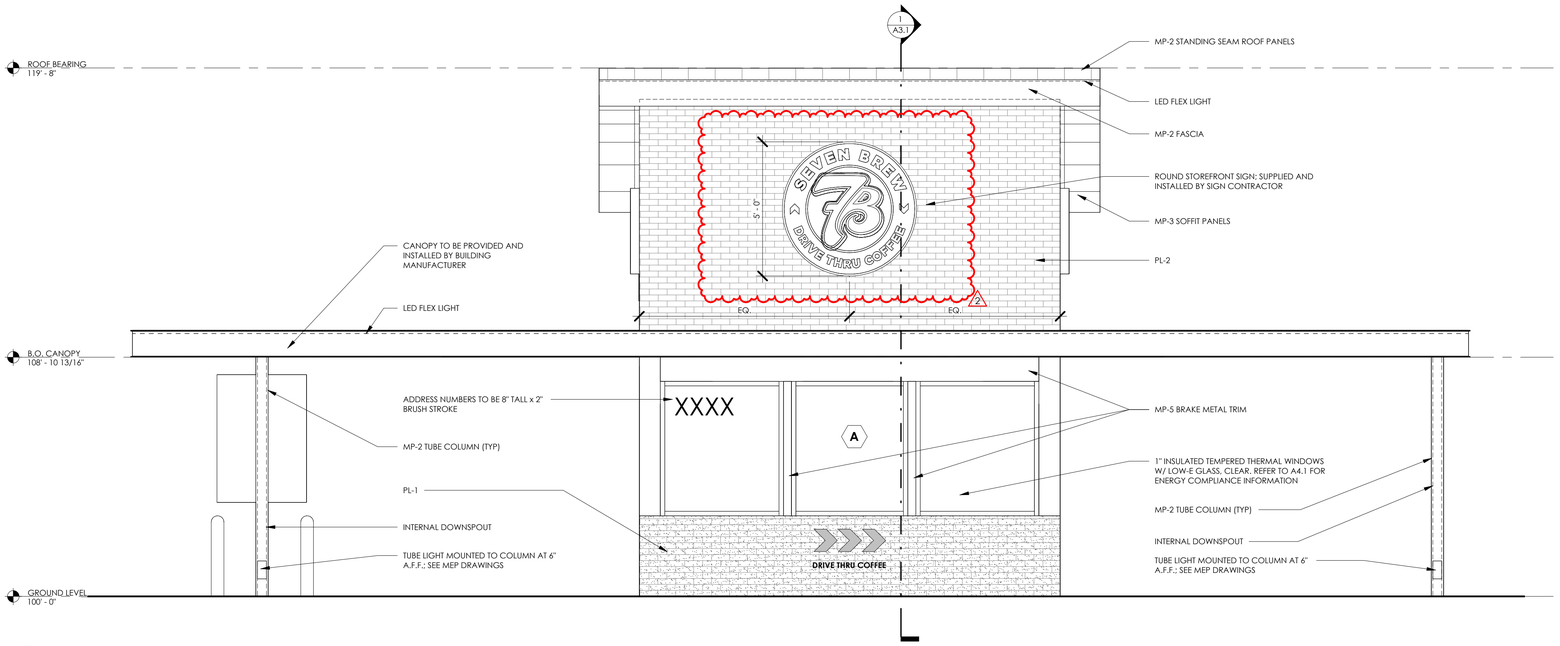
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REVISION:
1 ADD #01 DECEMBER 08, 2025
2 ADD #02 JANUARY 14, 2026

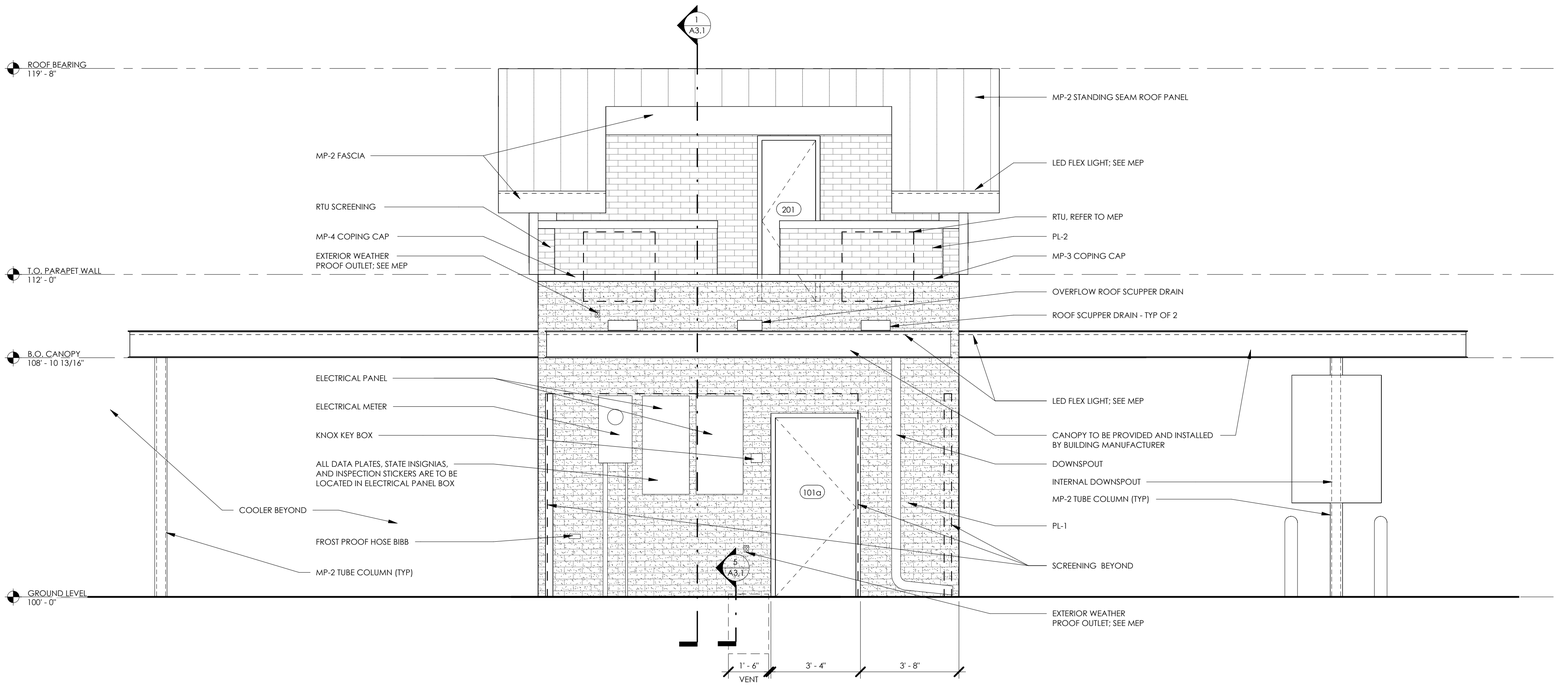
7 BREW COFFEE
FARMINGTON HILLS, MI
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS, MI
OAKLAND COUNTY, MICHIGAN 48334

A1.1
FLOOR PLANS

DATE: NOVEMBER 10, 2025



1 EXTERIOR ELEVATION - FRONT
3/8" = 1'-0"



2 EXTERIOR ELEVATION - BACK
3/8" = 1'-0"

SIGNAGE:

SIGNAGE SHOWN IS FOR REPRESENTATION AND COORDINATION ONLY. REFER TO PERMITTED SIGN PACKAGE FOR PRECISE LOCATION AND SIGNAGE QUANTITY

KITH DESIGN + DEVELOPMENT
2215 W CHESTERFIELD BLVD, SUITE 01 · SPRINGFIELD, MO 65807 · P (417) 530-4321

FIRM LICENSE NO. NLP000883

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LICENSE NO. 1301072185

PROJECT NUMBER: 25327 7BFM1

REVISION:

1 ADD #01 DECEMBER 08, 2025

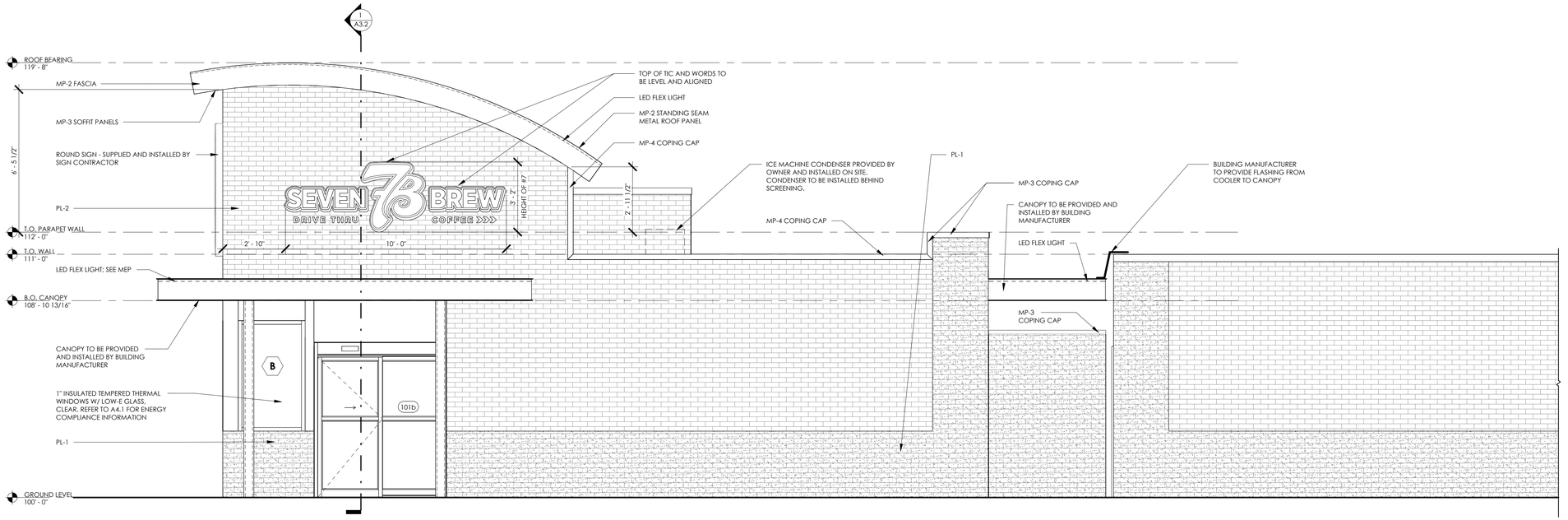
2 ADD #02 JANUARY 14, 2026

7 BREW COFFEE
FARMINGTON HILLS, MI
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS, MI
OAKLAND COUNTY, MICHIGAN 48334

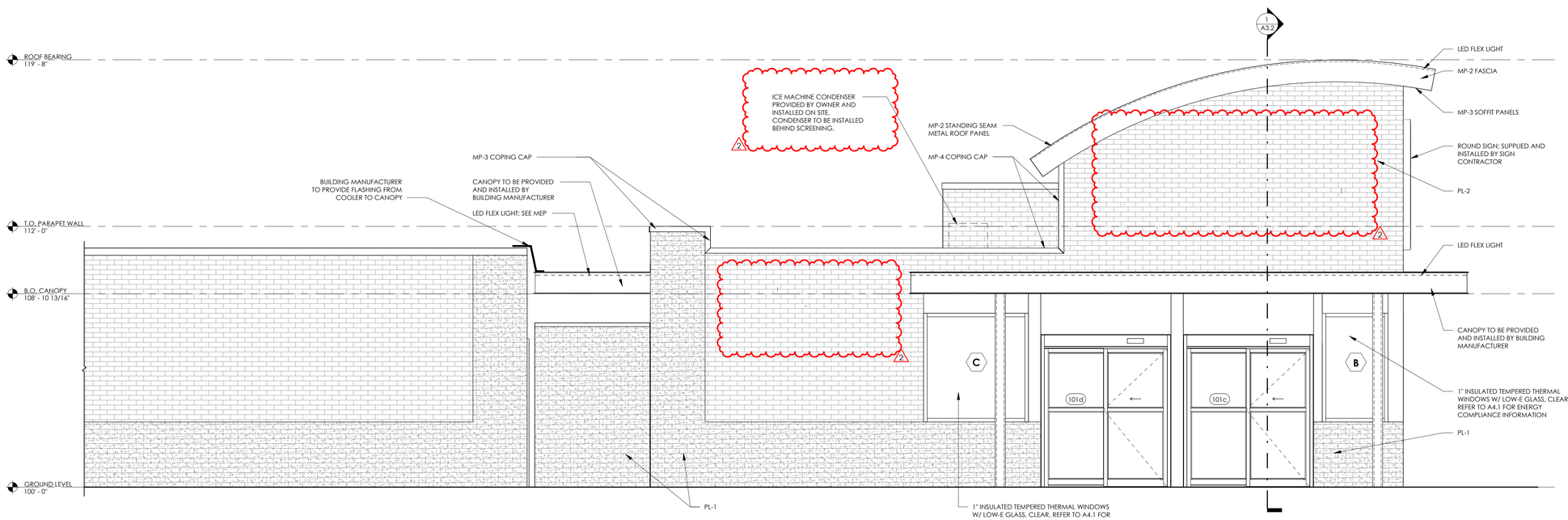
A2.1

EXTERIOR ELEVATIONS

DATE: NOVEMBER 10, 2025



1 EXTERIOR ELEVATION - LEFT SIDE
3/8" = 1'-0"



2 EXTERIOR ELEVATION - RIGHT SIDE
3/8" = 1'-0"

SIGNAGE:

SIGNAGE SHOWN IS FOR REPRESENTATION AND COORDINATION ONLY. REFER TO PERMITTED SIGN PACKAGE FOR PRECISE LOCATION AND SIGNAGE QUANTITY

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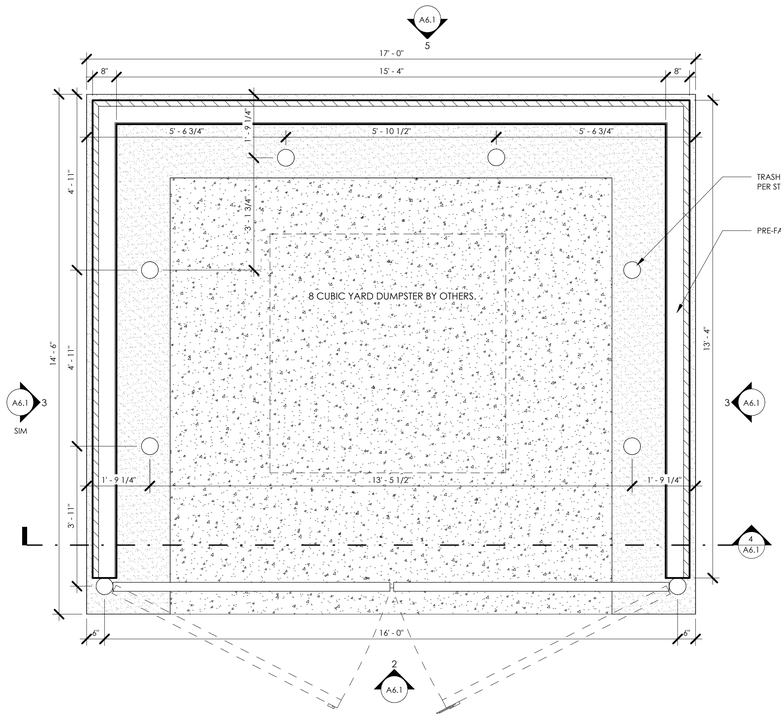
2 ADD #02 JANUARY 14, 2026

7 BREW COFFEE
FARMINGTON HILLS, MI
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS, MI
OAKLAND COUNTY, MICHIGAN 48334

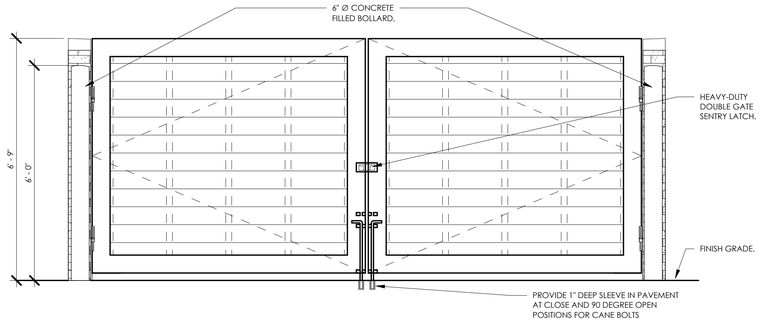
A2.2

EXTERIOR ELEVATIONS

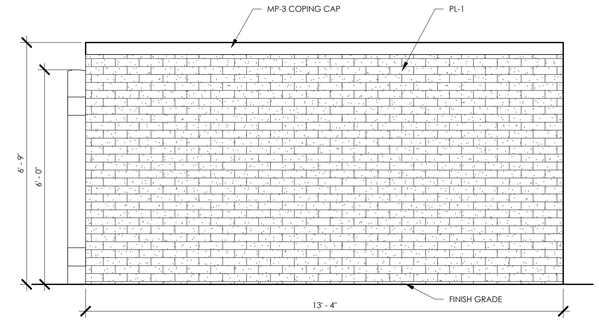
DATE: NOVEMBER 10, 2025



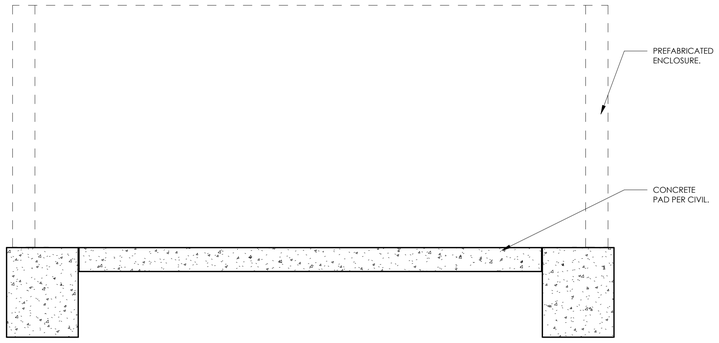
1 TRASH ENCLOSURE
1/2" = 1'-0"



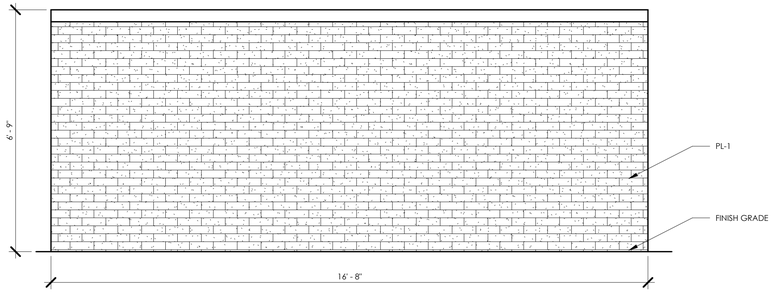
2 TRASH ENCLOSURE - FRONT ELEVATION
1/2" = 1'-0"



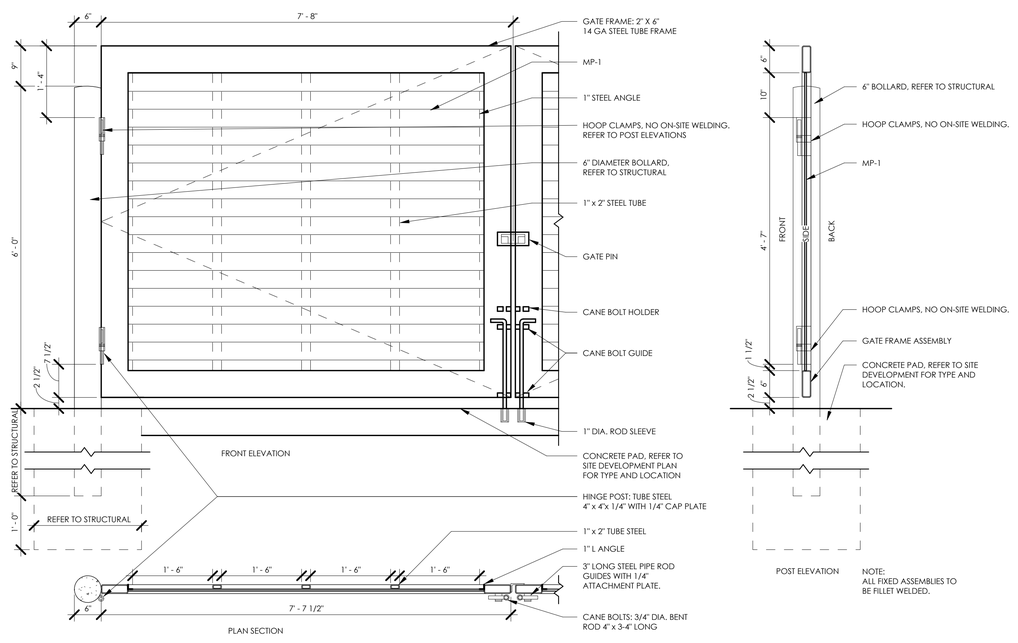
3 TRASH ENCLOSURE - SIDE ELEVATION
1/2" = 1'-0"



4 TRASH ENCLOSURE - SECTION DETAIL
1/2" = 1'-0"



5 TRASH ENCLOSURE - BACK ELEVATION
1/2" = 1'-0"



6 TRASH ENCLOSURE GATE DETAILS
3/4" = 1'-0"

KITTIC DESIGN + DEVELOPMENT
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FIRM LICENSE NO. NLP000883

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ARCHITECT OF RECORD:

NAME: ADAM JOSEPH KREHER

LICENSE NO. 1301072185

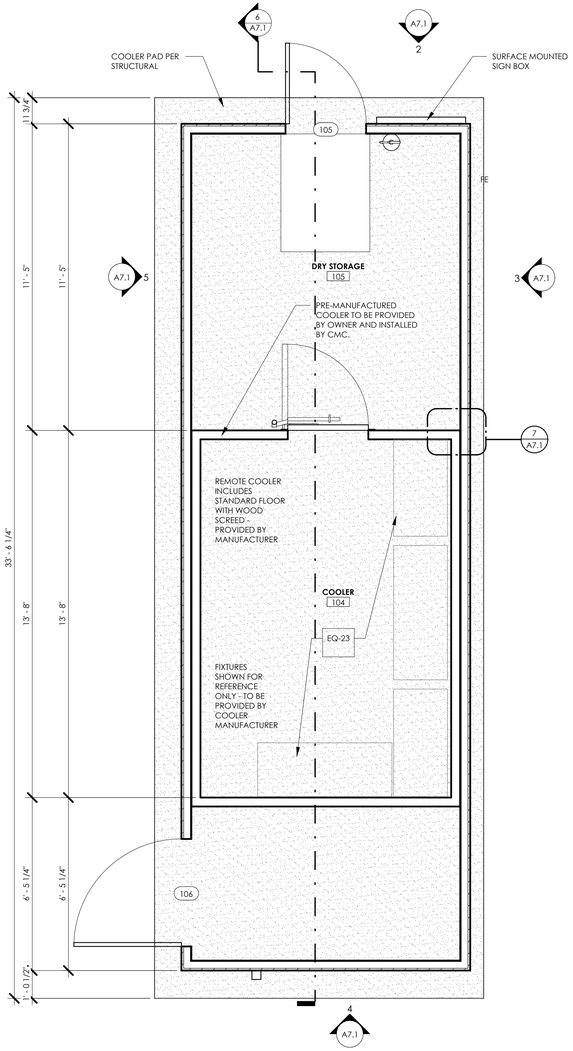
PROJECT NUMBER: 25093 7BRM2

REVISION:

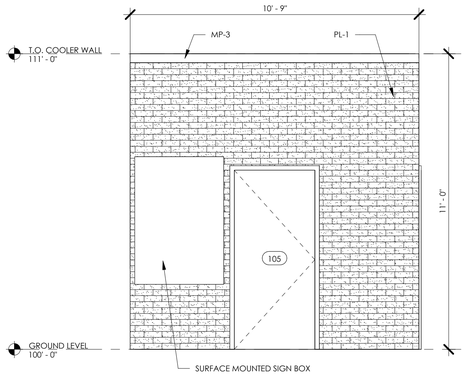
7 BREW COFFEE
FARMINGTON HILLS, MI
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS, MI
OAKLAND COUNTY, MICHIGAN 48334

A6.1
TRASH ENCLOSURE DETAILS

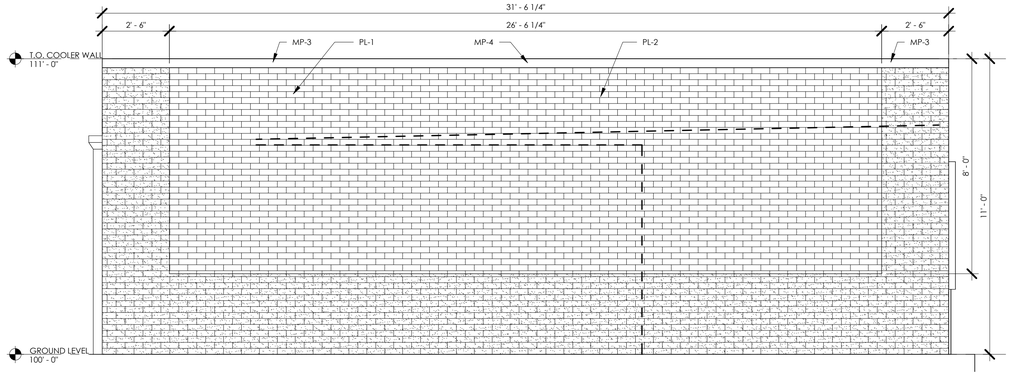
DATE: NOT FOR CONSTRUCTION



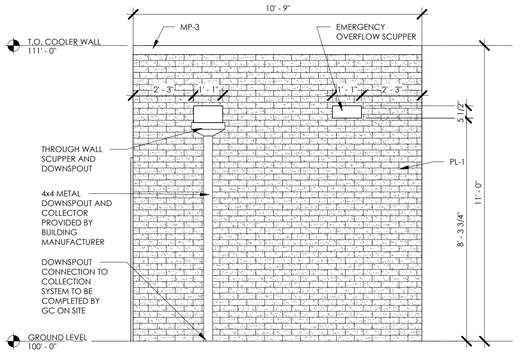
1 REMOTE COOLER PLAN
3/8" = 1'-0"



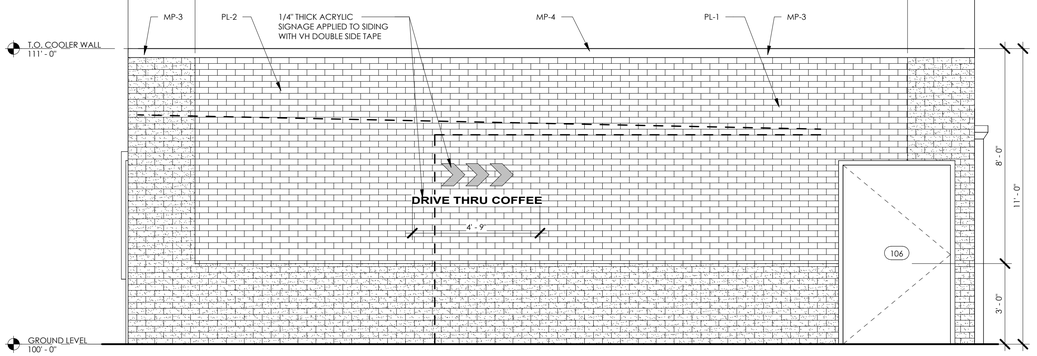
2 COOLER ELEVATION - FRONT
3/8" = 1'-0"



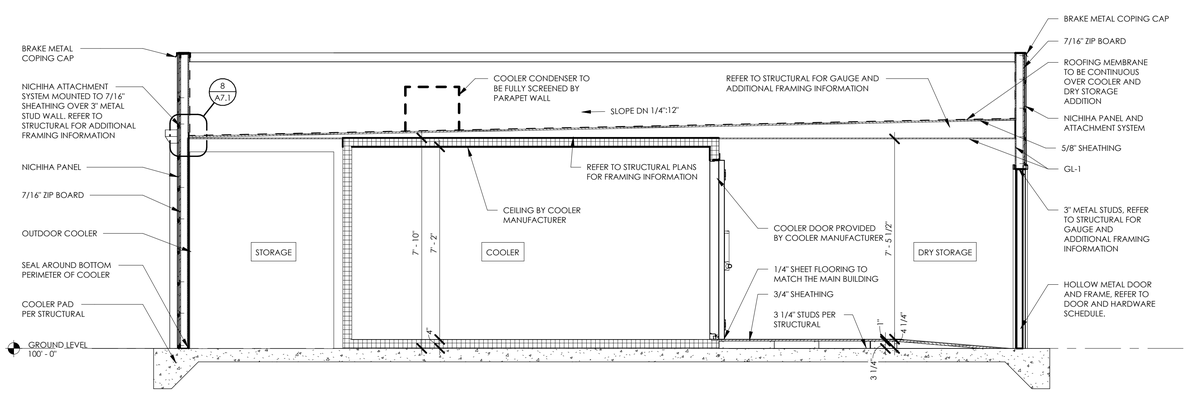
3 COOLER ELEVATION - RIGHT
3/8" = 1'-0"



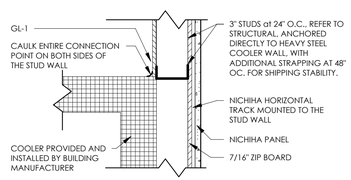
4 COOLER ELEVATION - REAR
3/8" = 1'-0"



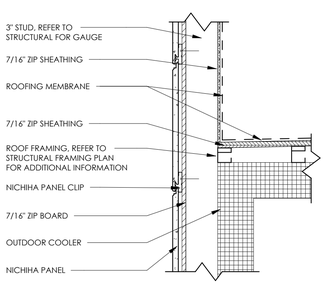
5 COOLER ELEVATION - LEFT
3/8" = 1'-0"



6 COOLER SECTION
3/8" = 1'-0"



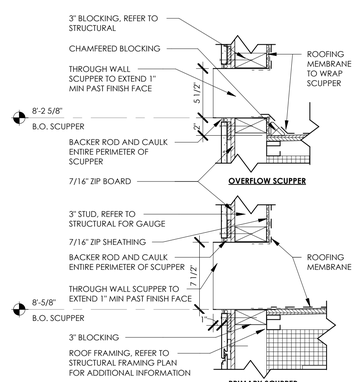
7 REMOTE COOLER PLAN DETAIL
1 1/2" = 1'-0"



8 NICHIHA - LOW EAVE DETAIL
1 1/2" = 1'-0"

SIGNAGE:

SIGNAGE SHOWN IS FOR REPRESENTATION AND COORDINATION ONLY. REFER TO PERMITTED SIGN PACKAGE FOR PRECISE LOCATION AND SIGNAGE QUANTITY



9 NICHIHA- SCUPPER DETAIL
1 1/2" = 1'-0"

KINETIC DESIGN + DEVELOPMENT
2215 W CHESTERFIELD BLVD, SUITE 01 · SPRINGFIELD, MO 65807 · P (417) 530-4321

FIRM LICENSE NO. NLP000883

INTERIM REVIEW ONLY

These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, bidding, permit, or construction purposes.

ARCHITECT OF RECORD:
NAME: ADAM JOSEPH KREHER
LICENSE NO. 1301072185

PROJECT NUMBER: 25093 7BRM2
REVISION:

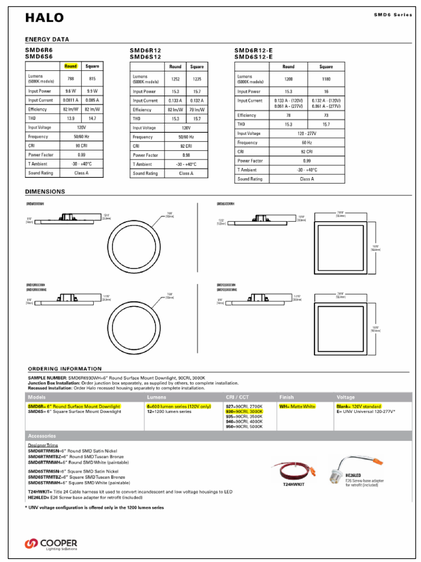
7 BREW COFFEE
FARMINGTON HILLS, MI
27900 ORCHARD LAKE ROAD
CITY OF FARMINGTON HILLS, MI
OAKLAND COUNTY, MICHIGAN 48334

A7.1
REMOTE COOLER DETAILS

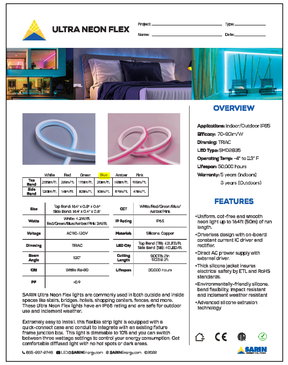
DATE: NOT FOR CONSTRUCTION



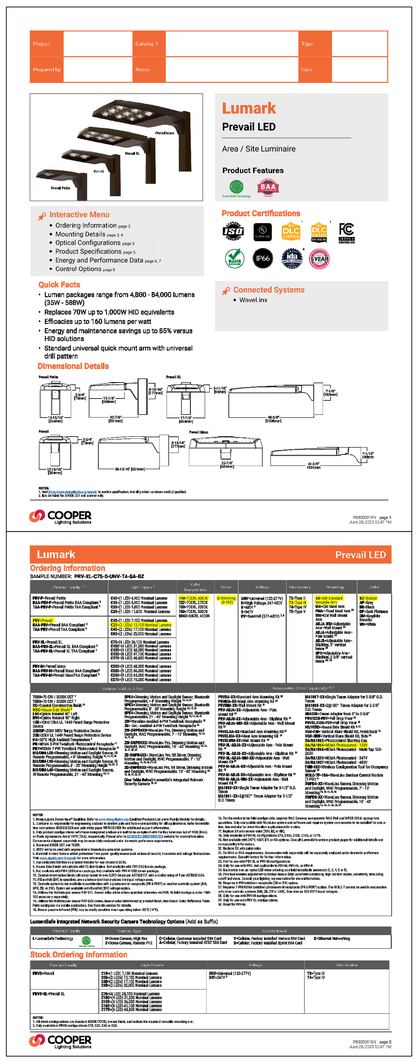
4 SITE LIGHTING FIXTURE W1E



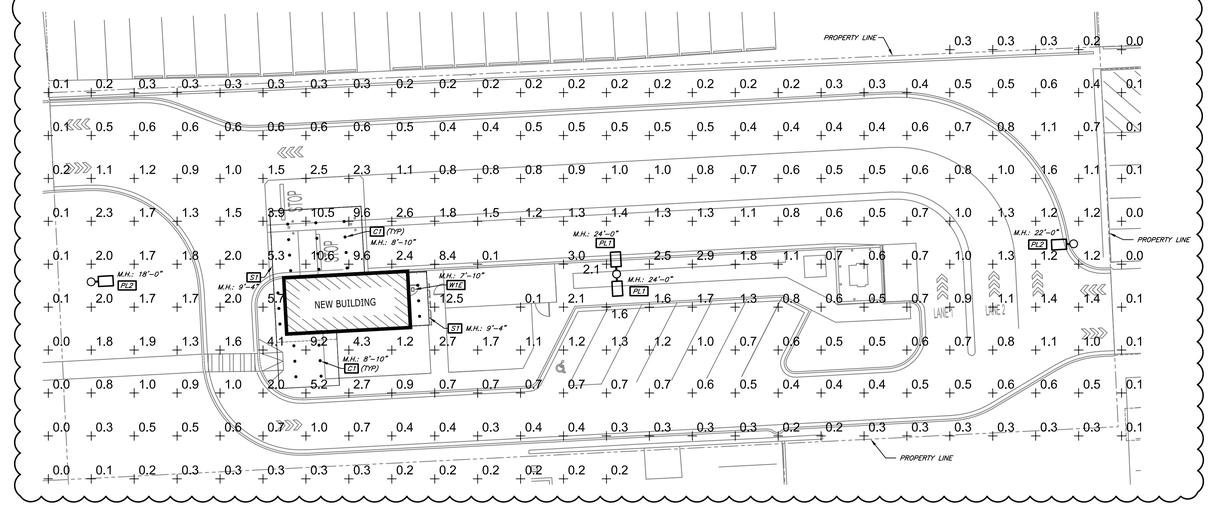
3 SITE LIGHTING FIXTURE C1



5 SITE LIGHTING FIXTURE S1



2 SITE LIGHTING FIXTURE PL1



1 SITE PHOTOMETRIC PLAN
1" = 20'-0"

NORTH

CJD
Engineering | Energy | Innovation
2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 63057
P: 417.877.1700 F: 417.324.7735 www.cjd-eng.com
Michigan State Certificate of Authority #802567642

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SEVEN 73 BREW COFFEE DRIVE THRU

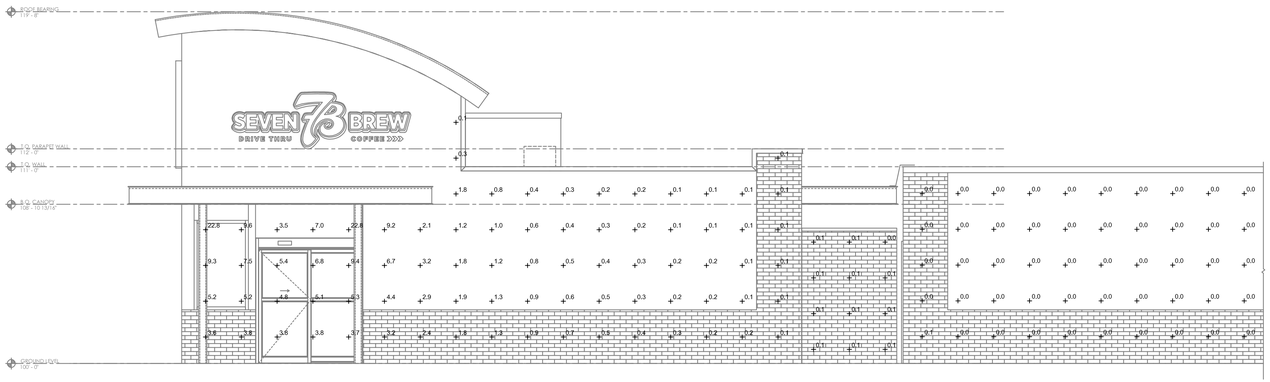
STATE OF MICHIGAN
SCOTT ENGLER
ENGINEER
No. 6201061216
LICENSED PROFESSIONAL ENGINEER
12-12-25

ENGINEER OF RECORD:
NAME: RYAN S. JONES
LICENSE NO. PE-6201061216

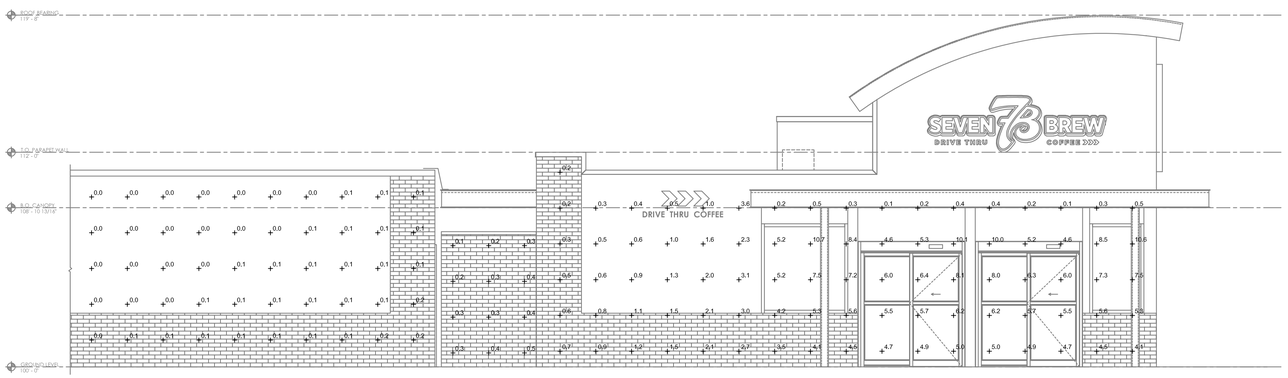
PROJECT NUMBER: 25327 7BFM1
REVISION:
ADDENDUM #1 – 12-12-25

7 BREW COFFEE
FARMINGTON HILLS, MI
27900 ORCHARD LAKE RD
FARMINGTON HILLS, MI 48334

SU1.2
SITE PHOTOMETRIC PLAN
DATE: NOVEMBER 7, 2025



2 LEFT SIDE PHOTOMETRIC PLAN
1/4" = 1'-0"



1 RIGHT SIDE PHOTOMETRIC PLAN
1/4" = 1'-0"

SEVEN 7B BREW
COFFEE
DRIVE THRU

STATE OF MICHIGAN
SCOTT E. JONES
ENGINEER
No. 6201061216
LICENSED PROFESSIONAL ENGINEER

12-12-25

ENGINEER OF RECORD:

NAME: RYAN S. JONES

LICENSE NO. PE-6201061216

PROJECT NUMBER: 25327 7BFM1

REVISION:

1 *ADDENDUM #1 – 12-12-25*

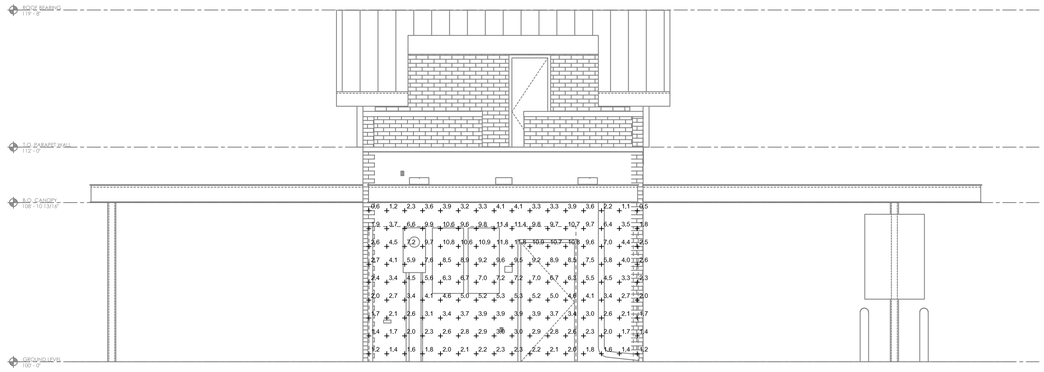
7 BREW COFFEE
FARMINGTON HILLS, MI
27900 ORCHARD LAKE RD
FARMINGTON HILLS, MI 48334

CJD
Engineering | Energy | Innovation
2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 65807
P: 417.877.1700 F: 417.324.7735 www.cjd-eng.com
Michigan State Certificate of Authority #802567642

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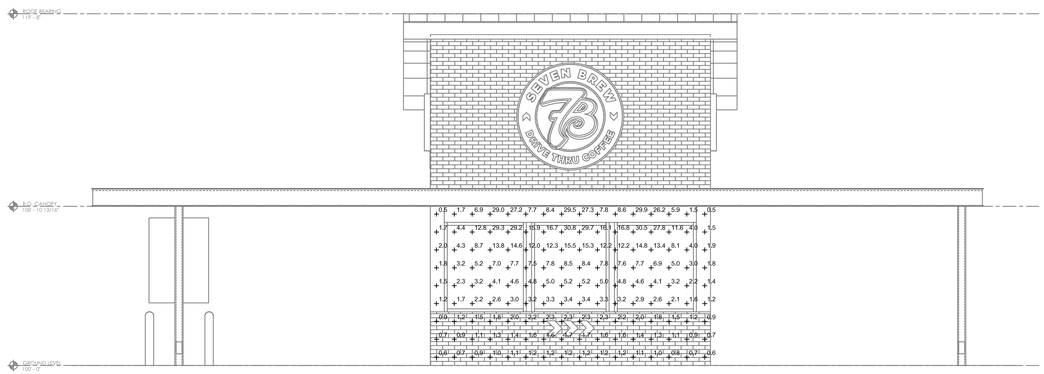
E1.3
ELEVATION PHOTOMETRIC PLANS

DATE: NOVEMBER 7, 2025



2 BACK SIDE PHOTOMETRIC PLAN

1/4" = 1'-0"



1 FRONT SIDE PHOTOMETRIC PLAN

1/4" = 1'-0"

CJD

Engineering | Energy | Innovation

2225 West Chesterfield Boulevard, Suite 200, Springfield, MO 65807

P: 417.877.1700 F: 417.324.7735 www.cjd-eng.com

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SEVEN BREW COFFEE DRIVE THRU

STATE OF MICHIGAN
RYAN S. JONES
ENGINEER
No. 6201061216
LICENSED PROFESSIONAL ENGINEER

12-12-25

ENGINEER OF RECORD:

NAME: RYAN S. JONES

LICENSE NO. PE-6201061216

PROJECT NUMBER: 25327 7BFM1

REVISION:

1 *ADDENDUM #1 – 12-12-25*

7 BREW COFFEE

FARMINGTON HILLS, MI

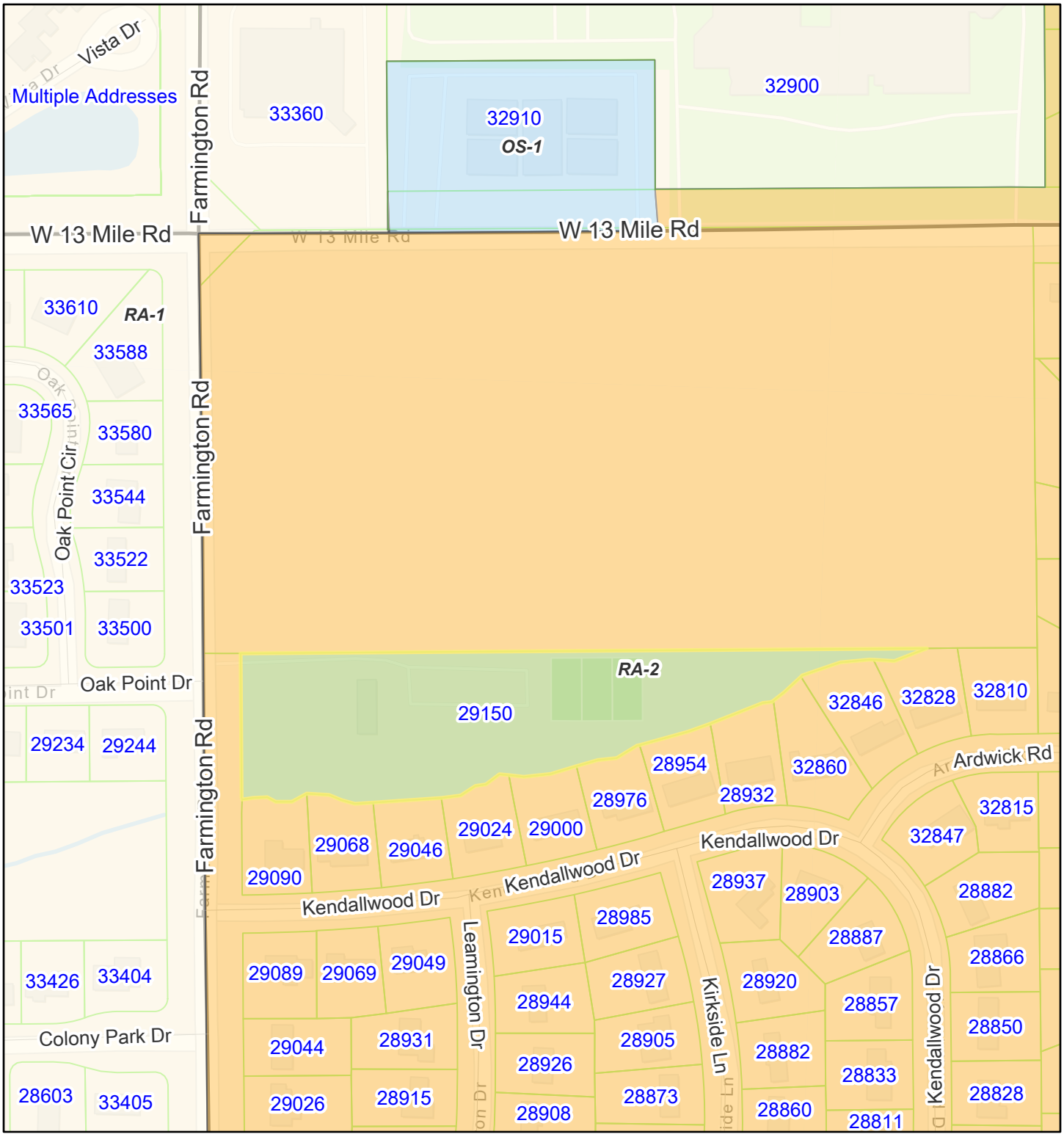
27900 ORCHARD LAKE RD
FARMINGTON HILLS, MI 48334

E1.4

ELEVATION PHOTOMETRIC PLANS

DATE: NOVEMBER 7, 2025

Current Zoning - 29150 Farmington Rd



3/6/2026, 1:28:59 PM

1:3,616

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.14 km

Zoning districts

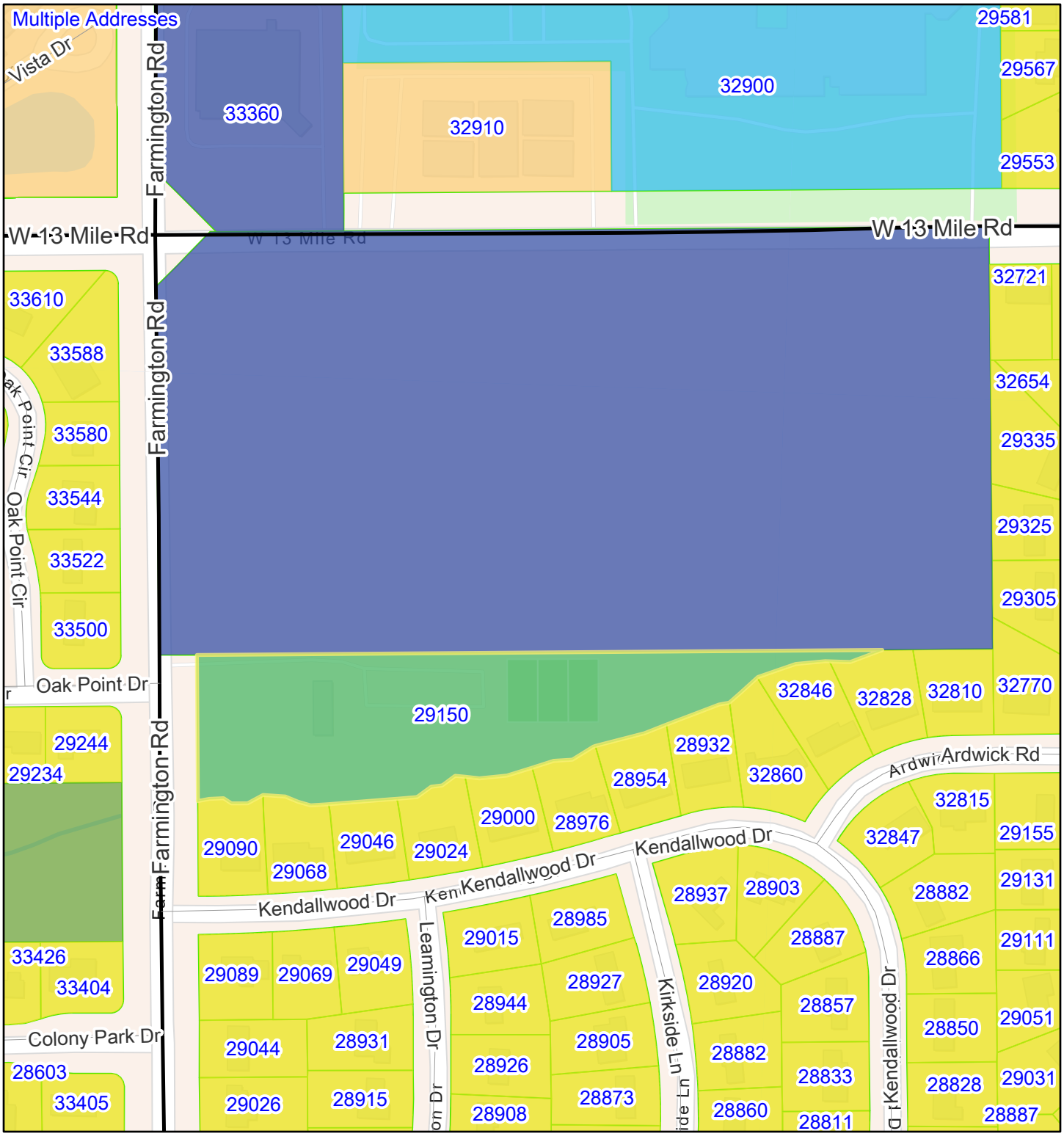
B-1	FRW-1	MH	RA-1	RA-4	SP-1
B-2	FRW-2	OS-1	RA-1A	RC-1	SP-2
B-3	FRW-3	OS-2	RA-1B	RC-2	SP-3
B-4	GR-1	OS-3	RA-2	RC-3	SP-5
ES	IRO	OS-4	RA-2B	RP-1	Other
	LI-1	P-1	RA-3	RP-2	Tax Parcels

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Farmington Hills, MI

(c) City of Farmington Hills. DISCLAIMER: Map is for reference use only and not a recorded survey. The City of Farmington Hills assumes no liability for any claims arising from use of this map.

Future Land Use - 29150 Farmington Rd



3/6/2026, 1:25:51 PM

1:3,616

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.14 km

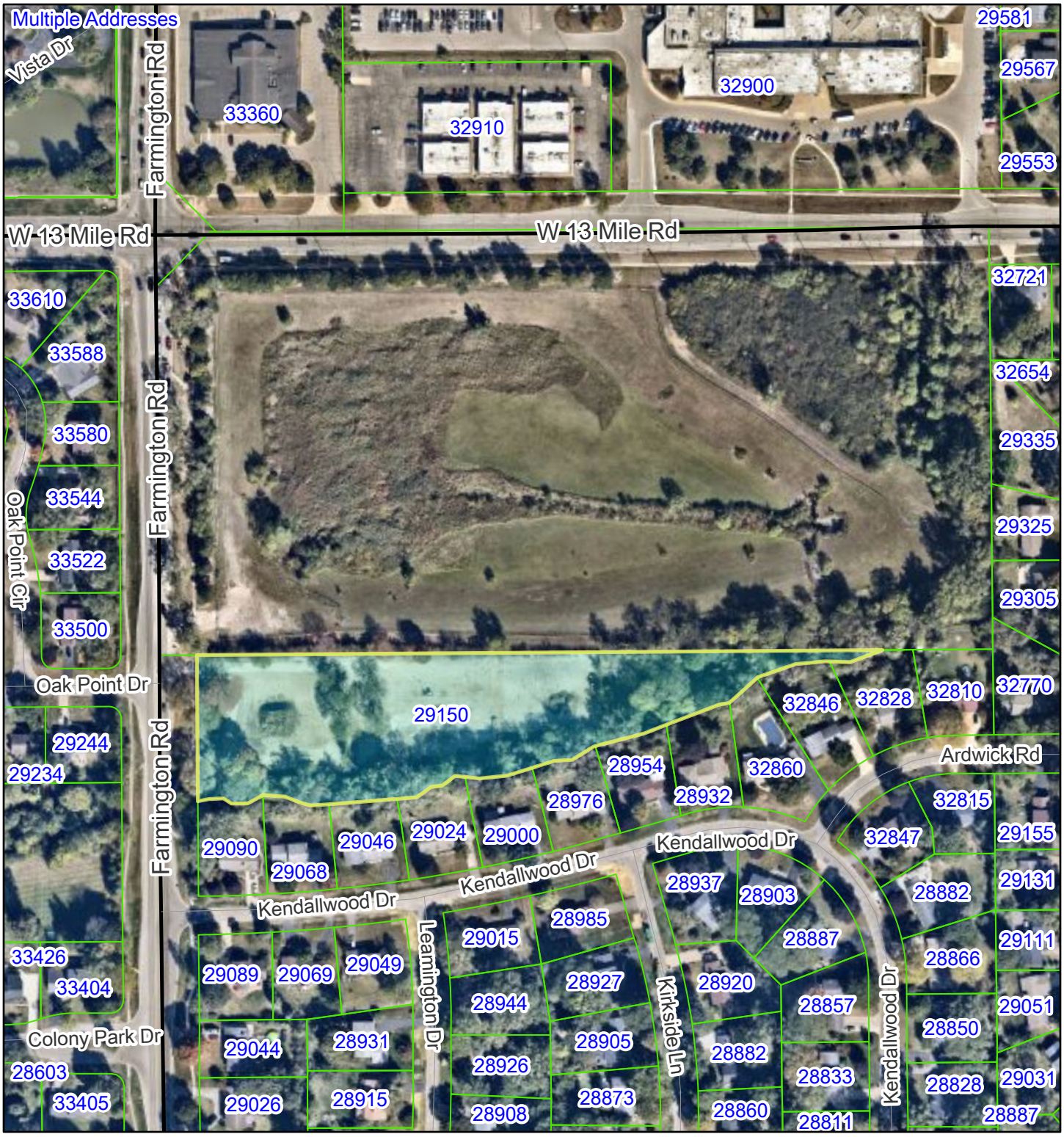
Master Plan (2024)
- 12 Mile Mixed Use
- 14 Mile Mixed Use
- 8 Mile Industrial
- Commercial
- Expressway Service
- Flex Overlay
- Flex Residential
- Flex Residential/Office
- Freeway Redevelopment
- Grand River Corridor
- Industrial
- Industrial-Research
- Institutional
- Large Office
- M-5
- Multi-Family Residential
- Orchard Lake Rd Corridor
- Park
- Private Recreation
- School
- Single-Family Cluster
- Single-Family Residential
- Small Office
- Tax Parcels

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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Location Map - 29150 Farmington Rd



3/6/2026, 1:25:24 PM

Tax Parcels

1:3,616

0 0.02 0.04 0.09 mi

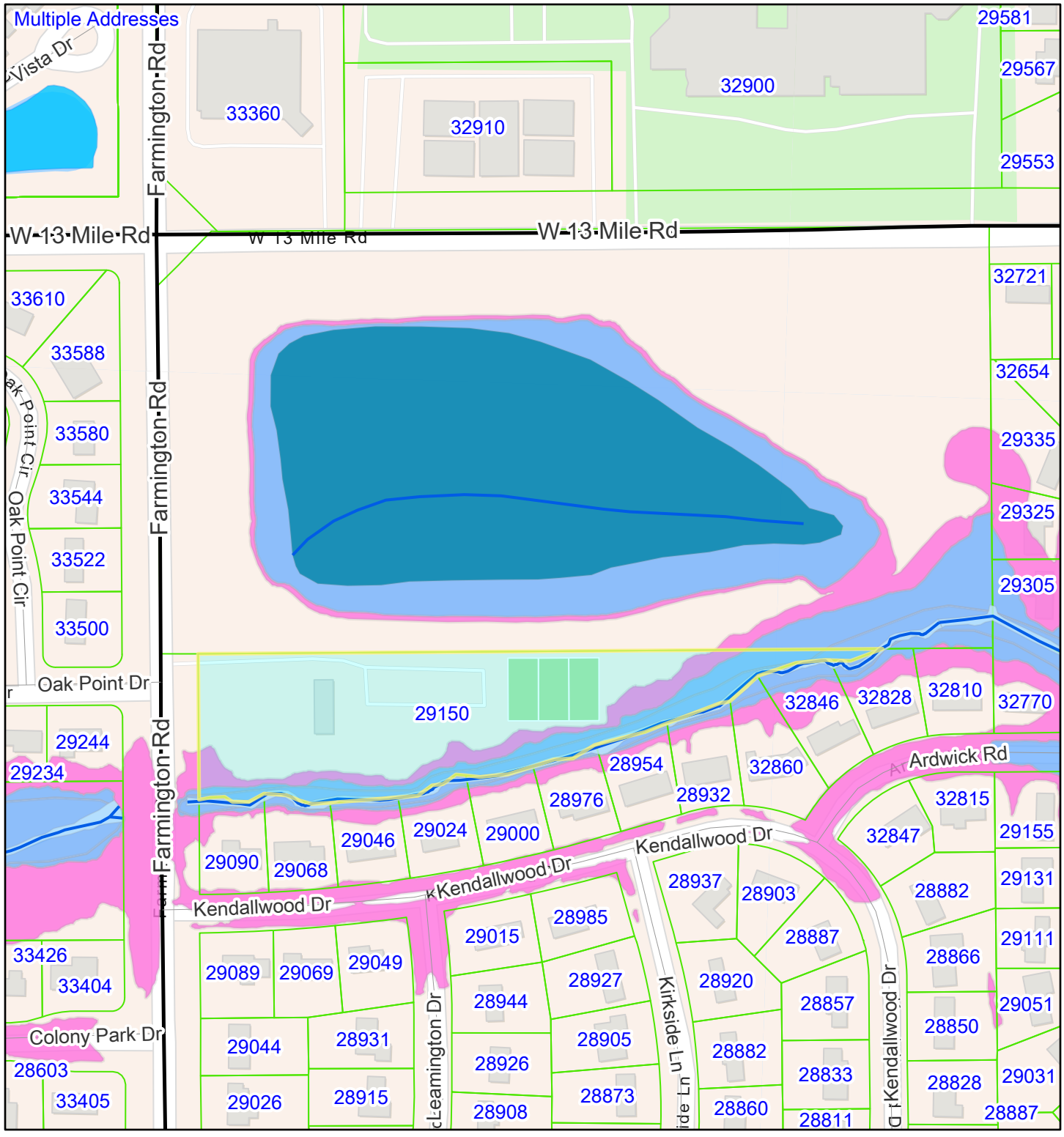
0 0.04 0.07 0.14 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Farmington Hills, MI

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Natural Features - 29150 Farmington Rd



3/6/2026, 1:24:43 PM

1:3,616

0 0.02 0.04 0.09 mi

0 0.04 0.07 0.14 km

Drain open
- Stream-river
- Channel
- Spillway

Drain waterbody
- Detention pond
- Retention pond
- Lake-pond
- Swamp-marsh
- Channel
- Stream-river

Tax Parcels

Flood Hazard Area
- A
- AE
- 500 yr floodplain
- X

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Farmington Hills, MI

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Carlisle | Wortman
ASSOCIATES, INC.

117 NORTH FIRST STREET SUITE 70 ANN ARBOR, MI 48104 734.662.2200 734.662.1935 FAX

Reviewer	Plan Date	Review Date
GW Review #1	4-10-2019	7-30-2019
CWA Review #2	2-18-2026	3-7-2026

Cluster Site Plan
for
The City of Farmington Hills

Case: Amended CSP 59-4-2019 (Cluster Qualification 1, 2018)

Project Name: Cedars of Farmington

Site: 29150 Farmington Rd (Parcel 22-23-10-101-002) 3.83 acres

Applicant: Ayman Rida, Cedar of Farmington Road, LLC

Application Date: 2/18/2026

Zoning: RA-2 One-Family Residential District

We have completed a review of the application to amend a cluster site plan and open space plan and a summary of our findings is below.

History:

The project was previously known as "McKenzie Green" and proceeded through the City's normal One-Family Cluster Site and Open Space Plan process beginning in 2018. The last action was taken by City Council in November 11, 2019, when City Council approved a motion directing staff/attorneys to draft the development agreement.

Following that motion, the agreement was circulated between attorneys. City Planner Stec mailed and emailed a copy of the agreement to the applicant Yaldo Construction on April 28, 2020 requesting the applicant review the agreement and once they agreed it would be forwarded to City Council for final approval; however, the applicant never responded and the agreement was never returned to City Council for consideration or approval, and the associated site plan and development agreement were never

Benjamin R. Carlisle, *President* John L. Enos, *Vice President* Douglas J. Lewan, *Principal*
David Scurto, *Principal* Sally M. Elmiger, *Principal* R. Donald Wortman, *Principal* Craig Strong, *Principal*
Paul Montagno, *Principal* Megan Masson-Minock, *Principal* Laura Kreps, *Principal*
Richard K. Carlisle, *Past President/Senior Principal*

finalized. No further action was requested by the applicant after that point, and staff concludes the process likely stalled due to COVID-era interruptions.

In mid-2025, plans were submitted to Engineering to restart construction activity. During that review, Planning noted that open space and lot configuration/lot sizes differed from the prior approved concept, which would require amendments to the development agreement and/or site plan approvals.

When the project was routed to Planning in early 2026, it was determined that the site plan would need to be updated and the development agreement amended. Staff discovered that no finalized and Council-approved agreement exists for the project. The project was sold to a new owner who was unaware of the project's status. The engineer who submitted plans to Engineering was also not aware that the development agreement had never been approved/executed.

At this time, Engineering plans are ready for Engineering approval, but Planning has outstanding issues related to (1) site plan changes from the prior concept and (2) the absence of an approved development agreement.

To be flexible while ensuring proper legal and planning compliance, staff are proposing to route the project through the public hearing process using the updated site plan in order to finalize both the site plan and the development agreement, rather than requiring the applicant to restart the process at the qualification stage.

Subject Site:



SUMMARY OF FINDINGS

Existing Conditions

1. **Zoning.** The parcel is zoned RA-2 One Family Residential District.

2. **Existing site.** The site is the former Kendallwood Swim Club. A pool, clubhouse, tennis courts, and parking lot are no longer present on the site. In early 2025 the site received special approval (SA 51-2-2025) as a staging area for a nearby watermain replacement . It is 3.83 acres (166,876 square feet) and fronts Farmington Rd, just south of 13 Mile Rd.

3. **Adjacent properties.**

Direction	Zoning	Land Use
North	RA-2	Regional stormwater detention basin
South	RA-2	Single Family Homes
East	RA-2	Single Family Homes
West	RA-1	Single Family Homes

4. **Site configuration and access.** The site is accessible from Farmington Road.

Conceptual Plan

1. **Summary of Plan.** The applicant proposes 10 cluster lots (a density of 2.61 units per acre), arranged along a short cul-de-sac street. The street, which is proposed to be a private road, is aligned with Oak Point Drive across Farmington Road. Approximately, 1.61 acres of the development (42.0%) is set aside as undisturbed and unprogrammed open space. All proposed units are detached. During the cluster qualification process in July 2018, the Planning Commission cited standards 34- 3.17.2.B.ii., iii, and vi. as conditions for approval with maximum density of 3.1 units per acre.

2. **Permitted Densities** (Sec. 34-3.17.3). The proposed density is 2.61 units per acre. The cluster development qualified under Sec. 34-3.1.17.2.A.ii therefore the maximum density allowed in RA-2 is 3.1 units per acre. The proposed amended site plan meets this standard.

3. **Dimensional Standards.** The cluster option allows the dimensional standards of the district to be waived. This table compares the proposal to district standards.

Standard	Required in RA-2	Proposed
Front Setback	35 ft	25 ft
Side Setback	8 ft / 20 ft total	7.5 ft each / 15 ft total typical
Rear Setback	35 ft	32.20 to 35 ft
Building Height	30 ft	elevations not provided
Min. Lot Size	15,000 sq/ft (avg 16,500 sq/ft)	Smallest 6,447 sq ft (avg 7,511 sq ft)
Min. Lot Width	90 ft	55.20 ft to 73.26 ft

4. **Separation Standards.** Per Section 34-3.17.4.B., "Spacing between groups of attached buildings or between groups of four (4) unattached buildings shall be equal to at least twenty (20) feet in an RA-2 district, measured between the nearest points of adjacent buildings."

5. **Cluster Standards.** Cluster developments must meet the design standards of subsection 34-3.17.4.

    a. Garages must be set back 20 feet. All lots have a minimum front setback of 25 feet. This standard is met.

b. The side of a cluster facing a major or secondary thoroughfare must be set back 25 feet. This standard is not met. It is 24.95 ft.
c. No building may be placed within 25 feet of any property line. This standard is not met. Unit 1 is 24.95 ft from the west property line.
d. 15% of the development must be set aside as open space. This standard is met with .47 acres designated as open space and 1.14 acres designated as undisturbed vegetation, resulting in 42% open space.
e. The buildable area of Lot 4 is impacted by encroachment of the 100 year (1% chance) flood hazard area. This should be addressed.
f. Floor plans and elevations of typical units have not been provided. These are required per Sec. 3.17.5.C.ii.a.

6. **Lighting.** No general lighting of the site or street appears to be proposed. Applicant to confirm no lighting is proposed.

7. **Cul-de-sac.** Per Section 27-57 of the Subdivision Ordinance, the "maximum length for residential cul-de-sac streets shall generally be six hundred (600) feet." The length of the cul de sac street is less than 600 feet.

8. **Superimposed aerial.** During cluster qualification, the Planning Commission cited standards 34-3.17.2.B.ii., iii, and vi. Per Section 34-3.17.5.C.iii, parcels qualifying under item vi are required to submit a sheet superimposing the plan on an aerial image. A superimposed aerial image has been provided.

9. **Tree Removal (5.18)**

Based on 2022 Tree Survey:

1. **Landmark Trees.** 4 landmark trees with a total dbh of 92 inches are proposed to be removed, requiring 23 inches of replacements.
2. **Other Regulated Trees.** 10 other regulated trees are proposed to be removed, requiring 10 replacements.
3. **Total Replacements Required.** 53 total inches of replacement trees are required. 53 total inches of replacement trees are provided.

The Landscape Tree Survey and Replacement calculations are dated from 2022. A new tree survey should be completed and updated calculations should be provided. An accurate tree survey is required per Sec. 3.17.5.C.ii.b.

10. **Landscaping**
1. **Street Trees.** 21 street trees are proposed. Street tree requirements are met.
2. **Buffering / Transition Area.** A buffer is required adjacent to one-family districts. Per the Zoning Ordinance, "in order to provide an orderly transition of density, where the parcel proposed for use as a cluster development abuts a one-family residential district, the planning commission shall determine that the abutting one-family district is effectively buffered by means of one of the following within the cluster development:
    a. Single-family lots subject to the standards of Section 34-3.1 of this chapter;

b. Detached buildings with setbacks as required by Section 34-3.1 of this chapter for the applicable residential district;
c. Open or recreation space;
d. Changes in topography which provide an effective buffer;
e. A major or secondary thoroughfare;
f. Some other similar means of providing a transition.

A buffer is required where the site abuts one-family residential districts. The property to the north is a regional detention basin / flood hazard area and does not require a buffer.

Along the southern property line, Minnow Pond Creek and existing vegetation provide a natural separation to the single-family neighborhood to the south. The applicant proposes a combination of open space and landscaping to satisfy the required buffer. Any buffer provided must comply with Section 34.5.14.6.

While the plan includes a proposed open space area, that area is not directly adjacent to the existing subdivision to the south. The cluster development is generally buffered on all sides by a combination of proposed plantings, existing vegetation, and Minnow Pond Creek along the southern edge. However, the southern "buffer" between the cluster development and the neighborhood to the south is shown largely within individual lots. Flood hazard areas are also located within lots.

Recent discussions among City staff have identified a recurring concern with buffers located within private lots: over time, trees and vegetation are often removed or altered by individual property owners, compromising the intended buffering function. Staff and City officials have expressed concern with ensuring the long-term integrity of the southern buffer so the spirit and intent of the ordinance is maintained. This may involve extending open space along Minnow Pond Creek to keep some or all of the buffer out of private lots, or otherwise revising the plan to achieve an equivalent outcome.

Potential options for Planning Commission discussion with the applicant include:

- Shift the road along the northern property line to increase open space/buffer area along Minnow Pond Creek and the southern property line; and/or
- Delineate limits of grading and tree removal to demonstrate that Minnow Pond Creek and the existing tree line can be preserved as a functional buffer. Depending on the extent of grading and tree removal, additional plantings may be required to meet Section 34.5.14.6.

Summary

Planning Commission is asked to discuss the issue of buffering and transition along the southern property line, specifically:

1. Shift the road along the northern property line to increase open space/buffer area along Minnow Pond Creek and the southern property line; and/or
2. Delineate limits of grading and tree removal to demonstrate that Minnow Pond Creek and the existing tree line can be preserved as a functional buffer. Depending on the extent of grading and tree removal, additional plantings may be required to meet Section 34.5.14.6.

If the Planning Commission does approve the Cluster Plan, we recommend that the following items be addressed:

- Provide updated tree survey and tree mitigation and replacement calculations
- Alter plans based on discussion of the Planning Commission
- Provide typical floor plans and elevations
- Revise plans to meet the design standards of subsection 34-3.17.4.

Based on the discussion with the applicant, these items may be reviewed and approved administratively.

Sincerely,

CARLISLE/WORTMAN ASSOC., INC.
Benjamin R. Carlisle, AICP, LEED-AP
President

CARLISLE/WORTMAN ASSOC., INC.
Mike Auerbach, AICP
Senior Associate

DEPARTMENT OF PUBLIC SERVICES
JACOB RUSHLOW, P.E., DIRECTOR

INTEROFFICE CORRESPONDENCE

DATE: March 3, 2026

TO: Nora Brock, Secretary to the Director of Planning and Community Development

FROM: Mirandi Alexander, Civil Engineer II

SUBJECT: Cedars of Farmington – Revised Cluster Site Plan
29150 Farmington Road
#22-23-10-101-002

This office has performed a preliminary review of the above referenced site plan submitted to the Planning Department on February 23, 2026. The engineering has no objection to approving the site plan as proposed.

FIRE

FARMINGTON HILLS

INTEROFFICE CORRESPONDENCE

Date: March 2, 2026

To: Planning Commission

From: Jason Baloga, Fire Marshal

Subject: 2nd Revised CSP 59-4-2019 (Farmington-13 Mile)

The Fire Department has no objection to approval.

Jason Baloga, Fire Marshal

JB/ss

31455 West Eleven Mile Road • Farmington Hills MI 48336
Administration • 248.871.2800 248.871.2801 Fax Fire Prevention • 248.871.2820

REVISED SITE PLAN/CONSTRUCTION PLAN
FOR
CEDARS OF FARMINGTON RESIDENTIAL DEVELOPMENT
PART OF NW QUARTER, SECTION 10, T1N, R9E
CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN 48334

PROPERTY DESCRIPTION:

OUTLOT D, KENDALLWOOD NO 4, CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 96, PAGES 23 & 24, OAKLAND COUNTY RECORDS.

CITY OF FARMINGTON HILLS STANDARD NOTES:

NOTIFY THE CITY OF FARMINGTON HILLS ENGINEERING DIVISION 248-871-2560 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

ALL CONSTRUCTION MUST BE CONFORMING TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF FARMINGTON HILLS.

UTILITIES ARE TO BE UNDERGROUND.

CALL MISS DIG (1-800-647-7344 / 1-800-MISS DIG) A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.

ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON SITE.

ALL EXCAVATION UNDER OR WITHIN 3 FEET OF THE PUBLIC PAVEMENT, EXISTING OR PROPOSES, SHALL BE BACKFILLED AND COMPACTED WITH SAND (CLASS II MDOT).

THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.

PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.

ESTIMATED UTILITY QUANITITIES		
SANITARY SEWER		
4' Ø MANHOLE	4	EA
5' Ø MANHOLE	1	EA
8" PVC SDR 26	742	LF
6" PVC SDR 23.5	775	LF
STORM SEWER		
2' Ø REAR YARD CATCH BASIN W/ 2' SUMP	3	EA
4' Ø REAR YARD CATCH BASIN W/ 2' SUMP	2	EA
4' Ø CATCH BASIN	4	EA
6' Ø MANHOLE	1	EA
4" ADS N-12 SUMP LEAD PIPE	121	LF
12" ADS HP PIPE	921	LF
15" ADS HP PIPE	165	LF
15" FLARED END SECTION	1	EA
WATERMAIN		
STANDARD HYDRANT ASSEMBLY	3	EA
6" HYDRANT VALVE	3	EA
8"x6"x8" TEE	2	EA
8" BEND	4	EA
8"x6" REDUCER	1	EA
8" CL. 54 DI WATERMAIN	667	LF
6" CL. 54 DI WATERMAIN	16	LF
1" TYPE 'K' COPPER WATER SERVICE LEAD	185	LF
1" CURB STOP	10	EA

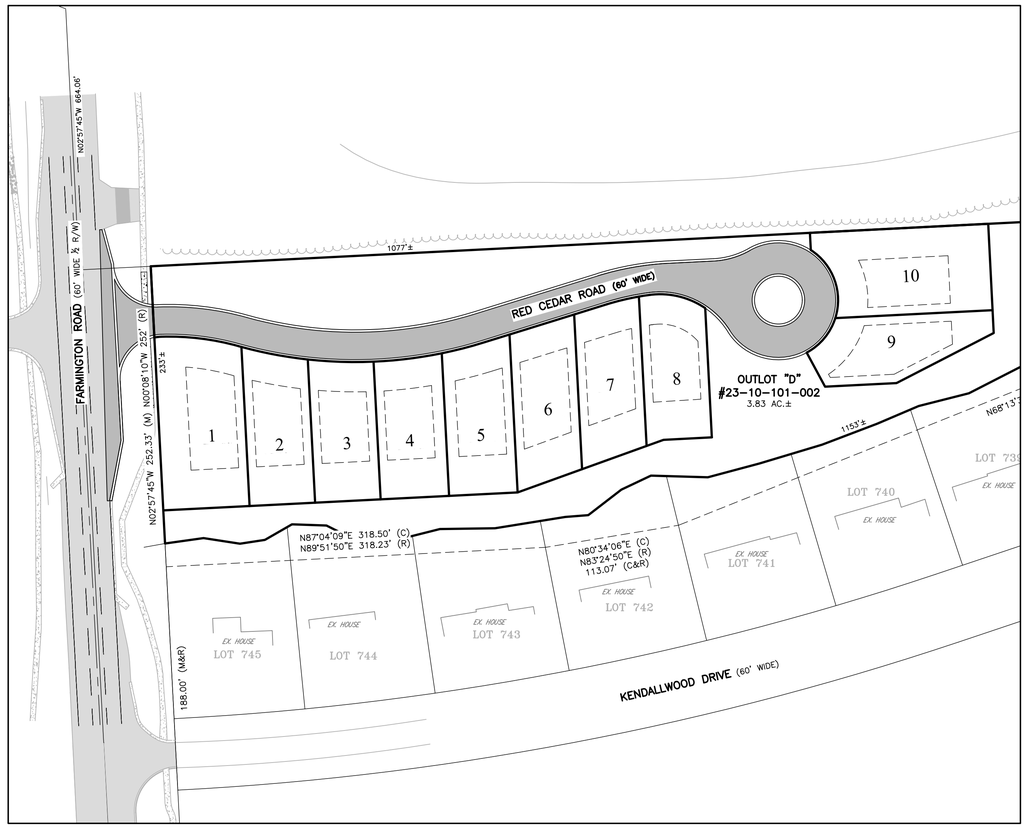
Land Use Summary

	Characteristic	Existing Conditions	Proposed Conditions
Land Use Data	**Total Drainage Area (ac)**	2.24	2.24
	Impervious Area (ac)	1.07	1.09
	Total Pervious Area (ac)	1.17	1.15
Pervious Area	**Pervious Area Breakdown by Cover Type**		
	Meadow/fallow/natural areas (non-cultivated)	1.17ac	0.58ac
	Predominant NRCS Soil Type (A, B, C, or D)	Soil Type A	Soil Type A
	Improved areas (turf grass, landscape, row crops)	-	0.57ac
	Predominant NRCS Soil Type (A,B,C, or D)	Soil Type A	Soil Type A
	Wooded Areas	-	-
	Predominant NRCS Soil Type (A,B,C, or D)	Soil Type A	Soil Type A
	CPVC Volume ***Calculated*** (cubic feet)		6025
	CPVC Volume ***Provided*** (cubic feet)		0
	CPRC Volume Provided (cubic feet)		8806

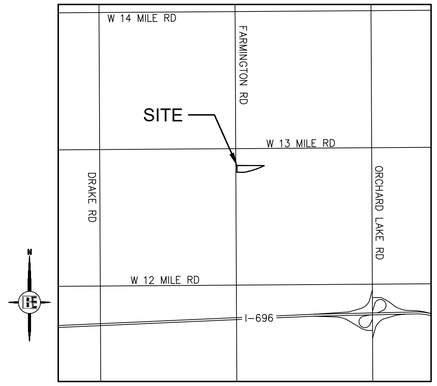
The Professional Engineer who signs and seals this site plan certifies that the values in this table reflect the WRC stormwater calculations required for this development and that geotechnical investigations were performed that provide conclusive documentation that demonstrates whether infiltration (i.e., CPVC Volume Control) is practicable.

INDEMNIFICATION STATEMENT

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OVERALL SITE MAP
NO SCALE



LOCATION MAP
NO SCALE

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES & LEGEND
3	EXISTING CONDITIONS & DEMOLITION PLAN
4	TREE SURVEY PLAN (PER NAGY & ASSOCIATES)
4A	TREE SURVEY SUPERIMPOSED ON SITE PLAN (PER NAGY & ASSOCIATES)
5	SITE PLAN
6	SITE AERIAL PLAN
7	GRADING & DRAINAGE PLAN
8	UTILITY PLAN
9	TRAFFIC CONTROL PLAN
10	LANDSCAPE PLAN & DETAILS
11	SOIL EROSION & SEDIMENTATION CONTROL PLAN
12	STORMWATER PROFILE
13	SANITARY SEWER PROFILE
14	WATERMAIN PROFILE

PLANS BY OTHERS
(CITY & OCWRC DETAILS)

1 OF 1	CITY OF FARMINGTON HILLS GENERAL DETAILS
1 OF 1	CITY OF FARMINGTON HILLS CONCRETE DETAILS
1 OF 1	CITY OF FARMINGTON HILLS STORM DETAILS
1 OF 1	CITY OF FARMINGTON HILLS SESC DETAILS
1 OF 1	OCWRC SESC DETAILS
1 OF 2	OCWRC SANITARY SEWER DETAILS
2 OF 2	OCWRC SANITARY SEWER DETAILS
1 OF 7	OCWRC WATERMAIN HYDRANT DETAILS
2 OF 7	OCWRC WATERMAIN GATE WELL DETAILS
3 OF 7	OCWRC WATERMAIN DUCTILE IRON DETAILS
4 OF 7	OCWRC WATERMAIN CROSSING DETAILS

PERMITS & APPROVALS

AGENCY	DATE SUBMITTED	DATE APPROVED
• CITY ENGINEERING APPROVAL	04/23/25	–
• CITY PLANNING COMMISSION	02/18/26	–
• CITY – SESC	04/23/25	–
• OCWRC	04/23/25	–
• EGLE – ACT 399	01/29/26	–
• EGLE – PART 41	01/12/26	–
• EGLE – WETLAND	–	–
• GLWA	–	–

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NO	BY	CK	REVISION	DATE	JOB NO: 24-410
8	JP	DH	REVISION PER CITY RESUBMITTAL	02/18/26	
7	JP	DH	REVISION PER EGLE COMMENTS	02/09/26	
6	JP	DH	REVISION PER EGLE COMMENTS	02/02/26	
5	JP	DH	REVISION PER CITY REVIEW	12/05/25	
4	JP	DH	REVISION PER OCWRC & CITY REVIEW	10/17/25	
3	JP	DH	REVISION PER FHFD REVIEW	08/27/25	1
2	JP	BL	REVISION PER CITY REVIEW	08/07/25	
1	JP	DH	REVISION PER OCWRC & CITY REVIEW	07/22/25	ISSUE DATE: 04/23/25

GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWNSHIP, COUNTY, AND STATE OF MICHIGAN PERMITS.
2. A GRADING PERMIT FOR SOIL EROSION–SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
3. IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF WATER, EITHER BY SPRINKLER OR TANK TRUCK.
4. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND SPECIFICATIONS.
5. PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
6. ALL BARRIER–FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS. WHERE EXISTING CONDITIONS AND/OR THE REQUIREMENTS OF THE PLANS WILL RESULT IN FINISHED CONDITIONS THAT DO NOT MEET ADA REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER PRIOR TO WORK COMMENCING.
7. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON PRIOR TO BEGINNING CONSTRUCTION.
8. THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT–OF–WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
10. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT.
11. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
12. THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
13. THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
14. ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
15. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
16. NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
17. DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
18. IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
19. NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
21. TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE TOWNSHIP. NO WORK SHALL BE DONE UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
22. ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
23. ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
24. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.
25. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL ITEMS REQUIRED FOR CONSTRUCTION OF THE PROJECT ARE INCLUDED IN THE CONTRACT. ANY ITEMS NOT SPECIFICALLY DESIGNATED IN THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
26. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A SET OF APPROVED CONSTRUCTION PLANS, WITH THE LATEST REVISION DATE, ON SITE PRIOR TO THE START OF CONSTRUCTION. IN THE EVENT OF ANY QUESTIONS PERTAINING TO THE INTENT OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER FOR A FINAL DETERMINATION FROM THE DESIGN ENGINEER.
27. THE CONTRACTOR, NOT THE OWNER OR THE ENGINEER, ARE RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR SAFE EXECUTION OF THE PROJECT SCOPE IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS.
28. THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING CONSTRUCTION STAKING AS NECESSARY. CONTRACTOR TO NOTIFY CONSTRUCTION SURVEYOR OF REPLACEMENT STAKES NEEDED WHICH SHALL BE AT THE CONTRACTORS EXPENSE.
29. THE OWNER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING FRANCHISE UTILITY SERVICES (CABLE, ELECTRIC, GAS, ETC.) OWNER AND/OR CONTRACTOR SHALL WORK WITH UTILITY COMPANIES ON FURNISHING SITE UTILITY LAYOUTS AND PROVIDING CONDUIT CROSSINGS AS REQUIRED.
30. DAMAGE TO ANY EXISTING UTILITIES OR INFRASTRUCTURE (INCLUDING PAVEMENT, CURB, SIDEWALK, ETC.) SHALL PROMPTLY BE REPLACED IN KIND AND SHALL BE AT THE CONTRACTORS EXPENSE.
31. COORDINATION OF TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PER ALL CITY/TOWNSHIP/COUNTY REQUIREMENTS. COPIES OF ALL TEST REPORTS SHALL BE FURNISHED TO THE DESIGN ENGINEER.
32. PRIOR TO THE START OF CONSTRUCTION, PROTECTION FENCING SHALL BE ERECTED AROUND THE TREE DRIPLINE OF ANY TREES INDICATED TO BE SAVED WITHIN THE LIMITS OF DISTURBANCE.
33. THE CONTRACTOR SHALL MAINTAIN DRAINAGE OF THE PROJECT AREA AND ADJACENT AREAS. WHERE EXISTING DRAINAGE FACILITIES ARE IMPACTED/DISTURBED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TEMPORARY DRAINAGE PROVISIONS.
34. SOIL BORING LOGS ARE REPRESENTATIVE OF SPECIFIC POINTS ON THE PROJECT SITE, AND IF PROVIDED TO THE CONTRACTOR ARE FOR INFORMATIONAL PURPOSES ONLY.
35. WHERE CITY/TOWNSHIP STANDARD CONSTRUCTION DETAILS/SPECIFICATIONS ARE PROVIDED AND ARE IN CONFLICT WITH NOTES AND SPECIFICATIONS HEREIN, THE CITY/TOWNSHIP STANDARD SHALL GOVERN.

INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE, AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

CONTRACTOR TO FOLLOW MANUFACTURER SPECS/RECOMMENDATIONS THAT SUPERCEDE PLANS

GENERAL GRADING & SESC NOTES

1. THE CONTRACTOR SHALL HAVE IN PLACE ALL REQUIRED EROSION CONTROL METHODS AS INDICATED ON THE CONSTRUCTION PLANS AND AS REQUIRED BY GENERAL PRACTICE. SPECIFIC MEANS, METHODS AND SEQUENCES OF CONSTRUCTION MAY DICTATE ADDITIONAL SOIL EROSION CONTROL MEASURES BE NEEDED. THE CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER ON THESE ANTICIPATED METHODS. ADDITIONAL SOIL EROSION CONTROL METHODS SHALL BE INCIDENTAL TO THE SCOPE OF WORK.
2. ACTUAL FIELD CONDITIONS MAY DICTATE ADDITIONAL OR ALTERNATE SOIL EROSION CONTROL MEASURES BE UTILIZED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DEFICIENCIES OR FIELD CONDITIONS THAT WARRANT ADDITIONAL AND/OR ALTERNATIVE SESC MEASURES BE UTILIZED.
3. AT THE CLOSE OF EACH DAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL CONSTRUCTION OPERATIONS, MATERIALS, DEBRIS, ETC ARE CONTAINED ON–SITE.
4. AT THE CLOSE OF EACH WORKING DAY, ALL DRAINAGE STRUCTURES SHALL BE FREE OF DIRT AND DEBRIS AT THE FLOW LINE.
5. ALL SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE PER MDEGLE REGULATIONS AND BEST PRACTICES, ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR.
6. THE SOIL EROSION CONTROL MEASURES SHALL BE KEPT IN PLACE UNTIL SUCH A TIME THAT THE SITE IS DETERMINED TO BE ESTABLISHED WITH ACCEPTABLE AMOUNT OF VEGETATIVE GROUND COVER.
7. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SODDED OR SEEDED AS SPECIFIED OR DIRECTED BY THE ENGINEER.
8. AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT.
9. ALL GRADING IN THE PLANS SHALL BE DONE AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING.
10. ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO CONFORM TO THE CROSS–SECTION AS SHOWN IN THE PLANS.
11. ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE BACKFILLED AND COMPACTED WITH SAND (MDOT CLASS II).

GENERAL LANDSCAPE NOTES

1. ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY. ALL STOCK SHALL BE NURSERY GROWN, CONFORMING TO ANSI Z60.2–2025 "AMERICAN STANDARD FOR NURSERY STOCK", AND IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. STOCK SHALL EXHIBIT NORMAL GROWTH HABIT AND BE FREE OF DISEASE, INSECTS, EGGS, LARVAE, & DEFECTS SUCH AS KNOTS, SUN–SCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
2. ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT, AND SECURELY WRAPPED AND BOUND.
3. ALL PLANT BED MATERIALS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS, OTHER EXTRANEOUS OBJECTS, AND POOR SOILS TO A MINIMUM DEPTH OF 12–INCHES AND BACKFILLED TO GRADE WITH SPECIFIED PLANTING MIX (SEE BELOW).
4. PLANTING MIXTURE SHALL CONSIST OF 5 PARTS TOPSOIL FROM ON–SITE (AS APPROVED), 4 PARTS COARSE SAND, 1 PART SPHAGNUM PEAT MOSS (OR APPROVED COMPOST), AND 5 LBS OF SUPERPHOSPHATE FERTILIZER PER CU. YD. OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED FOR UNIFORM CONSISTENCY.
5. ALL PLANT BEDS AND INDIVIDUAL PLANTS, NOT OTHERWISE NOTED SHALL BE MULCHED WITH A 4–INCH LAYER OF SHREDDED BARK MULCH. EDGE OF MULCH BEDS AS SHOWN. DECIDUOUS TREES IN LAWN AREAS SHALL RECEIVE A 5–FT DIAMETER CIRCLE OF MULCH AND CONIFER TREES 8–FT (PLANTED CROWN OF TREE) UNLESS OTHERWISE NOTED.
6. LANDSCAPE STONE SHALL BE INSTALLED WHERE NOTED OR INDICATED (HATCHED). STONE SHALL BE 3/4"–1–1/4" WASHED RIVER GRAVEL OR AS SELECTED AND SHALL BE INSTALLED TO A MINIMUM DEPTH OF 3–INCHES.
7. ALL LANDSCAPE BEDS, UNLESS OTHERWISE NOTED SHALL BE INSTALLED OVER WEED BARRIER FABRIC – WATER PERMEABLE FILTRATION FABRIC OF NON–WOVEN POLYPROPYLENE OR POLYESTER FABRIC. FABRIC SHALL BE OF SUITABLE THICKNESS FOR APPLICATION.
8. ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
9. THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD OF TIME, ALL DEAD PLANTS, AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT, DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL SPECIFICATIONS.
10. EDGING SHALL BE PROVIDED FOR ALL LANDSCAPE BEDS NOT ADJACENT TO CONCRETE PAVEMENT. EDGING SHALL BE BLACK ALUMINUM EDGING, 3/16–INCH X 4–INCH. INSTALL PER MANUFACTURER'S INSTRUCTIONS, ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
11. SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUE GRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4–INCH AT TIME OF PLANTING, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10–INCHES BY 18–INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36–HOURS AFTER CUTTING.

    IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN–OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF 1 MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.
12. ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED, OR SODDED SHALL BE SEEDED AND MULCHED.

    SEED MIXTURE SHALL BE AS FOLLOWS:

KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES – ADELPHI, RUGBY, GLADE, OR PARADE)	30%
RUBY RED OR DAWSON RED FINE FESCUE	30%
ATLANTA RED FESCUE	20%
PENNFINE PERENNIAL RYE	20%

    THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 LBS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10–0–10 ANALYSIS:

    10% NITROGEN – MIN 25% FROM A UREA FORMALDEHYDE SOURCE
    0 % PHOSPHATE
    10% POTASH – SOURCE POTASSIUM SULFATE OR POTASSIUM NITRATE

    THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 LBS PER 1000 SQ FT OF BULK FERTILIZER.

    IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF THE AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL BE RE–SEEDED AND SUCH RE–SEEDING SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO SEEDED AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR.
13. ALL AREAS OF THE SITE SCHEDULED FOR SEEDING OR SODDING SHALL FIRST RECEIVE A 6–INCH LAYER OF CLEAN, FRIABLE TOPSOIL. THE SOIL SHALL BE DISCED AND SHALL BE GRADED IN CONFORMANCE WITH THE GRADING PLAN.
14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES AND TO INFORM THE LANDSCAPE ARCHITECT OF ANY CONFLICTS PRIOR TO COMMENCING LANDSCAPING.

GENERAL UTILITY NOTES

1. BEDDING SHALL EXTEND A MINIMUM OF 4" BELOW THE PIPE, UNLESS OTHERWISE NOTED ON THE PLANS. BEDDING SHALL BE OF UNIFORM GRADATION MDOT 6AA STONE OR MDOT CLASS II GRANULAR MATERIAL FOR SANITARY AND STORM PIPE AND MDOT CLASS II GRANULAR MATERIAL ONLY FOR WATERMAIN.
2. WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER.
3. BACKFILL SHALL BE OF A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND ROCKS.
4. BACKFILL ABOVE THE PIPE SHALL BE OF GRANULAR MATERIAL MDOT CLASS II TO A POINT 12" ABOVE THE TOP OF THE PIPE. WHERE THE TRENCH IS NOT WITHIN THE INFLUENCE OF THE ROAD, SUITABLE SITE MATERIAL MAY BE COMPACTED AND UTILIZED FROM A POINT 12" ABOVE THE PIPE TO GRADE. WHERE THE TRENCH IS WITHIN A 1:1 INFLUENCE OF THE ROAD, GRANULAR MATERIAL, MDOT CLASS II OR III, IS TO BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 12" IN THICKNESS. COMPACTION SHALL BE 95% AS DETERMINED BY AASHTO T99.
5. 18" MINIMUM VERTICAL SEPARATION AND 10' HORIZONTAL SEPARATION IS TO BE MAINTAINED BETWEEN WATERMAIN AND SANITARY/STORM SEWER TO THE MAXIMUM EXTENT POSSIBLE.

GENERAL STORM NOTES

1. ALL STORM PIPE LENGTHS ARE SHOWN FROM C/L TO C/L OF STRUCTURE OR FROM C/L OF STRUCTURE TO DISCHARGE END OF FLARED END SECTION.
2. STORM PIPE MATERIALS SHALL BE AS FOLLOWS:
   2.1. RCP(REINFORCED CONCRETE PIPE): SHALL MEET THE REQUIREMENTS OF ASTM C76 WITH MODIFIED GROOVED TONGUE AND RUBBER GASKETS MEETING THE REQUIREMENTS OF ASTM C443. RCP TO BE EITHER CLASS IV OR V AS CALLED OUT ON THE PLANS.
3. STORM PIPE JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212. HDPE AND PP PIPE GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477.
4. ALL STORM PIPE TO HAVE WATERTIGHT PREMIUM JOINTS, UNLESS OTHERWISE NOTED ON THE PLANS.
5. STORM DRAINAGE STRUCTURES SHALL BE FURNISHED WITH STEPS WHICH SHALL BE STEEL ENCASED WITH POLYPROPYLENE PLASTIC OR EQUIVALENT. STEPS SHALL BE SET AT 16" CENTER TO CENTER.
6. FLARED END SECTIONS DISCHARGING STORM WATER SHALL RECEIVE A MINIMUM OF 10 SQ YDS OF PLAIN COBBLESTONE RIP RAP WITH A MINIMUM STONE SIZE OF 6" AND SHALL BE PLACED ON A GEOTEXTILE FABRIC WRAP.
7. ALL CATCH BASINS WITHIN THE ROADWAY SHALL INCLUDE INSTALLATION OF 6" DIAMETER PERFORATED PIPE SUBDRAIN.
8. STORM DRAINAGE STRUCTURE COVERS SHALL BE OF THE FOLLOWING (OR APPROVED EQUAL):

COVER	USE	FRAME	GRATE/BACK
'A'	MANHOLE	1040	TYPE 'B'
'E'	LAWN	1040	TYPE 'O2' GRATE
'K'	TYPE C & F CURB	7045	TYPE 'M1' GRATE/7050 TYPE 'T1' BACK

LINES & HATCHES LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
T/C XXX.XXX	T/C XXX.XX	SPOT ELEVATION
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
X	X	FENCE
		SILT FENCE
		WETLAND BOUNDARY
		LIMITS OF GRADING/CLEARING
		LIMITS OF DRAINAGE
		MODIFIED CURB
		CONCRETE
		HIGH STRENGTH CONCRETE
		ASPHALT
		HIGH STRENGTH ASPHALT
		WETLAND
SAN 1"		SANITARY SEWER LABEL
CB 01		STORM SEWER LABEL
GV 12		WATER MAIN LABEL
541		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)

LIGHTING LEGEND

PROPOSED (PR)	EXISTING (EX)	
		DOUBLE FIXTURE LIGHT POLE
		SINGLE FIXTURE LIGHT FIXTURE
		WALL MOUNTED LIGHT FIXTURE
		GROUND LIGHT FIXTURE
.01		FOOT CANDLES ON SITE
.2.5		FOOT CANDLES OFF SITE
5		FOOT CANDLES CONTOURS
		CANOPY MOUNTED LIGHT FIXTURE

LANDSCAPE LEGEND

- EXISTING CONIFER TREE
- EXISTING DECIDUOUS TREE
- PROPOSED CONIFER TREE
- PROPOSED DECIDUOUS TREE
- PROPOSED TREE PROTECTION
- PROPOSED ORNAMENTAL TREE
- PROPOSED DECIDUOUS SHRUBS
- SOD
- PROPOSED GRASSES & PERENNIALS
- SEED
- PROPOSED LANDSCAPE BOULDER
- MULCH

SYMBOL LEGEND

- STORM DRAINAGE FLOW
- GUY WIRE
- POWER POLE
- TRANSFORMER PAD
- ELECTRICAL RISER
- U.G. ELECTRIC MARKER
- ELECTRICAL METER
- AIR CONDITIONING UNIT
- TELEPHONE RISER
- U.G. TELEPHONE MARKER
- GAS RISER
- U.G. GAS MARKER
- GAS METER
- CABLE TV RISER
- U.G. CABLE TV MARKER
- MAILBOX
- WELL
- WATER MANHOLE
- GATE VALVE (EXISTING)
- GATE VALVE (PROPOSED)
- HYDRANT (EXISTING)
- HYDRANT (PROPOSED)
- CATCH BASIN (EXISTING)
- YARD CATCH BASIN (EXISTING)
- CATCH BASIN (PROPOSED)
- STORM MANHOLE (EXISTING)
- STORM MANHOLE (PROPOSED)
- END SECTION (EXISTING)
- END SECTION (PROPOSED)
- SANITARY MANHOLE (EXISTING)
- SANITARY MANHOLE (PROPOSED)
- PUMP CHAMBER
- TRAFFIC SIGN
- SIGN (EXISTING)
- SIGN (PROPOSED)
- SOIL BORING
- STEEL ROD SET
- STEEL ROD OR PIPE FOUND
- WOOD LATH SET
- HUB SET
- MONUMENT FOUND
- SECTION CORNER
- GAS PUMP
- ANTENNA
- SATELLITE DISH
- NEWSPAPER BOX
- PARKING METER
- PHONE BOOTH
- HANDICAP SYMBOL
- BENCHMARK
- LIGHT POLE

ABBREVIATIONS

FFE	FINISHED FLOOR ELEVATION
BFE	BASEMENT FLOOR ELEVATION
GFE	GARAGE FLOOR ELEVATION
FG	FINISHED GRADE
T/A	TOP OF ASPHALT
T/C	TOP OF CURB
T/CO	TOP OF CONCRETE
T/W	TOP OF WALK
T/P	TOP OF PIPE
B/P	BOTTOM OF PIPE
F/L	FLOW LINE
RIM	RIM ELEVATION (AT FLOW LINE)
INV	INVERT ELEVATION
MH	MANHOLE
CB	CATCH BASIN
RY	REAR YARD
YD	YARD DRAIN
RD	ROOF DRAIN
FES	FLARED END SECTION
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
RCP	REINFORCED CONCRETE PIPE
HDPE	HIGH DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
DIP	DUCTILE IRON PIPE
GV	GATE VALVE
GVW	GATE VALVE IN WELL
GVB	GATE VALVE IN BOX
HYD	HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
UP	UTILITY POLE
NFV	NOT FIELD VERIFIED
TBR	TO BE REMOVED
L.	LIBER
P.	PAGE
L.C.R.	LIVINGSTON COUNTY RECORDS
(M&R)	MEASURED AND RECORD
L.O.B.	POINT OF BEGINNING

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE NOT GUARANTEED TO BE EXACT OR COMPLETE AND 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 THE COMMENCEMENT OF ANY WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THE PROTECTION OF EXISTING UTILITIES AND SHALL NOTIFY THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY CONFLICTS ARE FROM THE PLANS. THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY

MISS DIG
3 WORKING DAYS BEFORE YOU DIG
CALL TOLL FREE
1-800-482-7171
IT'S THE LAW!!! (P.A. 53 AS AMENDED BY UNDERGROUND FACILITIES DAMAGE PREVENTION ACT 174 OF 2013)

JARED PRATHER
ENGINEER
6201315778
STATE OF MICHIGAN
REGISTERED PROFESSIONAL ENGINEER

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: CEDARS OF FARMINGTON

PREPARED FOR: CEDARS OF FARMINGTON ROAD, LLC
1600 N TELEGRAPH RD
DEARBORN, MI 48128
888-897-9792

TITLE: GENERAL NOTES & LEGEND

NO	BY	REVISION PER	DATE
8	JP	REVISION PER CITY RESUBMITTAL	02/18/26
7	JP	REVISION PER EGLE COMMENTS	02/09/26
6	JP	REVISION PER EGLE COMMENTS	02/02/26
5	JP	REVISION PER CITY REVIEW	12/05/25
4	JP	REVISION PER OCWRC & CITY REVIEW	10/17/25
3	JP	REVISION PER FHFD REVIEW	08/27/25
2	JP	REVISION PER CITY REVIEW	08/07/25
1	JP	REVISION PER OCWRC & CITY REVIEW	07/22/25

DESIGNED BY: DH
DRAWN BY: JP
CHECKED BY:
SCALE: NO SCALE
JOB NO: 24–410
DATE: 04/23/25
SHEET NO. 2

BOSS Engineering

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

GENERAL SURVEY NOTES:

1. BEARINGS ARE BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE.
2. SUBSURFACE UTILITIES NOT LOCATED FOR THIS SURVEY MAY EXIST. IT IS THE RESPONSIBILITY OF THE OWNER OF THE RESPECTIVE UTILITY TO ACCURATELY LOCATE SUCH UTILITIES.
3. EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THIS DRAWING MAY EXIST.
4. ELEVATIONS WERE ESTABLISHED WITH GPS USING OPUS GPS POST-PROCESSING. (NAVD88 DATUM)
5. CONTOURS ARE SHOWN AT 1 FOOT INTERVALS.
6. THE LOCATIONS OF UNDERGROUND UTILITIES, AS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE LOCATIONS ARE BASED ON PHYSICAL FIELD LOCATIONS OF STRUCTURES ALONG WITH MISS DIG MARKINGS AND CAD DRAWING PREPARED BY SUJAK ENGINEERING PLC, JOB NO. 19-027, DAGE 4/09/2020.
7. PART OF SUBJECT PROPERTY IS LOCATED WITHIN THE 100 YEAR FLOODPLAIN, ZONE AE, WITH A BASE FLOOD ELEVATION OF 856.7, ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), FLOOD INSURANCE RATE MAP (FIRM), FOR THE CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN, MAP NUMBER 26125C0494F, WITH AN EFFECTIVE DATE OF 9/29/2006 ALONG WITH THE OAKLAND COUNTY FLOOD INSURANCE STUDY. THE APPROXIMATE LOCATION OF CROSS SECTIONS AI AND AH ARE SHOWN ON THIS SURVEY, AS DEPICTED ON THE FEMA MAP. (ELEVATIONS ARE IN FEET IN NAVD88 DATUM). CROSS SECTION AH SHOWS THE 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION OF 855.9 WITHOUT FLOODWAY AND 856.0 WITH FLOODWAY. CROSS SECTION AI SHOWS THE 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION OF 856.7 WITH AND WITHOUT FLOODWAY.
8. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY, THE COUNTY, AND THE STATE OF MICHIGAN.
9. ALLOW THREE WORKING DAYS BEFORE YOU DIG, CALL MISS DIG TOLL FREE 1-800-482-7171.
10. THERE WAS SNOW ON THE GROUND AT THE TIME OF FIELDWORK FOR THIS SURVEY.

N

SCALE: 1 INCH = 50 FEET

BENCHMARKS:
- BENCHMARK #200 = MAG NAIL WITH BOSS BM TAG SET S/S 12" ELM 860.92
- BENCHMARK #201 = MAG NAIL WITH BOSS BM TAG SET N/S 30" ELM 857.81
- BENCHMARK #203 = BM "X" ON N/S SAN MH RIM 860.62

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR ESTABLISHING THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IF ANY CONFLICTS ARE APPARENT OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM PLANS.

3 WORKING DAYS BEFORE YOU DIG MISS DIG 1-800-482-7171 It's a county of difference thank

STATE OF MICHIGAN JARED L. PRATHER 6201315778 PROFESSIONAL ENGINEER

BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: CEDARS OF FARMINGTON

PREPARED FOR: CEDARS OF FARMINGTON ROAD, LLC
1550 N. TELEGRAPH RD
PONTIAC, MI 48326
888-897-9792

TITLE: EXISTING CONDITIONS & DEMOLITION PLAN

NO	BY	DATE
8	JP	REVISION PER CITY RESUBMITTAL 02/18/26
7	JP	REVISION PER EGLE COMMENTS 02/09/26
6	JP	REVISION PER EGLE COMMENTS 02/02/26
5	JP	REVISION PER CITY REVIEW 12/05/25
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2	JP	REVISION PER CITY REVIEW 08/07/25
1	JP	REVISION PER OCWRC & CITY REVIEW 07/22/25

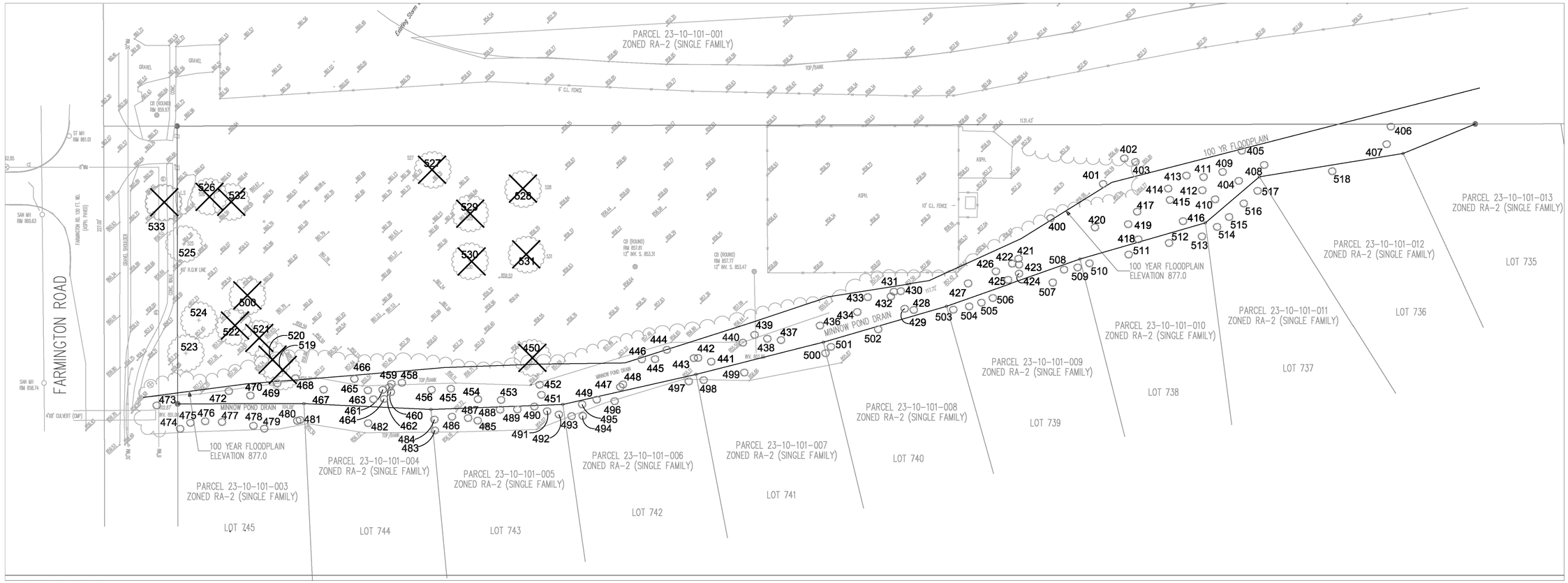
DESIGNED BY: DH
DRAWN BY: JP
CHECKED BY:
SCALE 1" = 50'
JOB NO. 24-410
DATE 04/18/25
SHEET NO. 3

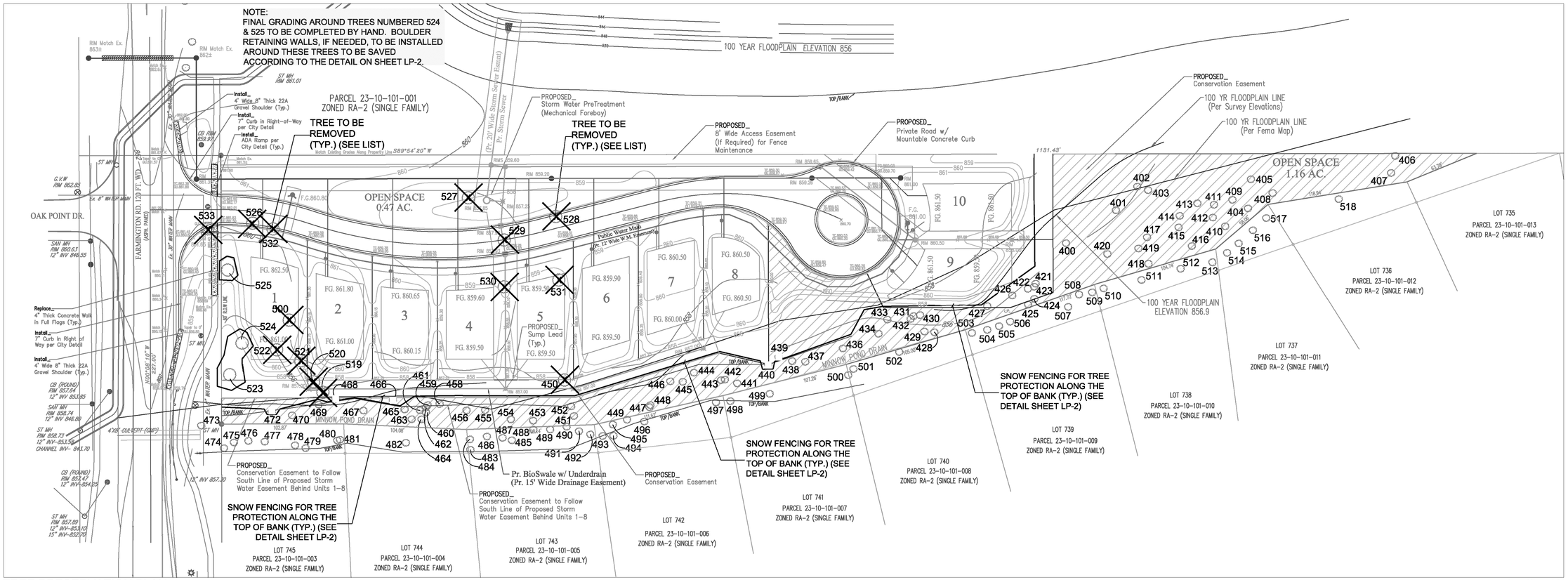
USDA Soil Conservation Service in cooperation with MI Agricultural Experiment Station (1977) Soil Survey of Oakland County, Michigan

17A	Wasepi Sandy Loam	0-3% Slopes
49	Cohoctah Fine Sandy Loam	0-3% Slopes
63A	Urban Land - Thetford Complex	0-3% Slopes

SITE SOIL MAP
1" = 100'

SCALE: 1 INCH = 100 FEET


PARCEL 23-10-101-001
ZONED RA-2 (SINGLE FAMILY)
Existing Storm
TOP/BANK
6' C.L. FENCE
GRAVEL
CB (ROUND)
RIM 858.87
ST MH
RIM 861.01
SAN MH
RIM 860.63
SAN MH
RIM 858.74
FARMINGTON ROAD
FARMINGTON RD. 120 FT. WD.
(ASPH. PAVED)
GRAVEL SHOULDER
50' R.O.W LINE
4"SW
4"DW
4"GAS
4"SS
4"GAS
4"OHW
4"OHW
4"OHW



TREE PRESERVATION PLAN

scale: 1" = 40'

TREE INVENTORY LIST

TAG#	SIZE	COMMON NAME	BOTANICAL NAME	CONDITION	ACTION
400	25"	Honeylocust	*Gleditsia triacanthos*	Poor	Save
401	29"	Honeylocust	*Gleditsia triacanthos*	Fair	Save
402	8"	Red Mulberry	*Morus rubra*	Poor	Save
403	9"	Black Walnut	*Juglans nigra*	Fair	Save
404	7"	Box Elder	*Acer negundo*	Poor	Save
405	12"	Black Cherry	*Prunus serotina*	V. Poor	Save
406	25", 32"	Willow	*Salix sp.*	V .Poor	Save
407	33"	Willow	*Salix sp.*	V. Poor	Save
408	10", 13"	Box Elder	*Acer negundo*	V. Poor	Save
409	9"	Box Elder	*Acer negundo*	Poor	Save
410	10"	Box Elder	*Acer negundo*	V. Poor	Save
411	10"	Box Elder	*Acer negundo*	Poor	Save
412	7"	Box Elder	*Acer negundo*	Poor	Save
413	55"	Willow	*Salix sp.*	Poor	Save
414	8"	Box Elder	*Acer negundo*	Poor	Save
415	11"	Box Elder	*Acer negundo*	V .Poor	Save
416	26"	American Elm	*Ulmus americana*	Fair	Save
417	8"	Box Elder	*Acer negundo*	V. Poor	Save
418	9"	Box Elder	*Acer negundo*	V. Poor	Save
419	8"	Box Elder	*Acer negundo*	Poor	Save
420	11"	Red Mulberry	*Morus rubra*	Poor	Save
421	13"	Red Mulberry	*Morus rubra*	Fair	Save
422	9"	American Elm	*Ulmus americana*	Fair	Save
423	45"	Willow	*Salix sp.*	V. Poor	Save
424	21", 24"	Willow	*Salix sp.*	Poor	Save
425	6"	American Elm	*Ulmus americana*	Fair	Save
426	53"	Willow	*Salix sp.*	Poor	Save
427	10"	Black Cherry	*Prunus serotina*	Fair	Save
428	22", 28", 40"	Willow	*Salix sp.*	Poor	Save
429	16"	American Elm	*Ulmus americana*	V. Poor	Save
430	30"	American Elm	*Ulmus americana*	Poor	Save
431	7"	Red Mulberry	*Morus rubra*	Poor	Save
432	6"	Red Mulberry	*Morus rubra*	Fair	Save
433	13"	Red Mulberry	*Morus rubra*	V. Poor	Save
434	10"	Red Mulberry	*Morus rubra*	Poor	Save
435	10"	Red Mulberry	*Morus rubra*	V. Poor	Save
436	8",11",13"	Red Mulberry	*Morus rubra*	Poor	Save
437	11"	Box Elder	*Acer negundo*	V. Poor	Save
438	9"	Box Elder	*Acer negundo*	Poor	Save
439	5", 7"	Red Mulberry	*Morus rubra*	V. Poor	
440	23"	Willow	*Salix sp.*	V. Poor	
441	13"	Red Mulberry	*Morus rubra*	Poor	Save
442	4", 7"	Box Elder	*Acer negundo*	V. Poor	Save
443	9"	Red Mulberry	*Morus rubra*	Fair	Save
444	12"	Red Mulberry	*Morus rubra*	Poor	Save
445	5", 12", 14"	Red Mulberry	*Morus rubra*	Poor	Save
446	7"	American Elm	*Ulmus americana*	Fair	Save
447	26"	Willow	*Salix sp.*	V. Poor	Save
448	15", 18"	Willow	*Salix sp.*	V. Poor	Save
449	14", 18", 19"	Willow	*Salix sp.*	V. Poor	Save
~~450~~	~~23"~~	~~Sugar Maple~~	~~*Acer saccharum*~~	~~Good~~	~~LRemove 23"~~

Totals: Trees: 51 Save: 48 Remove: 0 Remove*: 2 LRemove: 1 @ 23"

TAG#	SIZE	COMMON NAME	BOTANICAL NAME	CONDITION	ACTION
451	27"	Cottonwood	*Populus deltoides*	Fair	Save
452	21", 23"	Willow	*Salix sp.*	Fair	Save
453	15"	American Elm	*Ulmus americana*	Dead	Save
454	48"	Willow	*Salix sp.*	V. Poor	Save
455	10"	Crabapple	*Malus sp.*	V. Poor	Save
456	7"	Box Elder	*Acer negundo*	Poor	Save
457	15"	Red Mulberry	*Morus rubra*	V. Poor	Save
458	8", 13"	Box Elder	*Acer negundo*	Fair	Save
459	7"	Box Elder	*Acer negundo*	Fair	Save
460	14"	Box Elder	*Acer negundo*	Poor	Save
461	10"	Box Elder	*Acer negundo*	Poor	Save
462	9"	Box Elder	*Acer negundo*	Poor	Save
463	6"	American Elm	*Ulmus americana*	Fair	Save
464	M.S. 16"+	Willow	*Salix sp.*	Poor	Save
465	6"	Box Elder	*Acer negundo*	Poor	Save
466	10"	Box Elder	*Acer negundo*	Fair	Save
467	12", 18"	Box Elder	*Acer negundo*	V. Poor	Save
468	9"	Red Mulberry	*Morus rubra*	V. Poor	
469	21"	American Elm	*Ulmus americana*	Fair	Save
470	18", 20", 25"	Willow	*Salix sp.*	V. Poor	Save
471	9"	Box Elder	*Acer negundo*	V. Poor	Save
472	7", 11"	Box Elder	*Acer negundo*	V. Poor	
473	14"	Red Mulberry	*Morus rubra*	Poor	Off Site
474	12"	Sugar Maple	*Acer saccharum*	Fair	Off Site
475	16", 16", 19"	Willow	*Salix sp.*	Dead	Off Site
476	14", 15"	Willow	*Salix sp.*	Dead	Off Site
477	11", 15"	Willow	*Salix sp.*	Dead	Off Site
478	7"	Red Mulberry	*Morus rubra*	Poor	Off Site
479	4", 8"	Box Elder	*Acer negundo*	Poor	Off Site
480	10"	Red Mulberry	*Morus rubra*	Poor	Off Site
481	9"	Red Mulberry	*Morus rubra*	Fair	Off Site
482	4", 6", 7"	American Elm	*Ulmus americana*	Poor	Off Site
483	5", 12"	Red Mulberry	*Morus rubra*	V. Poor	Off Site
484	10"	Box Elder	*Acer negundo*	Poor	Off Site
485	10", 13"	Box Elder	*Acer negundo*	V. Poor	Off Site
486	9"	Box Elder	*Acer negundo*	Poor	Off Site
487	11", 16"	Box Elder	*Acer negundo*	V. Poor	Off Site
488	5", 13", 18"	Box Elder	*Acer negundo*	V. Poor	Off Site
489	10"	Silver Maple	*Acer saccharinum*	Fair	Off Site
490	13"	Red Mulbery	*Morus rubra*	Poor	Off Site
491	3", 3", 6"	Silver Maple	*Acer saccharinum*	Poor	Off Site
492	3", 4", 8"	Silver Maple	*Acer saccharinum*	Fair	Off Site
493	14"	American Elm	*Ulmus americana*	Fair	Off Site
494	33"	Cottonwood	*Populus deltoides*	Fair	Off Site
495	14", 20"	Willow	*Salix sp.*	Fair	Off Site
496	12"	Red Mulberry	*Morus rubra*	Poor	Off Site
497	14"	Box Elder	*Acer negundo*	Poor	Off Site
498	22", 35"	Willow	*Salix sp.*	Fair	Off Site
499	30"	American Elm	*Ulmus americana*	Fair	Off Site
~~500~~	~~12"~~	~~Honeylocust~~	~~*Gleditsia triacanthos*~~	~~Fair~~	~~Remove~~

Totals: Trees Surveyed: 50 Save: 19 Remove: 1 Remove*: 3 Off Site: 27

TAG#	SIZE	COMMON NAME	BOTANICAL NAME	CONDITION	ACTION
501	18"	Red Oak	*Quercus rubra*	Fair	Off Site
502	35"	Spruce	*Picea sp.*	Fair	Off Site
503	7"	Honeylocust	*Gleditsia triacanthos*	Poor	Off Site
504	16"	Spruce	*Picea sp.*	Fair	Off Site
505	15"	Spruce	*Picea sp.*	Fair	Off Site
506	16"	Spruce	*Picea sp.*	Fair	Off Site
507	17"	Spruce	*Picea sp.*	Fair	Off Site
508	13"	Norway Maple	*Acer platanoides*	Fair	Off Site
509	12"	Norway Maple	*Acer platanoides*	Fair	Off Site
510	10"	Eastern Redcedar	*Juniperus virginiana*	Fair	Off Site
511	25"	Box Elder	*Acer negundo*	Poor	Off Site
512	22"	Red Mulberry	*Morus rubra*	Poor	Off Site
513	19"	Willow	*Salix sp.*	Fair	Off Site
514	32"	Cottonwood	*Populus deltoides*	Fair	Off Site
515	36"	Cottonwood	*Populus deltoides*	V. Poor	Off Site
516	11"	Red Mulberry	*Morus rubra*	Poor	Off Site
517	39"	Willow	*Salix sp.*	Fair	Off Site
518	26", 31"	Willow	*Salix sp.*	Poor	Off Site
~~519~~	~~8"~~	~~American Elm~~	~~*Ulmus americana*~~	~~Fair~~	~~Remove~~
~~520~~	~~20"~~	~~Norway Maple~~	~~*Acer platanoides*~~	~~Fair~~	~~LRemove 20"~~
~~521~~	~~17"~~	~~Norway Maple~~	~~*Acer platanoides*~~	~~Good~~	~~Remove~~
~~522~~	~~24"~~	~~Scots Pine~~	~~*Pinus sylvestris*~~	~~Fair~~	~~LRemove 24"~~
523	29"	Honeylocust	*Gleditsia triacanthos*	Good	Save
524	18"	Scots Pine	*Pinus sylvestris*	Fair	Save
525	31"	Honeylocust	*Gleditsia triacanthos*	Fair	Save
~~526~~	~~19"~~	~~Norway Maple~~	~~*Acer platanoides*~~	~~Fair~~	~~LRemove 19"~~
~~527~~	~~15"~~	~~Honeylocust~~	~~*Gleditsia triacanthos*~~	~~Fair~~	~~Remove~~
~~528~~	~~14"~~	~~Honeylocust~~	~~*Gleditsia triacanthos*~~	~~Fair~~	~~Remove~~
~~529~~	~~16"~~	~~Honeylocust~~	~~*Gleditsia triacanthos*~~	~~Poor~~	~~Remove~~
~~530~~	~~17"~~	~~Honeylocust~~	~~*Gleditsia triacanthos*~~	~~Fair~~	~~Remove~~
~~531~~	~~18"~~	~~Honeylocust~~	~~*Gleditsia triacanthos*~~	~~Fair~~	~~Remove~~
~~532~~	~~12"~~	~~Honeylocust~~	~~*Gleditsia triacanthos*~~	~~Fair~~	~~Remove~~
~~533~~	~~24"~~	~~Honeylocust~~	~~*Gleditsia triacanthos*~~	~~Fair~~	~~Remove~~

Totals: Trees Surveyed: 33 Save: 3 Remove: 9 Remove*: 0 Off Site: 18 LRemove: 3 @ 60"

Grand Total
Trees Surveyed: 134 Save: 70 Remove:10 Remove*: 5 Off Site: 45 LRemove: 4 @ 92"

TREE REPLACEMENT CALCULATIONS

Total Number of Trees on Site:	134
Save:	70
Remove Regulated (R):	10
Remove Without Replacement (R*):	5
Remove Landmark (RLM):	4 @ 92"
Off Site (OS):	45

Replacements Required (Seventy-six inches (53"):
Replacement at a one-to-one ratio - Ten (10) trees at three inch caliper equals 30" total
Landmark replacement at twenty five percent of total caliper inches removed - 92" times 0.25 equals 23" total

DEFINITION OF RATINGS:

* GOOD:
The tree appears to be in a healthy and satisfactory condition with an overall sound stem structure and with a full and balanced crown; the growth habit appears normal; there is no indication of pests or diseases present; and the life expectancy is judged to be greater than twenty-five (25) years. The rating based on the health / condition chart ranges from 30 to 24.
* FAIR:
The tree appears to be in a healthy and satisfactory condition with a minimum of structural problems and with minor crown imbalance or thin crown; the growth habit appears normal; there is no indication of pests or diseases present; and the life expectancy is judged to be greater than twenty (20) years. The rating based on the health / condition chart ranges from 23 to 16.
* POOR:
The tree appears to be in an unhealthy condition with structural problems and with major crown imbalance, dead or dying limbs, or growth only in the top quarter of the tree; the growth habit is misshapen and askew; there is evidence of pests or diseases present; and the life expectancy is judged to be less than ten (10) years. The rating based on the health / condition chart ranges from 15 to 7.
* VERY POOR (V. Poor):
The tree appears to be in an unhealthy condition with major structural problems and with major crown imbalance or several dead limbs and/or peeling bark; the growth habit is severely misshapen and askew; there is evidence of pests or diseases present; and the life expectancy is judged to be less than five (5) years. The rating based on the health / condition chart ranges from 6 to 1.
* DEAD:
The tree has no live branches, is topped, or fallen.

TREE HEALTH / CONDITION FACTORS & RATINGS

Values	Best	5	4	3	2	1	Worst
1	Trunk	Sound & solid		Sections of bark missing		Extensive decay & hollow	
2	Growth Rate	> 6 inch twig elongation		2 inch - 6 inch twig elongation		< 2 inch twig elongation	
3	Structure	Sound		One major or several minor limbs dead		Two or more major limbs dead	
4	Insects & Diseases	No pests present		One pest present		Two or more pests present	
5	Crown Development	Full & balanced		Full but unbalanced		Unbalanced and lacking a full crown	
6	Life Expectancy	> 30 years		15 years to 20 years		< 5 years	

GENERAL NOTES:

1. No construction or tree removal shall occur on site until final site plan approval has been granted and the location of the tree protection fences have been inspected and approved by the City of Farmington Hills. A Tree Permit must be obtained for the construction from the Planning Department prior to any tree removal activity involving tress six inches (6") or more diameter at breast height (d.b.h.).
2. Replacement trees are indicated on Sheet LP-1. Replacement trees must be staked, fertilized, and mulched and shall be guaranteed for one (1) year.

NOTES:

* See Sheet TS - 1: TREE SURVEY for locations of existing trees and size and type of existing trees.
* See Sheet LP - 1: LANDSCAPE PLAN for proposed plantings, landscape calculations, cost estimate, and plant list.
* See Sheet LP - 2: LANDSCAPE NOTES & DETAILS for landscape development notes, landscape planting details, tree protection detail, and tree pruning detail.

date: April 18, 2019
revised:
07-18-2019 Revise for site plan changes.
09-18-2019 Revise for P.C. comments.
02-12-2020 Revise for changes to rear lot lines of Lots 1-8.
05-20-2020 Revise for minor changes to utilities.
03-21-2021 Revise for changes to utilities.
11-08-2022 Revise for changes to utilities.

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

40' 0' 40' 80' 120' north
scale: 1" = 40'

LANDSCAPE PLAN FOR:
Yaldo Construction
31000 Northwestern Hwy.
Suite 110
Farmington Hills, Michigan
48334
(248) 521-0978

PROJECT LOCATION:
McKenzie Green
29150 Farmington Road
Farmington Hills,
Michigan
48334

LANDSCAPE PLAN BY:
Nagy Devlin Land Design
31736 West Chicago Ave.
Livonia, Michigan 48150
(734) 634-9208

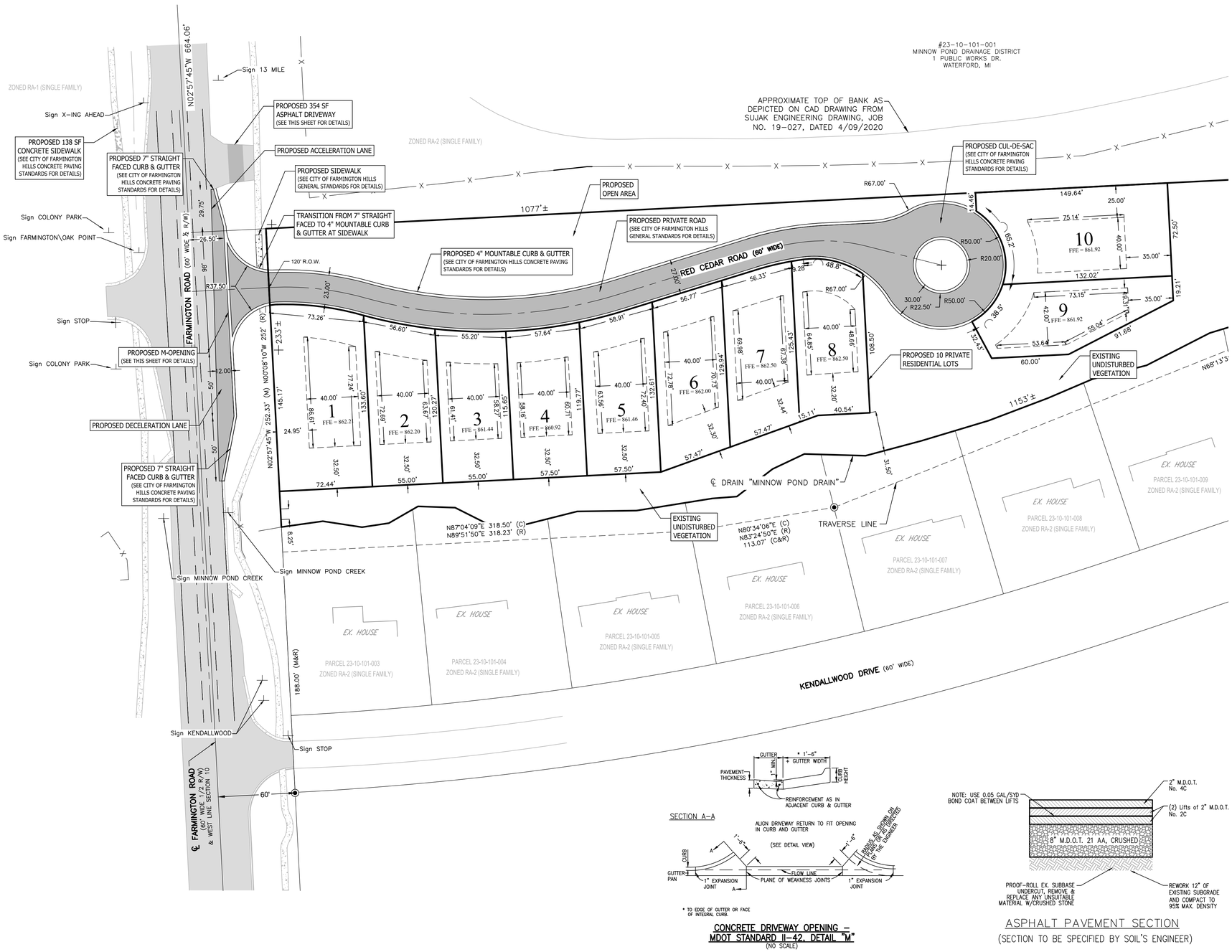
STATE OF MICHIGAN J. BRIAN DEVLIN NO.1260 REGISTERED LANDSCAPE ARCHITECT

J. Brian Devlin AUTOCAD SIGNATURE ORIGINAL IN BLUE

TS - 2: TREE SURVEY SUPERIMPOSED ON THE SITE PLAN / TREE PRESERVATION PLAN

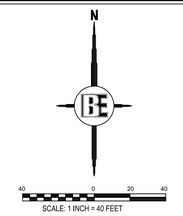
* Base data provided by Sujak Engineering, P.L.C.

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



CONCRETE DRIVEWAY OPENING – MDOT STANDARD II-42, DETAIL "M"
(NO SCALE)

ASPHALT PAVEMENT SECTION
(SECTION TO BE SPECIFIED BY SOIL'S ENGINEER)



LEGAL DESCRIPTION:
OUTLOT D, KENDALLWOOD NO 4, CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 96, PAGES 23 & 24, OAKLAND COUNTY RECORDS.

SITE DATA:

CITY OF FARMINGTON HILLS
PARCEL #23-10-101-002
29150 FARMINGTON ROAD, FARMINGTON HILLS, MI 48334
3.83 AC ±

ZONING: ONE FAMILY RESIDENTIAL DISTRICT (RA-2)
SCHOOL DISTRICT: FARMINGTON PUBLIC SCHOOLS

EXISTING SITE USE: FORMERLY KENDALLWOOD SWIM CLUB
PROPOSED USE: ONE FAMILY CLUSTER PER SECTION 34-3.17 A- i, ii, B- ii, v, & vi

MAX. LOT COVERAGE: 35.0% BLDG
EXISTING LOT COVERAGE: 0.00% BLDG, 28.7% IMPERVIOUS
PROPOSED LOT COVERAGE: 16.4% BLDG, 28.6% IMPERVIOUS

EX. LOT AREA: 3.83 AC ± (166,876 SF)
MIN. LOT AREA REQUIRED FOR ZONING: 16,500 SF (PER SUBDIVISION)
MIN. LOT WIDTH: 90 FT AVG. LOT WIDTH: 55 FT

PROPOSED CONDITIONS:

IMPERVIOUS AREAS =	
PROPOSED ASPHALT DRIVEWAY	17,533 SF (0.40 AC)
PROPOSED ASPHALT DRIVEWAY-OFFSITE	*3,353 SF (0.08 AC)*
PROPOSED CONCRETE CURB	2,749 SF (0.06 AC)
PROPOSED CONCRETE CURB-OFFSITE	*629 SF (0.02 AC)*
PROPOSED BUILDINGS	27,404 SF (0.63 AC)
SUBTOTAL:	47,686 SF (1.09 AC)
PERVIOUS AREAS =	
EXISTING UNDISTURBED VEGETATION	49,665 SF (1.14 AC)
PROPOSED OPEN SPACE	20,568 SF (0.47 AC)
PROPOSED LAWN/VEGETATION	48,957 SF (1.13 AC)
SUBTOTAL:	119,190 SF (2.74 AC)
TOTAL SITE AREAS =	
TOTAL:	166,876 SF (3.83 AC)

SETBACKS:	FRONT:	REAR:	SIDE:	SIDE:	AREA (SF):	AREA (AC):
REQUIRED:	35'	35'	8'/12'	20' TOTAL		
UNIT 1:	25'	32.50'	24.95'/7.5'	32.45'	10,267	0.24
UNIT 2:	25'	32.50'	7.5'/7.5'	15'	6,940	0.16
UNIT 3:	25'	32.50'	7.5'/7.5'	15'	6,447	0.15
UNIT 4:	25'	32.50'	7.5'/10'	15'	6,722	0.15
UNIT 5:	25'	32.50'	10'/7.5'	17.5'	7,225	0.17
UNIT 6:	25'	32.30'	7.5'/7.5'	15'	7,220	0.17
UNIT 7:	25'	32.44'	7.5'/7.5'	15'	7,057	0.16
UNIT 8:	25'	32.20'	7.5'/7.5'	15'	6,568	0.15
UNIT 9:	25'	35'	7.5'/7.5'	15'	6,747	0.15
UNIT 10:	25'	35'	7.5'/25'	32.50'	9,914	0.23
OPEN SPACE NORTH:					20,568	0.47
UNDISTURBED SPACE:					49,665	1.14

OPEN SPACE REQUIRED (15%): 3.83 AC * 0.15 = 0.57 AC
TOTAL UNDISTURBED & OPEN SPACE: 0.47 AC + 1.14 AC = 1.61 AC

MAXIMUM BLDG HEIGHT: 30'
TOTAL FLOOR AREA MINIMUM PER UNIT: 930 SF
GROUND FLOOR AREA MINIMUM PER UNIT: 600 SF

SITE DEVELOPMENT NOTES:

STORM WATER DETENTION SHALL BE PROVIDED IN THE EXISTING MINNOW POND DETENTION FACILITY TO THE NORTH.

ALL PROPOSED PUBLIC UTILITY LOCATIONS SHALL BE COORDINATED WITH CITY OF FARMINGTON HILLS ENGINEERING DEPARTMENT.

FIRE HYDRANT LOCATIONS SHALL BE COORDINATED WITH CITY OF FARMINGTON HILLS FIRE AND ENGINEERING DEPARTMENTS.

ALL PROPOSED BUILDINGS SHALL HAVE A FINISHED GRADE OF NO LESS THAN 12" ABOVE THE EXISTING 100 YEAR FLOODPLAIN.

CITY OF FARMINGTON HILLS STANDARD NOTES:

NOTIFY THE CITY OF FARMINGTON HILLS ENGINEERING DIVISION 248-871-2560 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

ALL CONSTRUCTION MUST BE CONFORMING TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF FARMINGTON HILLS.

UTILITIES ARE TO BE UNDERGROUND.

CALL MISS DIG (1-800-647-7344 / 1-800-MISS DIG) A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.

ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON SITE.

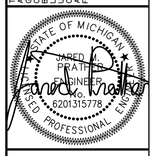
ALL EXCAVATION UNDER OR WITHIN 3 FEET OF THE PUBLIC PAVEMENT, EXISTING OR PROPOSES, SHALL BE BACKFILLED AND COMPACTED WITH SAND (CLASS II MDOT).

THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.

PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ARE APPROXIMATE AND NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS BEFORE THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FROM THE PLANS IN THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
IT'S THE LAW!!! PA 53 OF 1974 AS AMENDED BY PUBLIC ACT 174 OF 2013



BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT
CEDARS OF FARMINGTON

PREPARED FOR
CEDARS OF FARMINGTON ROAD, LLC
16634 TELEGRAPH RD
DETROIT, MI 48238
888-897-9792

TITLE
SITE PLAN

NO	BY	DATE
8	JP	02/18/26 REVISION PER CITY RESUBMITTAL
7	JP	02/09/26 REVISION PER EGLE COMMENTS
6	JP	02/02/26 REVISION PER EGLE COMMENTS
5	JP	12/05/25 REVISION PER CITY REVIEW
4	JP	10/17/25 REVISION PER OCWRC & CITY REVIEW
3	JP	08/27/25 REVISION PER FHFD REVIEW
2	JP	08/07/25 REVISION PER CITY REVIEW
1	JP	07/22/25 REVISION PER OCWRC & CITY REVIEW

DESIGNED BY: DH
DRAWN BY: JP
CHECKED BY:
SCALE: 1" = 40'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 5

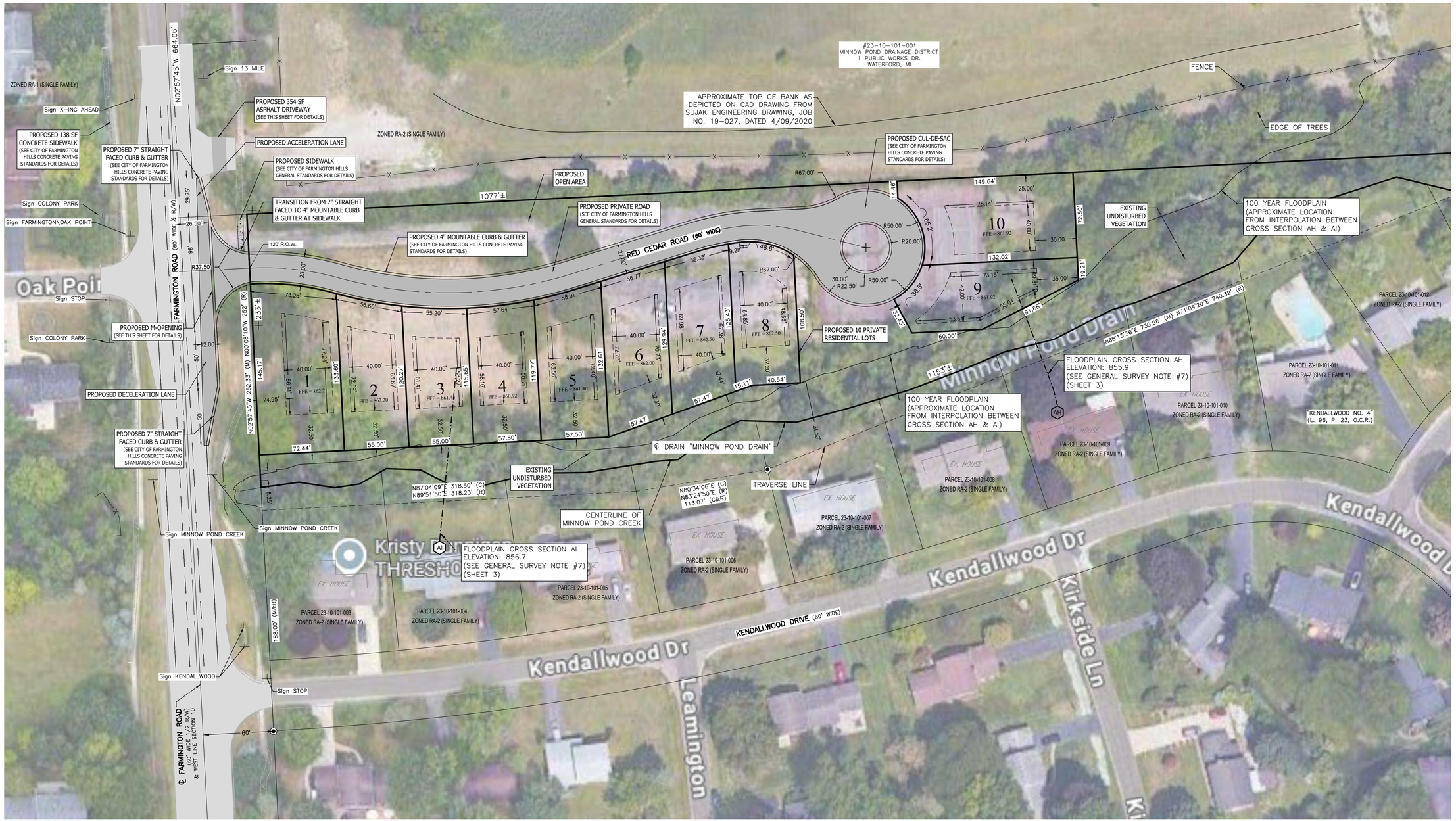
BOSS Engineering

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

N

SCALE: 1 INCH = 40 FEET

LEGAL DESCRIPTION:
OUTLOT D, KENDALLWOOD NO 4, CITY OF FARMINGTON HILLS, OAKLAND COUNTY, MICHIGAN ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 96, PAGES 23 & 24, OAKLAND COUNTY RECORDS.



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES ARE APPROXIMATE AND 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 THE COMMENCEMENT OF ANY WORK AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND TO EXIST BETWEEN THE PLANS AND THE FIELD LOCATION OR DEPTH OF ANY UTILITY OR STRUCTURE FROM THE PLANS. IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 OR 811

STATE OF MICHIGAN
JARED P. PRATHER
ENGINEER
6201315778
PROFESSIONAL ENGINEER

BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

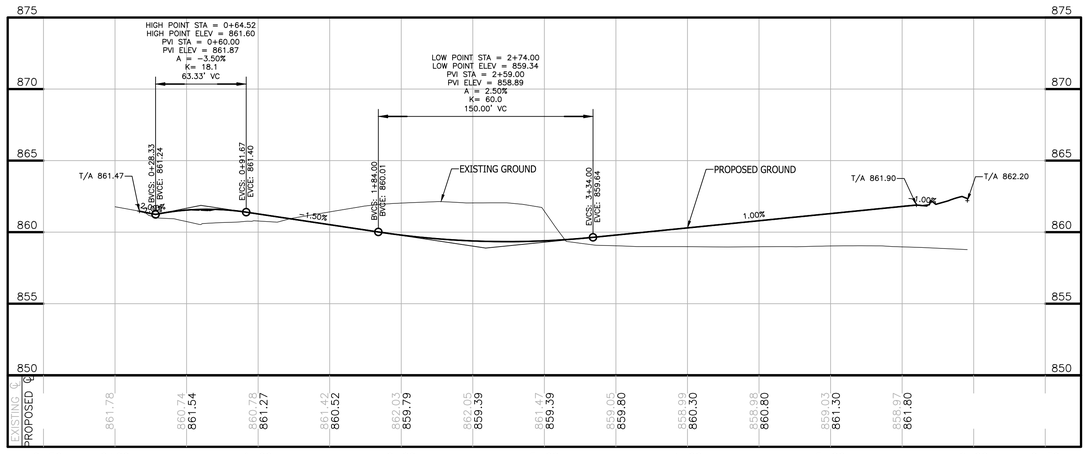
PROJECT
CEDARS OF FARMINGTON

PREPARED FOR
CEDARS OF FARMINGTON ROAD, LLC
1660 N TELEGRAPH RD
DEARBORN, MI 48128
888-807-9792

TITLE
SITE AERIAL PLAN

NO	BY	REVISION PER	DATE
8	JP	REVISION PER CITY RESUBMITTAL	02/18/26
7	JP	REVISION PER EGLE COMMENTS	02/09/26
6	JP	REVISION PER EGLE COMMENTS	02/02/26
5	JP	REVISION PER CITY REVIEW	12/05/25
4	JP	REVISION PER OCWRC & CITY REVIEW	10/17/25
3	JP	REVISION PER FHFD REVIEW	08/27/25
2	JP	REVISION PER CITY REVIEW	08/07/25
1	JP	REVISION PER OCWRC & CITY REVIEW	07/22/25

DESIGNED BY: DH
DRAWN BY: JP
CHECKED BY:
SCALE: 1" = 40'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 6



PROPOSED ROADWAY VERTICAL ALIGNMENT

HORIZ. (1" = 50')
VERT. (1" = 5')

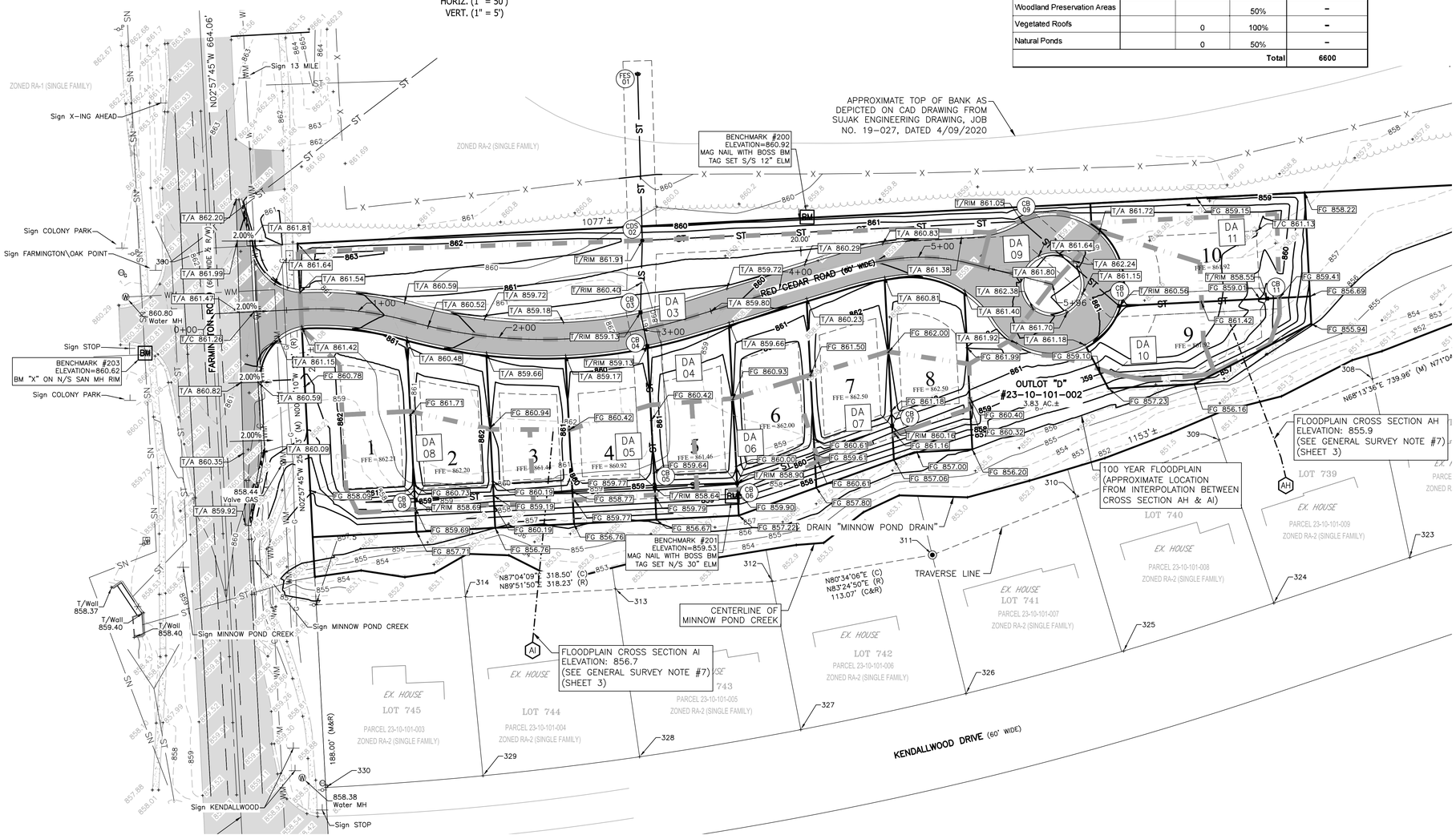


Table 13: MEP Tree Summary Table (4) (SEE SHT 10 FOR LOCATIONS)

COMMON TREE NAME	# TREES PLANTED	HGT AT MATURITY (FT)	RELATIVE TREE SIZE CATEGORY	MEP AREA / TREE (SQFT)	TOTAL MEP AREA (SQFT)	SOURCE
Red Maple	3	>40-ft	Large	500	1500	MDNR MI Native Trees IC 4212
Swamp White Oak	3	>40-ft	Large	500	1500	MDNR MI Native Trees IC 4212
American Elm	3	>40-ft	Large	500	1500	MDNR MI Native Trees IC 4212
White Spruce	3	>40-ft	Large	500	1500	MDNR MI Native Trees IC 4212
Ironwood / Hophornbeam	2	30-40-ft	Medium	300	600	MDNR MI Native Trees IC 4212
TOTALS	**14**				**6600**	

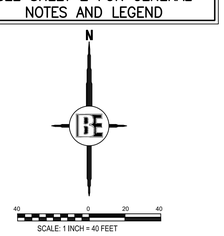
Table 14: MEP Summary Table

Total Development Area (sf)	166,876 sf (3.83 ac)
Site Impervious Area (sf)	41,302 sf (0.95 ac)
MEP Area Required (sf) Note: 15% Site Impervious Area	6,196 sf (0.14 ac)
Maximum Allowed Preservation Areas (sf) Note: 50% of the MEP Area	3,098 sf (0.07 ac)

SMPs and their Associated MEP Area

SMP	No. of Trees	Area of SMPs (sf)	Max Credit	Equivalent MEP Area (sf)
Trees:				
Small (100 sf per tree)			100%	-
Medium (300 sf per tree)	2	600	100%	600
Large (500 sf per tree)	12	6000	100%	6000
Tree Preservation			50%	-
Native Plantings			100%	-
Wetland Preservation Areas		0	50%	-
Woodland Preservation Areas			50%	-
Vegetated Roofs		0	100%	-
Natural Ponds		0	50%	-
			Total	**6600**

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



DRAINAGE AREA TABLE

DRAINAGE AREA	TOTAL AREA (AC)	IMP. AREA (AC)	C VALUE	A*C
1	0.00	-	0.00	0.00
2	0.00	-	0.00	0.00
3	0.51	0.16	0.43	0.22
4	0.71	0.36	0.58	0.42
5	0.15	0.07	0.57	0.08
6	0.11	0.07	0.63	0.07
7	0.14	0.07	0.58	0.08
8	0.18	0.10	0.63	0.11
9	0.06	0.05	0.83	0.05
10	0.22	0.13	0.65	0.15
11	0.15	0.07	0.57	0.09
TOTALS	2.24	1.09	0.57	1.27

OAKLAND COUNTY DETENTION BASIN CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
1.09	0.95	1.04
0.09	0.79	0.00
1.14	0.29	0.23

COMPOUND C: 0.57
TOTAL DRAINAGE AREA: 3.24 ACRES

WATER QUALITY VOLUME V_{WQ}

V_{WQ}= 0.60(C)(A) = 4936 FT³
V_T= 0.15(V_{WQ}) = 695 FT³

WATER QUALITY RATE FOR MECHANICAL STRUCTURE

T_C = MAXTIME OF CONCENTRATION = 11.27 MIN
Q_{WQ}= (C)(k)(30.29)/$(T_C+9.17)^{0.7}$ = 3.36 CFS

CHANNEL PROTECTION VOLUME CONTROL - REQUIRED

V_{CPVR} = 4.71(WQ)(A) = 6025 FT³

CHANNEL PROTECTION VOLUME CONTROL - PROVIDED

in-Situ Infiltration rate = 1.65 INCHES
Are upstream infiltration BMP's provided? NO
Basin Footprint Infiltration Area Required = 2410 FT²
V_{CPVP} = 0 FT³

CHANNEL PROTECTION RATE CONTROL (EXTENDED DETENTION VOLUME)

V_{ED} = 0.807(C)(A) = 6636 FT³

EXTENDED DETENTION OUTLET RATE

Q_{ED} = V_{ED}/(48hr) = 0.051 CFS
H_{ED} = V_{ED}/4.699 $(ft^{3/2})$ = #VALUE! 1" HOLES
= #VALUE! FT
Ø & V_{ED} = #VALUE!

100-YEAR ALLOWABLE OUTLET RATE

Q_{100A} =	Restricted Drain Rate =	0.2	CFS/ACRE
Q_{100E} =	1.1056 - 0.2064(Ab) =	0.639	CFS/ACRE
Q_{100} =	(LESSER OF Q_{100A} & Q_{100E})*A =	0.448	CFS

CONTACT OAKLAND COUNTY DRAIN COMMISSION FOR ALLOWABLE RELEASE RATE

100-YEAR DETENTION VOLUME

V_{100R} = 19365 (C)(A) = 24240 FT³
Q_{100N} = IC(A)/83.3(T$_C$+9.17)$^{0.7}$ = 9.23 CFS
= 0.206-15(In(Q_{100R}/Q_{100N}) = 0.6299
V_{100D} = V_{100R}-V_{CPVR} = 15036 FT³
Is V_{100D} ≥ V_{ED} ? YES
V_{100D} = 15966 FT³

STORMWATER DRAINAGE DESIGN NARRATIVE:

THE CEDARS OF FARMINGTON IS A PROPOSED RESIDENTIAL DEVELOPMENT CONSISTING OF TEN SINGLE-FAMILY HOMES LOCATED AT 29150 FARMINGTON ROAD, FARMINGTON HILLS, MI 48334. THE EXISTING SITE IS GENERALLY FLAT, CONSISTING OF MAINLY SANDY LOAM SOILS AND URBAN LAND FORMERLY THE KENDALLWOOD SWIM CLUB, AND IS ABUTTED BY FARMINGTON ROAD TO THE WEST, THE MINNOW POND DRAIN TO THE SOUTH AND EAST, AND THE OAKLAND COUNTY DETENTION BASIN TO THE NORTH.

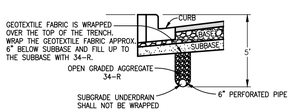
THE PROPOSED STORMWATER MANAGEMENT SYSTEM HAS BEEN DESIGNED TO CAPTURE RUNOFF FROM THE PROPOSED DRIVEWAY, CUL-DE-SAC, RESIDENTIAL HOUSES, AND OPEN AREA AND CHANNEL THE STORMWATER INTO THE EXISTING DETENTION BASIN OWNED AND OPERATED BY THE OAKLAND COUNTY WATER RESOURCE COMMISSION. THE STORMWATER DESIGN OUTLET LOCATION WILL BE APPROVED FOR USE BY THE OCWRC.

RUNOFF CAPTURED BY THE PROPOSED STORMWATER SYSTEM WILL BE TREATED WITH A PRETREATMENT MECHANICAL SEPARATOR, SEE SHEET 8, BEFORE OUTLETTING INTO THE EXISTING DETENTION BASIN.

DRAINAGE NOTE:

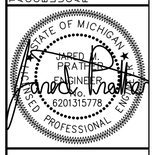
THE 100-YEAR DETENTION AND EXTENDED DETENTION VOLUME REQUIREMENTS WILL BE MET BY THE ULTIMATE DRAINAGE OUTLET FOR THE SITE IN THE MINNOW POND DRAIN BASIN.

BENCHMARKS:
- BENCHMARK #200 = MAG NAIL WITH BOSS BM TAG SET S/S 12" ELM ELEV: 860.92
- BENCHMARK #201 = MAG NAIL WITH BOSS BM TAG SET N/S 30" ELM ELEV: 857.81
- BENCHMARK #203 = BM "X" ON N/S SAN MH RIM ELEV: 860.62



EDGE DRAIN DETAIL
NO SCALE

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE APPROXIMATE AND NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE EXACT LOCATIONS AND ELEVATIONS. THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSING OR CONNECTING TO EXISTING UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND BETWEEN THE PLANS AND THE LOCATION OR DEPTH OF UTILITIES FROM THE PLANS. IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY
3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
It's not only the right thing to do, it's the law.



BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: CEDARS OF FARMINGTON

PREPARED FOR: CEDARS OF FARMINGTON ROAD, LLC
1668 N TELEGRAPH RD
BLOOMFIELD HILLS, MI 48326
888-897-9792

TITLE: GRADING & DRAINAGE PLAN

NO	BY	REVISION	DATE
8	JP	REVISION PER CITY RESUBMITTAL	02/18/26
7	JP	REVISION PER EGLE COMMENTS	02/09/26
6	JP	REVISION PER EGLE COMMENTS	02/02/26
5	JP	REVISION PER CITY REVIEW	12/05/25
4	JP	REVISION PER OCWRC & CITY REVIEW	10/17/25
3	JP	REVISION PER FHFD REVIEW	08/27/25
2	JP	REVISION PER CITY REVIEW	08/07/25
1	JP	REVISION PER OCWRC & CITY REVIEW	07/22/25

DESIGNED BY: DH
DRAWN BY: JP
CHECKED BY:
SCALE: 1" = 40'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 7

BOSS BE Engineering

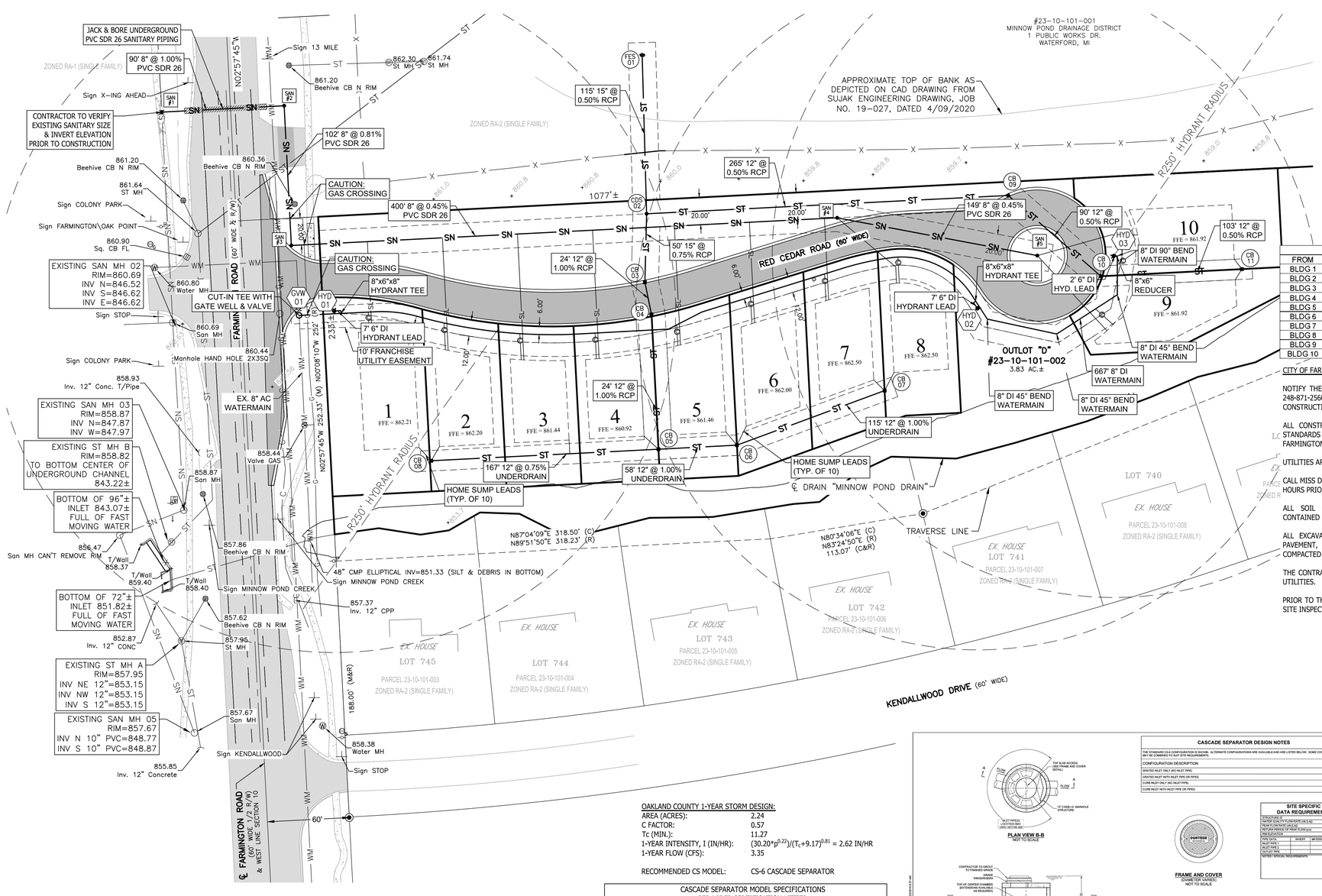
WATERMAIN LEAD DATA TABLE	
BLDG NO.	LEAD LENGTH 1"
1	16
2	20
3	19
4	19
5	19
6	20
7	20
8	19
9	17
10	26

SANITARY LEAD DATA TABLE							
BLDG NO.	INV. AT MAIN	INV. AT WYE	INV. AT STUB	WYE DISTANCE TO DOWNSTREAM MH (FT)	SLOPE (%)	LENGTH (FT)	RISER (FT)
1	854.39	854.72	855.39	56	1.00%	67	0.00
2	854.63	854.97	855.79	111	1.00%	82	0.00
3	854.88	855.21	856.14	166	1.00%	92	0.00
4	855.13	855.46	856.40	221	1.00%	94	0.00
5	855.40	855.73	856.60	281	1.00%	87	0.00
6	855.65	855.98	856.72	336	1.00%	74	0.00
7	855.89	856.23	856.82	391	1.00%	60	0.00
8	856.04	856.37	857.09	0	1.00%	68	0.00
9	856.71	857.04	857.79	0	1.00%	75	0.00
10	856.71	857.04	857.79	0	1.00%	76	0.00

NOTE: INV. AT WYE 4" HIGHER THAN INV. AT MAIN TO ACCOUNT FOR WYE ELEVATION.

FROM	TO	DRAIN AREA	ACRES A	RUNOFF COEFF C	EQUIV. AREA A * C	INTEN-SITY I	TIME OF CONC T_C	ADD'L RUNOFF Q	RUNOFF (CFS) Q	PIPE LENGTH (LF)	PIPE DIA (IN)	VELOCITY FLOWING FULL (FPS)	HYDRAULIC GRADIENT SLOPE %	ACTUAL SLOPE USED	MANNING COEFFICIENT	MANNING FLOW CAPACITY	MANNING'S VELOCITY (FT/SEC)	TIME (MIN)	HG ELEV UPPER END	HG ELEV LOWER END	RIM ELEV UPPER END	RIM ELEV LOWER END	INVERT UPPER END	INVERT LOWER END	DROP DISTANCE (FT)
7	6	7	0.14	0.58	0.08	4.58	10.00		0.37	115	12	2.50	0.30%	1.00%	0.013	3.57	4.55	0.42	856.79	855.64	858.90	858.64	855.99	854.84	
6	5	6	0.11	0.63	0.07	4.50	10.42		0.70	58	12	3.03	0.44%	1.00%	0.013	3.57	4.55	0.21	855.64	855.06	858.64	859.13	854.84	854.26	
5	4	5	0.15	0.57	0.08	4.46	10.63	0.53	1.60	99	12	3.79	0.69%	1.00%	0.013	3.57	4.55	0.36	855.06	854.24	859.13	859.13	854.26	853.27	
4	3	4	0.71	0.58	0.42	4.40	11.00		3.43	24	12	5.91	1.69%	1.00%	0.013	3.57	4.55	0.09	854.24	853.83	859.13	860.40	853.27	853.03	0.50
3	2	3	0.51	0.43	0.22	4.38	11.08		4.38	50	15	4.53	0.74%	0.75%	0.013	5.61	4.57	0.18	853.33	852.96	860.40	861.91	852.33	851.96	2.59
2	1	2	0.00	-	-	-	11.27	1.27	5.65	115	18	4.11	0.48%	0.50%	0.013	7.45	4.21	0.46	850.37	849.79	861.91	-	849.17	848.59	
8	5	8	0.18	0.63	0.11	4.58	10.00		0.53	167	12	2.36	0.27%	0.75%	0.013	3.09	3.94	0.71	856.89	855.64	858.69	859.13	856.09	854.84	
11	10	11	0.15	0.57	0.09	4.58	10.00		0.39	103	12	1.93	0.18%	0.50%	0.013	2.53	3.22	0.54	856.85	856.33	858.55	860.55	856.05	855.53	1.50
10	9	10	0.22	0.65	0.15	4.48	10.54		1.04	90	12	2.57	0.32%	0.50%	0.013	2.53	3.22	0.47	854.83	854.38	860.55	861.05	854.03	853.58	
9	2	9	0.06	0.83	0.05	4.40	11.00		1.27	265	12	2.81	0.38%	0.50%	0.013	2.53	3.22	1.37	854.38	853.06	861.05	861.91	853.58	852.26	2.69

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



SANITARY STRUCTURE TABLE	
STRUCTURE	STRUCTURE DETAILS
MH 01 4'Ø COVER TYPE 'A'	RIM = 862.26 8" INV E = 846.31
MH 02 5'Ø COVER TYPE 'A'	RIM = 861.44 8" INV W = 847.21 8" INV S = 853.01
MH 03 4'Ø COVER TYPE 'A'	RIM = 862.01 8" INV N = 853.84 8" INV E = 853.94
MH 04 4'Ø COVER TYPE 'A'	RIM = 861.04 8" INV W = 855.94 8" INV E = 856.04
MH 05 4'Ø COVER TYPE 'A'	RIM = 862.35 8" INV W = 856.71

STORM STRUCTURE TABLE	
STRUCTURE NAME	STRUCTURE DETAILS
CB03 4'Ø COVER TYPE 'K' 2' SUMP	RIM = 859.13 12" INV S = 853.03 15" INV N = 852.33
CB04 4'Ø COVER TYPE 'K' 2' SUMP	RIM = 859.13 12" INV S = 853.27 12" INV N = 853.27
CB05 4'Ø COVER TYPE 'E' 2' SUMP	RIM = 858.64 12" INV E = 854.26 12" INV W = 854.84 12" INV N = 854.26
CB06 4'Ø COVER TYPE 'E' 2' SUMP	RIM = 858.90 12" INV E = 854.84 12" INV W = 854.84
CB07 2'Ø COVER TYPE 'E' 2' SUMP	RIM = 860.16 12" INV W = 855.99
CB08 2'Ø COVER TYPE 'E' 2' SUMP	RIM = 858.69 12" INV E = 856.09
CB09 4'Ø COVER TYPE 'K' 2' SUMP	RIM = 861.05 12" INV SE = 853.58 12" INV W = 853.58
CB10 4'Ø COVER TYPE 'K' 2' SUMP	RIM = 860.55 12" INV E = 855.53 12" INV NW = 854.03
CB11 2'Ø COVER TYPE 'E' 2' SUMP	RIM = 858.55 12" INV W = 856.05
CDS02 6'Ø COVER TYPE 'E' 5' SUMP	RIM = 861.91 15" INV S = 851.96 12" INV E = 852.26 18" INV N = 849.17
FES01	18" INV S = 848.59

4" STORM SUMP LEAD TABLE				
FROM	TO MH	SIZE	LENGTH	SLOPE
BLDG 1	9	4"	13	1%
BLDG 2	9	4"	12	1%
BLDG 3	9-6	4"	10	1%
BLDG 4	6	4"	14	1%
BLDG 5	7	4"	13	1%
BLDG 6	7	4"	15	1%
BLDG 7	8	4"	11	1%
BLDG 8	8	4"	15	1%
BLDG 9	12	4"	9	1%
BLDG 10	12	4"	9	1%

CITY OF FARMINGTON HILLS STANDARD NOTES:

NOTIFY THE CITY OF FARMINGTON HILLS ENGINEERING DIVISION 248-871-2560 A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

ALL CONSTRUCTION MUST BE CONFORMING TO THE CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE CITY OF FARMINGTON HILLS.

UTILITIES ARE TO BE UNDERGROUND.

CALL MISS DIG (1-800-647-7344 / 1-800-MISS DIG) A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.

ALL SOIL EROSION AND SILT MUST BE CONTROLLED AND CONTAINED ON SITE.

ALL EXCAVATION UNDER OR WITHIN 3 FEET OF THE PUBLIC PAVEMENT, EXISTING OR PROPOSES, SHALL BE BACKFILLED AND COMPACTED WITH SAND (CLASS II MDOT).

THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.

PRIOR TO THE ISSUANCE OF AN OCCUPANCY PERMIT, ENGINEERING SITE INSPECTION IS REQUIRED.

SANITARY BASIS OF DESIGN:

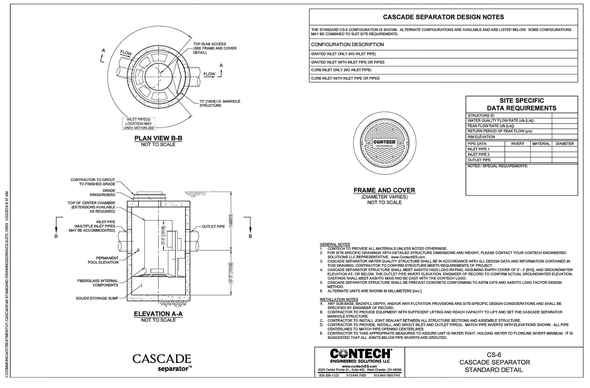
SINGLE FAMILY REU FACTOR:	1.0/UNIT
NUMBER OF SINGLE FAMILY UNITS:	10
REQUIRED REUs:	10 UNITS x 1.0 REU/UNIT = 10 REU
NUMBER OF PEOPLE:	10 REU x (3.2 PEOPLE/REU) = 32 PEOPLE (USE 32 PEOPLE)
AVERAGE FLOW:	= 32 PEOPLE x (100 GAL/DAY/PERSON) = 3,200 GALLONS/DAY = 0.0050 CFS
PEAK FLOW:	= [(18 + SQRT(0.032)) / (4 + SQRT(0.032))] x (0.0050) = 0.0218 CFS
6" SAN LEAD @ 1.00% CAPACITY:	0.81 CFS
8" SAN SEWER @ 0.45% CAPACITY:	1.17 CFS

OAKLAND COUNTY 1-YEAR STORM DESIGN:

AREA (ACRES):	2.24
C FACTOR:	0.57
Tc (MIN.):	11.27
1-YEAR INTENSITY, I (IN/HR):	$(30.20*P^{0.22})/(T_c+9.17)^{0.81}$ = 2.62 IN/HR
1-YEAR FLOW (CFS):	3.35

RECOMMENDED CS MODEL: CS-6 CASCADE SEPARATOR

CASCADE SEPARATOR MODEL SPECIFICATIONS PER NJDEP CERTIFICATION LETTER			
Model	Manhole Diameter (ft)	MTFR (cfs)	50% Maximum Sediment Storage Area Volume (ft^3)
CS-3	3	1.02	5.3
CS-4	4	1.80	9.4
CS-5	5	2.81	14.7
CS-6	6	4.05	21.2
CS-8	8	7.20	37.7
CS-10	10	11.3	58.9
CS-12	12	16.2	84.8



STORMWATER MANAGEMENT SYSTEM LONG-TERM MAINTENANCE SCHEDULE

Maintenance Activities	System Components: Storm Collection System (Inlets, Catch Basins, Manholes, Swales, Sewers)	Flared End Section & Outlet Pipes	Concrete Mechanical Separator Unit	Pavement Areas, Others	Frequency
Monitoring / Inspection					
Inspect for Sediment Accumulation	X	X	X		Annually
Inspect for Floatables, Dead Vegetation and Debris	X	X	X		Annually & After Major Events
Inspect for Erosion and Integrity of Banks & Berms	X	X			Annually & After Major Events
Monitor Plantings/Vegetation	X				2 Times per Year
Inspect All Components during Wet Weather & Compare to As-Built plans	X	X	X		Annually
Ensure Maintenance Access Remain Open/Clear	X	X	X		2 Times per Year
Preventative Maintenance					
Mowing	X				As Needed*, Select Areas Only
Remove Accumulated Sediment	X	X	X		As Needed
Remove Floatables, Debris, Invasive and Dead Vegetation	X	X	X		As Needed
Sweeping of Paved Surfaces, Clean Oil Spills Immediately			X	X	As Needed
Remedial Actions					
Repair/Stabilize Areas of Erosion	X	X	X		As Needed
Replace Dead Plantings and Trees, Reseed Bare Areas	X				As Needed
Structural Repairs	X	X	X		As Needed
Make Adjustments/Repairs to Ensure Proper Functioning	X	X	X		As Needed

Notes:
* As per local Ordinance.

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS ARE APPROXIMATE AND 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 THE COMMENCEMENT OF ANY WORK AND SHALL AGREE TO HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY CLAIMS ARISING FROM THE FAILURE TO EXACTLY LOCATE AND PRESERVE ANY UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND BETWEEN THE LOCATION OR DEPTH OF UTILITIES AS SHOWN ON THE PLANS AND THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
IT'S THE LAW!!! IT'S FREE!!! IT'S THE SMART THING TO DO!!!
(NOT A MEMBER OF MISS DIG)

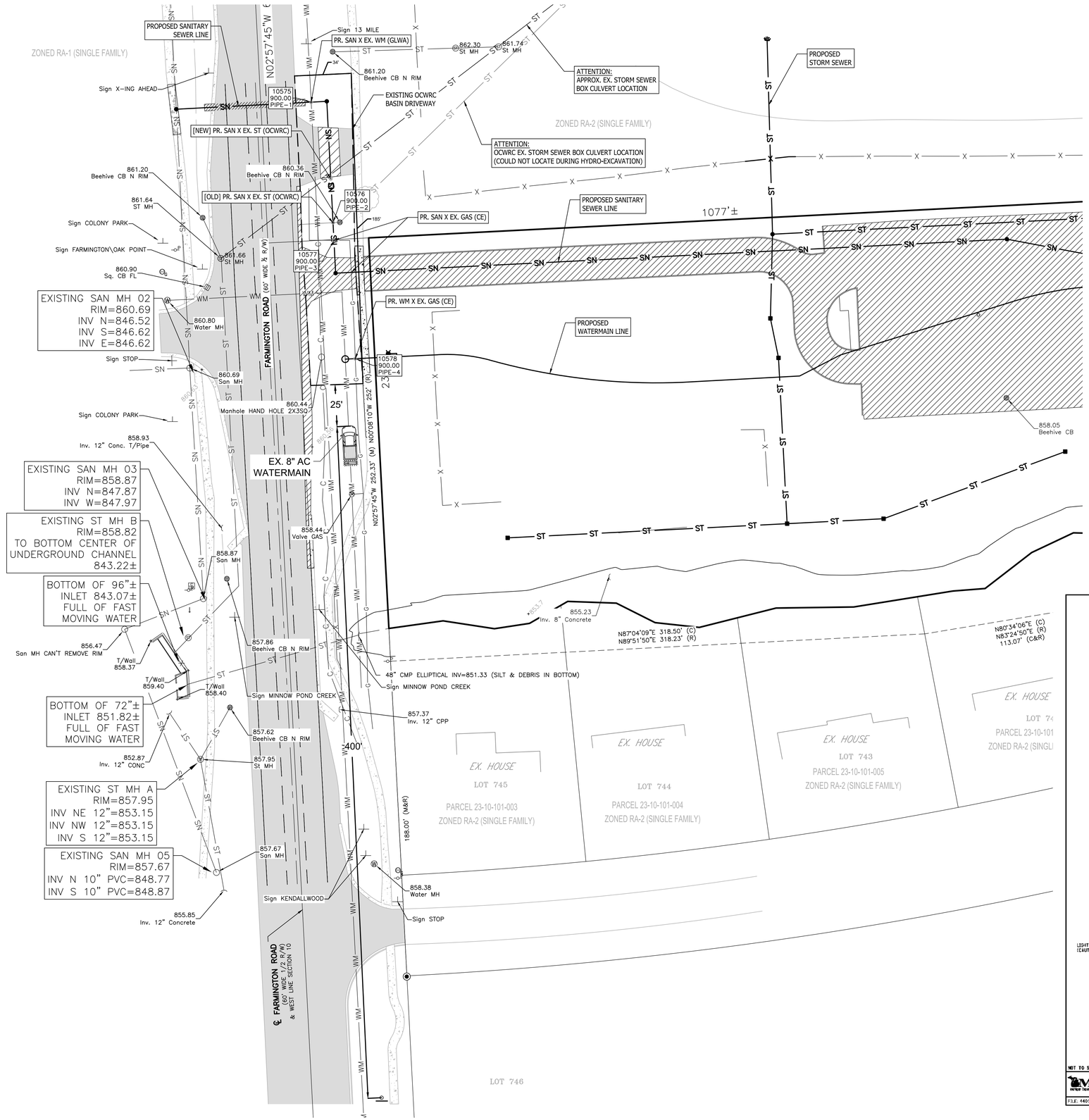
STATE OF MICHIGAN
JARED A. PRATHER
ENGINEER
6201315778
LICENSED PROFESSIONAL ENGINEER

PROJECT
CEDARS OF FARMINGTON
PREPARED FOR
CEDARS OF FARMINGTON ROAD, LLC
1068 N TELEGRAPH RD
DAMON, MICHIGAN 48128
888-897-9792

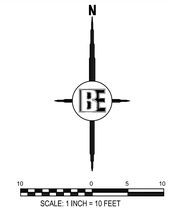
TITLE
UTILITY PLAN

NO	BY	DATE
8	JP	REVISION PER CITY RESUBMITTAL 02/18/26
7	JP	REVISION PER EGLE COMMENTS 02/09/26
6	JP	REVISION PER EGLE COMMENTS 02/02/26
5	JP	REVISION PER CITY REVIEW 12/05/25
4	JP	REVISION PER OCWRC & CITY REVIEW 10/17/25
3	JP	REVISION PER FHFD REVIEW 08/27/25
2	JP	REVISION PER CITY REVIEW 08/07/25
1	JP	REVISION PER OCWRC & CITY REVIEW 07/22/25

DESIGNED BY: DH
DRAWN BY: JP
CHECKED BY:
SCALE: 1" = 40'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 8



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



LEGEND:

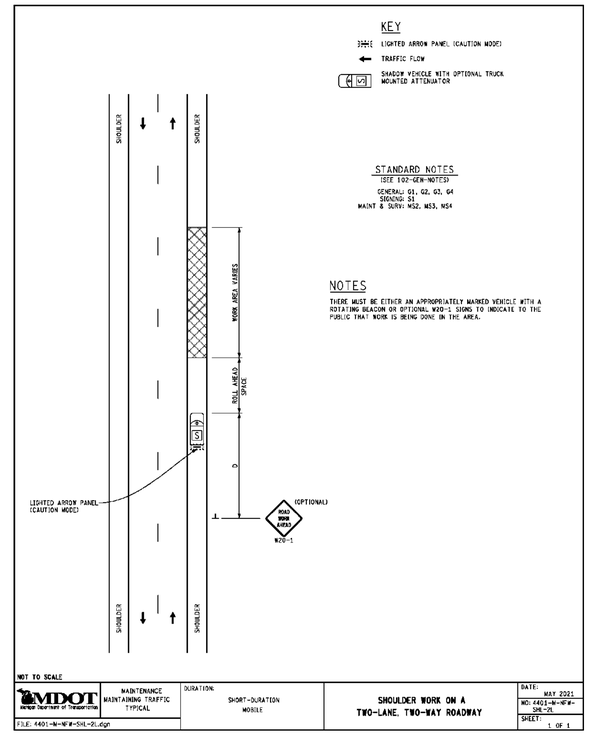
- LIGHTED ARROW PANEL
- TEMPORARY TRAFFIC SIGN
- WORK AREA
- MARKED TRAFFIC CONTROL VEHICLE

ROAD WORK AHEAD

W20-1
48"x48"

TRAFFIC CONTROL NOTES:

1. THERE MUST BE EITHER AN APPROPRIATELY MARKED VEHICLE WITH A ROTATING BEACON OR OPTIONAL W20-1 SIGNS TO INDICATE TO THE PUBLIC THAT WORK IS BEING DONE IN THE AREA.
2. "ROLL AHEAD SPACE" DISTANCE FOR 5.5 TON STATIONARY VEHICLES IN 40MPH ZONES IS 25 FT.



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AND SUBSURFACE FEATURES, IF ANY, ARE NOT GUARANTEED TO BE EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL DETERMINE THE LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CONNECTIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT ALL UTILITIES FOR FIELD LOCATIONS. IF ANY CONFLICTS ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FROM THE PLANS. IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
IT'S THE LAW!!! PA 53 OF 1974 AS AMENDED

JARED P. PRATHER
PROFESSIONAL ENGINEER
6201315778
STATE OF MICHIGAN

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: CEDARS OF FARMINGTON

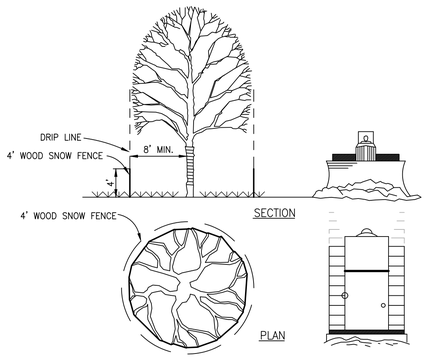
PREPARED FOR: CEDARS OF FARMINGTON ROAD, LLC
39600 TELEGRAPH RD
BLOOMFIELD HILLS, MI 48025
888-897-7972

TITLE: TRAFFIC CONTROL PLAN

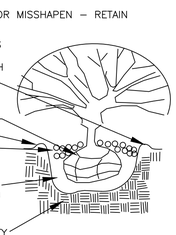
NO	BY	REVISION PER	DATE
8	JP	REVISION PER CITY RESUBMITTAL	02/18/26
7	JP	REVISION PER EGLE COMMENTS	02/09/26
6	JP	REVISION PER EGLE COMMENTS	02/02/26
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2	JP	REVISION PER CITY REVIEW	08/07/25
1	JP	REVISION PER OCWRC & CITY REVIEW	07/22/25

DESIGNED BY: DH
DRAWN BY: JP
CHECKED BY:
SCALE: 1" = 30'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 9

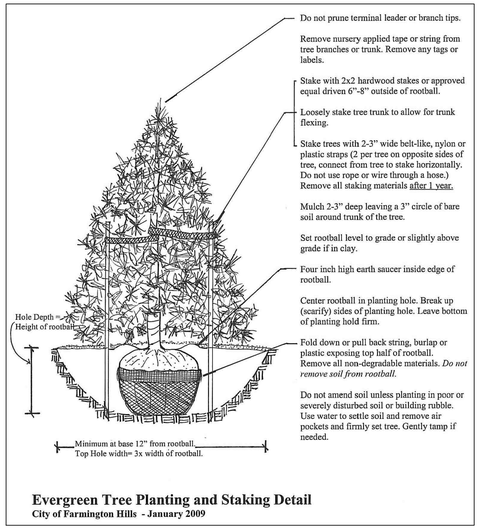
BOSS Engineering



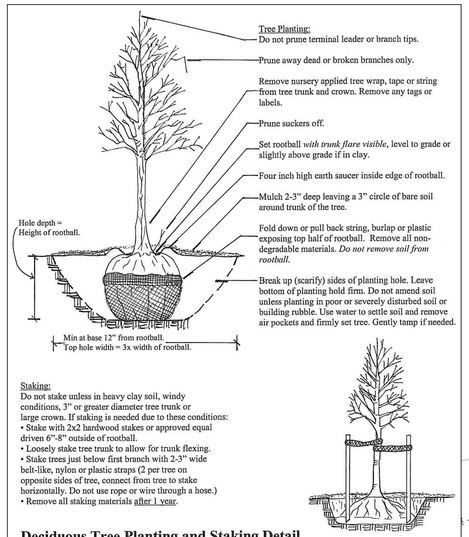
SNOW FENCE PROTECTION DETAIL
(NO SCALE)



SHRUB PLANTING DETAIL
(NO SCALE)

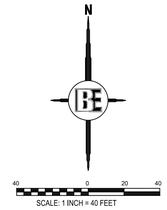


Evergreen Tree Planting and Staking Detail
City of Farmington Hills - January 2009



Deciduous Tree Planting and Staking Detail
City of Farmington Hills - January 2009

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN HEREON IS NOT GUARANTEED TO BE EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CONNECTIONS AS NECESSARY TO DETERMINE IF ANY CONFLICTS EXIST. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND FROM THE PLANS. IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY
3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
IT'S THE LAW!!! (P.A. 53 OF 1974, AS AMENDED)
PLEASE NOTE: MISS DIG SYSTEM, INC. IS NOT RESPONSIBLE FOR NON-MEMBER FACILITIES OR THEIR LOCATION

STATE OF MICHIGAN
PATRICK L. CLEARY
LANDSCAPE ARCHITECT
No. 3901001619
LICENSED LANDSCAPE ARCHITECT

BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT
CEDARS OF FARMINGTON
CEDARS OF FARMINGTON ROAD, LLC
PREPARED FOR
26641 TELEGRAPH RD
SOUTHFIELD, MI 48033
888-897-9792

TITLE
LANDSCAPE PLAN & DETAILS

NO	BY	REVISION PER	DATE
8	JP	REVISION PER CITY RESUBMITTAL	02/18/26
7	JP	REVISION PER EGLE COMMENTS	02/09/26
6	JP	REVISION PER EGLE COMMENTS	02/02/26
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1	JP	REVISION PER OCWRC & CITY REVIEW	07/22/25

DESIGNED BY: PC
DRAWN BY: PC
CHECKED BY:
SCALE: 1" = 40'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 10

BOSS Engineering

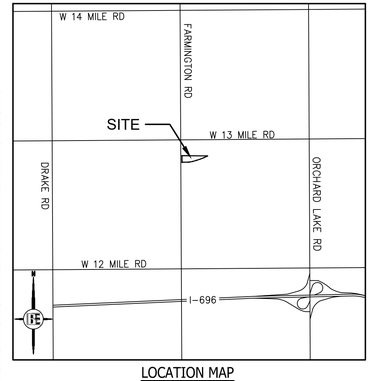
ZONED RA-1 (SINGLE FAMILY)
ZONED RA-2 (SINGLE FAMILY)
N02°57'45"W 664.06'
FARMINGTON ROAD (60' WIDE)
RED CEDAR ROAD (60' WIDE)
Manhole HAND HOLE 2X3SO 860.44
EX. 8" AC WATERMAIN
EX. TREES TO REMAIN W/ TREE PROTECTION FENCING - DETAIL THIS SHEET (TYP. OF 3)
INSTALL 5' DIA. MULCH CIRCLE - TYPICAL ALL INDIVIDUAL CONIFER TREES
INSTALL 4' DIA. MULCH CIRCLE - TYPICAL ALL INDIVIDUAL DECIDUOUS TREES
INSTALL LANDSCAPE HARDWOOD MULCH OVER WEED BARRIER FABRIC - TYP. ALL SHRUB BEDS - SEE SPECS
APPROXIMATE TOP OF BANK AS DEPICTED ON CAD DRAWING FROM SUJAK ENGINEERING DRAWING, JOB NO. 19-027, DATED 4/09/2020
EDGE OF TREES
EX. TREELINE TO REMAIN
INSTALL (60) RED MAPLE & (30) SWAMP WHITE OAK WHIPS IN CLUSTERS ALONG BANK BETWEEN LOTS 1 AND 9
"MINNOW POND DRAIN"
TRAVERSE LINE
N87°04'09"E 318.50' (C)
N89°51'50"E 318.23' (R)
N80°34'06"E (C)
N83°24'50"E (R)
113.07' (C&R)
N68°13'36"E 739.96' (M) N71°04'20"E 740.32' (R)
"KENDALLWOOD NO. 4" (L. 96, P. 33, O.C.R.)
PARCEL 23-10-101-012
PARCEL 23-10-101-011
PARCEL 23-10-101-010
PARCEL 23-10-101-009
PARCEL 23-10-101-008
PARCEL 23-10-101-007
PARCEL 23-10-101-006
PARCEL 23-10-101-005
PARCEL 23-10-101-004
PARCEL 23-10-101-003
EX. HOUSE
SEED LAWN
FFE = 864.92
FFE = 862.21
FFE = 862.20
FFE = 861.44
FFE = 860.92
FFE = 861.46
FFE = 862.00
FFE = 862.50
FFE = 862.50
FFE = 860.92
153'± 188.00' (M&R)

SPECIAL LANDSCAPE NOTES - PUD:

* PER ORDINANCE LANDSCAPING
** PUD LANDSCAPE PROPOSED

PLANT LIST

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE & ROOT
LANDSCAPING ADJACENT TO ROADS - FARMINGTON ROAD **				
ABP	4	Abies balsamea var. phaneroleppis	Canaan Fir	8' hgt. B-B
AGA	4	Amelanchier x Grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry (Single-leader)	2" cal. B-B
STREET TREES - PRIVATE ROAD *				
ARA	3	Acer rubrum 'jfs KW 78'	Armstrong Gold Red Maple	3" cal. B-B
OV	4	Ostrya virginiana 'jfs-KW5'	Autumn Treasure Hophornbeam (Columnar)	3" cal. B-B
QBD	4	Quercus bicolor 'jfs-KW12'	American Dream Swamp White Oak	3" cal. B-B
QP	5	Quercus palustris	Pin Oak	3" cal. B-B
UA	5	Ulmus americana 'JFS-Prince II'	Colonial Spirit American Elm	3" cal. B-B
OPEN SPACE PLANTINGS **				
AAB	36	Aronia arbutifolia 'Brilliantissima'	Brilliantissima Red Chokeberry	30" 5-gal. cont.
ARA	8	Acer rubrum 'jfs KW 78'	Armstrong Gold Red Maple	3" cal. B-B
PG	6	Picea glauca	White Spruce	8' hgt. B-B
DRAINAGE SWALE PLANTINGS **				
CA	28	Clethra alnifolia 'Ruby Spice'	Ruby Spice Summersweet	30" 5-gal. cont.
LB	20	Lindera benzoin	Spicebush	5-gal. cont.
REPLACEMENT TREES * (R)				
ARA	3	Acer rubrum 'jfs KW 78'	Armstrong Gold Red Maple	3" cal. B-B
QP	7	Quercus palustris	Pin Oak	3" cal. B-B
QBD	7	Quercus bicolor 'jfs-KW12'	American Dream Swamp White Oak	3" cal. B-B
ADDITIONAL REPLACEMENT PLANTINGS * (R)				
AR	60	Acer rubrum	Red Maple	3'-4' hgt. whip
QB	30	Quercus bicolor	Swamp White Oak	3'-4' hgt. whip



LOCATION MAP
NOT TO SCALE

SUPPLEMENTAL LANDSCAPE NOTES - FARMINGTON HILLS:

1. A TREE PERMIT MUST BE OBTAINED FROM THE PLANNING OFFICE PRIOR TO ALL TREE REMOVAL ACTIVITY INVOLVING TREES 6-INCHES DBH OR MORE IN ACCORDANCE WITH THE CITY OF FARMINGTON HILLS ZONING CHAPTER 34-559.
2. TREES SHALL BE PLANTED NO CLOSER THAN 6-FEET FROM PUBLIC UTILITIES.
3. ALL REQUIRED LANDSCAPE MATERIAL INDICATED ON APPROVED PLANS WILL BE REQUIRED THROUGH THE LIFE OF THE PROJECT AND MUST BE REPLACED IF REMOVED OR DEAD.
4. 4-FOOT HIGH WOOD SNOW FENCING OR OTHER RIGID MATERIAL IS TO BE ERECTED AROUND THE DRIP LINE OF ALL TREES TO BE SAVED IN ACCORDANCE WITH CITY OF FARMINGTON HILLS ZONING ORDINANCE CHAPTER 34-559.
5. REQUIRED LANDSCAPE MATERIAL SHALL SATISFY AMERICAN HORT Z60.2-2025 'AMERICAN STANDARD FOR NURSERY STOCK' - AND:
   - NURSERY GROWN
   - MI STATE DEPT OF AGRICULTURE INSPECTED
   - PLANTED PER CITY OF FARMINGTON HILLS DETAILS AND SPECIFICATIONS AND IN ACCORDANCE WITH ZONING ORDINANCE CHAPTER 34-553.
   - INCLUDE 1-YEAR WARRANTY
   - REPLACEMENT TREES SHALL HAVE SHADE POTENTIAL AND OTHER CHARACTERISTICS COMPARABLE TO THE PROPOSED FOR REMOVAL.

OAKLAND COUNTY WRC (R)

Table 13: MEP Tree Summary Table

COMMON TREE NAME	# TREES PLANTED	HGT AT MATURITY (FT)	RELATIVE TREE SIZE CATEGORY	MEP AREA / TREE (SQFT)	TOTAL MEP AREA (SQFT)	SOURCE
Red Maple	3	>40-ft	Large	500	1500	MDNR MI Native Trees IC 4212
Swamp White Oak	3	>40-ft	Large	500	1500	MDNR MI Native Trees IC 4212
American Elm	3	>40-ft	Large	500	1500	MDNR MI Native Trees IC 4212
White Spruce	3	>40-ft	Large	500	1500	MDNR MI Native Trees IC 4212
Ironwood / Hophornbeam	2	30-40-ft	Medium	300	600	MDNR MI Native Trees IC 4212
TOTALS	**14**				**6600**	

SEE SHEET 7 FOR TABLE 14 SUMMARY TABLE

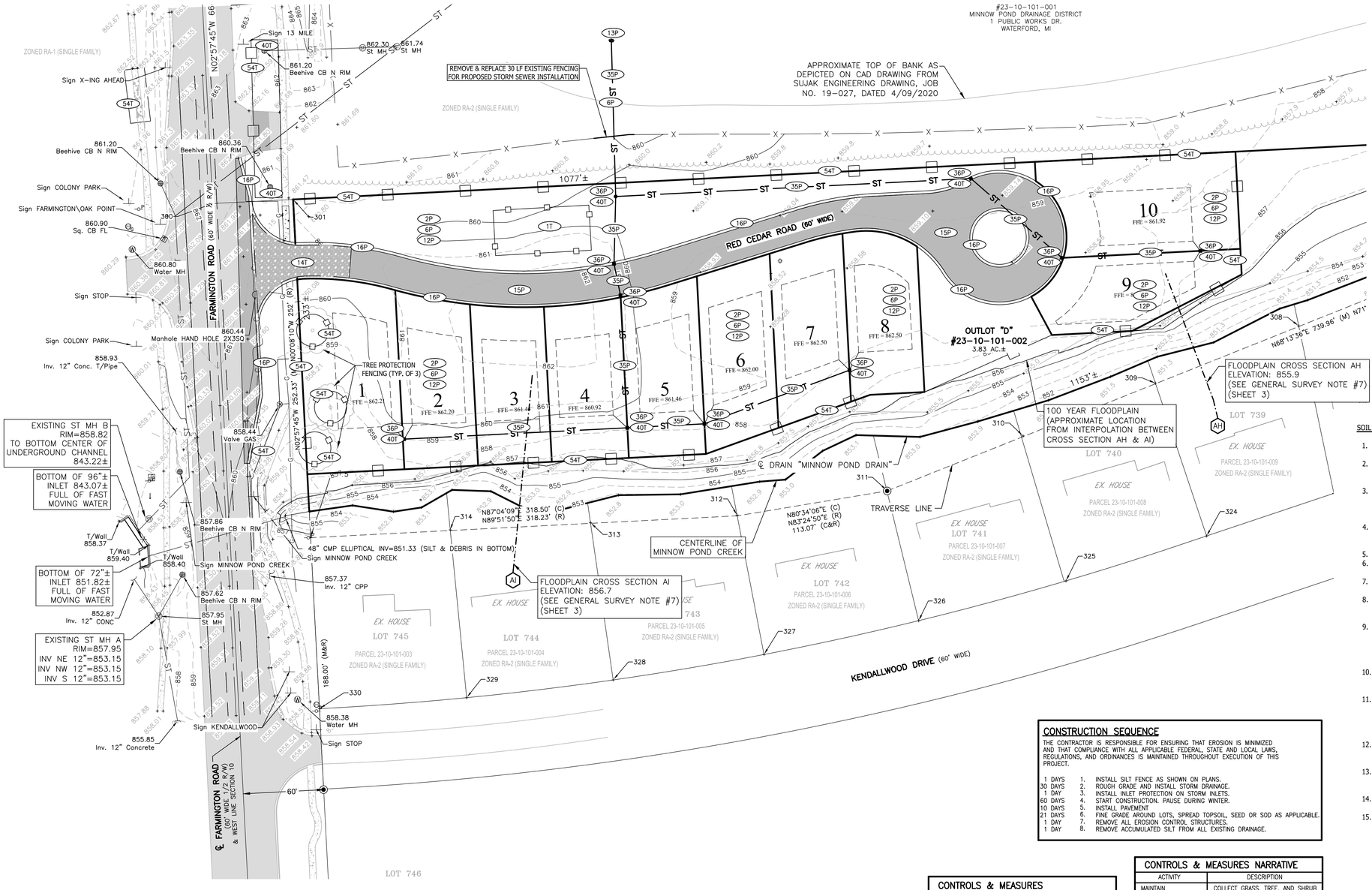
Engineers Opinion of Probable Cost
for
CEDARS OF FARMININGTON
PRELIMINARY - LANDSCAPE
15-Apr-25

	Landscaping (installed)	UNIT	QUANTITY	UNIT PRICE	TOTAL
1	Deciduous tree, 3" cal. B&B	EA	46	$ 675.00	$31,050.00
2	Conifer tree, 8-ft hgt. B&B	EA	10	$ 550.00	$5,500.00
3	Deciduous tree (Ornamental),2" cal: B&B	EA	4	$ 400.00	$1,600.00
4	Deciduous shrubs (30" / 5 gal. container)	EA	84	$ 65.00	$5,460.00
5	Deciduous sapling trees (3-4' whips)	EA	90	$ 30.00	$2,700.00
6	Grass seed & mulch	SQYD	9,000	$ 1.00	$9,000.00
7	Shredded hardwood mulch	CUYD	33	$ 45.00	$1,485.00
8	Weed barrier fabric	SQYD	280	$ 2.00	$560.00
				SUB TOTAL	$57,355.00

TREE REPLACEMENT CALCULATIONS:

TOTAL NUMBER OF TREES ON-SITE: 89
TOTAL NUMBER OF TREES TO BE REMOVED: 14
TOTAL NUMBER OF REPLACEMENT TREES TO BE PLANTED ON SITE:
NURSERY STOCK TREES (3" CA.L.): 17
WHIP SAPLINGS: 90

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



USDA Soil Conservation Service in cooperation with MI Agricultural Experiment Station (1977) Soil Survey of Oakland County, Michigan		
17A	Wasepi Sandy Loam	0-3% Slopes
49	Cohoctah Fine Sandy Loam	
63A	Urban Land - Thetford Complex	0-3% Slopes

ESTIMATED SESC QUANTITY MEASURES	
SILT FENCE:	2,566 LF
TEMP STONE ACCESS DRIVE:	1 EA
INLET FILTERS:	12 EA

SURFACE WATER & COUNTY DRAINS	
BASINS -	APPROXIMATELY 230 FT NORTH TO COUNTY BASIN
DRAINS -	ONSITE SOUTH TO MINNOW POND DRAIN

N

SCALE: 1 INCH = 40 FEET

SOIL EROSION CONTROL MEASURES

1	STRIPPING & STOCKPILING TOPSOIL	TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A DIVERSION STOCKPILE SHOULD BE TEMPORARILY SEEDED
2	SELECTIVE GRADING & STRIPPING	WATER CAN BE DIVERTED TO MINIMIZE EROSION FLATTER SLOPES EASE EROSION PROBLEMS
6	SEEDING WITH MULCH AND/OR MATTING	FACILITATES ESTABLISHMENT OF VEGETATIVE COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY EASILY PLACED IN SMALL QUANTITIES BY INDIFFERENCED PERSONNEL SHOULD INCLUDE PREPARED TOPSOIL BED
12	COMPACTION	HELPS HOLD SOIL IN PLACE, MAKING EXPOSED AREAS LESS VULNERABLE TO EROSION
13	RIP-RAP, RUBBLE, GABIONS	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS PERMITS RUNOFF TO INFILTRATE SOIL DISSIPATES ENERGY FLOW AT SYSTEM OUTLETS
14	AGGREGATE COVER	STABILIZES SOIL SURFACE, THUS MINIMIZING EROSION PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER MAY BE USED AS PART OF PERMANENT BASE CONSTRUCTION OF PAVED AREAS
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF VELOCITY IRREGULAR SURFACE WILL HELP SLOW VELOCITY
16	CURB & GUTTER	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING PAVED SURFACE COLLECTS AND CONDUCTS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINAGEWAY
35	STORM SEWER	SYSTEM REMOVES COLLECTED RUNOFF FROM SITE, PARTICULARLY FROM PAVED AREAS CAN ACCEPT LARGE CONCENTRATIONS OF RUNOFF CONDUCTS RUNOFF TO MUNICIPAL SEWER SYSTEM OR STABILIZED OUTFALL LOCATION USE CATCH BASINS TO COLLECT SEDIMENT
36	CATCH BASIN, DRAIN INLET	COLLECTS HIGH VELOCITY CONCENTRATED RUNOFF MAY USE FILTER CLOTH OVER INLET
40	INLET SEDIMENT FILTER	EASY TO SHAPE COLLECTS SEDIMENT MAY BE CLEANED AND EXPANDED AS NEEDED
54	SILT FENCE	USES GEOTEXTILE FABRIC AND POST OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY. [SEE DETAIL THIS SHEET]

T= TEMPORARY, P= PERMANENT
TOTAL DISTURBED AREA= 2.62 AC.

SOIL EROSION & MAINTENANCE CONTROL NOTES:

1. ALL SOIL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO EGLE, CITY, & WRC CURRENT STANDARDS AND SPECIFICATIONS.
2. THE PROPOSED WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN COMPLIANCE WITH ALL THE REQUIREMENTS OF THE PERMIT, ACT 347 OF THE PUBLIC ACT OF 1972, AND RULES PROMULGATED THEREUNDER.
3. THE CONTRACTOR SHALL BE HELD SOLELY RESPONSIBLE IMPLEMENTING THE APPROVED SOIL EROSION CONTROL MEASURES. THE CONTRACTOR SHALL MAINTAIN, REPAIR, AND REPLACE THE DAMAGED SOIL EROSION CONTROL MEASURES AT NO ADDITIONAL COST TO THE OWNER.
4. ALL SOIL, MISCELLANEOUS DEBRIS, OR OTHER MATERIALS SPILLED, DUMPED, OR OTHERWISE DEPOSITED ON PUBLIC STREETS, HIGHWAYS, SIDEWALK, OR OTHER PUBLIC THOROUGHFARES DURING TRANSIT TO OR FROM THE SITE SHALL BE REMOVED PROMPTLY.
5. ALL SOIL EROSION SHALL BE CONTAINED ONSITE.
6. THE OWNER SHALL CAUSE TO HAVE PERIODIC REMOVAL OF DEBRIS AND SEDIMENT BUILDUP FROM EROSION CONTROL MEASURES DURING CONSTRUCTION.
7. ANY EROSION CONTROL MEASURES DAMAGED BY THE CONTRACTORS' OPERATION SHALL BE REPLACED THE SAME WORKING DAY.
8. THE OWNER SHALL OBTAIN OR CAUSE HIS CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS, PAY ALL PERMIT FEES AND POST ALL BONDS TO EACH AND ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER EROSION CONTROL MEASURES ON THIS PROJECT.
9. UNTIL ALL DISTURBED AREAS HAVE BEEN RE-ESTABLISHED WITH VEGETATION, THE DEVELOPER IS RESPONSIBLE FOR INSPECTING, AFTER EACH HEAVY RAIN, ALL SEDIMENT TRAPS AND FILTERS. IF INSPECTION INDICATES THAT THE SEDIMENT HAS ACCUMULATED TO WITHIN 1 OR 2 INCHES OF THE INVERT OF THE OUTLET PIPE, THE STRUCTURE IS TO BE COMPLETELY CLEANED OF SEDIMENT.
10. FILTER BARRIERS AND LOW POINT INLET FILTERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEASE DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
11. UPON COMPLETION OF EACH CATCH BASIN AND INLET, THE CONTRACTOR SHALL INSTALL THE REQUIRED SEDIMENT CONTROL DEVICE AS SHOWN ON THE PLAN. ALL GRATES SHALL BE WRAPPED WITH BURLAP PRIOR TO PLACEMENT. THESE MEASURES SHALL REMAIN UNTIL FINAL PAVEMENT OR FINAL GRADING IS COMPLETED. CONTRACTOR IS RESPONSIBLE FOR CLEANING OUT STRUCTURES UPON COMPLETION OF PROJECT.
12. IF THE FABRIC DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USEABLE LIFE, AND THE BARRIER IS STILL REQUIRED, THE FABRIC SHALL BE REPLACED PROMPTLY.
13. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OF FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, AND SEEDED.
14. FILTER FENCING WHICH SAGS, FALLS OVER, OR IS NOT STAKED IN, SHOULD BE PROMPTLY REPAIRED OR REPLACED.
15. IF THE FENCE IS SAGGING OR THE SOIL HAS REACHED ONE HALF THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC MUST BE REMOVED.

CONSTRUCTION SEQUENCE

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION IS MINIMIZED AND THAT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES IS MAINTAINED THROUGHOUT EXECUTION OF THIS PROJECT.

1 DAYS	1.	INSTALL SILT FENCE AS SHOWN ON PLANS.
30 DAYS	2.	ROUGH GRADE AND INSTALL STORM DRAINAGE.
1 DAY	3.	INSTALL INLET PROTECTION ON STORM INLETS.
60 DAYS	4.	START CONSTRUCTION. PAUSE DURING WINTER.
10 DAYS	5.	INSTALL PAVEMENT
21 DAYS	6.	FINE GRADE AROUND LOTS, SPREAD TOPSOIL, SEED OR SOD AS APPLICABLE.
1 DAY	7.	REMOVE ALL EROSION CONTROL STRUCTURES.
1 DAY	8.	REMOVE ACCUMULATED SILT FROM ALL EXISTING DRAINAGE.

CONTROLS & MEASURES POST CONSTRUCTION SEQUENCE

ACTIVITY	WEEKLY	MONTHLY	AS REQUIRED
MAINTAIN LANDSCAPING, REPLACE MULCH	X	X	X
CLEAN INLETS		X	X
COLLECT LITTER	X		X
SWEEP PARKING LOT		X	X

CONTROLS & MEASURES NARRATIVE

ACTIVITY	DESCRIPTION
MAINTAIN LANDSCAPING, REPLACE MULCH	COLLECT GRASS, TREE, AND SHRUB CLIPPINGS. DISPOSE IN APPROVED CONTAINER. REPLACE DEAD SOD, TREES AND SHRUBS.
CLEAN INLETS	REMOVE LITTER, SEDIMENT, AND DEBRIS. DISPOSE OF IN APPROVED LANDFILL.
COLLECT LITTER	DISPOSE OF WITH INLET DEBRIS.
SWEEP PARKING LOT	REMOVE MUD, DIRT, GREASE AND OIL WITH PERIODIC SWEEPING
DUST CONTROL	SPRINKLE WATER AS NEEDED

PROPOSED CONST. SCHEDULE FOR THE YEAR 2026 - 2027

ACTIVITY	JULY	AUG	SEPT	OCT	NOV	2027	APR
DEMO & CLEAR							
MASS GRADING							
UNDERGROUND UTILITY							
FINAL GRADING							
SEED & MULCH							

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN HEREON IS NOT GUARANTEED TO BE ACCURATE OR COMPLETE. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE COMPLETENESS OR ACCURACY THEREOF. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL LOCATE AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CROSSINGS AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND TO EXIST BETWEEN THE PLANS AND THE LOCATION OR DEPTH OF UTILITIES AS SHOWN ON THE PLANS. IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS, NOTIFY THE ENGINEER IMMEDIATELY.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
IT'S THE LAW!!! (PA 53 OF 1974 AS AMENDED)

STATE OF MICHIGAN
JARED M. PRATHER
LICENSED PROFESSIONAL ENGINEER
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3121 E. GRAND RIVER AVE.
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PROJECT
CEDARS OF FARMINGTON

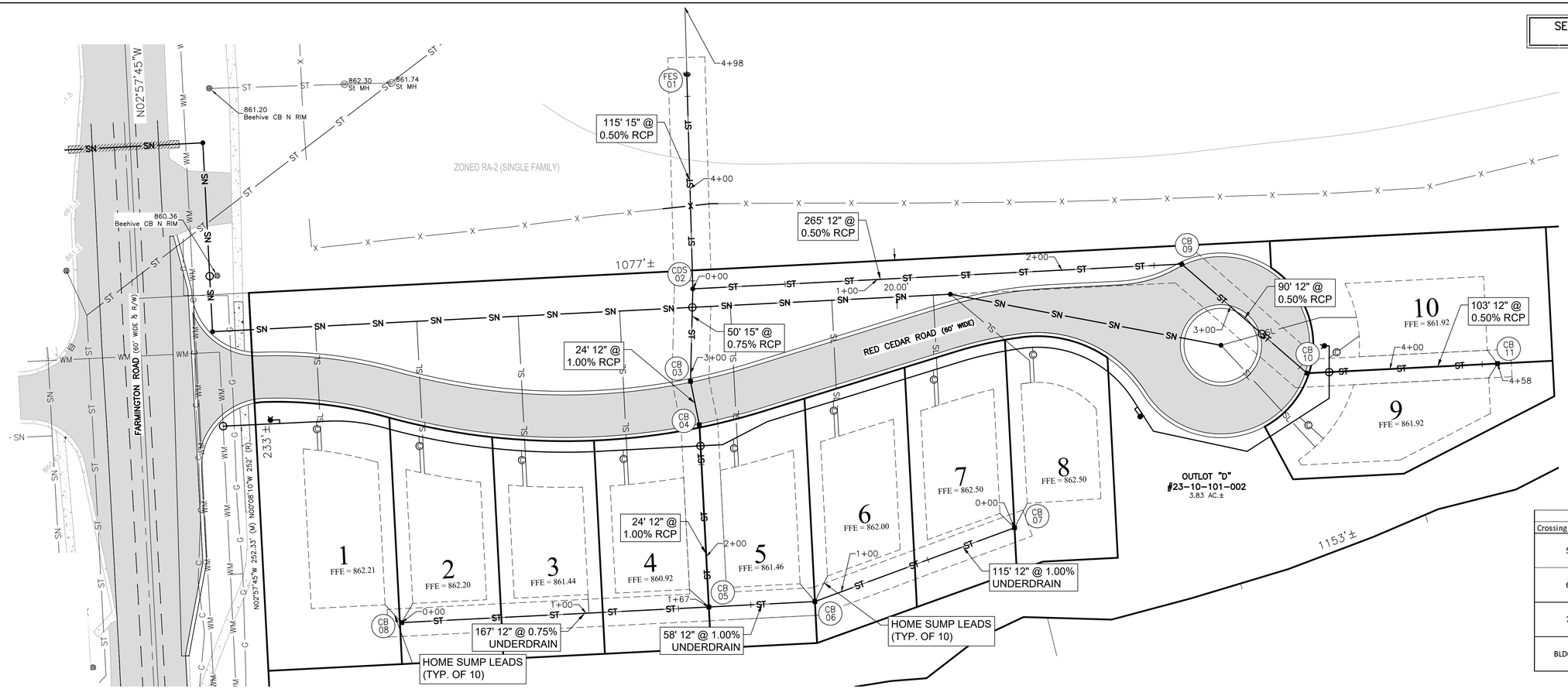
PREPARED FOR
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SOUTHFIELD, MI 48034
888-807-9792

TITLE
SOIL EROSION & SEDIMENTATION CONTROL PLAN

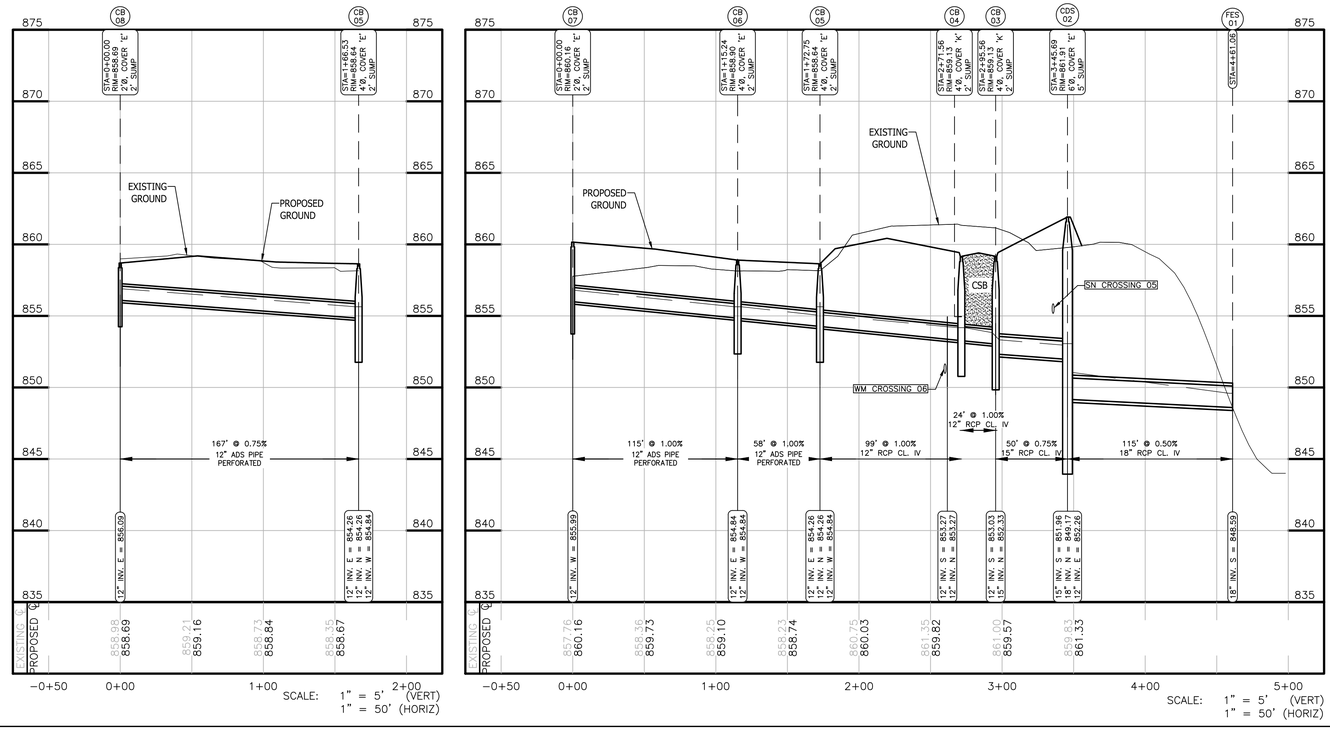
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7	JP	REVISION PER EGLE COMMENTS	02/09/26
6	JP	REVISION PER EGLE COMMENTS	02/02/26
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3	JP	REVISION PER FHFD REVIEW	08/27/25
2	JP	REVISION PER CITY REVIEW	08/07/25
1	JP	REVISION PER OCWRC & CITY REVIEW	07/22/25

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SCALE: 1" = 40'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 11

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



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6	BP	853.22	ST
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	CLEARANCE	1.56	FEET
7	BP	855.42	ST
	TP	853.85	WM
	CLEARANCE	1.57	FEET
BLDG 10	BP	857.25	SL
	TP	855.04	ST
	CLEARANCE	2.21	FEET



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STATE OF MICHIGAN JARED J. PRATHER 62013157778 PROFESSIONAL ENGINEER

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PROJECT
CEDARS OF FARMINGTON

PREPARED FOR
CEDARS OF FARMINGTON ROAD, LLC
1666 N TELEGRAPH RD
DEARBORN, MI 48128
888-897-9792

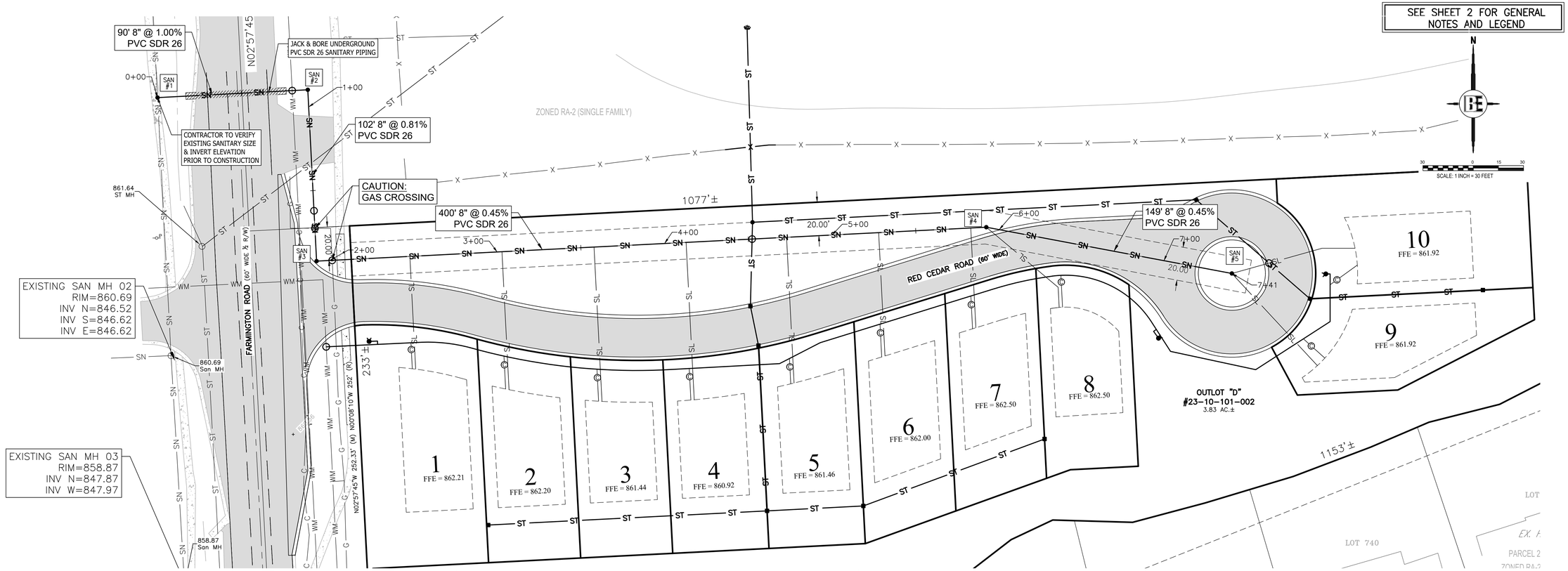
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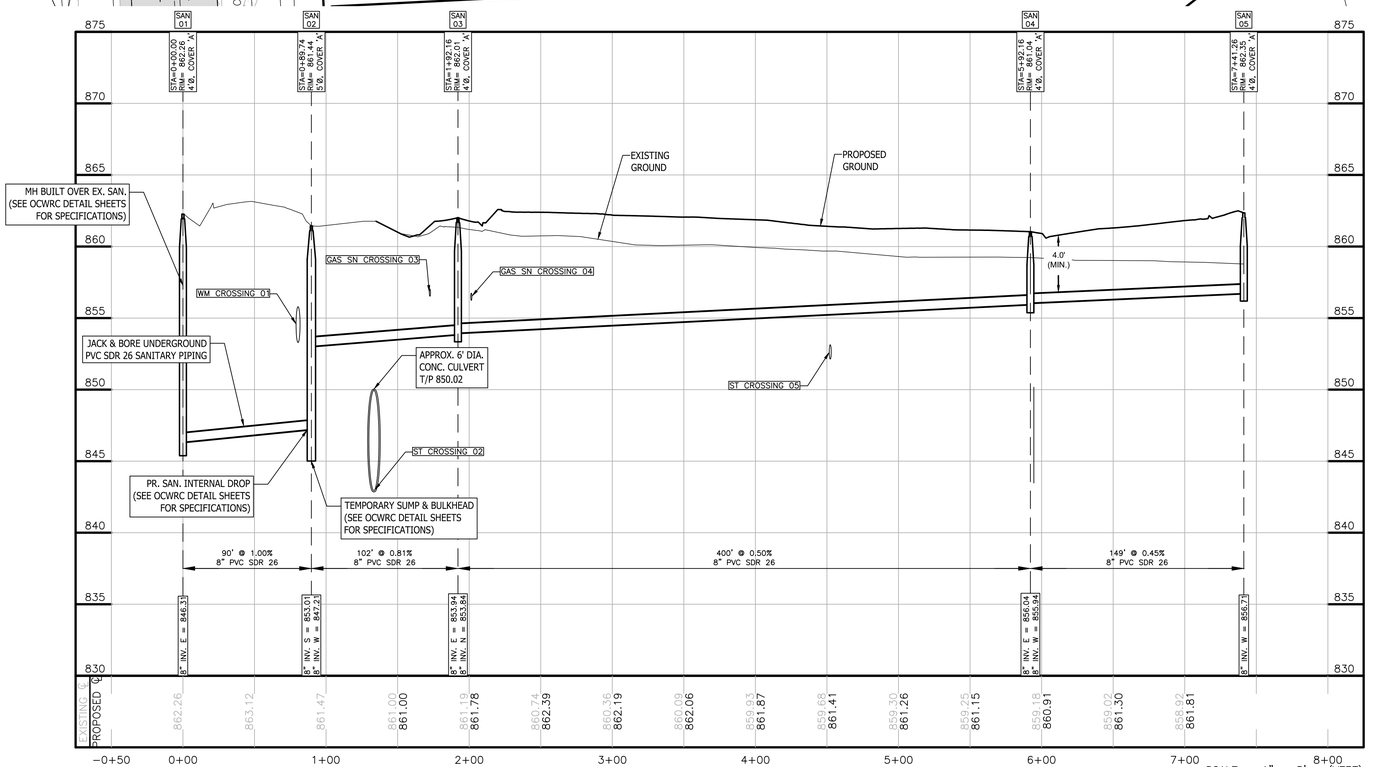
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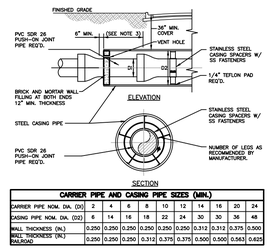
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SEE SHEET 2 FOR GENERAL NOTES AND LEGEND







CARRIER PIPE NOM. DIA. (DO)	2	4	6	8	10	12	14	16	20	24
CASING PIPE NOM. DIA. (DO)	6	14	16	18	22	24	30	30	36	48
WALL THICKNESS (IN.)	0.250	0.250	0.250	0.250	0.250	0.250	0.312	0.312	0.375	0.500
WALL THICKNESS (IN.) RAILROAD	0.250	0.250	0.250	0.250	0.312	0.375	0.375	0.500	0.500	0.563	0.625

CARRIER PIPE AND CASING PIPE SIZES (MIN.)

NOTES:
1. WHEN CONSTRUCTION IS WITHIN, MOST OR RAILROAD JURISDICTION, ADDITIONAL REQUIREMENTS OF EACH AGENCY SHALL BE MET.
2. STAINLESS STEEL CASING SPACERS ARE REQUIRED AS SHOWN.
3. WHERE PRACTICAL, CASING SHALL EXTEND A MIN. OF 5' BEYOND EDGE OF PAVEMENT OR LONGER AS REQUIRED BY LOCAL PERMITTING AGENCIES.
4. A MINIMUM OF 3 CASING SPACERS PER 20 LINEAR FEET OF INSTALLED CARRIER PIPE SHALL BE PROVIDED.

JACK AND BORE DETAIL
(NO SCALE)

SAN Crossing Data Table			
Crossing Number	Crossing Information		
1	BP	853.13	WM
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	CLEARANCE	5.32	FEET
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	TP	854.53	SAN
	CLEARANCE	2.00	FEET
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	TP	854.87	SAN
	CLEARANCE	1.80	FEET
5	BP	855.16	SAN
	TP	853.47	ST
	CLEARANCE	1.69	FEET

SANITARY LEAD DATA TABLE							
BLDG NO.	INV. AT MAIN	INV. AT WYE	INV. AT STUB	WYE DISTANCE TO DOWNSTREAM MH (FT)	SLOPE (%)	LENGTH (FT)	RISER (FT)
1	854.39	854.72	855.39	56	1.00%	67	0.00
2	854.63	854.97	855.79	111	1.00%	82	0.00
3	854.88	855.21	856.14	166	1.00%	92	0.00
4	855.13	855.46	856.40	221	1.00%	94	0.00
5	855.40	855.73	856.60	281	1.00%	87	0.00
6	855.65	855.98	856.72	336	1.00%	74	0.00
7	855.89	856.23	856.82	391	1.00%	60	0.00
8	856.04	856.37	857.09	0	1.00%	68	0.00
9	856.71	857.04	857.79	0	1.00%	75	0.00
10	856.71	857.04	857.79	0	1.00%	76	0.00

NOTE: INV. AT WYE .4" HIGHER THAN INV. AT MAIN TO ACCOUNT FOR WYE ELEVATION.

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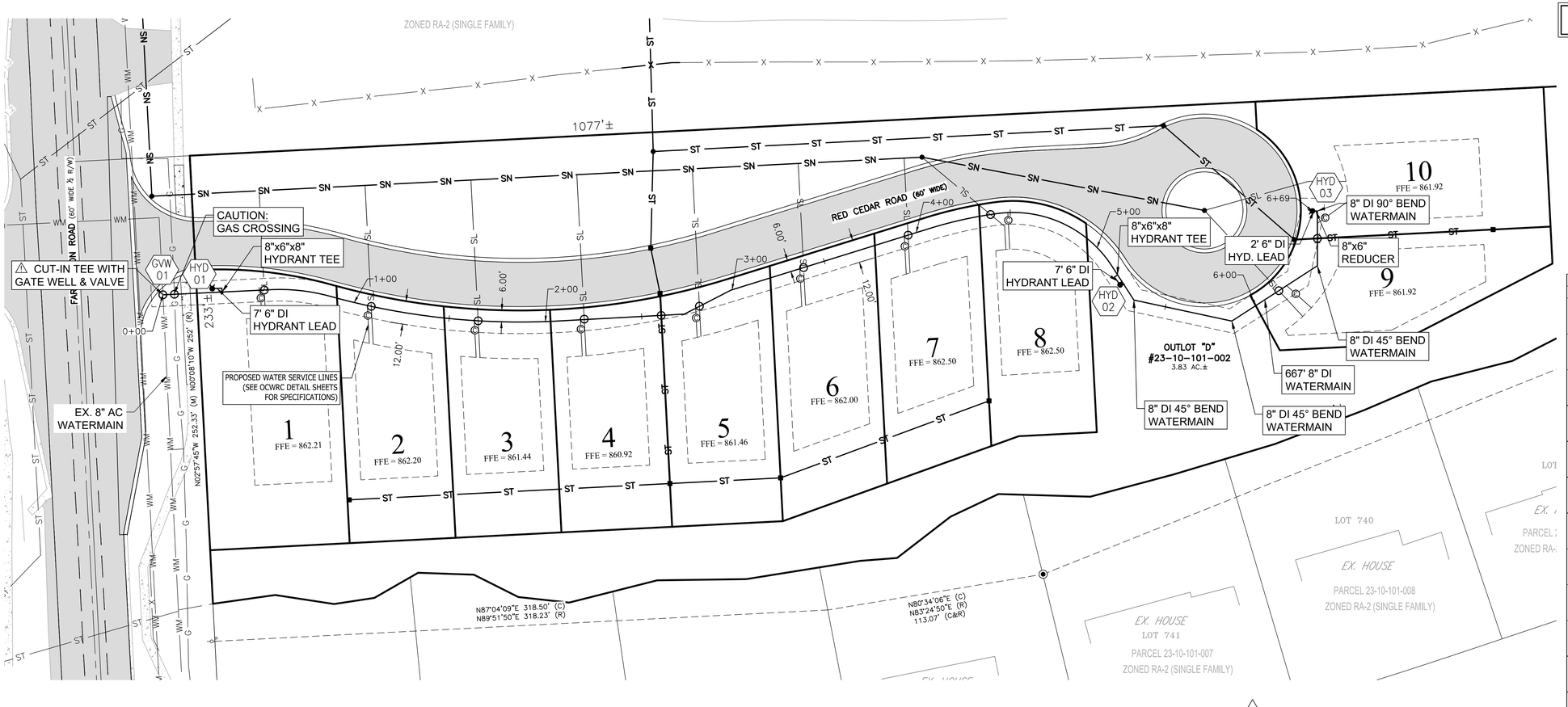
PROJECT
CEDARS OF FARMINGTON

PREPARED FOR
CEDARS OF FARMINGTON ROAD, LLC
1068 N TELEGRAPH RD
DEARBORN, MI. 48128
888-897-9792

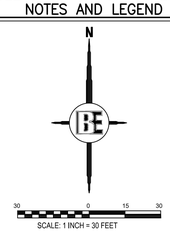
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6	JP	REVISION PER EGLE COMMENTS	02/02/26
5	JP	REVISION PER CITY REVIEW	12/05/25
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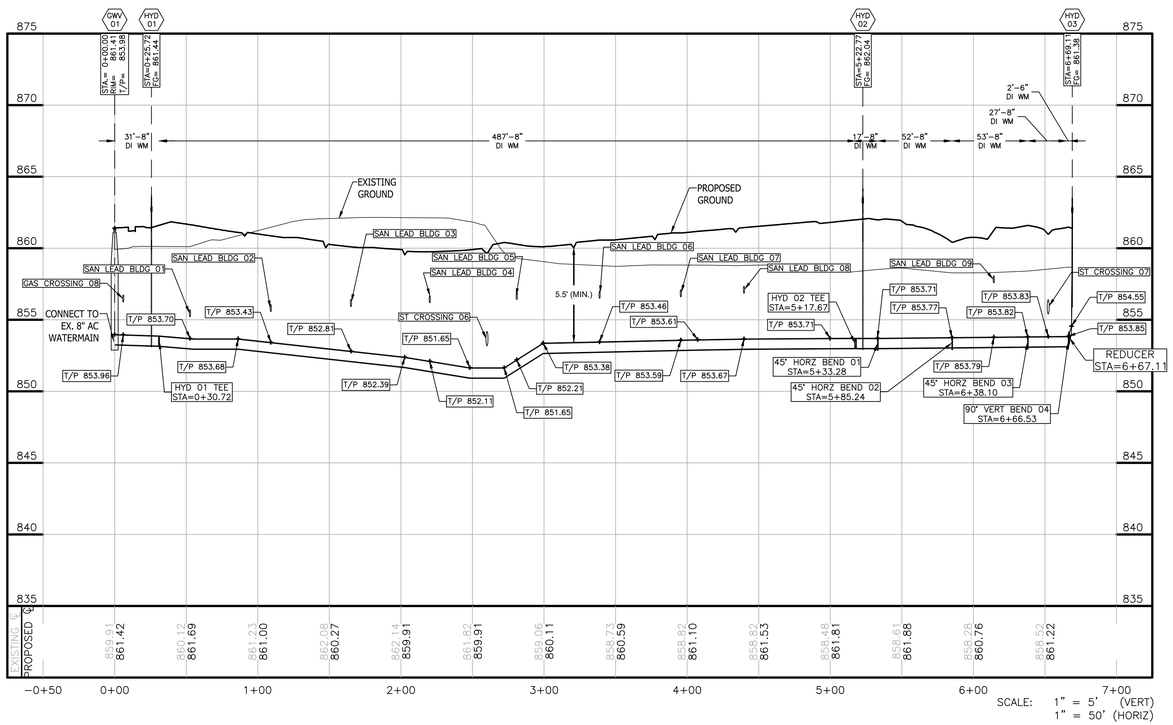
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CHECKED BY:
SCALE: 1" = 30'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 13



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



WM Crossing Data Table			
Crossing Number	Crossing Information		
6	BP	853.22	ST
	TP	851.65	WM
	CLEARANCE	1.56	FEET
7	BP	855.42	ST
	TP	853.85	WM
	CLEARANCE	1.57	FEET
8	BP	856.24	GAS
	TP	853.96	WM
	CLEARANCE	2.28	FEET
BLDG 1	BP	855.21	SL
	TP	853.70	WM
	CLEARANCE	1.51	FEET
BLDG 2	BP	855.57	SL
	TP	853.43	WM
	CLEARANCE	2.14	FEET
BLDG 3	BP	855.92	SL
	TP	852.81	WM
	CLEARANCE	3.11	FEET
BLDG 4	BP	856.19	SL
	TP	852.11	WM
	CLEARANCE	4.08	FEET
BLDG 5	BP	856.42	SL
	TP	852.21	WM
	CLEARANCE	4.21	FEET
BLDG 6	BP	856.50	SL
	TP	853.46	WM
	CLEARANCE	3.04	FEET
BLDG 7	BP	856.60	SL
	TP	853.59	WM
	CLEARANCE	3.01	FEET
BLDG 8	BP	856.85	SL
	TP	853.67	WM
	CLEARANCE	3.17	FEET
BLDG 9	BP	857.58	SL
	TP	853.79	WM
	CLEARANCE	3.79	FEET



SCALE: 1" = 5' (VERT)
1" = 50' (HORIZ)

WATERMAIN NOTES:

1. EXISTING ASBESTOS CEMENT WATERMAIN MUST BE WETTED PRIOR TO PROPOSED WATERMAIN CONNECTION WORK.
2. ENSURE CONTRACTORS FOLLOW OSHA REQUIREMENTS AND PROPERLY DISPOSE OF ASBESTOS CEMENT PIPE FRAGMENTS IN ACCORDANCE WITH REGULATIONS.
3. THOROUGHLY FLUSH THE MAIN AFTER TAPPING TO REMOVE ANY ASBESTOS CEMENT FIBERS THAT MAY HAVE BEEN RELEASED DURING CONNECTION WORK.
4. MINIMUM FLOW VELOCITY OF 2.5 FT/SEC SHALL BE USED TO SCOUR THE PIPE AT THE ASBESTOS PIPE TAPPING LOCATION.

WATERMAIN LEAD DATA TABLE	
BLDG NO.	LEAD LENGTH 1"
1	16
2	20
3	19
4	19
5	15
6	20
7	20
8	19
9	17
10	20

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AND/OR STRUCTURES AS SHOWN ON THESE PLANS ARE NOT GUARANTEED TO BE EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL LOCATE AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES CROSSINGS AND SHALL REPORT TO THE ENGINEER IF ANY CONFLICTS ARE FROM THE PLANS. IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY
3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
STATE OF MICHIGAN JARED M. PRATHER 62013157778 PROFESSIONAL ENGINEER

BE BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

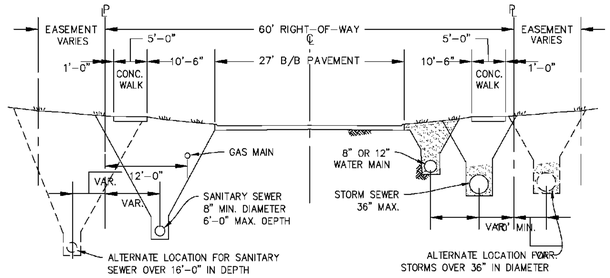
PROJECT
CEDARS OF FARMINGTON
CEDARS OF FARMINGTON ROAD, LLC
1550 N TELEGRAPH RD
DETROIT, MI 48328
888-497-9792

TITLE
WATERMAIN PROFILE

NO	BY	REVISION PER	DATE
8	JP	REVISION PER CITY RESUBMITTAL	02/18/26
7	JP	REVISION PER EGLE COMMENTS	02/09/26
6	JP	REVISION PER EGLE COMMENTS	02/02/26
5	JP	REVISION PER CITY REVIEW	12/05/25
4	JP	REVISION PER OCWRC & CITY REVIEW	10/17/25
3	JP	REVISION PER FHFD REVIEW	08/27/25
2	JP	REVISION PER CITY REVIEW	08/07/25
1	JP	REVISION PER OCWRC & CITY REVIEW	07/22/25

PREPARED FOR

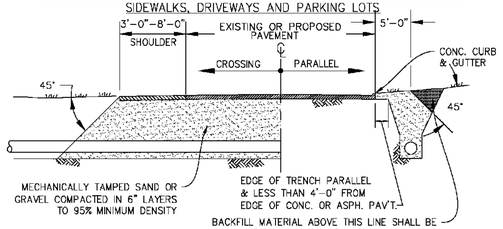
DESIGNED BY: DH
DRAWN BY: JP
CHECKED BY:
SCALE: 1" = 30'
JOB NO: 24-410
DATE: 04/23/25
SHEET NO. 14



TYPICAL SECTION FOR SUBDIVISION LOCAL ROAD R.O.W.

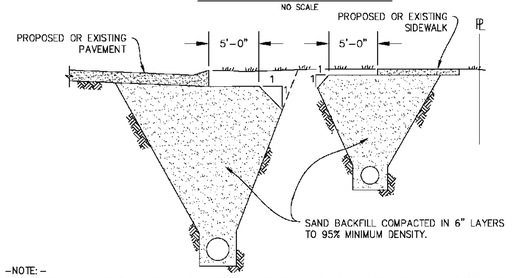
NO SCALE

MINIMUM SAND OR GRAVEL BACKFILL UNDER EX. OR PROP. PAVEMENTS, SIDEWALKS, DRIVEWAYS AND PARKING LOTS



SAND BACKFILL DETAIL

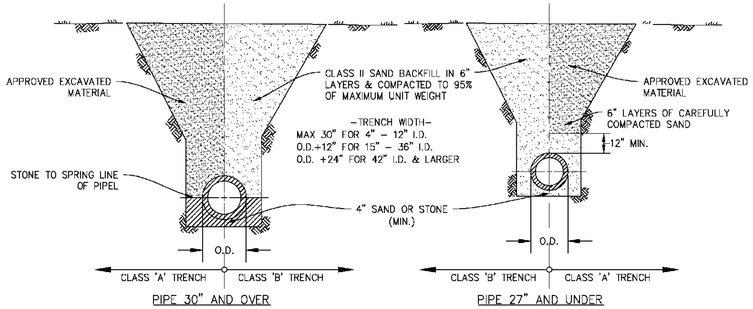
NO SCALE



-NOTE:-
SAND BACKFILL REQUIRED UNDER ALL PROPOSED OR EXISTING PAVED AREAS AND EXTENDING 5'-0" BEYOND THE EDGE OF THE SLAB THAN TAPERING AT 1 ON 1 SLOPE TO ORIGINAL GROUND.

SAND BACKFILL UNDER PAVED AREAS

NO SCALE



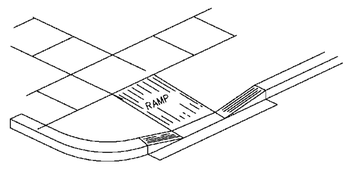
PIPE 30" AND OVER

PIPE 27" AND UNDER

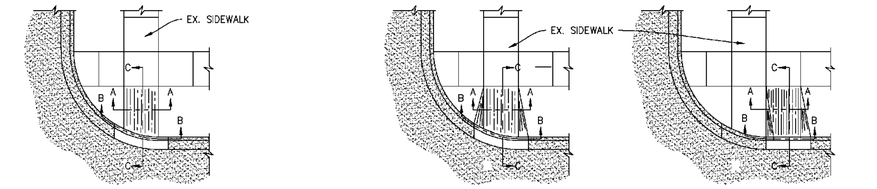
NOTE: APPROVAL MAY BE GIVEN TO MATERIAL EQUAL OR BETTER THAN CL. II SAND & METHODS TO ACHIEVE CL. 'A' OR CL. 'B' BEDDING

SEWER PIPE TRENCH DETAILS

NO SCALE



ISOMETRIC VIEW



-SECTION A-A-

-SECTION B-B-

NOTE: PLACE EXPANSION JOINT AT B/C LINE OR SIDEWALK JOINT

-SECTION C-C-

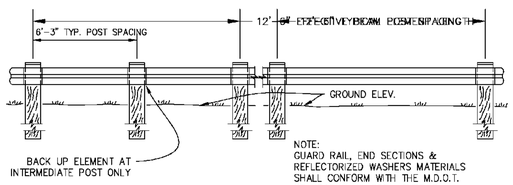
TYPE I-A

TYPE 1

TYPE 2

SIDEWALK RAMPS

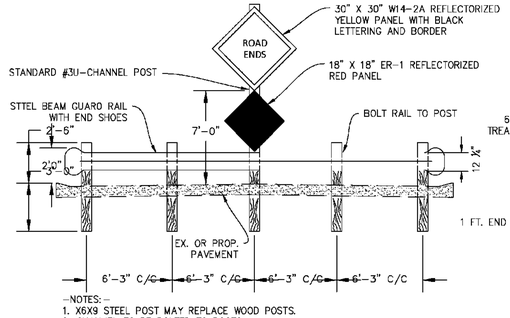
NO SCALE



NOTE:
GUARD RAIL, END SECTIONS & REFLECTORIZED WASHERS MATERIALS SHALL CONFORM WITH THE M.D.O.T. STANDARDS (II-60C) (TYPE 'B')

BEAM GUARD RAIL TYPE 'B'

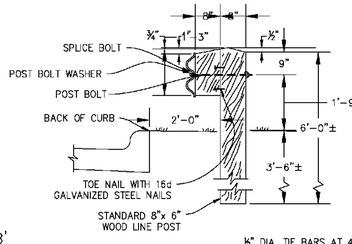
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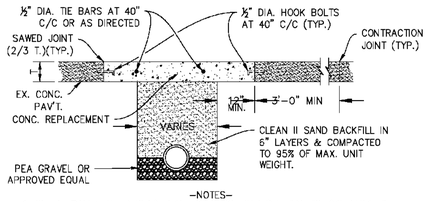


-NOTES:-
1. X6X9 STEEL POST MAY REPLACE WOOD POSTS.
2. CHANNEL TO BE BOLTED TO POSTS.
3. GUARD RAIL AND FITTINGS TO CONFORM TO M.D.O.T. STANDARDS

ROAD END STEEL BEAM GUARD RAIL & SIGNING

NO SCALE





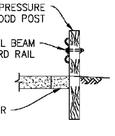
-NOTES-
1. WHERE PAVEMENT REPLACEMENT DOES NOT IMMEDIATELY FOLLOW BACK FILL OPERATION, A TEMPORARY SURFACING SHALL BE PLACED AS DIRECTED BY ENGINEER.

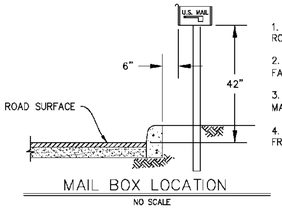
2. ASPHALT REPLACEMENT SHALL MEET CURRENT M.D.S.H. SPEC'S. FOR BITUMINOUS AGGREGATE SURFACE COURSE AS PER PLAN.

3. CONCRETE REPLACEMENT SHALL MEET CURRENT M.D.S.H. SPEC'S. FOR HIGH EARLY STRENGTH CONCRETE.

PAVEMENT REPLACEMENT

NO SCALE





-NOTE-
1. HEIGHT OF MAILBOX IS 42" FROM SURFACE OF ROAD.

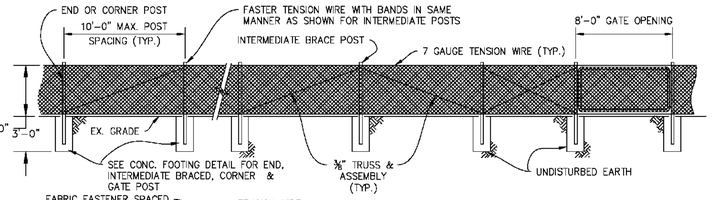
2. ON ROADS WITH GRAVEL SHOULDERS, LOCATE FACE OF MAILBOX 6" FROM EDGE OF SHOULDER.

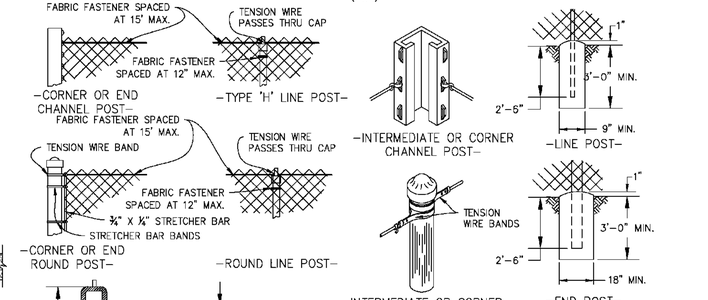
3. ON ROADS WITH SOD SHOULDER LOCATE FACE OF MAILBOX 6" FROM EDGE OF PAVEMENT.

4. ROADS WITH CURBS, LOCATE OF MAILBOX 6" FROM BACK OF CURB.

MAIL BOX LOCATION

NO SCALE





NOTES:
1. INTERMEDIATE BRACED POSTS SHALL BE PLACED AT 660 FT. INTERVALS OR MIDWAY BETWEEN END AND CORNER POSTS, WHEN THE DISTANCE IS LESS THAN 1320 FT. AND MORE THAN 660 FT.

2. TENSION WIRE WILL BE STRETCHED TAUT.

3. TOP & BOTTOM SELVAGES OF FENCE FABRIC SHALL HAVE A KNUCKLED FINISH.

4. ALTERNATE MATERIALS MAY BE USED WITH THE APPROVAL OF THE CITY ENGINEER.

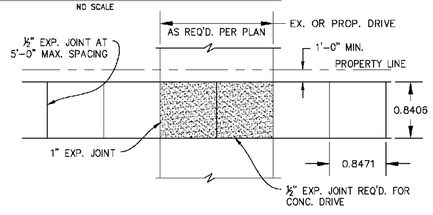
5. FENCE FABRIC SHALL BE FASTENED TO TOP TENSION WIRE AND TO EACH POST.

6. IF HOG RINGS ARE USED, THEY SHALL BE 12 GAUGE IF TIGHTLY CRIMPED ABOUT BOTH THE TENSION WIRE AND THE FABRIC WIRE,OR 11 GAUGE IF UNCRIMPED.

7. TENSION WIRE WILL BE 7 GAUGE.

CHAIN LINK FENCE AND POST CONSTRUCTION

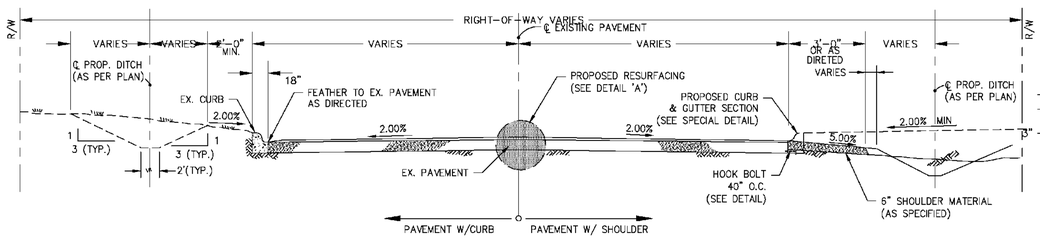
NO SCALE



SIDEWALK PLACEMENT DETAIL

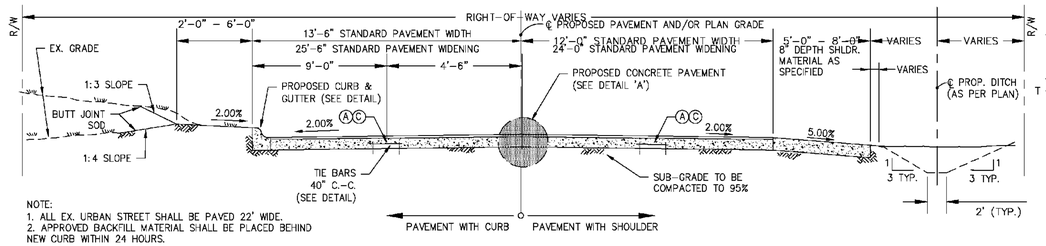
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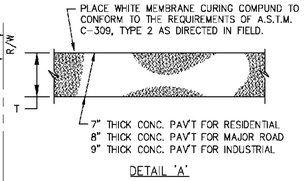
CITY OF FARMINGTON HILLS OAKLAND COUNTY, MI	ENGINEERING DIVISION	
STANDARD DETAIL DRAWINGS	JOB NO.	
	SCALE: HORIZ. NA	VERT. NA
GENERAL STANDARDS	DRAWN: CADATOMIC	DATE: 7/1/13
	DESIGNED BY: FH	DATE: 7/1/13
	REVISED BY: LJC	DATE: 2/28/14
	APPROVED BY:	DATE:
SHEET 1 OF 1	DIRECTOR, PUBLIC SERVICES DEPT.	



PAVEMENT RESURFACING SECTION NO. 1

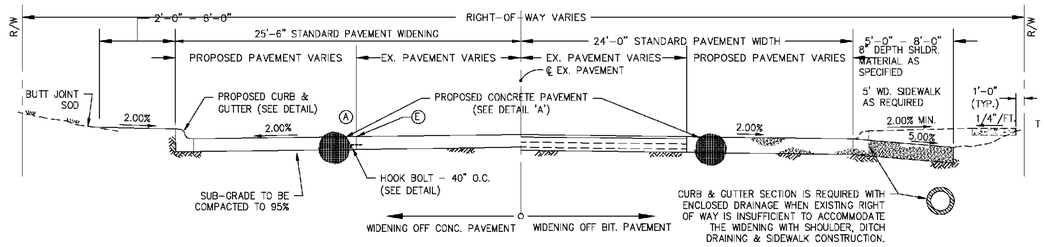
NO SCALE

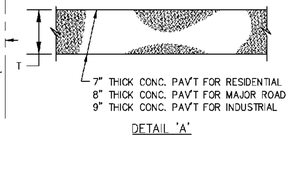




CONCRETE PAVEMENT SECTION NO. 2

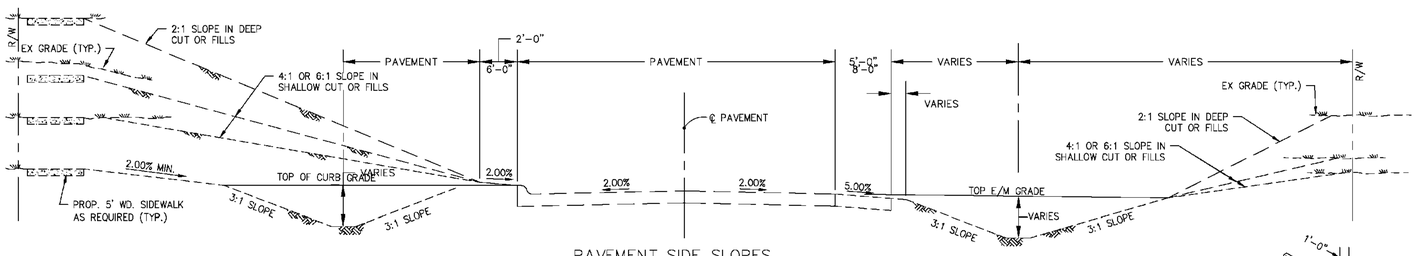
NO SCALE





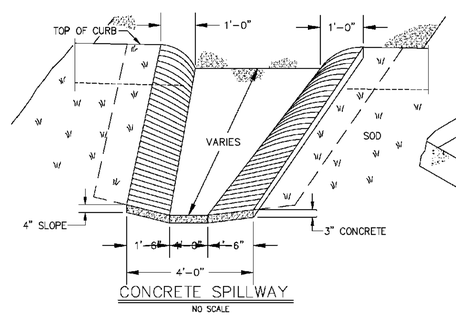
CONCRETE WIDENING SECTION NO. 3

NO SCALE



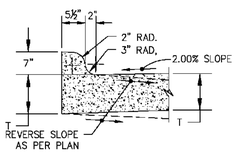
PAVEMENT SIDE SLOPES

NO SCALE



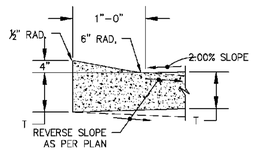
CONCRETE SPILLWAY

NO SCALE



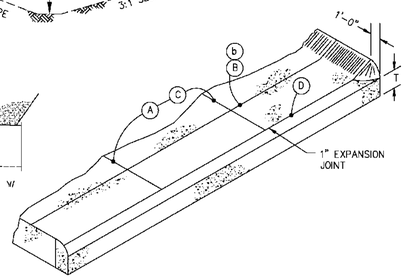
7" STRAIGHT FACED CURB & GUTTER

NO SCALE



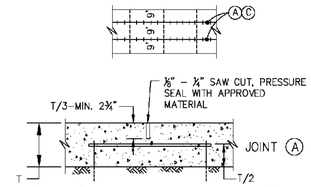
4" MOUNTABLE CURB & GUTTER

NO SCALE



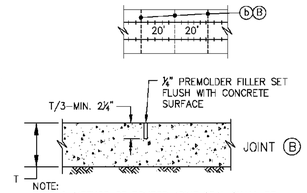
1' WIDE CONCRETE END HEADER

NO SCALE



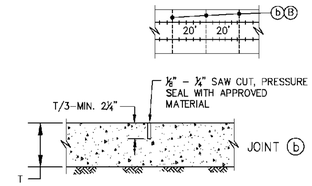
LONGITUDINAL CONTRACTION JOINT

NO SCALE



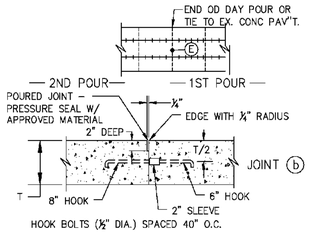
PREMOLDED CONTRACTION JOINT

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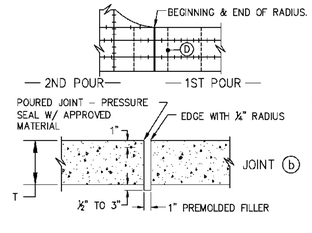
SAWED CONTRACTION JOINT

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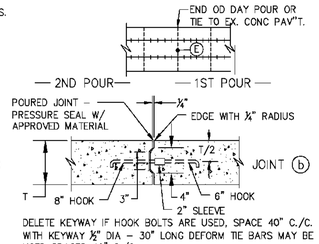
LONGITUDINAL CONSTRUCTION JOINT

NO SCALE



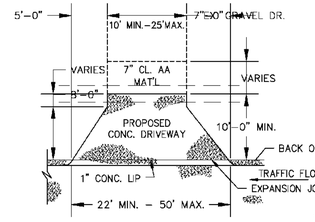
EXPANSION JOINT

NO SCALE



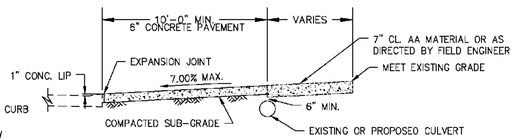
TRANSVERSE CONSTRUCTION JOINT

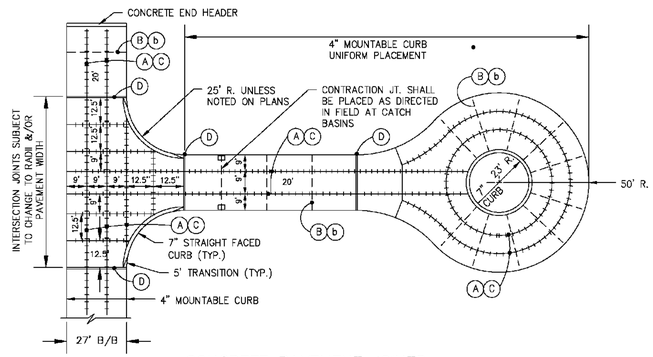
NO SCALE



RESIDENTIAL DRIVEWAY

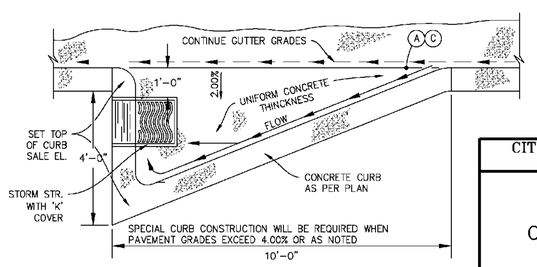
NO SCALE





CONCRETE PAVEMENT JOINTS

NO SCALE



SPECIAL CURB SECTION 'A'

NO SCALE

CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MI

ENGINEERING DIVISION

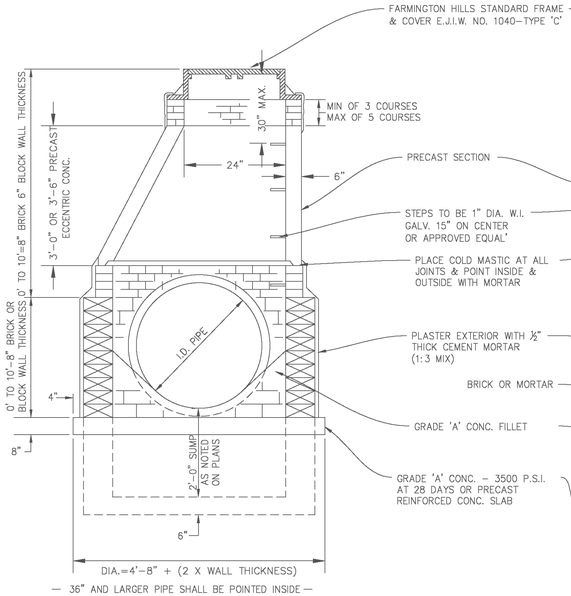
STANDARD DETAIL DRAWINGS

CONCRETE PAVING STANDARDS

JOB NO.	
SCALE: HORIZ. NA	VERT. NA
DRAWN: CADATOMIC	DATE: 7/1/13
DESIGNED BY: FH	DATE: 7/1/13
CHECKED BY:	DATE:
APPROVED BY:	DATE:

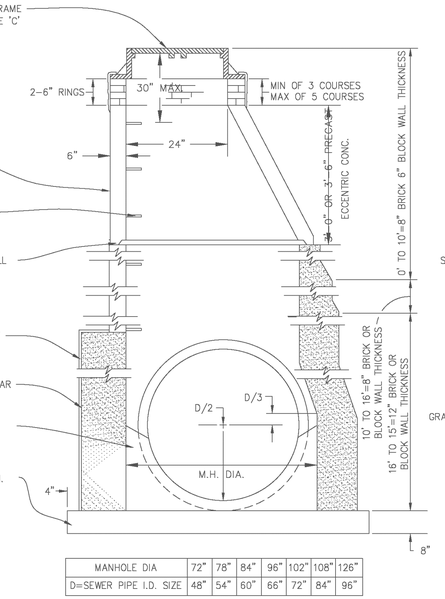
SHEET 1 OF 1

DIRECTOR, PUBLIC SERVICES DEPT.



STORM MANHOLE FOR PIPE 42" AND UNDER

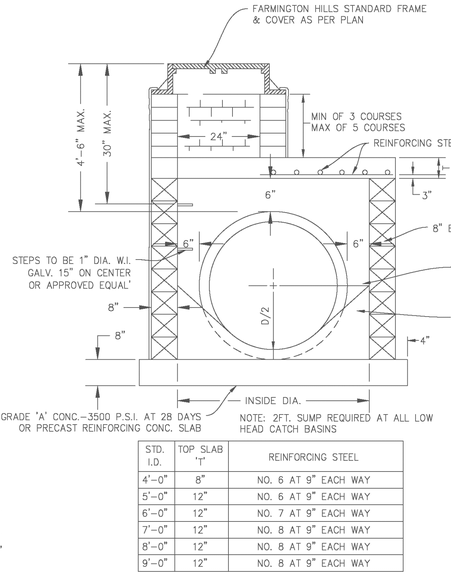
NO SCALE



MANHOLE DIA	72"	78"	84"	96"	102"	108"	126"
D=SEWER PIPE I.D. SIZE	48"	54"	60"	66"	72"	84"	96"

STORM MANHOLE FOR PIPE 48" AND OVER

NO SCALE

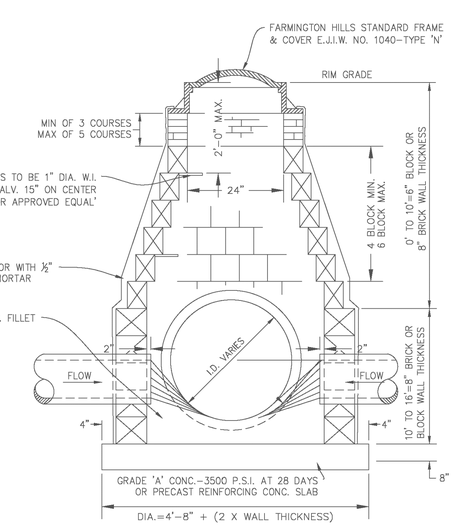


NOTE: 2FT. SUMP REQUIRED AT ALL LOW HEAD CATCH BASINS

STD. I.D.	TOP SLAB 'T'	REINFORCING STEEL
4'–0"	8"	NO. 6 AT 9" EACH WAY
5'–0"	12"	NO. 6 AT 9" EACH WAY
6'–0"	12"	NO. 7 AT 9" EACH WAY
7'–0"	12"	NO. 8 AT 9" EACH WAY
8'–0"	12"	NO. 8 AT 9" EACH WAY
9'–0"	12"	NO. 8 AT 9" EACH WAY

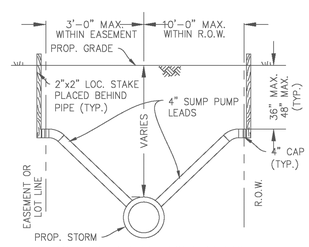
LOW HEAD STORM SEWER STRUCTURE

NO SCALE



TYPE 9–N REAR YARD INLET

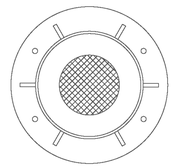
NO SCALE

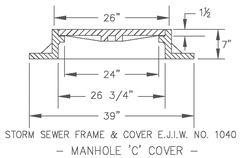


INSTALL SUMP PUMP LEADS IN DRAINAGE STRUCTURES WHERE FEASIBLE

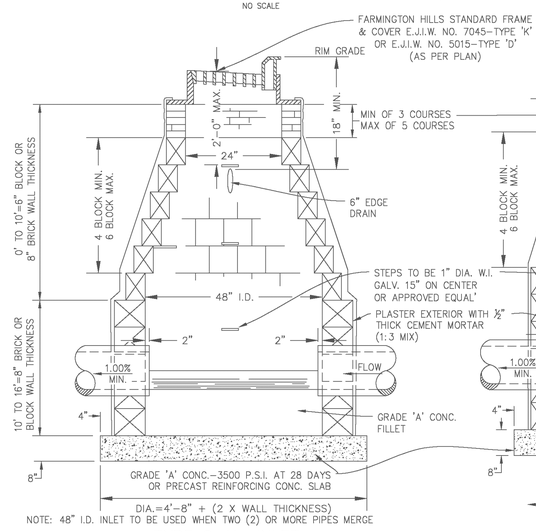
4" SUMP PUMP LEADS

NO SCALE



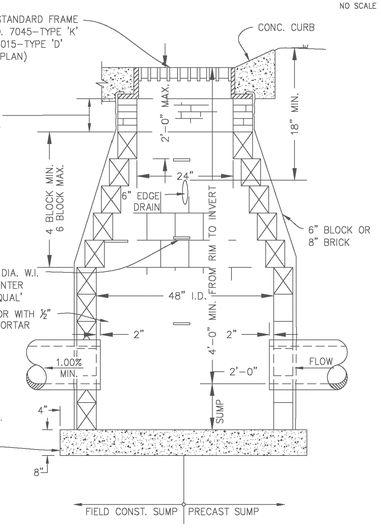


STORM SEWER FRAME & COVER E.J.I.W. NO. 1040
– MANHOLE 'C' COVER –



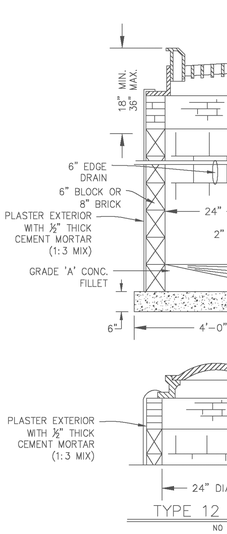
TYPE 9–N INLET

NO SCALE



TYPE 10 CATCH BASIN

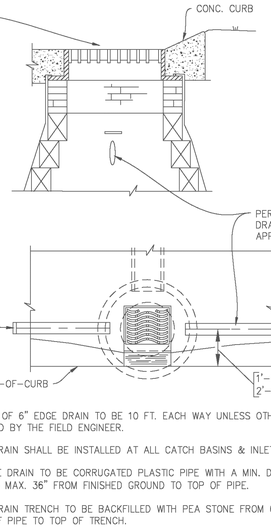
NO SCALE



NOTE: IF CLEARANCE IS LESS THAN 2'–0" BETWEEN SUB–GRADE & TOP OF PIPE BACKFILL SHALL CONSIST OF A DRY SAND CEMENT MIXTURE COMPACTED IN PLACE.

TYPE 12 – INLET

NO SCALE



NOTES:
1. LENGTH OF 6" EDGE DRAIN TO BE 10 FT. EACH WAY UNLESS OTHERWISE DETERMINED BY THE FIELD ENGINEER.

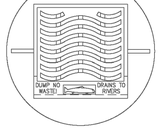
2. EDGE DRAIN SHALL BE INSTALLED AT ALL CATCH BASINS & INLETS.

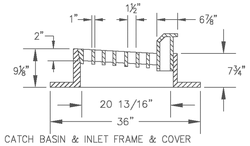
3. 6" EDGE DRAIN TO BE CORRUGATED PLASTIC PIPE WITH A MIN. DEPTH OF 18" AND A MAX. 36" FROM FINISHED GROUND TO TOP OF PIPE.

4. EDGE DRAIN TRENCH TO BE BACKFILLED WITH PEA STONE FROM 6" BELOW BOTTOM OF PIPE TO TOP OF TRENCH.

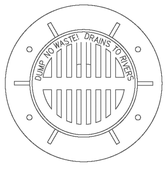
6" EDGE DRAIN

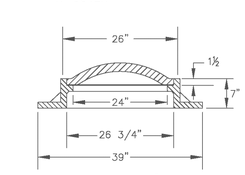
NO SCALE





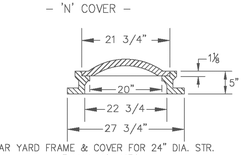
CATCH BASIN & INLET FRAME & COVER E.J.I.W. NO.7045 AS PER PLAN
– 'K' COVER –





REAR YARD FRAME & COVER FOR 48" DIA. STR.
E.J.I.W. NO. 1140
– 'N' COVER –

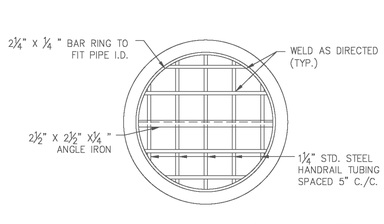


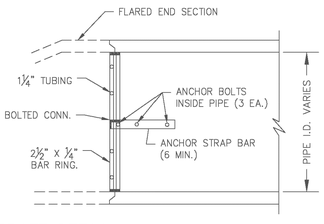


REAR YARD FRAME & COVER FOR 24" DIA. STR.
E.J.I.W. NO. 1170
– 'N' COVER –

STORM STRUCTURE FRAME & COVER

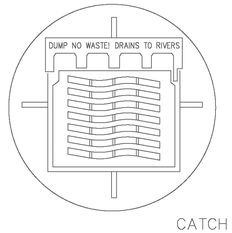
NO SCALE

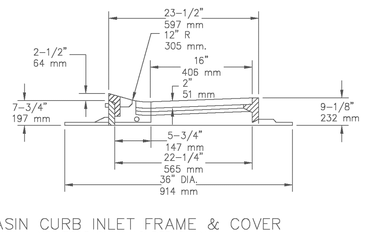




TYPICAL STEEL GRATE DETAIL

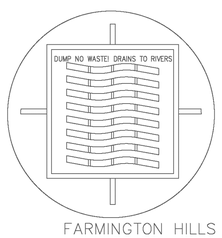
NO SCALE

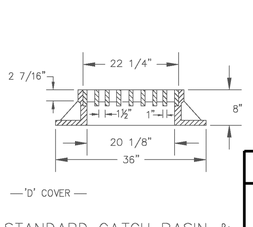




CATCH BASIN CURB INLET FRAME & COVER
E.J.I.W. NO. 7065 ONLY AS PER PLAN

NO SCALE





– 'D' COVER –

FARMINGTON HILLS STANDARD CATCH BASIN & INLET FRAME & COVER E.J.I.W. NO. 5105

NO SCALE

NOTE: FOR TRENCH REQUIREMENTS SEE GENERAL STANDARD SHEET

CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MI

ENGINEERING DIVISION

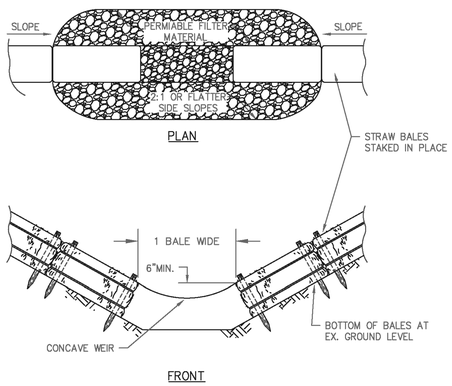
STANDARD DETAIL DRAWINGS

STORM SEWER STANDARDS

JOB NO.	
SCALE: HORIZ. NA	VERT. NA
DRAWN: CADATOMIC	DATE: 7/1/13
DESIGNED BY: FH	DATE: 7/1/13
CHECKED BY:	DATE:
APPROVED BY:	DATE:

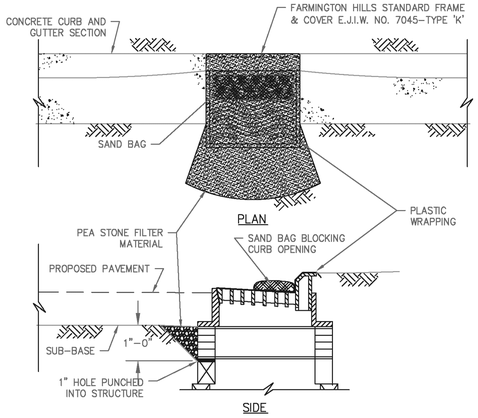
SHEET 1 OF 1

DIRECTOR, PUBLIC SERVICES DEPT.



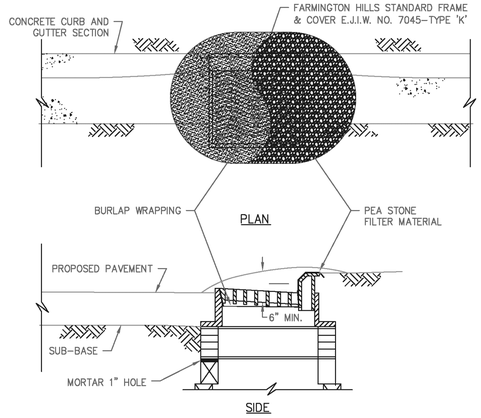
STONE OUTLET FILTER WITHIN A STRAW BALE FILTER

NO SCALE



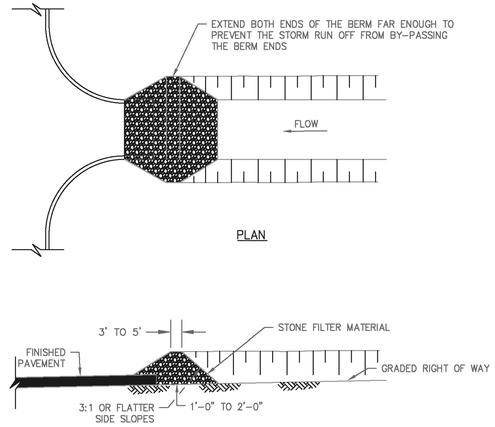
CURB AND GUTTER INLET FILTER BEFORE PAVING

NO SCALE



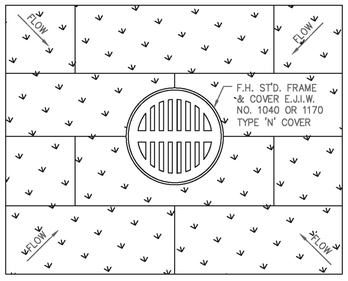
CURB AND GUTTER INLET FILTER AFTER PAVING

NO SCALE

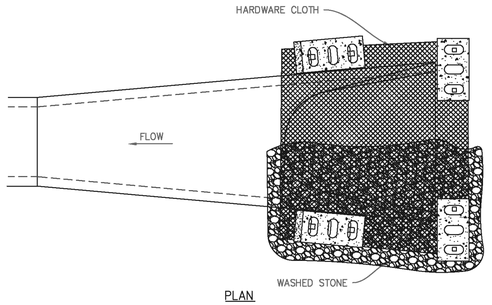


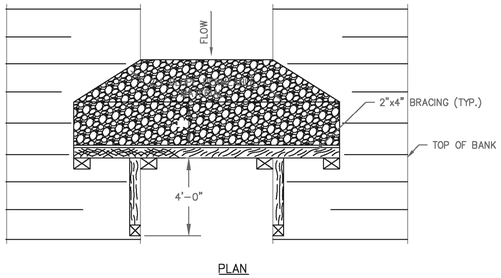
STONE FILTER BERM

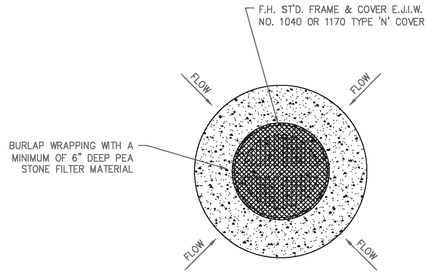
NO SCALE



NOTE: A MINIMUM OF 20 SQ. FT. OF FIELD SOD SHALL BE USED

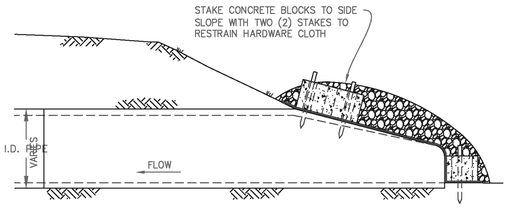






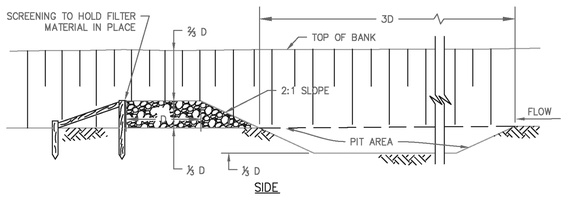
SOD AND STONE REAR YARD INLET FILTER

NO SCALE



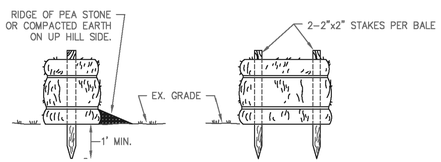
PIPE END SECTION SEDIMENT FILTER

NO SCALE



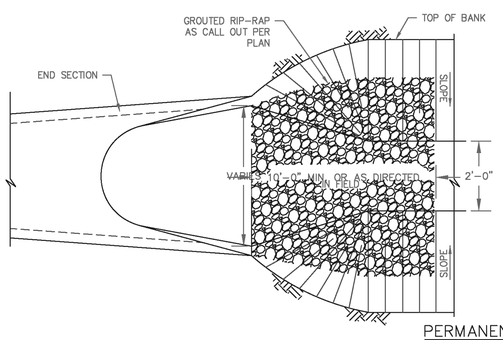
DITCH SEDIMENT TRAP

NO SCALE



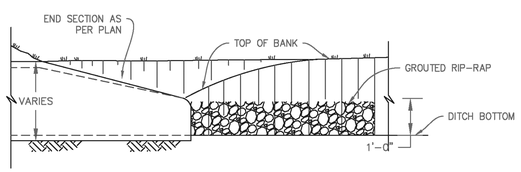
STRAW BALE FILTER

NO SCALE



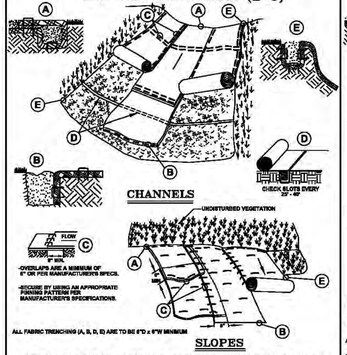
PERMANENT GROUTED RIP–RAP DETAIL

NO SCALE



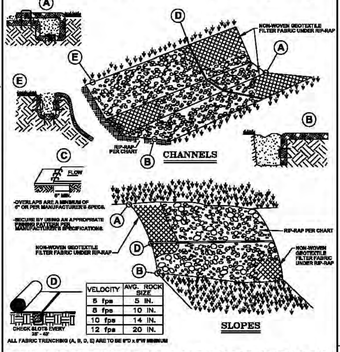
CITY OF FARMINGTON HILLS OAKLAND COUNTY, MI	ENGINEERING DIVISION
STANDARD DETAIL DRAWINGS SOIL EROSION STANDARDS	JOB NO.
	SCALE: HORIZ. NA VERT. NA
	DRAWN: CADATOMIC DATE: 7/1/13
	DESIGNED BY: FH DATE: 7/1/13
	CHECKED BY: DATE:
	APPROVED BY: DATE:
SHEET 1 OF 1	DIRECTOR, PUBLIC SERVICES DEPT.

EROSION CONTROL BLANKETS AND TURF MAT LINING (E-9)



DEPENDING ON THE VELOCITY, SLOPE, SOILS, USE PROPER BLANKET OR TURF MAT LINING PER MANUFACTURER'S SPECIFICATIONS TO HANDLE THE SHEER STRESSES OF THE SLOPE/CHANNEL.

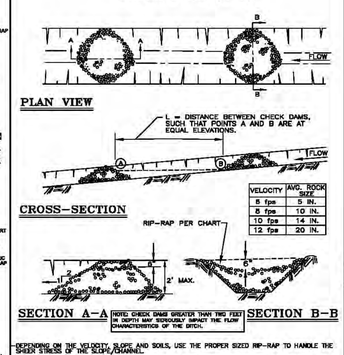
RIP-RAP: CHANNELS AND SLOPES (E-10)



VELOCITY	AVG. ROCK SIZE
5 fps	5 IN.
6 fps	10 IN.
10 fps	14 IN.
12 fps	20 IN.

DEPENDING ON THE VELOCITY, SLOPE AND SOILS, USE THE PROPER SIZED RIP-RAP AND NON-WOVEN GEOTEXTILE FABRIC TO HANDLE THE SHEER STRESS OF THE SLOPE/CHANNEL.

CHECK DAMS (E-3)



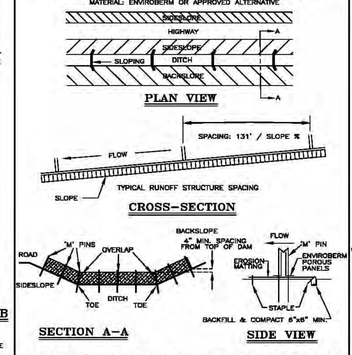
VELOCITY	AVG. ROCK SIZE
5 fps	5 IN.
6 fps	10 IN.
10 fps	14 IN.
12 fps	20 IN.

DEPENDING ON THE VELOCITY, SLOPE AND SOILS, USE THE PROPER SIZED RIP-RAP TO HANDLE THE SHEER STRESS OF THE SLOPE/CHANNEL.

FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

CHECK DAMS ALTERNATIVE "A" (E-3A)

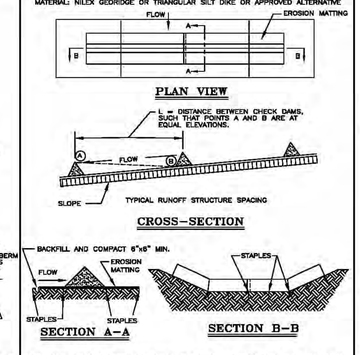
MATERIAL: ENVIROBERM OR APPROVED ALTERNATIVE



FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

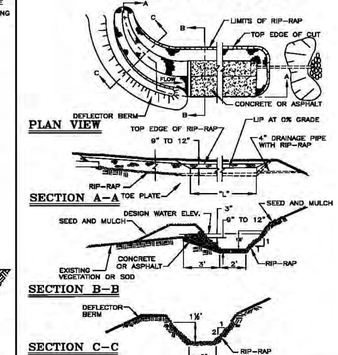
CHECK DAMS ALTERNATIVE "B" (E-3B)

MATERIAL: NILEX GEODRIDGE OR TRIANGULAR SILT DIKE OR APPROVED ALTERNATIVE

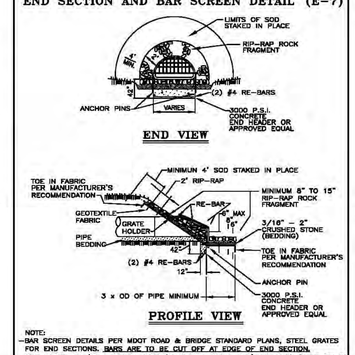


FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

LEVEL SPREADER (E-4)



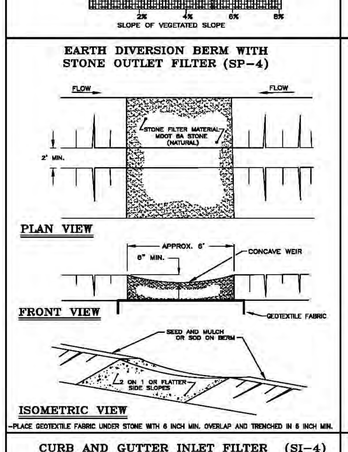
RIP-RAP, END SECTION AND BAR SCREEN DETAIL (E-7)



NOTE:
-BAR SCREEN DETAILS PER MDOT ROAD & BRIDGE STANDARD PLANS, STEEL GRATES FOR END SECTIONS. BARS ARE TO BE CUT OFF AT EDGE OF END SECTION.
-FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

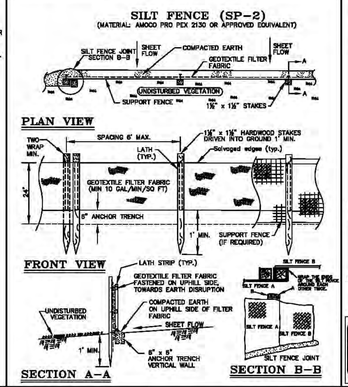
VEGETATIVE BUFFER ZONE (SP-1)

THE GRAPH SHOWN BELOW IS USED TO DETERMINE THE ADEQUACY OF AN EXISTING VEGETATIVE BUFFER ZONE FOR USE AS A SEDIMENT FILTER. THIS GRAPH IS ONLY APPLICABLE IF THE VEGETATION IS SOD DENSE AND AT LEAST 1" IN LENGTH OVER EVERY SQUARE FOOT OF DISTURBED SOIL. AN AREA COVERED WITH WEEDS, OR BUSHES AND TREES WITHOUT A GOOD GROUND COVER IS NOT ACCEPTABLE.



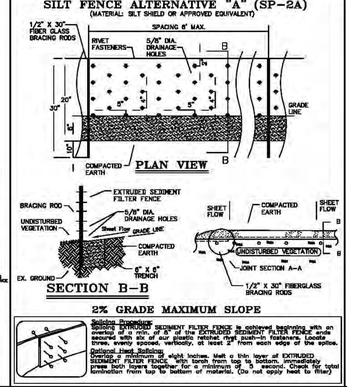
SILT FENCE (SP-2)

(MATERIAL: AMOCO PRO PEX 2130 OR APPROVED EQUIVALENT)



SILT FENCE ALTERNATIVE "A" (SP-2A)

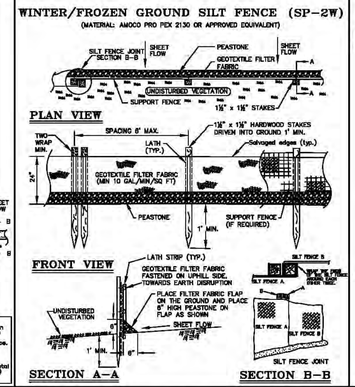
(MATERIAL: SILT SHIELD OR APPROVED EQUIVALENT)



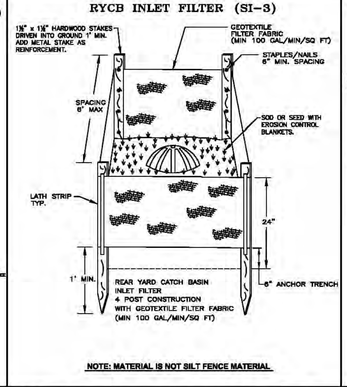
2% GRADE MAXIMUM SLOPE

WINTER/FROZEN GROUND SILT FENCE (SP-2W)

(MATERIAL: AMOCO PRO PEX 2130 OR APPROVED EQUIVALENT)

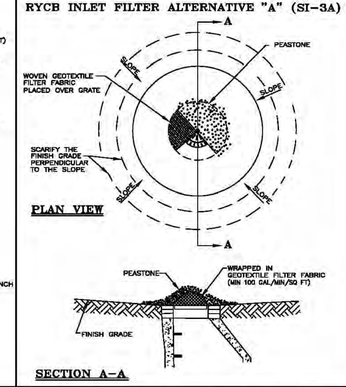


RYCB INLET FILTER (SI-3)



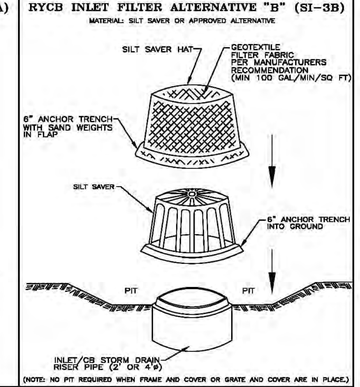
NOTE: MATERIAL IS NOT SILT FENCE MATERIAL

RYCB INLET FILTER ALTERNATIVE "A" (SI-3A)



RYCB INLET FILTER ALTERNATIVE "B" (SI-3B)

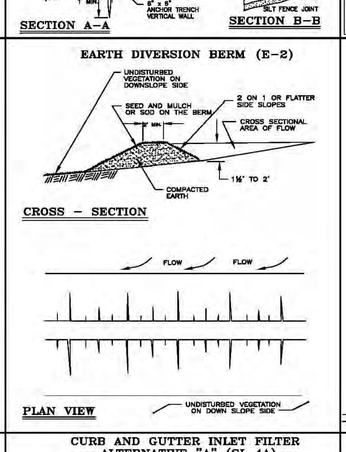
MATERIAL: SILT SAVER OR APPROVED ALTERNATIVE



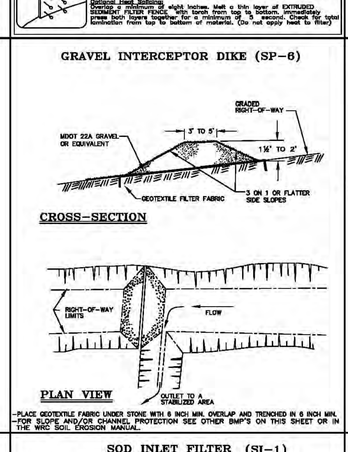
(NOTE: NO PIT REQUIRED WHEN FRAME AND COVER OR GRATE AND COVER ARE IN PLACE.)

EARTH DIVERSION BERM WITH STONE OUTLET FILTER (SP-4)

EARTH DIVERSION BERM (E-2)



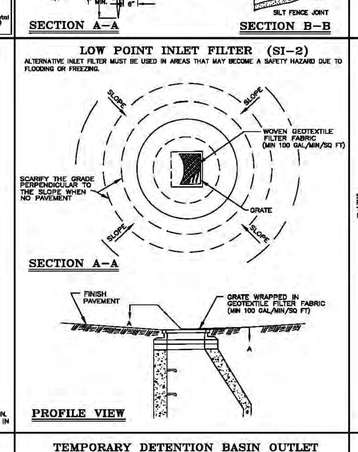
GRAVEL INTERCEPTOR DIKE (SP-6)



-PLACE GEOTEXTILE FABRIC UNDER STONE WITH 6 INCH MIN. OVERLAP AND TRENCHED IN 6 INCH MIN.
-FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THIS SHEET OR IN THE WRC SOIL EROSION MANUAL.

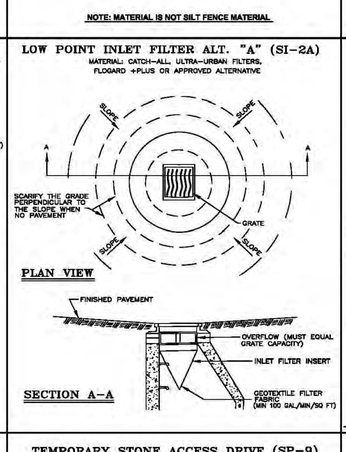
LOW POINT INLET FILTER (SI-2)

ALTERNATIVE INLET FILTER MUST BE USED IN AREAS THAT MAY BECOME A SAFETY HAZARD DUE TO FLOODING OR FREEZING.

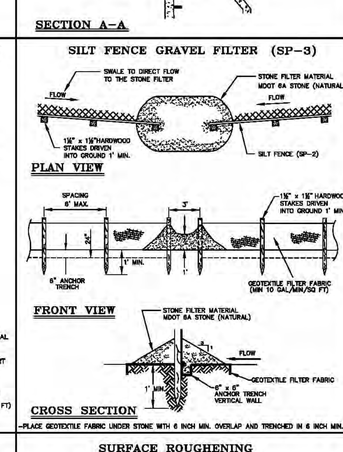


LOW POINT INLET FILTER ALT. "A" (SI-2A)

MATERIAL: CATCH-ALL, ULTRA-URBAN FILTERS, FLOGARD +PLUS OR APPROVED ALTERNATIVE

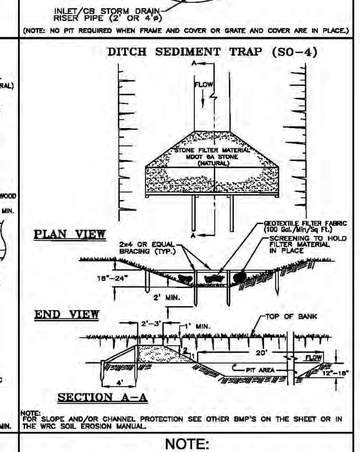


SILT FENCE GRAVEL FILTER (SP-3)



-PLACE GEOTEXTILE FABRIC UNDER STONE WITH 6 INCH MIN. OVERLAP AND TRENCHED IN 6 INCH MIN.

DITCH SEDIMENT TRAP (SO-4)

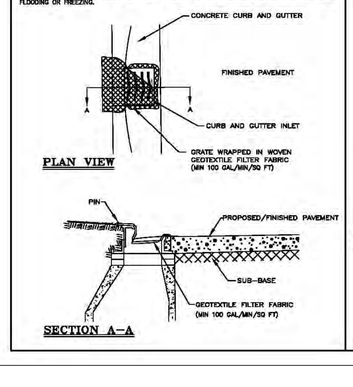


NOTE:
FOR SLOPE AND/OR CHANNEL PROTECTION SEE OTHER BMP'S ON THE SHEET OR IN THE WRC SOIL EROSION MANUAL.

CURB AND GUTTER INLET FILTER (SI-4)

(BEFORE AND AFTER PAVING)

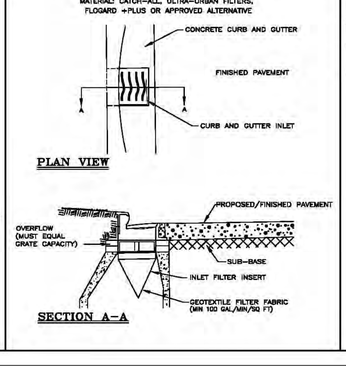
ALTERNATIVE INLET FILTER MUST BE USED IN AREAS THAT MAY BECOME A SAFETY HAZARD DUE TO FLOODING OR FREEZING.



CURB AND GUTTER INLET FILTER ALTERNATIVE "A" (SI-4A)

(BEFORE AND AFTER PAVING)

MATERIAL: CATCH-ALL, ULTRA-URBAN FILTERS, FLOGARD +PLUS OR APPROVED ALTERNATIVE



SOD INLET FILTER (SI-1)

DEFINITION	SOD INLET FILTERS ARE PADS OF SOD PLACED AROUND A STORM DRAIN INLET OR CATCH BASIN.
PURPOSE	SOD INLET FILTERS ARE INSTALLED TO SLOW THE FLOW OF WATER INTO AN INLET OR CATCH BASIN AND TO FILTER OUT SEDIMENT IN THE PROCESS.
WHERE APPLICABLE	SOD INLET FILTERS SHOULD ONLY BE USED TO HANDLE LIGHT CONCENTRATIONS OF SEDIMENT. THEY ARE BEST USED AFTER FINAL GRADING IS COMPLETE AND DURING THE ESTABLISHMENT OF A VEGETATIVE COVER.

TEMPORARY DETENTION BASIN OUTLET STONE FILTER (SO-2)

TEMPORARY STONE ACCESS DRIVE (SP-9)

SURFACE ROUGHENING AND SCARIFICATION (E-8)

THIS IS AN EASY AND ECONOMICAL WAY TO REDUCE SOIL EROSION. IT IS SIMPLY THE PLACING OF HORIZONTAL GROOVES IN A SLOPE PERPENDICULAR TO THE FLOW OF RUNOFF. THIS CAN BE DONE BY EITHER DISC HARROWING, BACK BLADING OR JUST RUNNING THE TREADS OF A CRAWLER TRACTOR PERPENDICULAR TO THE SLOPE AS SHOWN BELOW.

UNVEGETATED SLOPE SHOULD BE TEMPORARILY SCARIFIED TO MINIMIZE RUNOFF VELOCITIES

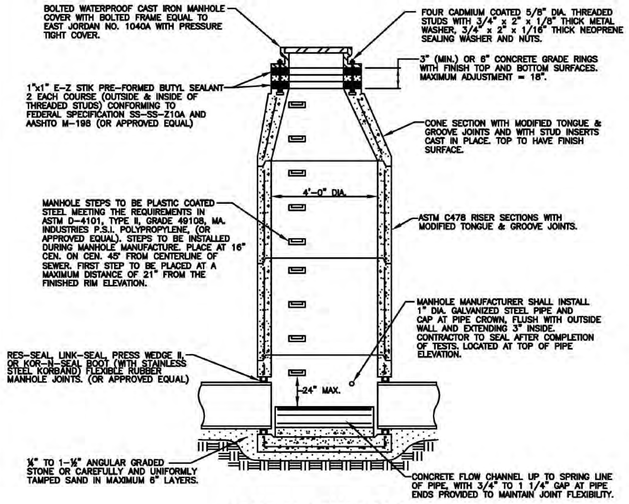
NOTE:

WHILE PERFORMING WORK INVOLVING GROUNDS MAINTENANCE AND/OR THE CONSTRUCTION/MAINTENANCE OF ANY INFRASTRUCTURE, INCLUDING ROADS, WATER MAINS, SANITARY SEWERS, STORM DRAINS AND STORM WATER BEST MANAGEMENT PRACTICES (BMPS), CONTRACTORS SHALL MINIMIZE POLLUTION FROM STORM WATER RUNOFF THAT CAN AFFECT WATER QUALITY RELATED TO WORK ACTIVITIES. POLLUTANTS THAT COULD IMPAIR WATER QUALITY MAY INCLUDE FUEL, GREASE AND OIL, NUTRIENTS, BACTERIA AND PATHOGENS, LITTER AND DEBRIS, AND SOIL EROSION AND SEDIMENTATION. APPLICABLE BMPS SHALL BE IMPLEMENTED BY THE CONTRACTOR TO THE MAXIMUM EXTENT PRACTICABLE TO PROTECT WATER QUALITY AND WILDLIFE HABITAT.

SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

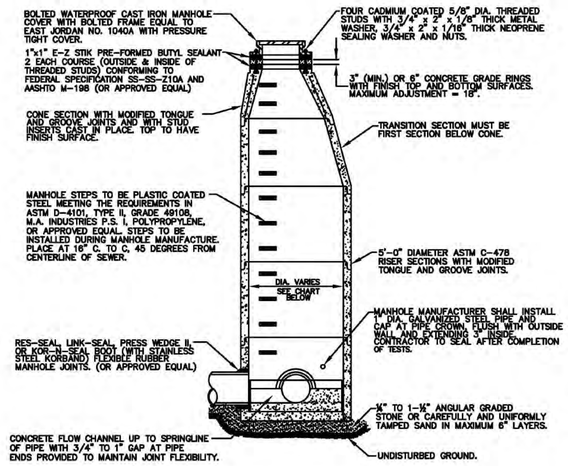
REVISION BLOCK			
Date Drawing Last Revised:			Date: 8/9
Rev. No.	Rev. By:	Rev. Date:	Description:
1	LS	5-30-07	PROPOSED DETAIL EDITS
2	LS	2-26-08	STANDARDS COMMITTEE APPROVAL/ MINOR CHANGES
3	DS	5-28-11	SILT FENCE ALTERNATIVE "A" DETAIL (SP-2A) ADDED
4	DS	4-15-13	STANDARDS COMMITTEE APPROVAL (NOTE CLARIFIED)

ORIG. DATE:	01/01/01	WRC WATER RESOURCES COMMISSIONER Jim Nash	ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48328-1907
SCALE:	NONE		
DESIGNED BY:	WRC		SHEET NO.: 1 of 1
DRAWN BY:	Mapping		



STANDARD MANHOLE

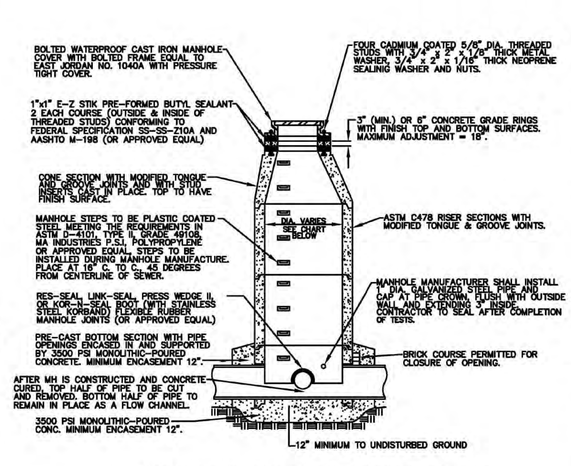
MAX. PIPE SIZE FOR STRAIGHT THRU INSTALLATION	MAX. PIPE SIZE FOR RIGHT ANGLE INSTALLATION
24"	18"



STANDARD OVERSIZED MANHOLE

MANHOLE SIZING CHART

MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.	MAX. PIPE SIZE FOR RIGHT ANGLE INST.
5'	36"	24"
6'	42"	36"
7'	60"	42"



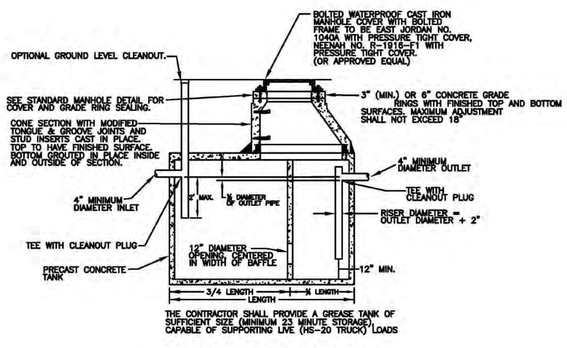
MANHOLE CONSTRUCTED OVER EXISTING SEWER

MANHOLE SIZING CHART

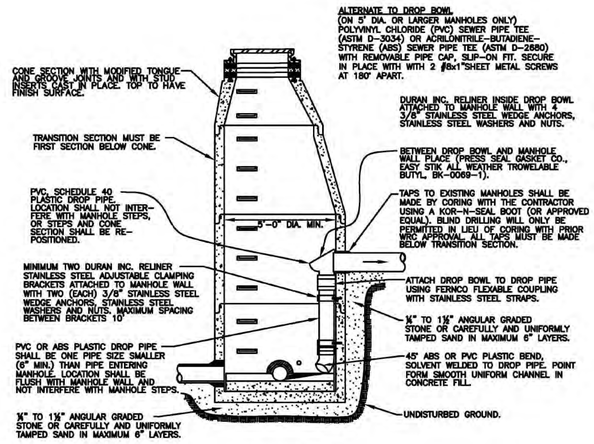
MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.
4'	24"
5'	36"
6'	42"
7'	60"

SANITARY SEWER CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE LOCAL UNIT OF GOVERNMENT AND THE WATER RESOURCES COMMISSIONER (WRC). ALL SANITARY SEWER CONSTRUCTION SHALL HAVE FULL-TIME INSPECTION SUPERVISED BY A STATE OF MICHIGAN LICENSED PROFESSIONAL ENGINEER PROVIDED BY, OR CAUSED TO BE PROVIDED BY, THE LOCAL UNIT OF GOVERNMENT.
2. AT ALL CONNECTIONS TO WRC SEWERS OF EXTENSIONS, AND BEFORE START OF CONSTRUCTION, THE CONTRACTOR MUST OBTAIN A SEWER INSPECTION PERMIT ISSUED BY WRC. GRAVITY SEWER PERMIT CHARGES ARE $250 FOR EACH CONNECTION PLUS $25 FOR EACH MANHOLE CONSTRUCTED. PRESSURE SEWER PERMIT CHARGES ARE $250 PER 2,460 L.F. OF FORCE MAIN WITH A MINIMUM PERMIT FEE OF $250. FAILURE TO PASS ANY TEST SEGMENT WILL RESULT IN AN ADDITIONAL CHARGE TO THE CONTRACTOR FOR EACH RETEST, IN ACCORDANCE WITH THE ABOVE PRICE SCHEDULE. THE CONTRACTOR SHALL ALSO HAVE POSTED WITH WRC A $5,000 SURETY BOND AND $500 CASH DEPOSIT. THE CONTRACTOR SHALL NOTIFY THE LOCAL UNIT OF GOVERNMENT AND WRC (248-858-1105) 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. FINAL ACCEPTANCE TESTS MUST BE WITNESSED BY COUNTY PERSONNEL AND MUST BE SCHEDULED BY MUNICIPALITY OR IT'S CONSULTANT IN ADVANCE WITH 24 HOUR NOTICE AT 248-858-1105.
3. NO SEWER INSTALLATION SHALL HAVE AN INFILTRATION EXCEEDING 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE IN A 24 HOUR PERIOD, AND NO SINGLE RUN OF SEWER BETWEEN MANHOLES SHALL EXCEED 100 GALLONS PER INCH DIAMETER PER MILE. AIR TESTS IN LIEU OF INFILTRATION TESTS SHALL BE AS SPECIFIED IN THE WATER RESOURCES COMMISSIONER STANDARDS. ONLY PIPE AND PIPE JOINTS APPROVED BY WRC MAY BE USED FOR SANITARY SEWER CONSTRUCTION.
4. LOCATED IN THE FIRST MANHOLE UPSTREAM FROM THE POINT OF ALL CONNECTIONS TO AN EXISTING WRC SEWER, OR EXTENSION THERETO, A TEMPORARY 12-INCH DEEP SUMP SHALL BE PROVIDED IN THE FIRST MANHOLE ABOVE THE CONNECTION WHICH WILL BE FILLED IN AFTER SUCCESSFUL COMPLETION OF ANY ACCEPTANCE TEST UP TO THE STANDARD FILLET PROVIDED FOR THE FLOW CHANNEL. A WATERTIGHT BULKHEAD SHALL BE PROVIDED ON THE DOWNSTREAM SIDE OF THE SUMP MANHOLE.
5. AT ALL TIMES WHEN LAYING OF NEW PIPE IS NOT ACTUALLY IN PROGRESS, THE UPSTREAM OPEN END OF THE PIPE SHALL BE CLOSED BY TEMPORARY WATERTIGHT PLUGS OR BY OTHER APPROVED MEANS. IF WATER IS IN THE TRENCH WHEN WORK IS RESUMED, THE PLUG SHALL NOT BE REMOVED UNTIL THE DANGER OF WATER ENTERING THE PIPE HAS PASSED.
6. ALL BUILDING LEADS AND RISERS SHALL BE SIX INCH SDR 23.5 ABS PIPE WITH CHEMICALLY FUSED JOINTS OR AN APPROVED EQUAL PIPE AND JOINT. BUILDING LEADS TO BE FURNISHED WITH REMOVABLE AIRTIGHT AND WATERTIGHT STOPPERS.
7. ALL RIGID SEWER PIPE SHALL BE INSTALLED IN CLASS "B" BEDDING OR BETTER. ALL FLEXIBLE, SEMI-FLEXIBLE, OR COMPOSITE SEWER PIPE SHALL BE INSTALLED IN CONFORMANCE TO WRC SPECIFICATIONS.
8. ALL NEW MANHOLES SHALL HAVE WRC APPROVED FLEXIBLE, WATERTIGHT SEALS WHERE PIPES PASS THROUGH WALLS. MANHOLES SHALL BE OF PRE CAST SECTIONS WITH MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS. PRE CAST MANHOLE CONE SECTIONS SHALL BE WRC APPROVED MODIFIED ECCENTRIC CONE TYPE. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS.
9. AT ALL CONNECTIONS TO MANHOLES ON WRC SEWERS, OR EXTENSIONS THERETO, DROP CONNECTIONS WILL BE REQUIRED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS 18 INCHES.
10. TAPS TO EXISTING MANHOLES SHALL BE MADE BY CORING. THE CONTRACTOR SHALL PLACE A KOR-N-SEAL BOOT (OR WRC APPROVED EQUAL) AFTER CORING IS COMPLETED. BLIND DRILLING WILL ONLY BE PERMITTED IN LIEU OF CORING WITH PRIOR WRC APPROVAL.
11. MANHOLES CONSTRUCTED DIRECTLY ON WRC SEWERS SHALL BE PROVIDED WITH COVERS READING "WATER RESOURCES COMMISSIONER-SANITARY" IN RAISED LETTERS.
12. NO GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWN SPOUT DRAINAGE OR WEEP TILE DRAINAGE SHALL BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
13. PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL TELEPHONE MISS DIG (800-482-7171) FOR THE LOCATION OF UNDERGROUND PIPELINE AND CABLE FACILITIES AND SHALL ALSO NOTIFY REPRESENTATIVES OF OTHER UTILITIES LOCATED IN THE VICINITY OF THE WORK.
14. AN 18 INCH MINIMUM VERTICAL SEPARATION AND A 10 FOOT MINIMUM HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN SANITARY SEWER AND WATER MAIN.
15. NEW MANHOLES BUILT OVER AN EXISTING SANITARY SEWER SHALL HAVE MONOLITHIC POURED BOTTOMS.
16. IF THE STRUCTURE FALLS WITHIN THE ROADBED OF A GRAVEL ROAD OR WITHIN THE UNPAVED SHOULDER OF A PAVED ROAD, THE COVER SHALL BE SIX (6") INCHES BELOW THE FINISHED GRAVEL SURFACE.



DOUBLE-COMPARTMENT GREASE INTERCEPTOR TANK FOR OUTLET PIPE BURIAL 42" AND DEEPER



INTERIOR DROP CONNECTION

REVISION BLOCK			
Parcel Base / Source Date: N/A			
Rev. No.:	Rev. By:	Rev. Date:	Description:
1	DS	3-23-11	REMOVED STANDARD MONITORING MANHOLE
2	KB	6-21-16	ADDED NOTE "REQUIRES ADVANCED APPROVAL BY WRC" AND UPDATE PHONE # IN NOTE #2
3	KB	7-22-20	UPDATED MH STEPS TO ASTM D-4101
4	KB	9-27-23	REMOVED EXTERIOR DROP CONNECTION DETAIL

SANITARY SEWER DETAILS AND NOTES

ORIG. DATE:	08/21/02
SCALE:	NO SCALE
DESIGNED BY:	WRC
DRAWN BY:	WRC Mapping

WRC WATER RESOURCES COMMISSIONER
Jim Nash

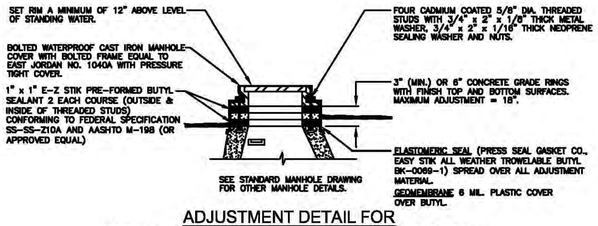
ONE PUBLIC WORKS DRIVE, BLDG 95 WEST
WATERFORD, MICHIGAN
48328-1907

SHEET NO.: 1 of 2

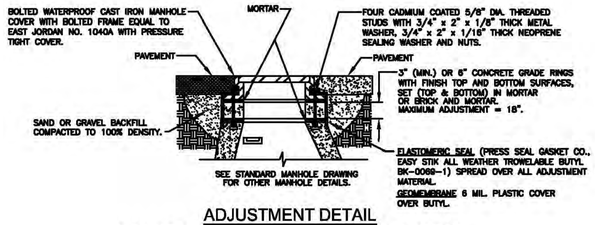
Plotted By: DSDRAKE
File Location: C:\Users\dsdrake\Desktop\Jobs\STANDARDS\DETAILS\Sanitary Sewer Details and Notes.dwg

MANHOLE RIM ADJUSTMENT CHART

MANHOLE LOCATION	SET RIM ELEVATION
DITCH	12" ABOVE FINISH GRADE
FLOOD PLAIN	12" ABOVE STANDING WATER
GRAVEL ROAD / SHOULDER	6" BELOW FINISH GRADE
PAVEMENT / GREENBELT	FLUSH WITH FINISH GRADE



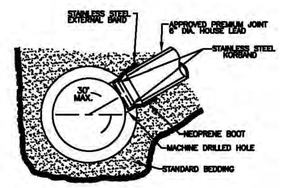
ADJUSTMENT DETAIL FOR
MANHOLE TOPS WITHIN FLOOD PRONE AREAS



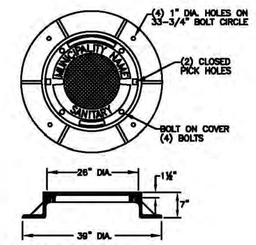
ADJUSTMENT DETAIL
MANHOLE TOPS WITHIN PAVEMENT AREAS

WATER RESOURCES COMMISSIONER
GRAVITY BUILDING LEAD REQUIREMENTS AND DETAILS

1. ALL BUILDING LEAD WORK MUST BE PERFORMED UNDER WATER RESOURCES COMMISSIONER (WRC) AND/OR LOCAL UNIT OF GOVERNMENT INSPECTION.
2. FOR ALL WRC-OPERATED SYSTEMS, CALL 248-858-1110 24-HOURS IN ADVANCE OR WORK TO SCHEDULE INSPECTION.
3. NO SANITARY SEWER MAY BE USED AS A CLEANOUT OF DEWATERING OUTLET.
4. WHERE AN EXISTING BUILDING LEAD IS BEING EXTENDED, DISSIMILAR TYPES AND SIZES OF PIPE SHALL BE JOINED USING AN WRC APPROVED ADAPTER.
5. APPROVED BUILDING LEAD PIPE FOR GRAVITY SEWER LEADS:
   A. ABS PLASTIC, ASTM D2751, SDR 23.5.
   B. PVC PLASTIC, ASTM D3034, SDR 23.5 OR ASTM D2665, SCHEDULE 40.
   C. DUCTILE IRON PIPE, AMERICAN WATER WORKS ASSOCIATION (AWWA) C-104/A21.4, CLASS 54. JOINTS SHALL BE SUPER BELL TITE, TYTON, TY-SEAL, MULTI-TITE, DUAL-TITE, OR VERI-TITE.
   D. ANY DEVIATIONS FROM SPECIFIED ABOVE REQUIRE APPROVAL BY WRC.
6. ALLOWABLE TYPES OF SEWER PIPE ADAPTERS:
   A. FERNCO ADAPTER/REDUCER BOOKUTS.
   B. FERNCO FLEXIBLE COUPLING.
   C. MISSION CLAY BAND-SEAL COUPLING.
   D. SMITH-BLAIR STAINLESS STEEL REPAIR CLAMP.
   E. HURON-CLINTON O-RING ADAPTER.
   F. HAMILTON-KENT GEAR GRIP ADAPTER.
   G. PLANT FABRICATED JOINT CONVERSION PIPE.

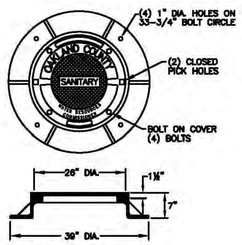


KOR-N-TEE TAP FOR CONCRETE PIPE



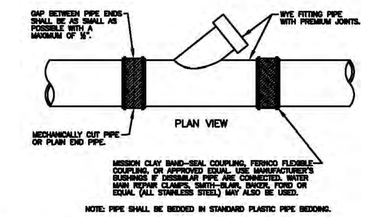
EAST JORDAN IRON WORKS
HEAVY DUTY MATERIAL ASTM A48 CL.35
COVER WT., 150 LBS., CATALOG NO. 1040A
PATTERN NO. 1040A, PRODUCT NO. 1040XX OAKCOSTD.
2" RAISED LETTERS, 1" RAISED LETTERS
ALL RECESSED FLUSH.

LOCAL MUNICIPALITIES MANHOLE COVER



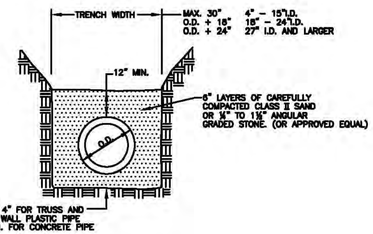
EAST JORDAN IRON WORKS
HEAVY DUTY MATERIAL ASTM A48 CL.35
COVER WT., 150 LBS., CATALOG NO. 1040APT
PATTERN NO. 1040A, PRODUCT NO. NCR09-1280 C
2" RAISED LETTERS, 1" RAISED LETTERS, 3/4" RAISED LETTERS
ALL RECESSED FLUSH.

W.R.C. LETTERED MANHOLE COVER



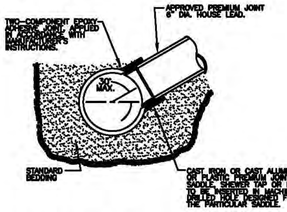
NOTE: PIPE SHALL BE BEDDED IN STANDARD PLASTIC PIPE BEDDING.

WYE PIPE INSERTION WITH FLEXIBLE COUPLINGS
(RIGID PIPE)



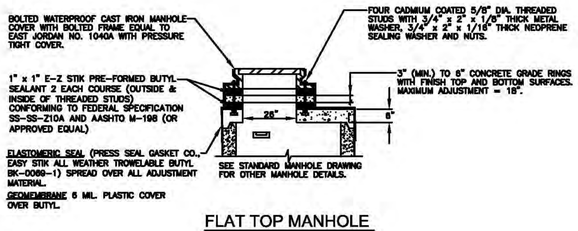
NOTE:
APPROVAL MAY BE GIVEN TO ALTERNATE MATERIALS AND METHODS TO ACHIEVE CLASS B BEDDING.

STANDARD BEDDING
(CLASS B)

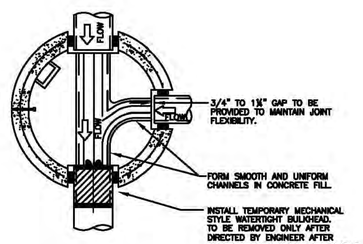


NOTE: SURFACE OF MAIN SEWER SHALL BE CLEANED WITH AN ABRASIVE GRINDER PRIOR TO EPOXY APPLICATION. DUE TO VARIATION OF SET-UP TIME OF EPOXY ADHESIVE WITH TEMPERATURE, ANCHOR STRAPS SHALL BE USED TO SECURE SADDLE IN POSITION IN COLD WEATHER OR WHENEVER WORK IS TO PROCEED PRIOR TO COMPLETE CURE OF EPOXY.

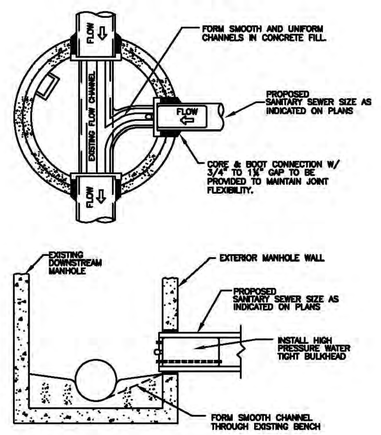
SEWER TAP-ALL SIZES OF MAIN SEWER PIPES
VITRIFIED CLAY



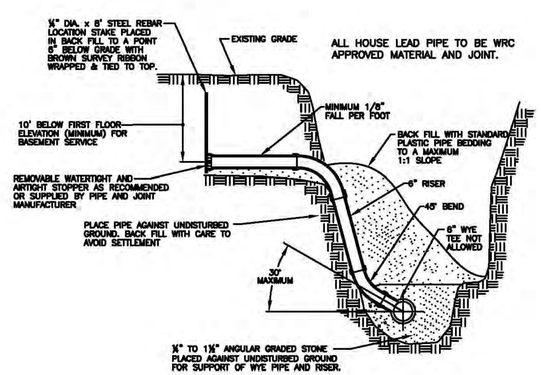
FLAT TOP MANHOLE



SUMP MANHOLE FOR TESTING,
CLEANING AND DEWATERING



TESTING BULKHEAD WITH PIPE TAP



HOUSE LEAD DETAIL

REVISION BLOCK			
Parcel Base / Source Date: N/A			
Rev. No.:	Rev. By:	Rev. Date:	Description:
1	DS	09/29/09	ADDED TESTING BULKHEAD WITH PIPE TAP DETAIL
2	lz	05/29/09	MOVED DETAILS FROM SHEET 1 ONTO SHEET 2
3	lz	07/14/09	STANDARDS COMMITTEE APPROVAL FOR DETAIL CHANGES
4	DS	02/03/14	REPLACE/UPDATE OCDC WITH WRC FOR THE MANHOLE COVER DETAIL

SANITARY SEWER DETAILS AND NOTES

ORIG. DATE:	05-09-03
SCALE:	NO SCALE
DESIGNED BY:	MWD
DRAWN BY:	Mapping Staff

WRC WATER RESOURCES COMMISSIONER Jim Nash

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST
WATERFORD, MICHIGAN
48328-1907

SHEET NO.: 2 of 2

Path Name: 0920ss.dgn
Dgn Library: C:\Documents and Settings\All Users\Application Data\Bentley\MicroStation\XM\Standards\Standards\Dgn\0920.dgn

GENERAL NOTES

1. ALL CONSTRUCTION PROCEDURES AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE WATER RESOURCES COMMISSIONER'S OFFICE AND/OR THE LOCAL MUNICIPALITY.
2. THE CONTRACTOR SHALL OBTAIN AN WATER RESOURCES COMMISSIONER'S OFFICE WATER INSPECTION PERMIT PRIOR TO THE START OF CONSTRUCTION. SEE CORRESPONDING WATER MAIN CONSTRUCTION PERMIT REQUEST LETTER FOR COST OF THE PERMIT.
3. A PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION AND SHALL BE SCHEDULED BY THE LOCAL MUNICIPAL ENGINEER. THOSE IN ATTENDANCE SHALL INCLUDE 1) LOCAL MUNICIPAL ENGINEER, 2) DESIGN ENGINEER, 3) OWNER/DEVELOPER, 4) ROAD COMMISSION FOR OAKLAND COUNTY, 5) OAKLAND COUNTY WATER RESOURCES COMMISSIONER'S OFFICE (WATER, SEWER AND STORM DIVISIONS) AND 6) ALL UTILITY COMPANIES. CONTRACTOR SHALL PROVIDE MATERIALS LISTING FOR APPROVAL BY MUNICIPAL ENGINEER AND OCWRC.
4. CONTRACTOR MUST CONTACT MISS DIG (1-800-482-7171) THREE WORKING DAYS BEFORE THE START OF CONSTRUCTION FOR UNDERGROUND UTILITY LOCATIONS. ALL UTILITIES SHALL BE STAKED BEFORE CONSTRUCTION STARTS.
5. ALL NECESSARY EASEMENTS FOR WATER MAINS SHALL BE PROVIDED IN THE NAME OF THE OWNER OF THE WATER MAIN PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM FOR OPERATION.
6. ALL WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF FIVE AND ONE-HALF (5-1/2) FEET BELOW FINISHED GRADES INCLUDING OPEN DRAINAGE COURSES.
7. ALL TRENCHES UNDER OR WITHIN A 1:1 RATIO OF EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS SHALL BE BACKFILLED WITH THOROUGHLY COMPACTED CLASS II SAND TO GRADE AT NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT
8. WHERE TWO UTILITIES CROSS, PROVIDE CLASS II BACKFILL MATERIAL IN TWELVE (12) INCH COMPACTED LAYERS TO THE UNDERSIDE OF THE HIGHER UTILITY.
9. WHERE WATER MAINS MUST DIP TO PASS UNDER OTHER UTILITIES, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE KEPT TO A MINIMUM LENGTH AND SHALL BE CONSTRUCTED WITH ELEVEN AND ONE-QUARTER (11-1/4) DEGREE VERTICAL BENDS, PROPERLY ANCHORED. BENDS GREATER THAN 11-1/4° MUST HAVE ROD RESTRAINTS.
10. ALL PRECAST CONCRETE GATE WELL SECTIONS SHALL BE MANUFACTURED TO CONFORM WITH A.S.T.M. C478, STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS, EXCEPT WALL THICKNESS SHALL BE AS SHOWN ON THESE DETAILS. ALL JOINTS FOR PRECAST CONCRETE GATE WELL SECTIONS SHALL BE "MODIFIED GROOVE TONGUE" WITH GASKET MANUFACTURED TO CONFORM WITH A.S.T.M. C 443, STANDARD SPECIFICATION FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKETS.
11. CONTRACTOR SHALL INSTALL VALVES, TAPPING SLEEVES AND GATE WELL STRUCTURES IN STRICT COMPLIANCE WITH MEASUREMENTS PROVIDED ON SHEET 2 (i.e. 2'-0" BETWEEN GATE WELL WALL & CENTERLINE OF OPERATING NUT) TO ALLOW PROPER OPERATION OF VALVE THROUGH GATEWELL OPENING. FAILURE TO DO SO WILL REQUIRE CONTRACTOR TO CORRECT AT HIS EXPENSE.
12. ALL CROSS-CONNECTION CONTROL DEVICES SHALL BE INSTALLED AS REQUIRED BY THE LOCAL PLUMBING INSPECTOR AND IN ACCORDANCE WITH THE STANDARDS OF THE WATER RESOURCES COMMISSIONER'S OFFICE OPERATION AND MAINTENANCE DIVISION AND THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY, DIVISION OF DRINKING WATER AND ENVIRONMENTAL HEALTH DIVISION
13. ALL WATER SERVICE CONNECTIONS TWO (2) INCHES AND SMALLER SHALL BE MADE BY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION AFTER WATER MAIN ACCEPTANCE AND APPLICABLE TAP PERMITS ARE OBTAINED.
14. ALL FITTINGS AND BENDS SHOULD BE BLOCKED IN ACCORDANCE WITH THRUST BLOCK DETAILS, UNLESS ALTERNATE THRUST RESTRAINT SYSTEM, AS INDICATED IN PLANS AND SPECIFICATIONS, IS APPROVED BY WATER RESOURCES COMMISSIONER'S OFFICE AND THE LOCAL MUNICIPALITY.
15. ALL STEEL AND IRON MATERIAL AND PRODUCTS FOR PERMANENT INCORPORATION INTO THE WORK SHELL MEET BUY AMERICA REQUIREMENT, FEDERAL CODE OF REGULATIONS SECTION 635.410

WATER MAIN MATERIALS NOTES

1. WATER SUPPLY SYSTEM PIPING (3-INCH & LARGER) SHALL BE DUCTILE IRON OR HIGH DENSITY POLYETHYLENE (HDPE) UNLESS OTHERWISE APPROVED BY THE LOCAL COMMUNITY.
2. DUCTILE IRON PIPE SHALL BE CLASS 54 FOR SIZES THREE (3) INCH THROUGH EIGHTEEN (18) INCH, CLASS 55 FOR TWENTY (20) INCH, AND CLASS 56 FOR TWENTY-FOUR (24) INCH AND LARGER. (ABBREVIATED "D.I." IN DETAILS AND ON THIS SHEET).
3. PIPES OF SIZES LARGER THAN TWENTY-FOUR (24) INCHES IN NOMINAL DIAMETER SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C100 FOR DUCTILE IRON WATER PIPE.
4. THE DUCTILE IRON PIPE TO BE FURNISHED AND DELIVERED UNDER THIS SPECIFICATION SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C151 (ANSI A21.5), EXCEPT AS OTHERWISE SPECIFIED HEREIN. PIPE SHALL BE DOUBLE CEMENT-LINED AND SEAL COATED WITH AN APPROVED BITUMINOUS SEAL COAT IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).
5. REFER TO SHEET 5 FOR HDPE MATERIAL REQUIREMENTS.
6. MECHANICAL AND SLIP-ON JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C111 (ANSI A21.11).
7. FLANGE JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C110 (ANSI A21.10).
8. FITTINGS FOR DUCTILE IRON PIPE SHALL BE DUCTILE IRON OR CAST IRON AND SHALL MEET REQUIREMENTS OF AWWA C110 (ANSI A21.10) OR AWWA C153 (ANSI A21.53). DUCTILE IRON FITTINGS SHALL BE RATED FOR 350 PSI, PIPE SIZES TWENTY-FOUR (24) INCH DIAMETER AND LESS AND 250 PSI FOR PIPE SIZES OVER TWENTY-FOUR (24) INCH DIAMETER. DUCTILE IRON FLANGE FITTINGS SHALL BE RATED FOR 250 PSI FOR ALL PIPE DIAMETERS.
9. INSTALL BRASS WEDGES AT ALL PUSH ON JOINTS IN DUCTILE IRON PIPE INSTALLATIONS. TWO (2) WEDGES PER JOINT FOR PIPES 12 INCH IN DIAMETER AND LESS, FOUR WEDGES PER JOINT FOR PIPES GREATER THAN 12 INCHES IN DIAMETER.
10. ALL WATER MAINS SHALL BE DESIGNED FOR 150 PSI MINIMUM WORKING PRESSURE.
11. ALL BURIED BOLTS, NUTS, AND WASHERS SHALL BE AWWA C111 LOW ALLOY STEEL COATED WITH A MINIMUM OF TWO (2) COATS OF FLUOROPOLYMER EPOXY COATING AND HEAT CURED (COR-BLUE OR APPROVED EQUAL) AND POLY-WRAPPED WHEN SPECIFIED.
12. ALL BURIED BOLTS, NUTS, AND WASHERS FOR ALL FLANGED CONNECTIONS SHALL BE STAINLESS STEEL (ASTM A320, GRADE B8M) AND HAVE A NEVER SEIZE TYPE COMPOUND APPLIED TO THE THREADS PRIOR TO INSTALLATION.
13. CORPORATION STOPS USED FOR INSERTION INTO MAINS SHALL BE MUELLER TYPE H-15000, FORD METER BOX FB-1000-X-Q-NL OR FORD METER BOX FB1000-4-Q-NL. ALL STOPS SHALL HAVE BRONZE CAST BODIES, KEYS, STEM WASHERS AND NUTS. INLET THREADS SHALL CONFORM TO THE LATEST VERSION OF AWWA C800.
14. TEMPORARY CONNECTIONS, WHICH MAY BE MADE FOR CHLORINATING AND FLUSHING PURPOSES, SHALL INCLUDE A TESTABLE REDUCE PRESSURE ZONE (RPZ) VALVE WITH CURRENT CERTIFICATION.

VALVE AND SLEEVE NOTES

1. GATE VALVES, SIZES THREE (3) INCH THROUGH SIXTEEN (16) INCH AND TAPPING VALVES SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED WITH NON-RISING STEM.
2. ALL IN LINE GATE VALVES THREE (3) INCH AND LARGER SHALL BE IN WELLS AS DETAILED. SPECIFICATIONS SHALL INCLUDE THE DIRECTION OF OPERATION OF ALL VALVES.
3. ALL GATE WELL COVERS SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED.
4. ALL GATE VALVES WITH OPERATING NUTS AT A DISTANCE GREATER THAN FIVE (5) FEET BELOW GROUND SURFACE SHALL BE PROVIDED WITH A STAINLESS STEEL EXTENSION STEM. THE LENGTH OF THE EXTENSION STEM SHALL REACH WITHIN FIVE (5) FEET FROM THE GROUND SURFACE. WHEN AN EXTENSION STEM IS USED, IT SHALL BE HELD IN PLACE BY A STAINLESS STEEL EXTENSION STEM GUIDE SUITABLY FASTENED TO THE WALL OF THE GATE WELL. THE EXTENSION STEM SHALL BE MECHANICALLY ATTACHED TO THE OPERATING NUT. DETAILS OF THE EXTENSION SYSTEM AND THE METHOD OF INSTALLATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
5. TAPPING VALVES SHALL BE AWWA C515 FL X MJ AS MANUFACTURED BY EJ WITH RESILIENT SEATED GATE VALVES AS APPROVED BY LOCAL MUNICIPALITY.
6. TAPPING SLEEVES SHALL BE ALL STAINLESS STEEL (BODY, FLANGE AND HARDWARE), MANUFACTURED BY ROMAC INDUSTRIES SST; JCM 432; SMITH-BLAIR 663/665 OR APPROVED EQUAL BY THE WATER RESOURCES COMMISSIONER'S OFFICE.

HYDRANT REQUIREMENTS

1. ALL HYDRANTS SHALL BE CONSTRUCTED WITH A SIX (6) INCH COMPANION GATE VALVE IN A THREE (3) PIECE, ADJUSTABLE DUCTILE IRON VALVE BOX, WHICH SHALL INCLUDE A FIVE AND ONE-QUARTER (5-1/4) INCH SCREW SHAFT. VALVE BOXES SHALL BE SERIES 6860 AS MANUFACTURED BY TYLER PIPE, EJ VALVE BOX NO. 8560 OR APPROVED EQUAL.
2. ALL HYDRANTS SHALL BE EJ 58R250 TRAFFIC MODEL, OR APPROVED EQUAL WITH A MINIMUM OF 6'-0" DEPTH OF BURY UNLESS OTHERWISE INDICATED. SELF-DRAINING HYDRANTS SHALL NOT BE USED. ALL HYDRANTS SHALL BE LOCAL MUNICIPAL STANDARD AS DETAILED. HYDRANTS SHALL HAVE BREAKAWAY FLANGE.
3. ALL HYDRANTS SHALL BE PAINTED RED ABOVE GROUND AND BLACK BELOW GROUND WITH A FINISH COAT OF GLAMORTEX 501 ENAMEL, COLOR 314 VERMILLION OR APPROVED EQUAL. HYDRANT CAP SHALL BE PAINTED SAME COLOR AS THE HYDRANT. FOR PONTIAC: YELLOW RUST-OLEUM #7543 SAFETY YELLOW.

ACCEPTANCE OF NEW WATER MAINS

1. PRIOR TO WATER MAIN ACCEPTANCE THE FOLLOWING CONDITIONS MUST BE MET:
   - 1.1. PRESSURE TESTING AND BACTERIA TESTING MUST BE COMPLETED IN ACCORDANCE WITH THE WATER RESOURCES COMMISSIONER'S OFFICE REQUIREMENTS
   - 1.2. ALL EASEMENT AND RIGHT-OF-WAY ACQUISITION MUST BE ACCEPTED BY THE WATER RESOURCES COMMISSIONER'S OFFICE, RIGHT-OF-WAY DIVISION
   - 1.3. THE LOCAL MUNICIPALITY MUST BE PROVIDED WITH THE BILL OF SALE
   - 1.4. ALL "RECORD DRAWINGS" MUST BE ACCEPTED AND APPROVED BY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION. THE WATER RESOURCES COMMISSIONER'S OFFICE AND LOCAL ENGINEER MUST WITNESS THE CONNECTION OF THE WATER MAIN TO THE EXISTING WATER MAIN, AFTER WHICH RESIDENTIAL AND COMMERCIAL TAPS WILL BE ALLOWED.
2. THE CONTRACTOR SHALL NOTIFY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION THROUGH THE LOCAL ENGINEER FOR NEW CONSTRUCTION TAP, PRESSURE TESTING, BACTERIOLOGICAL SAMPLING, CONNECTIONS TO EXISTING WATER MAIN AND FINAL FIELD REVIEW. A SEVENTY-TWO (72) HOUR ADVANCE NOTICE IS REQUIRED.
3. THE CONTRACTOR SHALL DISINFECT AND PRESSURE TEST ALL NEW WATER MAIN CONSTRUCTION PURSUANT TO THE CURRENT STANDARDS SPECIFIED BY THE WATER RESOURCES COMMISSIONER'S OFFICE.
4. HYDROSTATIC TESTING FOR DUCTILE IRON WATER MAIN SHALL BE COMPLETED IN ACCORDANCE WITH ANSI/AWWA C600, SEC 5.2. THE SPECIFIED TEST PRESSURE IS 150 PSI OR 1.5 TIMES THE MAXIMUM ALLOWABLE OPERATING PRESSURE (MAOP) OF THE TEST SECTION, WHICHEVER IS GREATER. THE TEST METHOD IS GENERALLY SUMMARIZED AS FOLLOWS:
   - 4.1. SLOWLY FILL PIPELINE WITH WATER, VENTING ENTRAPPED AIR AS NECESSARY.
   - 4.2. REPAIR ANY VISIBLE LEAKS THAT OCCUR DURING FILLING OR AT ANY POINT DURING THE TEST.
   - 4.3. GRADUALLY APPLY PRESSURE UP TO THE SPECIFIED WORKING PRESSURE USING A SUITABLE PUMP CONNECTED TO THE PIPELINE, BLEEDING TRAPPED AIR, AND ADDING WATER AS NECESSARY UNTIL A STABLE PRESSURE IS HELD.
   - 4.4. HYDROSTATIC TEST BEGINS AFTER THE PIPELINE IS STABILIZED AT THE WORKING PRESSURE BY INCREASING THE PRESSURE UP TO THE SPECIFIED TEST PRESSURE AND HOLD IT WITHIN PLUS/MINUS 5 PSI FOR THE DURATION OF THE TEST, OR A MINIMUM OF TWO HOURS.
   - 4.5. CAREFULLY RECORD THE AMOUNT OF MAKEUP WATER ADDED DURING THE TEST. THE HYDROSTATIC TEST PASSES IF THE AMOUNT OF MAKEUP WATER DOES NOT EXCEED THE TESTING ALLOWANCE.
   - 4.6. IF THE TESTING ALLOWANCE IS EXCEEDED, LOCATE AND REPAIR ANY LEAKS AND REPEAT TEST.
5. REFER TO SHEET 5 FOR HYDROSTATIC TESTING REQUIREMENTS FOR HDPE PIPE.
6. PRESSURE TESTING AGAINST VALVES PHYSICALLY CONNECTED TO AN EXISTING WATER SUPPLY SYSTEM IS STRICTLY PROHIBITED.
7. WHERE CONTRACTOR SUPPLIED GAUGES ARE REQUIRED, MINIMUM SIZE SHALL BE 3½" DIAMETER OR LARGER GRADUATED IN ONE (1) OR TWO (2) POUND INCREMENTS FROM 1 TO 160 P.S.I. OR HIGHER.
8. PRESSURE TESTING AND BACTERIA TESTING MUST BE SUCCESSFULLY COMPLETED PRIOR TO CONNECTING TO THE EXISTING WATER SUPPLY SYSTEM.

WATER RESOURCES COMMISSIONER WATER SYSTEM STANDARDS – GATE VALVES

COMMUNITY	DIRECTION TO OPEN	VALVE TYPE STD. GATE VALVE	VALVE TYPE TAPPING VALVE
BINGHAM FARMS	RIGHT	C515	C515
BLOOMFIELD HILLS	RIGHT	C515	C515
COMMERCE TOWNSHIP	LEFT	C515	C515
FARMINGTON HILLS	RIGHT	C515	C515
HIGHLAND TOWNSHIP	LEFT	C515	C515
KEEGO HARBOR	RIGHT	C515	C515
OAKLAND TOWNSHIP	LEFT	C515	C515
ORCHARD LAKE VILLAGE	LEFT	C515	C515
OXFORD TOWNSHIP	LEFT	C515	C515
PLEASANT RIDGE	RIGHT	C515	C515
PONTIAC	LEFT	C515	C515
ROYAL OAK TOWNSHIP	RIGHT	C515	C515
SPRINGFIELD TOWNSHIP	LEFT	C515	C515
SYLVAN LAKE	RIGHT	C515	C515
WALLED LAKE	LEFT	C515	C515

1.) C515 RESILIENT SEATED GATE VALVE – MANUFACTURED BY U.S. PIPE, MUELLER, EAST JORDAN IRON WORKS, AMERICAN FLOW CONTROL OR APPROVED EQUAL.

FIRE HYDRANT NOZZLE SIZE AND THREAD SPECIFICATIONS

CVT	PUMPER NOZZLE	HOSE NOZZLE	OPERATING NUT	DEPTH OF BURY	STYLE	MODEL #
BINGHAM FARMS	(1) – 4"-STORZ	(2) – 2-1/2"-DFD	1-1/2"	5'-6"	58R250	54831D
BLOOMFIELD HILLS	(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/8"	6'-0"	58R250	55825D
COMMERCE TWP/ WOLVERINE LAKE	(1) – 5"-STORZ	(2) – 2-1/2"-NST	1-1/2"	5'-6"	58R250	54913D
FARMINGTON HILLS	(1) – 3-3/4"-DFD	(2) – 2-1/2"-NST	1-1/8"	5'-6"	58R250	54329D
HIGHLAND TWP	(1) – 5"-STORZ	(2) – 2-1/2"-NST	1-1/2"	5'-6"	58R250	54913D
KEEGO HARBOR	(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/8"	5'-6"	58R250	54826D
OAKLAND TWP	(1) – 4"-STORZ	(2) – 2-1/2"-DFD	1-1/2"	5'-6"	58R250	54831D
ORCHARD LAKE	(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/8"	6'-0"	58R250	55825D
OXFORD TWP	(1) – 5"-STORZ (1) – 4-1/2"-NST		1-1/2"	6'-0"	58R250	55601D
PLEASANT RIDGE	(1) – 3-3/4"-DFD (1) – 5"-STORZ		1-1/8"	5'-6"	58R250	54949D
PONTIAC	(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/2"	6'-0"	58R250	55822D
ROYAL OAK TWP	(1) – 3-3/4"-DFD	(2) – 2-1/2"-DFD	1-1/8"	5'-6"	58R250	54826D
SPRINGFIELD TWP	(1) – 5"-STORZ	(2) – 2-1/2"-NST	1-1/2"	5'-6"	58R250	54913D
SYLVAN LAKE	(1) – 3-3/4-DFD	(2) – 2-1/2"-NST	1-1/2"	6'-0"	58R250	55827D
WALLED LAKE	(1) – 4-1/2-NST	(2) – 2-1/2"-NST	1-1/8"	5'-6"	58R250	54534D

1. D.F.D. – DETROIT FIRE DEPARTMENT THREAD
2. N.S.T. – NATIONAL STANDARD THREAD
3. STORZ NOZZLES SHALL BE COMPATIBLE WITH STORZ COUPLED LARGE DIAMETER FIRE HOSE. NOZZLES SHOULD BE MADE OF "LEAD FREE" BRASS OR ALUMINUM, AS APPROVED BY LOCAL CITY, VILLAGE OR TOWNSHIP. THE NOZZLE SHALL BE AN INTEGRAL PART OF THE HYDRANT, RESISTANT TO TAMPER AND REMOVAL. ENGAGEMENT LUGS SHALL BE ON THE NOZZLE AND CAP TO PREVENT FAILURE UNDER HIGH PRESSURE. NOZZLE AND CAP SHALL MEET AWWA C502 SPECIFICATIONS. NOZZLE SHALL BE COMPATIBLE WITH HOSE LOCK TO PREVENT HOSE FROM DISCONNECTING WHILE IN USE.

WATER RESOURCES COMMISSIONER'S OFFICE WATER SYSTEMS OPERATIONS AND MAINTENANCE DIVISION RECORD DRAWING SPECIFICATIONS

IN AREAS WHERE WATER SYSTEMS ARE OPERATED AND MAINTAINED BY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION, FINAL ACCEPTANCE OF THE WATER SYSTEM MUST BE RENDERED BY THE WATER RESOURCES COMMISSIONER'S OFFICE, OPERATIONS AND MAINTENANCE DIVISION, BEFORE THE SYSTEM CAN BE USED FOR THE SERVICE INTENDED.

ONE ITEM REQUIRED FOR FINAL ACCEPTANCE SHALL BE THE SUBMISSION OF RECORD DRAWINGS TO THE WATER RESOURCES COMMISSIONER, OPERATIONS AND MAINTENANCE DIVISION, BY THE DESIGN ENGINEER. RECORD DRAWINGS SHALL BE DEFINED AS AND CONTAIN THE FOLLOWING INFORMATION:

1. THE DESIGN ENGINEER SHALL FURNISH "RECORD DRAWINGS" WATER MAIN PLANS UPON JOB COMPLETION. "RECORD DRAWINGS" SHALL BE FORWARDED TO THE WATER RESOURCES COMMISSIONER BY THE LOCAL MUNICIPAL ENGINEER AFTER THEIR REVIEW AND APPROVAL.
2. THE COVER SHEET SHALL BE SIGNED AND SEALED BY THE PROJECT DESIGN ENGINEER AND INCLUDE THE FOLLOWING CERTIFICATION STATEMENT:

> I HEREBY CERTIFY THAT OUR FIRM HAS PREPARED THESE RECORD DRAWINGS OF THE IMPROVEMENTS AS CONSTRUCTED, AND THAT TO THE BEST OF MY KNOWLEDGE THOSE IMPROVEMENTS NOTED AS "RECORD DRAWINGS" WERE CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS; AND ALSO THAT THE WATER MAIN AND STRUCTURES, AS CONSTRUCTED, LIE WITHIN THE EASEMENT DESCRIPTIONS REQUIRED BY THE WATER RESOURCES COMMISSIONER'S OFFICE.
>
> _____
> (COMPANY NAME)
>
> _____
> (ENGINEER'S SIGNATURE)
>
> PROFESSIONAL ENGINEER NO. _____
>
> ENGINEER SEAL

3. THE MINIMUM SCALE SHALL BE ONE (1) INCH EQUALS FIFTY (50) FEET.
4. THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED.
5. THE SIZE, BRAND AND MODEL NUMBERS OF ALL VALVES AND HYDRANTS INSTALLED SHALL BE INDICATED.
6. A TOTAL RECORD DRAWING QUANTITY LIST SHALL BE INCLUDED, AS WELL AS A RECORD DRAWING QUANTITY LIST ON EACH INDIVIDUAL SHEET.
7. THE LOCATIONS SHALL BE SHOWN ON THE PLANS WITH AN ACCURACY OF ONE (1) FOOT.
8. THE OFFSET OF THE WATER MAIN FROM PROPERTY LINES SHALL BE INDICATED.
9. ALL GATE VALVE WELLS, HYDRANTS AND ALL WATER SYSTEM APPURTENANCES SHALL BE LOCATED FROM THE NEAREST PROPERTY CORNER.
10. ALL UNDERGROUND APPURTENANCES, SUCH AS GATE VALVE WELLS, METER PITS, PRESSURE REDUCING VALVE PITS, ETC. SHALL BE LOCATED FROM THE NEAREST HYDRANT THAT IS CONNECTED TO THE SAME WATER MAIN AS THE APPURTENANCE.
11. THE LOCATION, SIZE, BRAND AND MODEL NUMBER OF EVERY RESTRAINED JOINT SHALL BE NOTED.
12. THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE RECOMMENDED SEPARATION, VERTICALLY OR HORIZONTALLY, IS LESS THAN THE TEN STATE STANDARDS SHALL BE NOTED.
13. WATER MAINS 12" AND LARGER IN DIAMETER SHALL BE DRAWN IN PROFILE VIEW IN ADDITION TO PLAN VIEW ON THE CONSTRUCTION PLANS.

Plotted: Nov 07, 2025 - 08:29:28 AM
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WATER MAIN STANDARD DETAILS

REVISION BLOCK			
Data Source / Source Date: N/A			
Rev. No.:	Rev. By:	Rev. Date:	Description:
1	NWC	08/31/05	GENERAL UPDATE
2	KB	09/20/23	ADD PRC AND SLC INFO TO TABLES
3	KB	09/19/23	UPDATE BFV HYDRANT SPECS
4	KB	07/11/24	UPDATE ROY HYDRANT SPECS

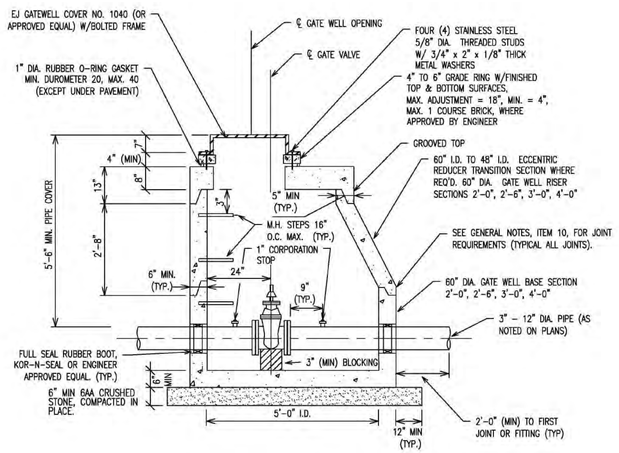
ORIG. DATE: 01/01/01
SCALE: NONE
DESIGNED BY: WRC
DRAWN BY: WRC Mapping

WRC WATER RESOURCES COMMISSIONER Jim Nash

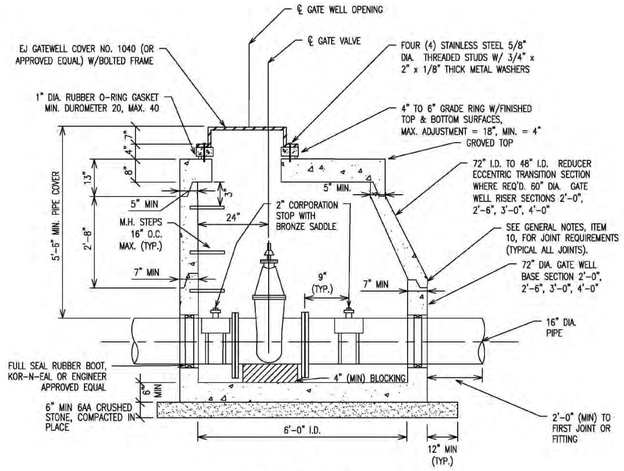
ONE PUBLIC WORKS DRIVE, BLDG 95 WEST
WATERFORD, MICHIGAN
48328-1907

SHEET NO.: 1 of 7

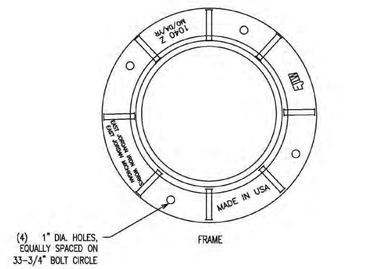
GATE VALVE & WELL DETAILS

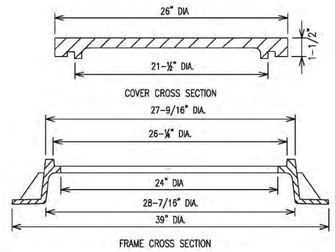


3" THRU 12" GATE WELL

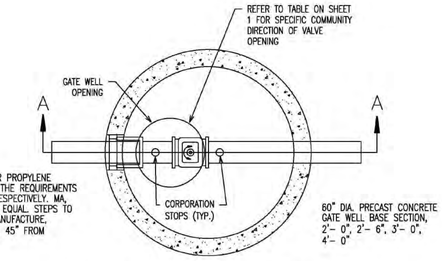


16" GATE WELL

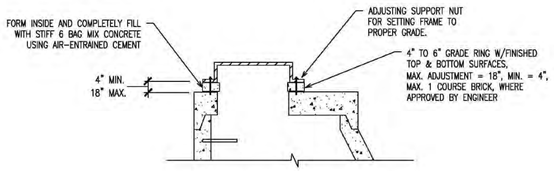




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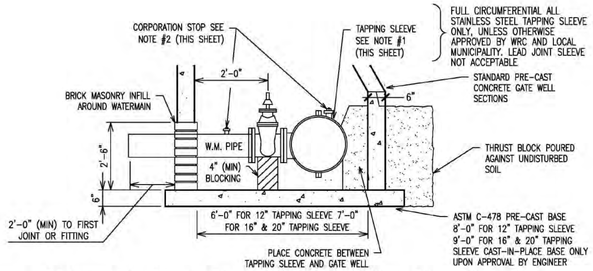


PLAN GATE WELL TYPICAL



GATE WELL TOPS WITHIN PAVEMENT AREAS

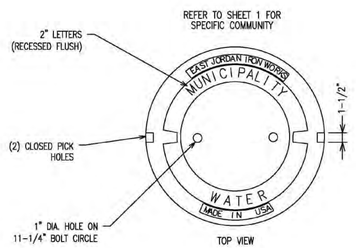
RUBBER O'RINGS SHALL NOT BE USED IN PAVEMENT



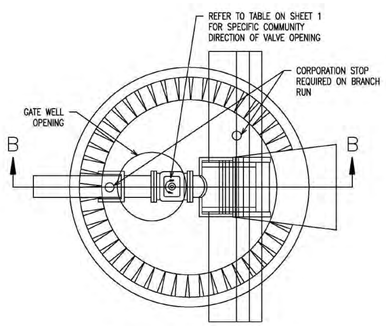
20" x 12", 20" x 8", 16" x 12", 16" x 8", 12" x 8"

TAPPING SLEEVE, VALVE & WELL

NOTES:
1. REFER TO NOTE 7 OF "VALVE AND SLEEVE NOTES" ON SHEET 1.
2. FOR PIPE SMALLER THAN 16" USE 1" CORPORATION STOP, FOR 16" PIPE OR LARGER USE 2" CORPORATION STOP WITH BRONZE SADDLE.
3. WRC DOES NOT RECOMMEND SIZE ON SIZE TAPPING.



LETTERING LAYOUT FOR GATEWELL COVERS

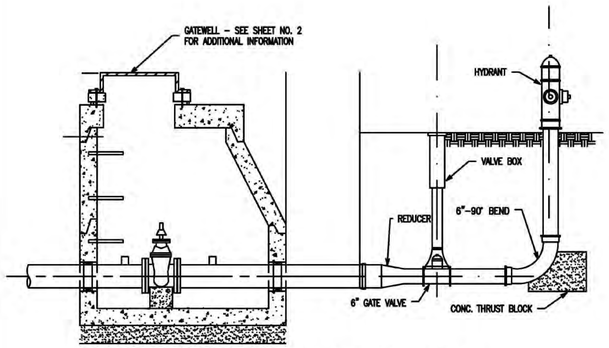


PLAN TAPPING SLEEVE VALVE & WELL (TYPICAL)

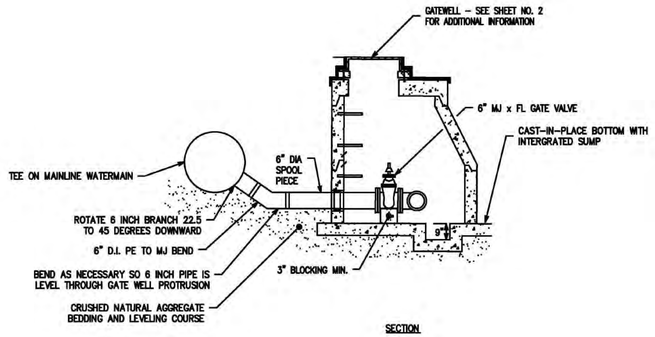
WATER MAIN
STANDARD DETAILS

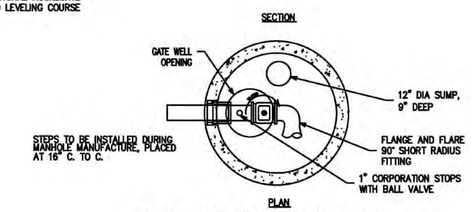
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Rev. No.:	Rev. By:	Rev. Date:	Description:
1	DL	03/23/15	FINAL CHANGES TO GATE VALVE STANDARDS, HYDRANT SPECIFICATIONS AND PIPE CLASS UPDATES
2	DL	01/03/17	UPDATE "DIRECTION TO OPEN" COMMENCE TOWNSHIP FROM RIGHT TO LEFT
3	KS	02/14/18	MARKUPS PER G. APPEL
4	WRC	08/31/20	GENERAL UPDATE

ORIG. DATE:	01/01/01	WRC WATER RESOURCES COMMISSIONER Tim Nash	ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48328-1907
SCALE:	NONE		
DESIGNED BY:	WRC		SHEET NO.: 2 of 7
DRAWN BY:	WRC Mapping		

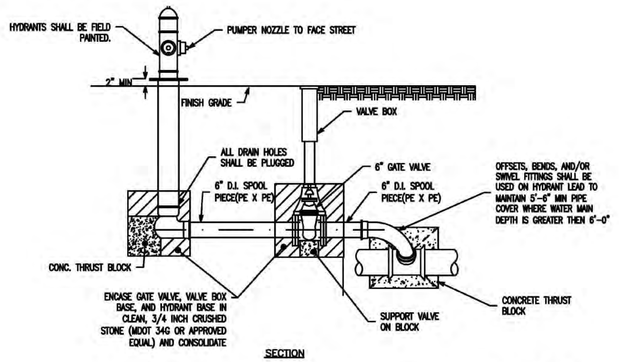


DEAD END BLOWOFF CONNECTION



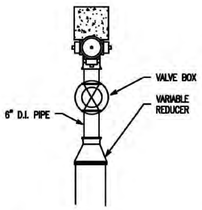


BLOW-OFF VALVE AND WELL

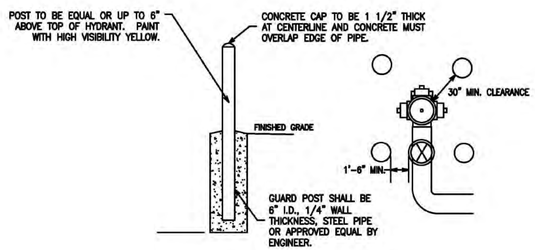


6" HYDRANT SIDE OUTLET

NOTES:
1. HYDRANT EXTENSIONS BETWEEN THE STANDPIPE LOWER SECTION & STANDPIPE UPPER ARE LIMITED TO 18 INCHES
2. ALL HYDRANTS COMPANION VALVES, BENDS, AND TEES TO BE FULLY RESTRAINED BY MECHANICAL JOINT RESTRAINT SYSTEM FITTINGS (MEGA-LUG OR APPROVED EQUAL).
3. THRUST BLOCKS ARE REQUIRED AT ALL TEES, BENDS AND ENDS.
4. ALL HARDWARE (BOLTS, NUTS, WASHERS, ETC.) FOR HYDRANT ASSEMBLIES SHALL BE COR-BLUE OR APPROVED EQUAL.

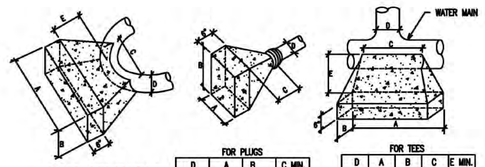


PLAN 6" HYDRANT WATER MAIN END



GUARD POST

NOTES:
1. GUARD POST SHALL NOT INTERFERE WITH HYDRANT OPERATION
2. TO BE INSTALLED IN ALL PAVED AREAS PARKING LOTS, PARKS, PLAZAS, ETC. (NOT RIGHT-OF-WAYS)SPACE WHERE VEHICLE EQUIPMENT DAMAGE TO HYDRANT IS POSSIBLE.



FOR 90° BENDS OR SMALLER

D	A	B	C	E MIN.
20"	8'	6.5'	3.5'	2.5'
16"	6'	4'	2.5'	2'
12"	4'	3'	2'	1.75'
10"	3'	3'	2'	1.75'
8"	3'	2'	2'	1.5'
6"	2'	1.5'	2'	1.25'

FOR PLUGS

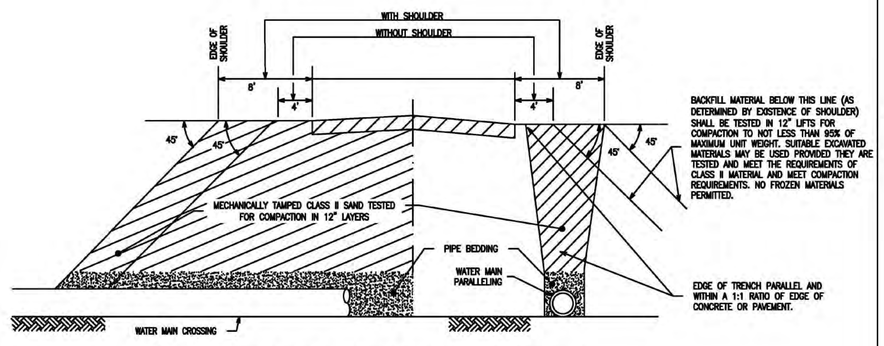
D	A	B	C MIN.
20"	7'	5'	2.5'
16"	4'-10"	4'-10"	2'
12"	4'-4"	3'	1'-9"
10"	3'	2'	1'-6"
8"	2'-10"	2'-6"	1'-6"
6"	1'-6"	1'-6"	3'

FOR TEES

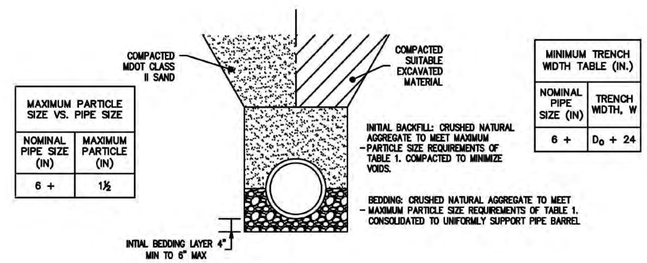
D	A	B	C	E MIN.
20"	8.5'	4.5'	3.5'	3'
16"	4'-8"	4'-8"	2.5'	2.75'
12"	4'	3'	2.5'	2.5'
10"	3'	2'	2'	2.25'
8"	2'-6"	2'	2'	2.25'
6"	2'	2'	2'	2.25'

THRUST BLOCK DETAILS

NOTE:
1. 3000 PSI CONCRETE TO BE USED. THRUST BLOCK TO ABUT & REST AGAINST UNDISTURBED SOIL OR EARTH COMPACTED TO 95% MODIFIED PROCTER.



MINIMUM BACKFILL UNDER OR NEAR PAVEMENT



MAXIMUM PARTICLE SIZE VS. PIPE SIZE	
NOMINAL PIPE SIZE (IN)	MAXIMUM PARTICLE (IN)
6 +	1½

MINIMUM TRENCH WIDTH TABLE (IN.)	
NOMINAL PIPE SIZE (IN)	TRENCH WIDTH, W
6 +	D_0 + 24

DUCTILE IRON PIPE TRENCH DETAIL

NOTES:
1. DUCTILE IRON PIPE IS CONSIDERED A FLEXIBLE PIPE THAT WHEN INSTALLED UNDERGROUND IS DESIGNED TO DEFLECT UNDER LOAD.
2. DO NOT COMPACT INNER BEDDING OF INITIAL BEDDING LAYER.
3. CAREFULLY EXCAVATE BELL OR COUPLING HOLES FROM THE INITIAL BEDDING LAYER.
4. SHOVEL SLICE BEDDING MATERIAL IN THE HAUNCH AREA ALONG THE BOTTOM CIRCUMFERENCE OF THE PIPE TO CONSOLIDATE BEDDING AND UNIFORMLY SUPPORT THE PIPE BARREL.
5. COMPACT INITIAL BACKFILL MATERIALS IN LIFTS NOT EXCEEDING 6 INCHES BY HAND TAMPING AROUND AND DIRECTLY ABOVE PIPE TO MINIMIZE VOIDS.
6. DO NOT USE MECHANICAL COMPACTION EQUIPMENT DURING INITIAL BACKFILL OPERATIONS UNTIL MATERIAL HAS BEEN BROUGHT TO 12 INCHES ABOVE THE TOP OF PIPE BARREL.
7. COMPACT SAND BACKFILL AND STANDARD TRENCHES OUTSIDE OF PIPE ZONE TO NOT LESS THAN 95% OF THE MAXIMUM UNIT WEIGHT IN LIFTS NOT EXCEEDING 12 INCHES.
8. FOR MINIMUM TRENCH WIDTHS, REFER TO TABLE 2, MAXIMUM TRENCH WIDTH = $D_0 + 2D_0$ UNLESS MINIMUM TRENCH WIDTH IS GREATER.
9. IF THE PIPE IS LOCATED BENEATH THE GROUND WATER TABLE, THE PIPE ZONE SHALL BE WRAPPED IN A GEOTEXTILE SEPARATOR TO MINIMIZE MIGRATION OF SOIL INTO THE PIPE ZONE.

WATER MAIN STANDARD DETAILS

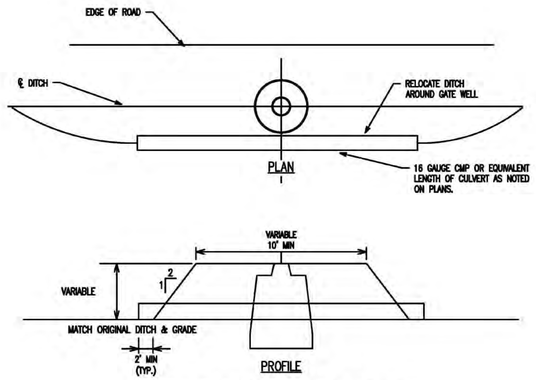
REVISION BLOCK			
Date Source / Source Date: N/A			
Rev. No.	Rev. By:	Rev. Date:	Description:
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2	EL	03/23/14	FINAL CHANGE TO DELETE REFERENCE TO BOTTLE SLEEVE MANUFACTURER
3	KD	02/14/18	MARKUPS PER D. APPEL
4	WRC	08/13/20	GENERAL UPDATE

ORIG. DATE:	01/01/01
SCALE:	NONE
DESIGNED BY:	WRC
DRAWN BY:	WRC Mapping

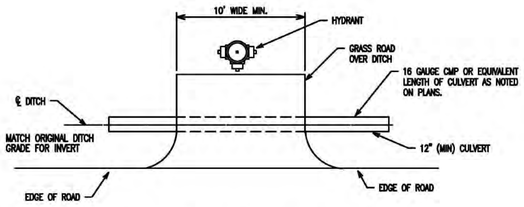
WRC WATER RESOURCES COMMISSIONER Jim Nash

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST
WATERFORD, MICHIGAN
48328-1907

SHEET NO.: 3 of 7



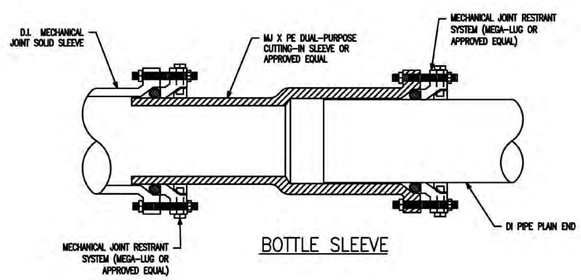
DITCH ENCLOSURE AT GATE WELL



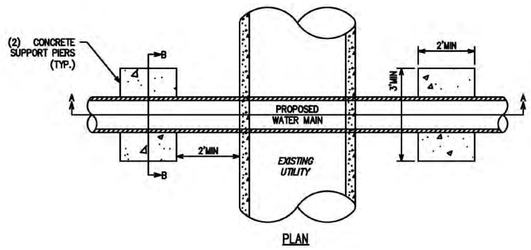
DITCH ENCLOSURE AT HYDRANT

NOTES:

1) REQUIRED FOR DITCHES GREATER THAN 18 INCHES IN DEPTH.
2) CULVERT SHALL BE SIZED BASED ON THE EXISTING CARRY CAPACITY OF THE DITCH OR AS REQUIRED BY THE PERMITTING AUTHORITY FOR THE LOCAL ROAD AGENCY. STAMPED ENGINEERING CALCULATIONS ARE REQUIRED FOR ALL CULVERT INSTALLATION.
3) MINIMUM DEPTH OF COVER FOR CULVERT PIPE IS 12 INCHES UNLESS OTHERWISE AUTHORIZED BY CULVERT MANUFACTURER.
4) END SECTIONS ON CULVERTS GREATER THAN 12 INCHES IN DIAMETER.



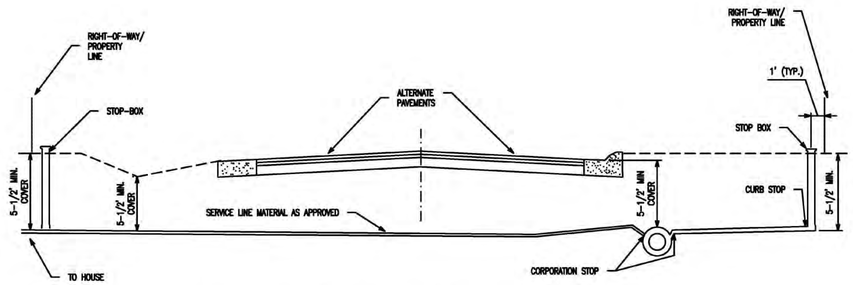
BOTTLE SLEEVE



WATER MAIN CROSSING BRIDGE

NOTES:

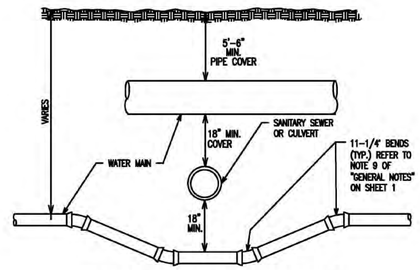
1. CROSSING BRIDGE IS REQUIRED WHEN 18 INCHES OF CLEARANCE OR GREATER ABOVE (WITHIN A 1:1 INFLUENCE OF THE SPRING LINE) AN EXISTING UTILITY CANNOT BE MAINTAINED.
2. WATER MAIN PIPE SPANNING THE EXISTING UTILITY MUST BE CENTERED BETWEEN JOINTS OVER THE EXISTING UTILITY.
3. ALL WORK NECESSARY TO INSTALL THE WATER MAIN CROSSING BRIDGE AS SHOWN SHALL BE CONSIDERED INCLUDED IN THE COST OF THE PROJECT UNLESS OTHERWISE NOTED.
4. CROSSING FOR PROPOSED WATER MAIN 16-INCH AND LARGER SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER.



TYPICAL PUBLIC ROAD WATER SERVICE CONNECTION

NOTES:

1. WATER SERVICE CURB STOP TO BE PLACED ONE (1) FOOT OFF THE PROPERTY LINE.
2. LATERAL LOCATION SHALL BE AS REQUESTED BY THE ABUTTING PROPERTY OWNER.
3. SERVICE TAP LOCATION TO BE AT CLOCK POSITION 10:30 OR 1:30 UNLESS OTHERWISE INDICATED.



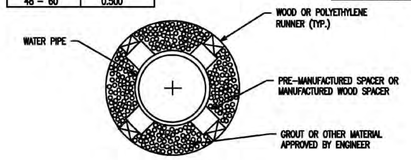
SEWER OR CULVERT CROSSING

UNLESS OTHERWISE SPECIFIED, MINIMUM CASING PIPE SHALL BE ASTM A-139 GRADE B, WALL THICKNESS AS FOLLOWS:

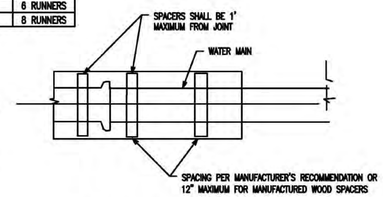
NOMINAL SIZE	MINIMUM WALL THICKNESS
8"- 42"	0.375
48"- 60"	0.500

REQUIRED QUANTITY OF RUNNERS IN ACCORDANCE WITH SIZE

TO 14" DIA.	4 RUNNERS
16" TO 36" DIA	6 RUNNERS
38" TO 48" DIA.	8 RUNNERS



SUPPORT FOR WATER MAIN CONSTRUCTED IN CASING PIPE



WATER MAIN IN CASING SECTION

WATER MAIN IN CASING DETAILS

WATER MAIN SPECIAL DETAILS

REVISION BLOCK

Date Source / Source Date: N/A

Rev No.:	Rev By:	Rev. Date:	Description:
1	KB	09/19/18	MANHOLES PER D. APPEL
2	HRC	08/31/09	GENERAL UPDATE
3			
4			

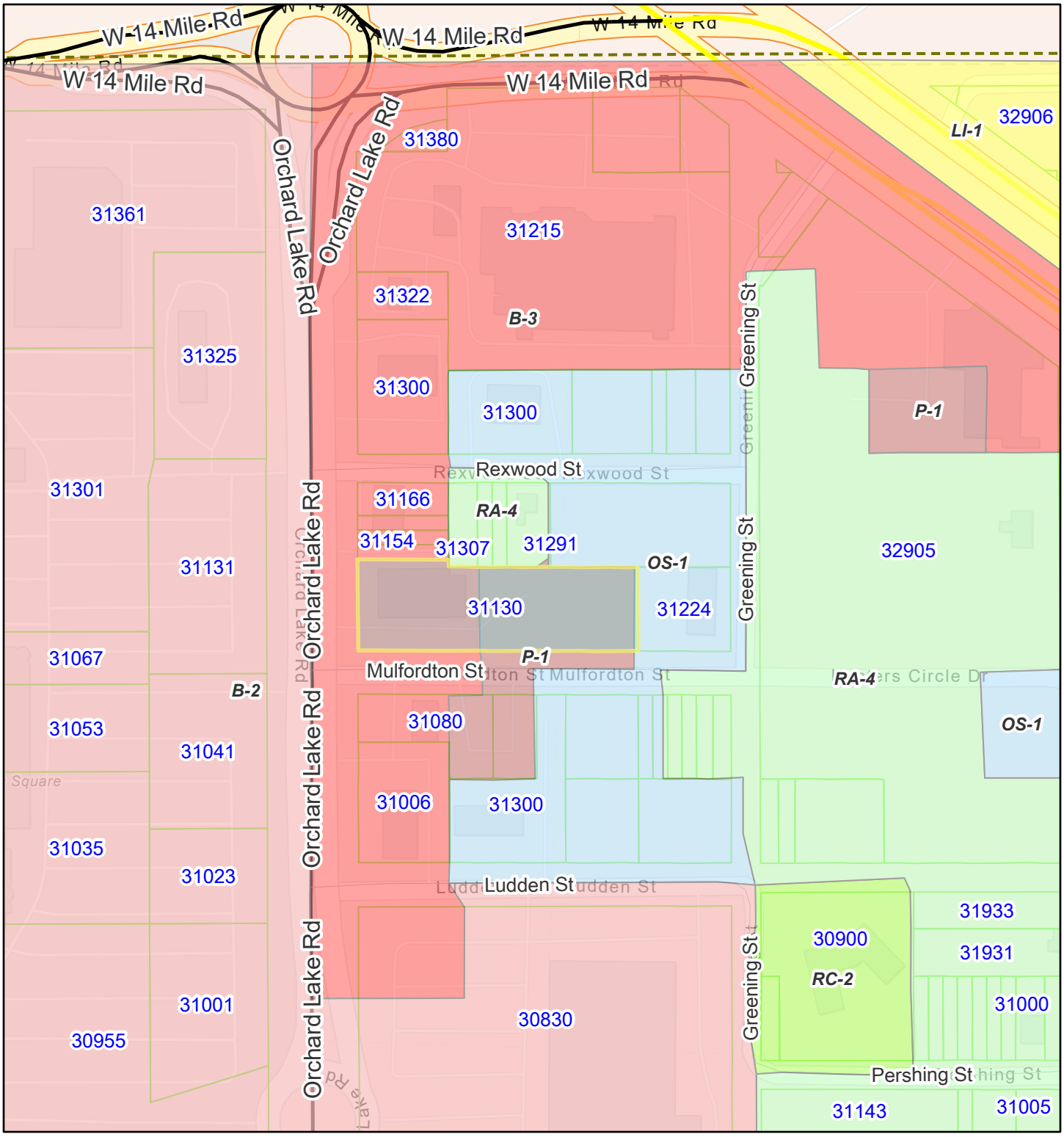
ORIG. DATE: 01/01/01
SCALE: NONE
DESIGNED BY: OCDC
DRAWN BY: OCDC Mapping

WRC WATER RESOURCES COMMISSIONER Jim Nash

ONE PUBLIC WORKS DRIVE, BLDG 95 WEST WATERFORD, MICHIGAN 48328-1907

SHEET NO.: 4 OF 7

Current Zoning - 31130 Orchard Lake Rd



3/6/2026, 4:24:30 PM

1:3,148

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.12 km

Zoning districts

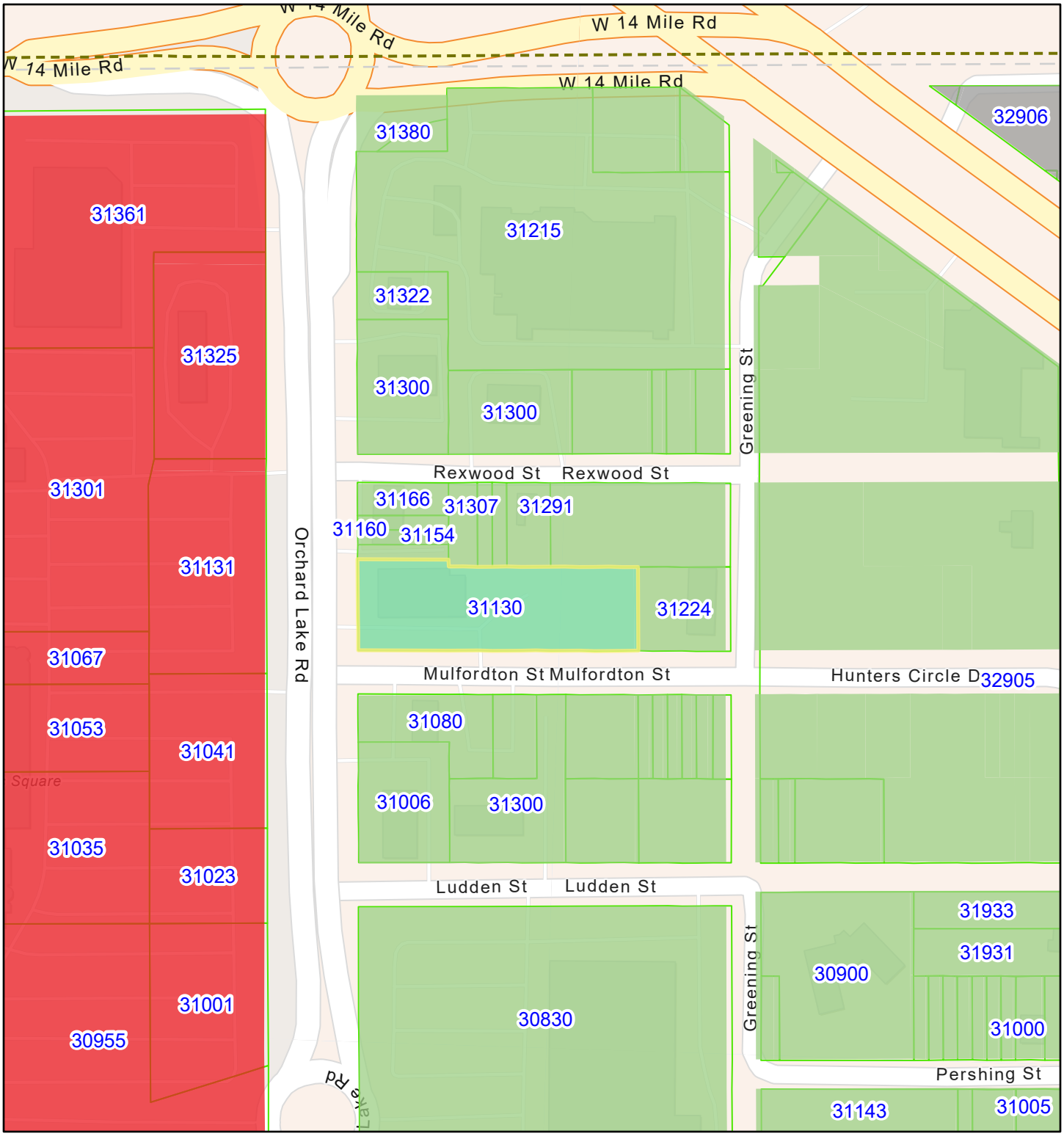
B-1	FRW-1	MH	RA-1	RA-4	SP-1
B-2	FRW-2	OS-1	RA-1A	RC-1	SP-2
B-3	FRW-3	OS-2	RA-1B	RC-2	SP-3
B-4	GR-1	OS-3	RA-2	RC-3	SP-5
ES	IRO	OS-4	RA-2B	RP-1	Other
	LI-1	P-1	RA-3	RP-2	Tax Parcels

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

City of Farmington Hills, MI

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Future Land Use - 31130 Orchard Lake Rd



3/6/2026, 4:25:06 PM

Master Plan (2024)
- 12 Mile Mixed Use
- 14 Mile Mixed Use
- 8 Mile Industrial
- Commercial
- Expressway Service
- Flex Overlay
- Flex Residential
- Flex Residential/Office
- Freeway Redevelopment
- Grand River Corridor
- Industrial
- Industrial-Research
- Institutional
- Large Office
- M-5
- Multi-Family Residential
- Orchard Lake Rd Corridor
- Park
- Private Recreation
- School
- Single-Family Cluster
- Single-Family Residential
- Small Office
- Tax Parcels

1:3,148

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.12 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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Location Map - 31130 Orchard Lake Rd



3/6/2026, 4:25:26 PM

Tax Parcels

1:3,148

0 0.02 0.04 0.07 mi

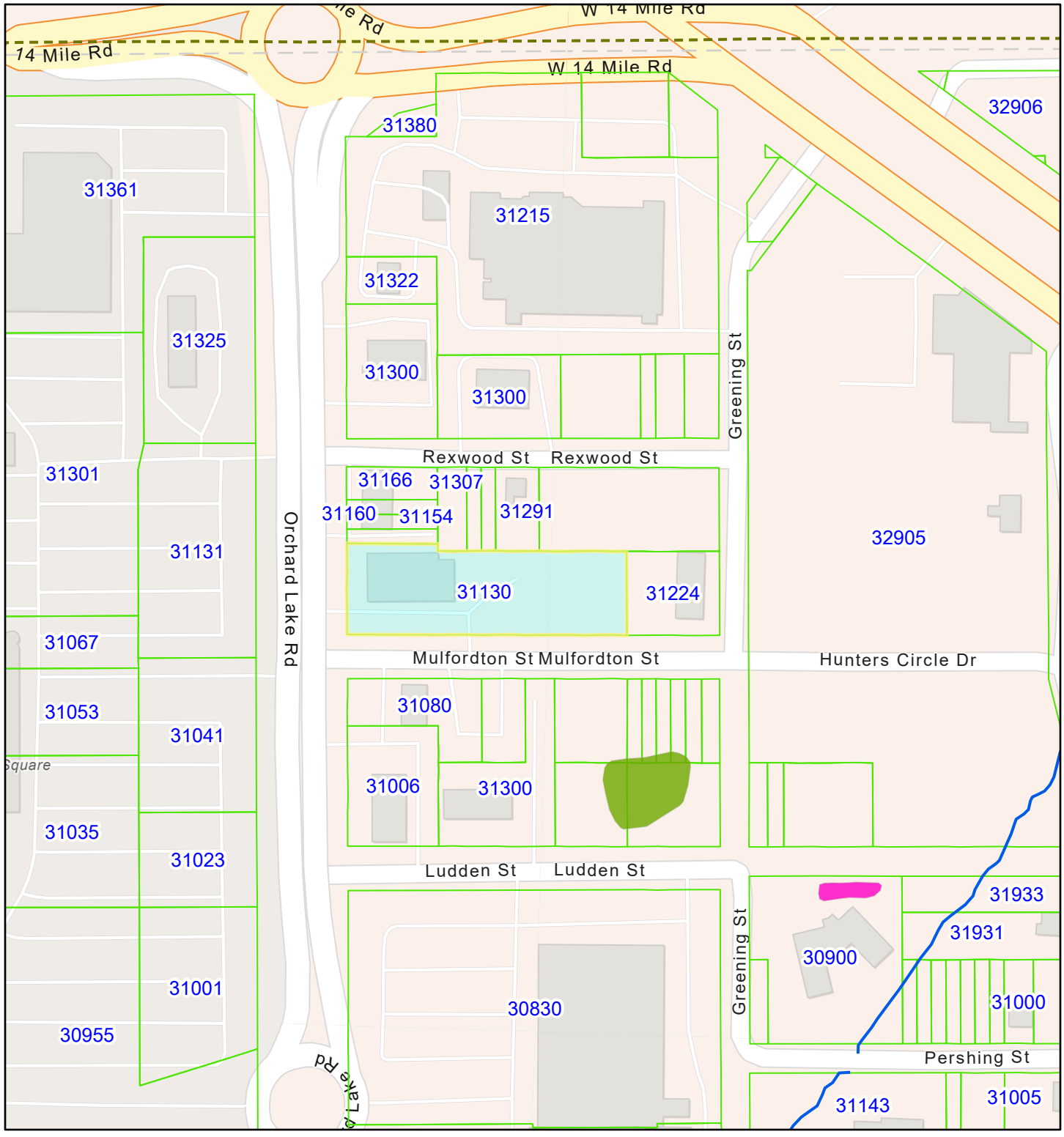
0 0.03 0.06 0.12 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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Natural Features - 31130 Orchard Lake Rd



3/6/2026, 4:23:10 PM

1:3,148

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.12 km

NWI or MIRIS ('78) wetlands

Drain open

Stream-river

Channel

Spillway

Drain waterbody

Detention pond

Retention pond

Lake-pond

Swamp-marsh

Channel

Stream-river

Tax Parcels

Flood Hazard Area

A

AE

500 yr floodplain

X

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City of Farmington Hills, MI

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Review Date	Plan Date
1. 3/11/2026 (CWA)	1/23/2026

Site Plan Review
for
The City of Farmington Hills

Case: SP 52-2-2026 - Restaurant - 31130 Orchard Lake Rd

Site: 31130 Orchard Lake Road (22-23-02-103-025)

Applicant: Bret Hart

Plan Date: January 23, 2026

Zoning: B-3, General Business District and P-1, Vehicular Parking District

Aerial Photo of Subject Site and Approximate Lot Lines



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Zoning of Subject Site



SUMMARY OF FINDINGS

Existing Conditions

1. **Zoning.** B-3, General Business District and P-1, Vehicular Parking District.

2. **Existing Site.** The subject property is approximately 1.05 acres in area. An existing single-story building is located on the western portion of the property, which has a floor area of approximately 7,737 square feet. The southwest portion of the building includes an ornamental mezzanine, which is flat-roofed and approximately 22.5 feet in height. The areas to the south and east of the building are paved and consist of access drives, parking spaces, and a dumpster enclosure adjacent to the east elevation. The eastern portion of the site, approximately 0.33 acres, is undeveloped and consists of grass and trees.

3. **Adjacent Properties.**

Direction	Zoning	Use
North	B-3 General Business	Service, Retail
	RA-4 One Family Residential	Parking, Single-Family Residential
	OS-1 Office Service	Wooded/Natural Vegetation
South	B-3 General Business	Restaurant
	P-1 Vehicular Parking	Parking
	OS-1 Office Service	Parking
East	OS-1 Office Service	Office
West	B-2 Community Business	Orchard Lake Road, Orchard Place Shopping Center

4. **Site Configuration and Access.** The site is accessible via access drives from Orchard Lake Road to the west and Mulfordton Street to the south.

Site Plan

1. **Summary of Plan.** The applicants are proposing 1,471 square foot addition to the building, outdoor seating areas adjacent to the west and north elevations, additional off-street parking, and other site improvements. The existing building will be predominately dining area, with restrooms and a kitchen in the eastern portion. The proposed building addition will be adjacent to the east elevation and will be used as locker rooms and storage space. A new dumpster pad is proposed to the east of the addition. The applicants are proposing two (2) outdoor seating areas adjacent to the north and west elevations. The outdoor seating areas will be concrete surfaced, covered, and surrounded by a half wall.

   The applicants are proposing to remove and replace the southeast portion of the existing parking lot asphalt and a smaller portion to the north of the existing dumpster enclosure and building. The undeveloped eastern portion of the site will be paved to provide additional parking. A total of 73 parking spaces are proposed. Landscaping will be provided along the west, south, and east lot lines, and a screening wall is proposed along the north lot line to match an existing wall in this area.

   Proposed site infrastructure includes a grease interceptor adjacent to the building to the east, stormwater structures, sewer, and an underground detention structure. The stormwater system will also include a pump or lift station that will outlet to an existing ditch along Mulfordton Street.

   The site plan includes errors which must be corrected. Those include:

   1) *Clarify size of proposed building addition and correct plan sheets accordingly. Sheet C1.0 indicates the addition is 1,417 square feet, others indicate it is 1,471 square feet.*
   2) *Provide details on construction materials to be used for the half wall and covering proposed for the outdoor seating areas.*
   3) *Correct misspellings and inaccuracies on Sheet C1.0:*
      a. *Site Data Table (misspellings)*
      b. *Site Location Map (wrong site highlighted).*
      c. *Overall Site Plan (wrong zoning districts on abutting properties).*
      d. *Legal description should be for subject property and not include offsite parcels.*
   4) *Correct inaccuracies on Sheet C2.0:*
      a. *Off-site parcels are included under Legal Description and Site Area (make clear which is the subject property).*
      b. *Zoning districts shown for abutting parcel are incorrect.*
      c. *Minimum required side setback abutting parcel #22-23-02-103-024 (lots 38-43) is 10 feet not 25 feet.*

2. **Proposed Use.** According to Section 34-3.1.25.B.xxx of the Zoning Ordinance, “restaurants, including fast food or carryout restaurants” are a permitted use in the B-3 District. Outdoor space for seating areas accessory to a restaurant are also permitted, subject to the requirements listed in Section 34-4.32.

According to Section 34-3.1.30.C.i, P-1 District parking lots "shall be accessory to and for use in connection with one or more business or industrial establishments, or in connection with one or more office buildings or institutions, or with a multiple-family residential development.

3. District Requirements and Use Standards.

B-3 District Requirements (Section 34-3.1.25.E)			
Standard	**Required**	**Existing**	**Proposed**
Min. lot size	N/A	1.05 ac.	1.05 ac.
Min. lot width	N/A	125 ft.	125 ft.
Front setback (west)	25 ft.	23.78 ft.	23.78 ft.
Side setback (north adjacent to non-residential)	10 ft (from 31154 Orchard Lake and 22-23-02-103-024)	12.42 ft.	12.42 ft.
Side setback (north adjacent to residential)	20 ft. (from 31307 and 31291 Rexwood)	12.35 ft.	**Deficient.** The proposed building addition will be 2.09 ft. from the north lot line. **The applicant must address this item or obtain a variance from the Zoning Board of Appeals.** We are concerned that the 2-foot gap between the proposed building and adjacent screening wall will not be maintained, become unsightly and accumulate rubbish. The applicants must modify the layout to eliminate this space.
Street side setback (south)	25 ft. (from (Mulfordton)	42.34 ft.	42.34 ft.
Rear setback (east)	20 ft.	240.7 ft.	222.5 ft.
Lot coverage	N/A	12.30%	20.18%
Max. building height	50 ft.	22.5 ft.	22.5 ft.
Max. number of stories	3 (allowed)	1	1

B-3 District Requirements (Section 34-3.1.25.E)			
Standard	**Required**	**Existing**	**Proposed**
Front yard open space	50% min. 125 ft. x 25ft. = 3,125 sf.	2,423 sf.	**Deficient.** The approximately 975 sf. outdoor seating area is proposed along Orchard Lake Road will make the front yard open space more nonconforming. **The applicant must address this item or obtain a variance from the Zoning Board of Appeals.**

Notes to B-3 District Standards		
Standard	**Required**	**Provided**
Landscaped yards abutting streets (34-3.5.2.A)	Landscaping of all yards abutting a street shall be provided per Section 34-5.14	Provided. See Landscaping Section for additional comments.
Front yard parking setback (34-3.5.2.J)	Parking may be permitted within the required front yard provided that the parking setback is not less than ten (10) feet and the area is landscaped.	N/A
Alley access/ side yard (34-3.5.2.K)	If adequate and permanent access is provided to the rear of the property by a public alley, the side yard requirements may be waived.	N/A
Setback from residential district (34-3.5.2.L)	Min. setback of 20 feet or ten 10 percent of the depth of the lot as measured from the residential district, whichever is the greater, not to exceed 50 feet. ~40 ft. of B-3/RA-4 shared lot line x 10% = 4 ft. 20 ft. setback required.	**Deficient.** The proposed building addition will be 2.09 ft. from the north lot line. **The applicant must address this item or obtain a variance from the Zoning Board of Appeals.**

Notes to B-3 District Standards		
Standard	**Required**	**Provided**
Setback from side street (34-3.5.2.M)	The setback from any side street shall not be less than twenty-five (25) feet or ten (10) percent of the width of the lot as measured from the street, whichever is the greater. Setback need not exceed the front yard setback of adjoining residential district, whichever is the greater, except that it need not exceed fifty (50) feet in any instance. ~168 ft. B-3 lot line along street x 10% = 16.8 ft 25 ft. setback required	42.34 ft.
Loading spaces (34-3.5.2.N)	Per 34-5.4, a loading space is required for every building, structure or part thereof involving the receipt or distribution of vehicles or materials or merchandise.	**Deficient.** No loading space is provided.
Rooftop equipment. (34-3.5.2.T)	Rooftop equipment shall be screened per Section 34-5.17	**Pending.** Applicant must confirm if any rooftop equipment is existing or proposed, and that it will be screened per Section 34-5.17
Landscaped yard abutting street. (34-3.5.2.U)	In any yard abutting a street or freeway, a landscaped area not less than ten (10) feet deep and abutting the street or freeway shall be provided in the setback.	4.6 ft. Existing nonconformity.

P-1 District Requirements (34-3.1.30)		
Standard	**Required**	**Provided**
Parking area use restrictions (34-3.1.30.C.ii, iii, iv, v)	Overnight parking, repair work, sales or displays, signs other than traffic control devices, or buildings greater than fifteen (15) feet in height are permitted.	**Pending.** The site plan must be updated to include the requirements established in Sections 34-3.1.30.C.ii, iii, iv, v.
Minimum area (34-3.1.30.C.vi)	Such parking lots shall be situated on premises which have an area of not less than five thousand (5,000) square feet and shall be contiguous to an RC or nonresidential district or use.	Complies.

P-1 District Requirements (34-3.1.30)		
Standard	**Required**	**Provided**
Side and rear yard screening wall (34-3.1.30.D.i)	Where the P-1 district is contiguous to the side or rear lot lines of premises within a residentially zoned district, the required wall shall be located along such lot line.	**Pending.** The applicants are proposing a screening wall along the north lot line of the proposed parking lot expansion that will match the existing wall along this lot line. Total linear feet of proposed wall and details must be provided.
Front yard (34-3.1.30.D.ii)	Where the P-1 district has a common boundary with a residential district and the districts have frontage on the same street, a setback from the street shall be required which is equal in depth to the required front yard setback of the adjacent residential district, or twenty-five (25) feet, whichever is the greater.	N/A
Parking lot maintenance (34-3.1.30.E)	P-1 districts shall be developed and maintained in accordance with the requirements of Section 34-5.3.	**Pending.** The site plan must be updated to include a note specifying that it will be maintained according to Section 34-5.3.
Landscaped yards abutting streets per 34-3.5.2.A (34-3.1.30.F)	landscaping of all yards abutting a street shall be provided per Section 34-5.14	Provided. See Landscaping Section for additional comments.
Landscaped yard abutting street. (34-3.5.2.U)	In any yard abutting a street or freeway, a landscaped area not less than ten (10) feet deep and abutting the street or freeway shall be provided in the setback.	**Deficient.** The proposed parking lot expansion will be 8.05 feet from Mulfordton Street. **The applicant must address this item or obtain a variance from the Zoning Board of Appeals.**

Section 34-4.32 Outdoor Space for Seating Areas Accessory to a Restaurant		
Standard	**Required**	**Provided**
Outdoor space near residential (Section 34-4.32.1)	200 ft. from residential or separated by thoroughfare or building	**Deficient.** The outdoor space proposed north of the building is within 200 ft of residential. **The applicant must address this item or obtain a variance from the Zoning Board of Appeals.**
Floor area of outdoor space (Section 34-4.32.2)	Less than 400 sf. or 50% of the usable floor area of the principal use, whichever is the greater	**Pending.** Total area of outdoor seating and usable floor area is required to determine compliance. **If the maximum is exceeded the applicant must obtain a variance from the Zoning Board of Appeals.**
Pedestrian circulation and vehicular traffic (Section 34-4.32.3)	No interfere with pedestrian circulation to and from adjacent uses or on sidewalks nor interfere with the sight distances of vehicular traffic.	**Pending.** Corner clearance areas must be shown on the plan, and the applicant must confirm that the outdoor seating will not interfere with vehicle sight distances.
Setback (Section 34-4.32.4)	May be in a required setback if no permanent structures and provide that required open space areas and landscaped setbacks are not utilized for this purpose.	**Deficient.** Outdoor seating areas are covered with canopy structures. The seating area along Orchard Lake is located in the required open space area. **The applicant must address this item or obtain a variance from the Zoning Board of Appeals.**
Off-street parking (Section 34-4.32.5)	1 space per 75 ft. of useable floor area	**Deficient.** See Parking Requirement comments below.
Exterior lighting (34-4.32.6)	Distance between the top of light source and the ground less than 10 ft. and lighting complies with the standards set forth in section 17-106 of the City Code.	**Pending.** Lighting associated with outdoor seating and other facades of the building need to be provided. See Exterior Lighting comments below.

4. Dumpster Enclosure (34-5.1.3.D).

Dumpster Enclosure Requirements		
Standard	**Required**	**Provided**
Dumpster pad/ minimum dimensions (31-5.1.3.D)	Paved dumpster location with minimum dimensions of nine (9) feet wide and six (6) feet deep, shall be provided.	Complies. The applicants are proposing a new concrete dumpster pad, approximately eighteen (18) feet by twenty-five (25) feet, adjacent to the existing pad location.
Location and access (31-5.1.3.D.i)	The dumpster is located in a rear yard or interior side yard and is clearly accessible to servicing vehicles	Complies.
Screening (31-5.1.3.D.ii)	Dumpsters shall be screened from view on all sides. Gates providing access shall also provide screening.	**Pending.** The existing enclosure will be reused. Reuse shall be subject to final inspection by the Zoning Administrator. The applicant will be required to replace the enclosure if it does not provide adequate screening.
Setback (31-5.1.3.D.iii)	Dumpsters and enclosures shall be a minimum of twenty (20) feet from a residential district.	**Deficient.** The proposed enclosure is approximately 12 feet from the north lot line. **The applicant must address this item or obtain a variance from the Zoning Board of Appeals.**

5. Mechanical Equipment (31-5.1.4.D). No mechanical equipment is shown on the site plan. Any proposed outdoor mechanical equipment must be shown on the site plan in and comply with Section 31-5.1.4.D.

6. Parking Requirements.

Use	**Requirement**	**Provided**
Establishments for sale and consumption on the premises of beverages, food or refreshments: One (1) for each eighty-five (85) square feet of usable floor area (34-5.2.10.C.xvii)	7,351 sf. x 85 sf. = 87 spaces 1,950 sf. x 75 sf. = 26 spaces ***113 total spaces required***	**Deficient.** Seventy-three (73) spaces are proposed. **The Planning Commission may permit** the proposed parking reduction based on criteria outlined under Section 34-5.2.11: a. Number and frequency of walk-up (foot traffic) customers
Outdoor Seating: 1 space per 75 feet of useable floor area (34-4.32.5)		

		b. Availability of shuttle service and/ or transit c. Seasonal nature of operations d. Unique operational characteristics of the use that impact daily traffic. The applicants must provide additional information about their business to demonstrate their anticipated parking needs, including but not limited to a traffic study.
Barrier-free parking spaces (34-5.3.3.E)	51 to 73 total spaces = 3 spaces required	**Deficient.** Two (2) barrier-free spaces are proposed. One (1) additional barrier free spaces must be provided.

7. Off-street Parking Dimensions (34-5.3).

Minimum Off-street Parking Dimensions (75 to 90 degree spaces)		
Use	**Requirement**	**Provided**
Maneuvering Land Width	20 ft. min.	17.7 ft. from Orchard Lake Road. Existing nonconformity. 24 ft. min. proposed in remainder of parking lot.
Standard Space Width	9 ft. min.	9 ft.
Standard Space Length	20 ft. min., 2-foot overhang permitted	18 ft. (southern spaces), 20 ft.

8. Off-Street Loading and Unloading (34-5.4).

Standard and Requirements	**Provided**
Within any B or ES district, off-street loading space shall be provided in the rear yard only and in the ratio of at least ten (10) square feet per front foot of building. In exceptional instances, such space may be permitted in an interior side yard with approval of the zoning inspector or of the planning commission. 66 ft. x 10 = 660 sf.	**Deficient.** No loading space is provided. A 660 sf. loading space must be shown on the site plan.

9. Acceleration-Deceleration-Passing Lanes (34-5.6).

Standard and Requirements	Provided
Driveways providing ingress and egress to roads of four (4) or more lanes shall be provided with paved tapers or turning lanes for traffic safety as required by the director of public services.	Existing drive from Orchard Lake Road, no changes proposed. We defer to the City Engineer's determination as to whether any modifications are required to the site's existing Orchard Lake Road access drive.

10. Corner Clearance (34-5.10).

Standard and Requirements	Provided
No fence, wall, shrubbery, sign or other obstruction to vision above a height of thirty (30) inches from the top of curb at street level shall be permitted within a twenty (20) foot triangular area between a right-of-way line and a private drive measured along the edge of the driveway (along back of curb if curb is provided). Further, all trees within any required corner clearance area shall be trimmed up to a height of 6 feet or more.	**Pending.** Corner clearance areas must be shown on the plan, and the applicant must confirm that the proposed plantings will comply with the maximum height permitted by Section 34-5.10.

11. Landscape Development (34-5.14).

Landscape Development (34-5.14)				
Item	**Required**			**Proposed/Comments**
Minimum parking lot island area (34-5.14.3.C.iv)	Continuous curbing or other suitable device shall be required around all landscaped areas where damage from vehicles is possible. Each tree planted in a parking lot island must be provided with an open area not less than one hundred eighty (180) square feet with a minimum radius of three (3) feet at the trunk of the tree.			N/A
Cost estimate	Not Required			N/A
Minimum size and spacing requirements (34-5.14.F)	Size at Planting	Center to Center Distance		---
	Height/Width	Groupings	Rows	
• Evergreen Trees	8 ft. height	20 ft.	12 ft.	Compliant. 10-foot planting height, 12-foot spacing.

Landscape Development (34-5.14)				
Item	**Required**			**Proposed/Comments**
• Narrow Evergreen Trees	5 ft. height	10 ft.	5 ft.	6-foot planting height. **Pending.** Arborvitae along east lot line appear to be spaced 6 feet on center. Applicant must confirm that 5-foot minimum spacing requirement is met.
• Large Shrubs	30 in. height	6 ft.	4 ft.	Spacing is 4-feet on center. **Pending.** Height at planting for Viburnum carlessi and the Hydrangea paniculata (unless replaced) must be provided.
• Small Shrubs	24 in. height	4 ft.	4 ft.	**Deficient.** The Calamagrostis acutiflora 'Karl Foerster' grass along the Mulfordton Street frontage must be replaced with a small shrub, masonry wall, or berm. The Hydrangea paniculata proposed along the Orchard Lake Road frontage must be replaced with a small shrub. The proposed specie has a mature height of eight (8) to fifteen (15) feet, which will obstruct corner visibility.
• Large Deciduous Trees	3 in. caliper	30 ft.	-	Compliant. 3 to 3.5 in. caliper.
• Small Deciduous Trees	2 in. caliper	15 ft.	-	N/A
• Hedge Shrubs	24 in. height	3 ft.	3 ft.	**Deficient.** The Karl Foerster grass along the Mulfordton Street frontage must be replaced with a small shrub, masonry wall, or berm.
• Canopy Trees	Large deciduous (large evergreen may be permitted in certain instances) distributed evenly in and			---

Landscape Development (34-5.14)		
Item	**Required**	**Proposed/Comments**
	around paved areas serving motor vehicles	
Minimum number of canopy trees (34-5.14.4.C)	One (1) tree for each 2,800 sf. of the paved surface area with no fewer than two (2) trees, regardless of surface. 27,343 sf. / 2,800 sf. = 10 trees	Compliant. Ten (10) deciduous trees and three (3) evergreen trees proposed.
Parking lot screening from public thoroughfare (34-5.14.5)	All parking lots shall be separated from a public thoroughfare by a planted hedge of small shrubs as defined in subsection 34-5.14.3.F.v., or by a masonry wall or berm a minimum of two (2) feet high.	**Deficient.** The Karl Foerster grass along the Mulfordton Street frontage must be replaced with a small shrub, masonry wall, or berm.
Wall or Berm (34-5.15)	Required when abutting a residential district. Min. height of six (6) feet.	**Pending.** An existing wall is located along the north lot line, and the site plan indicates that an additional wall is proposed that will match the existing walls' height and material. The location and a detail of the proposed wall must be provided.

12. **Tree Replacement (34-5.18).** According to Section 34-5.18(7), existing trees having six (6) inches or more trunk diameter at breast height (DBH) must be replaced on a one-to-one basis. According to Section 34-5.18(7)(iv), when landmark trees are permitted to be removed, replacement trees shall be provided to a minimum of twenty-five (25) percent of DBH of the tree to be removed. Replacement trees, measured in DBH or calipers, shall be provided either individually or on a cumulative basis to meet the twenty-five (25) percent DBH requirement. Landmark trees are defined in Section 34-5.18(10)(C)(ii). Any tree having a health or condition factor greater than sixteen (16) according to the criteria listed in Section 34-5.18.11(C) must be replaced.

    According to the provided tree inventory, twenty-four (24) trees exist on site. Of those trees, thirteen (13) trees in poor condition will be removed, and nine (9) trees in fair condition will be removed. Two trees in good condition will remain. However, these two trees (tags 524 and 525) should be removed from the inventory because they are located on the adjacent property to the east. The applicants must provide a calculation demonstrating that the proposed replacement tree DBH is equal to or greater than twenty-five (25) percent of the DBH of landmark trees proposed for removal.

13. Exterior Lighting (34-5.16).

a. Hours of Operation (34-5.16.3.B.v) "Exterior lighting shall not operate during daylight hours. Building façade and landscape lighting shall be turned off between midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier. All other exterior lighting shall be reduced to no greater than 70% of maximum from midnight or one hour after close of business, whichever is later, and 6:00am or opening, whichever is earlier. Use of occupancy sensors to turn off or reduce lighting within 15 minutes of zero occupancy is recommended."

Deficient. The hours of operation specified in Section 34-5.16.3.B.v must be noted on the site plan.

b. Illumination and Fixtures

Exterior Lighting		
Standard	**Required**	**Provided**
Max. Height (34-5.16.3.A)	30 ft.	Compliant. The proposed pole-mounted fixture heights are sixteen (16) feet and twenty (20) feet.
Building Mounted Lights (34-5.16.3.A.iii)	Relevant building elevation drawings showing all fixtures and the portions of the walls to be illuminated.	**Pending.** Wall-pack lighting specifications are included, but the locations are not clear on the elevations. Additional fixtures also appear to be proposed. The applicant must identify the location of all building-mounted light fixtures and provide specifications. If necessary, an updated photometric plan that accounts for these fixtures must be provided.
Fixture Shielding (34-5.16.3.B)	Parking lot lighting shall be designed to provide adequate vision and comfort in parking areas. Fully shielded luminaires shall be used to prevent glare and direct illumination away from adjacent properties and streets.	Compliant.

Exterior Lighting		
Standard	**Required**	**Provided**
Average to minimum illumination ratio (34-5.16.3.C)	4:1	3.8:1
Illumination Levels (34-5.16.3.C)	2.5 lumens per sf of paved area 27,343 x 2.5 = 68,358 lumens	7,672 lumens.
Maximum illumination at the property line adjacent to non-residential (34-5.16.3.C)	(0.3) foot candles max.	0.2 footcandles.
Light source visibility adjacent to residential (34-5.16.3.B.iii.a)	No direct light source shall be visible at property line at ground level.	**Pending.**
Maximum illumination at the property line adjacent to residential (34-5.16.3.B.iii.b)	(0.3) foot candles max.	0.2 footcandles.
Reflector shielding (34-5.16.3.B.iii.c)	All fixtures mounted within 50 feet of a residential property line or public right-of-way boundary shall be fitted with a shielding reflector on the side facing the residential property line or public right-of-way.	**Pending.** The applicant must confirm that the proposed fixtures include shielding reflectors as required by Section 34-5.16(3)(B)(iii)(c).
Outdoor seating area light fixture height. (34-4.32.6)	Fixtures shall not exceed ten (10) feet in height and must comply with the standards set forth in section 17-106 of the City Code.	**Pending.** The applicant must confirm if any light fixtures are proposed in the outdoor seating areas.

14. **Pedestrian Connection (34-5.19).** A pedestrian access-ways of sufficient width and design to allow convenient use shall be provided between public sidewalks and principal building entrances.

    Deficient. A pedestrian connection as required by 34-5.19 must be provided. Per Section 34-5.19.9, the planning commission may waive or modify this requirement if deemed not practical or would not result in any pedestrian activity.

15. **Design Standards (34-5.20).** According to Section 34-5.20.2.B.iii, "[w]hen an existing building façade is modified beyond the one-for-one replacement or windows and doors, the full façade shall be brought into compliance with this section." Exterior modifications are proposed, and so the building must be brought into compliance with the City's design standards

Design Standards	
Required	**Provided**
Primary materials (34-5.20.4.A) At least 60% of façades facing a public right-of-way, excluding windows and doors, shall be comprised of primary building materials: • Brick, cut stone, field stone, manufactured stone, or decorative CMU block • Timber or dimensional wood or engineered equivalent • Fiber cement siding or panels • Glass with metal framing	**Pending.** The applicant must provide calculations on the building elevations to demonstrate that the exterior materials proposed on elevations facing public rights-of-way comply with 34-5.20.4. In addition, the applicant must provide product specifications of the proposed exterior building materials. **The Planning Commission may grant a waiver** from the building material requirements per Section 34-5.20.4.G if the Commission finds both of the following apply: i. The waiver will achieve a specific architectural objective or purpose. ii. The proposed building materials are compatible with surrounding development.
Accent materials (34-5.20.4.B) The following may be permitted as accent materials on any building façade: • Glass block decorative • Metal and metal paneling • Decorative masonry veneer • Polymer plastic (e.g. Fypon, Azek) • Stucco • Plain or painted masonry block • Exterior Insulation and Finishing Systems (EFIS). EIFS may only be permitted when located at least 8 ft. above grade.	**Pending.** The applicant must provide calculations on the building elevations to demonstrate that the proposed accent materials comply with Section 34-5.20.4.B. **The Planning Commission may grant a waiver** from the building material requirements per Section 34-5.20.4.G if the Commission finds both of the following apply: i. The waiver will achieve a specific architectural objective or purpose. ii. The proposed building materials are compatible with surrounding development.
Material Palette and Colors (34-5.20.4.C) All building materials and colors shall be clearly labeled on the proposed building elevation plans.	Complies.
Architectural Scaling (34-5.20.5) All façades oriented toward a public right-of-way must provide windows and architectural scaling elements (such as vertical pilasters, columns, or other architectural elements) to break up the scale of the building.	**Pending.** We recommend that the applicant provide color images or samples of exterior materials to demonstrate the Section 34-5.20.5 scaling requirements are met. Any projected/recessed materials must be specified on the elevations.

Design Standards	
Required	**Provided**
Building façades shall include no less than two of the following elements: i. Building color change. ii. Building material or texture change. iii. Projections or recesses extending along at least 20% of the façade. iv. Recessed entranceways or projecting vestibules. v. A horizontal expression line, such as a molding or reveal, shall define the transition between the ground floor and upper stories. If a one-story building is proposed, the horizontal expression line is not required.	
Roofs (34-5.20.6.A.i) For flat roofs, parapets shall not exceed one-third of the height of the supporting wall at any point.	Existing nonconformity.
Fenestration (34-5.20.7.A) Facades facing a Major Thoroughfare: • Min. 60% ground floor fenestration. • Min. 35% upper floor fenestration. Facades facing a public ROW that is not a Major Thoroughfare: • Min. 50% ground floor fenestration. • Min. 20% upper floor fenestration.	**Deficient.** Glass doors are proposed on the Orchard Lake Road elevation, but the upper portion of the building does not include any fenestration. It is not clear if it is feasible to provide windows on the upper portion of the building without additional information about the structure. Glass doors are also proposed at the building entrance facing Mulfordton Street, but the majority of the elevation is windowless. The elevations must be updated to meet the Section 34-5.20.7.A fenestration requirements, or the applicant must provide additional information to demonstrate why it is impractical to do so. **The Planning Commission may grant a waiver** from the fenestration requirements per Section 34-5.20.7.F if the Commission finds one of the following apply: i. The waiver will achieve a specific architectural objective or purpose.

Design Standards	
Required	**Provided**
	ii. The proposed building materials are compatible with development. surrounding iii. Compliance with the standard will result in a practical difficulty. Additional accent features or other design elements may help achieve the intent of the Ordinance's fenestration requirement. intent of the fenestration requirement.
Building Entrances (34-5.20.8) Building entrances are subject to the following: A. A pathway to the entrance shall be provided as described in Section 5.19. B. Entrances shall be well-lit with decorative or functional lighting that enhances visibility and security. Entrance lighting must comply with Section 5.16 Exterior Lighting. C. Entrance features shall be proportional to the building façade. D. When practical, service entrances and overhead doors that are not articulated or clearly defined shall be obscured from view of a public right-of-way. E. Entryway features, such as planters, benches, exterior artwork, or other pedestrian-friendly amenities, encouraged.	**Pending.** Design is generally compliant, but pathway and lighting requirements must be addressed.

16. Public Art (34-5.21).

Public Art Requirements	
Required	**Provided**
The installation of public art in accordance with this Section is required for any non public construction or renovation project with a construction cost of two million dollars ($2,000,000.00) or more, in the Special Planning Areas described in the 2024 Master Plan.	**Pending.** The property is included in the 14 Mile/Northwestern/Orchard Lake Road Special Planning Area (34-5.21.2.ii) and the applicant must provide an estimated cost of construction to demonstrate whether public art must be provided.

Public Art Requirements	
Required	**Provided**
	The Planning Commission may waive, or partially waive, the public art requirement upon finding one or more of the following conditions listed under Section 34-5-21-6 apply.

17. **Utilities.** Utilities are existing on site. A new underground stormwater detention system is proposed in the parking area addition. We defer to City Engineer for comment.

Summary

Prior to taking action on the proposed site plan, the Planning Commission must make the following determinations:

1) The Planning Commission must determine if seventy-three (73) parking spaces may be permitted instead of the required 113 parking spaces. To assist the Commission in making this determination, the applicants must provide additional information about their business to demonstrate their anticipated parking needs. A parking study may be required. Elements to be considered for a waiver include:

a. Number and frequency of walk-up (foot traffic) customers
b. Availability of shuttle service and/ or transit
c. Seasonal nature of operations
d. Unique operational characteristics of the use that impact daily traffic.

2) Whether to require a pedestrian connection or to waive if deemed not practical or would not result in any pedestrian activity.

3) The applicants must provide calculations of the building elevations covered by each proposed exterior material. If deviations from the Zoning Ordinance's primary and accent material requirements are proposed, the Planning Commission may grant waivers if the Commission finds <u>both</u> of the following apply:

i. The waiver will achieve a specific architectural objective or purpose.
ii. The proposed building materials are compatible with surrounding development.

4) While the applicants must provide calculations to confirm, the proposed building design does not appear to meet the Section 34-5.20.7.A fenestration requirements. If deviations are proposed, the Planning Commission may grant a waiver from the building material requirements per Section 34-5.20.7.F if the Commission finds <u>one</u> of the following apply:

i. The waiver will achieve a specific architectural objective or purpose.
ii. The proposed building materials are compatible with surrounding development.
iii. Compliance with the standard will result in a practical difficulty.

5) Whether to waive, or partially waive, the public art requirement because the renovation project has a construction cost of less than $2,000,000.00 or upon finding one or more of the following conditions listed under Section 34-5-21-6 apply.

In addition, the following items must be addressed to the Commission's satisfaction. All or some may be addressed as conditions of approval.

1) The site plan must be updated to correct the errors listed in this review.

2) The proposed building addition must meet the 20-foot side yard setback from residential required by Section 34-3.1.25.E and 34-3.5.2.L or the applicant must obtain a variance from the **Zoning Board of Appeals**.

3) Approximately 3,125 sf. of front yard open space is required along Orchard Lake Road. The applicant must confirm the area of front yard open space that would result from the proposed outdoor seating along the Orchard Lake Road frontage. To allow the outdoor seating in the front yard open space, the applicant must obtain a variance from the **Zoning Board of Appeals**.

4) The outdoor space proposed north of the building is within 200 ft of residential. The applicant must address this item or obtain a variance from the **Zoning Board of Appeals**.

5) The applicant must detail the total area of outdoor seating and usable floor area. If outdoor seating area maximum is exceeded the applicant must obtain a variance from the **Zoning Board of Appeals**.

6) Outdoor seating areas are covered with canopy structures. The applicant must address this item or obtain a variance from the **Zoning Board of Appeals.**

7) The applicants must modify the layout to eliminate the 2.09 foot gap between the proposed addition and adjacent screening wall.

8) Applicant must confirm if any rooftop equipment is existing or proposed, and that it will be screened per Section 34-5.17.

9) The site plan must be updated to include the P-1 District use requirements established in Sections 34-3.1.30.C.ii, iii, iv, v.

10) The total linear feet of the screening wall proposed along the north lot line and details must be provided.

11) The site plan must be updated to include a note specifying that it will be maintained according to Section 34-5.3.

12) The parking lot must meet the 10-foot setback required by Section 34-3.5.2.U or the applicant must obtain a variance from the **Zoning Board of Appeals**.

13) Reuse of the dumpster enclosure shall be subject to final inspection by the Zoning Administrator. The applicant will be required to replace the enclosure if it does not provide screening required by Section 31-5.1.3.D.ii.

14) The dumpster enclosure must meet the 20-foot setback required by Section 31-5.1.3.D.iii or the applicant must obtain a variance from the **Zoning Board of Appeals.**

15) Any proposed outdoor mechanical equipment must be shown on the site plan in and comply with Section 31-5.1.4.D.

16) Two (2) barrier-free spaces are proposed. One (1) additional barrier free spaces must be provided.

17) The 20-foot wide corner clearance areas must be shown on the plan, and the applicant must confirm that the proposed plantings will comply with the maximum height permitted by Section 34-5.10.

18) No loading space is provided. A 660 sf. loading space must be shown on the site plan.

19) Arborvitae along east lot line appear to be spaced 6 feet on center. Applicant must confirm that 5-foot minimum spacing requirement is met.

20) The height at planting for Viburnum carlessi and the Hydrangea paniculata (unless replaced) must be provided.

21) The Calamagrostis acutiflora 'Karl Foerster' grass along the Mulfordton Street frontage must be replaced with a small shrub, masonry wall, or berm.

22) The Hydrangea paniculata proposed along the Orchard Lake Road frontage must be replaced with a small shrub. The proposed specie has a mature height of eight (8) to fifteen (15) feet, which will obstruct corner visibility.

23) Two existing trees (tags 524 and 525) should be removed from the existing tree inventory because they are located on the adjacent property to the east.

24) The applicants must provide a calculation demonstrating that the proposed replacement tree DBH is equal to or greater than 25 percent of the DBH of landmark trees proposed for removal.

25) The applicant must identify the location of all building-mounted light fixtures and provide specifications. If necessary, an updated photometric plan that accounts for these fixtures must be provided.

26) The applicant must confirm that the proposed fixtures include shielding reflectors as required by Section 34-5.16(3)(B)(iii)(c).

27) The applicant must confirm if any light fixtures are proposed in the outdoor seating areas.

28) A pedestrian connection as required by 34-5.19 must be provided unless the planning commission waives the requirement.

29) The applicant must provide calculations on the building elevations to demonstrate that the exterior materials proposed on elevations facing public rights-of-way comply with 34-5.20.4.

30) The applicant must provide product specifications of the proposed exterior building materials.

31) Any projected/recessed materials must be specified on the elevations.

32) The applicant must provide an estimated cost of construction to demonstrate whether public art must be provided.

33) Items identified by the City Engineer must be addressed.

34) Items identified by the City Fire Department must be addressed.

CARLISLE/WORTMAN ASSOC., INC.
Benjamin R. Carlisle, AICP, LEED-AP
President

CARLISLE/WORTMAN ASSOC., INC.
Mike Auerbach, AICP
Senior Associate

DEPARTMENT OF PUBLIC SERVICES
JACOB RUSHLOW, P.E., DIRECTOR

INTEROFFICE CORRESPONDENCE

DATE: February 24, 2026

TO: Planning Commission

FROM: Dayton Emerson, Civil Engineer I

SUBJECT: Proposed Restaurant
31130 Orchard Lake Road
PJ #: 2-26-72 SA #: 52-2-2026
Sidwell #: 22-23-02-103-025

This office has performed a preliminary review of the above referenced site plan submitted to the Planning Department on February 2, 2026 and received by the Engineering Division on February 10, 2026. Our preliminary comments are as follows:

1. The topographic plan does not identify the 8" public water main and fire hydrant located at the southwest corner of the site. This must be shown on the plan with a corresponding water main easement. If an easement does not exist, a new one must be provided.

2. The site currently utilizes parking lot detention, and the plan appears to propose an underground detention system in its place. The site must conform to previously approved plans as well as the Oakland County Stormwater Engineering Design Standards for detention, restriction, and storm water quality. Detailed calculations and support shall be provided during detailed Engineering review to confirm the design and compliance with these requirements. There may be an opportunity to coordinate with The Emerson Lofts development to outlet the underground detention system via gravity to their proposed public storm sewer on Mulfordton Street.

3. The subject property is listed by EGLE as a Part 201 Environmental Contamination Site. The proposed redevelopment includes installation of a grease interceptor and underground stormwater detention which may involve soil and groundwater disturbance. The proponent shall coordinate with EGLE to ensure compliance with applicable Part 201 requirements.

4. The proposed outdoor seating area on the north side of the building interferes with an existing side yard drainage swale that directs runoff east into the parking lot. The proposed building addition also appears to obstruct the existing outlet of the swale. The grading plan shall be revised to demonstrate how drainage in this area will be conveyed.

5. The existing screen wall includes drainage holes at grade to allow runoff from the adjacent property to pass through. The proponent shall confirm that the proposed building addition will not interfere with the function of the existing drainage holes, and the proposed screen wall along the north property line shall be designed such that it does not interrupt the drainage from the adjacent property.

6. Attached with this review are comments from the City's Environmental Engineer Tyler Sonoga. These must be addressed. Please note that he can be reached at 248-871-2533.

DEPARTMENT OF PUBLIC SERVICES
JACOB RUSHLOW, P.E., DIRECTOR

City of Farmington Hills
Environmental Review

Project Name: Proposed Restaurant

Address: 31130 Orchard Lake Rd
PJ#: 2-26-72
Plan Dated:

Plan Received: 2-10-2026
Review #: 1
Review Date: 2-24-2026

As requested, I have conducted a plan review of the above reference engineering plans. I have the following comments:

1. Storm water quality and detention must be provided for the site in accordance with the adopted Oakland County Water Resources stormwater standards.
2. As a part of the Oakland County Water Resources stormwater standards, the plans must include a long-term operations and maintenance plan, the land use summary page in the standards, a stormwater design narrative, and GIS data.
3. Infiltration practices need to be used to the maximum extent practicable and will count as part of the required water quality volume.

Should you have any questions, please do not hesitate to call.

Respectfully submitted,

Tyler Sonoga
Civil/Environmental Engineer
Department of Public Services

cc: City of Farmington Hills, M. Saksewski

FIRE
FARMINGTON HILLS

INTEROFFICE CORRESPONDENCE

Date: February 20, 2026

To: Planning Commission

From: Jason Baloga, Fire Marshal

Subject: Site Plan 52-2-2026 (31130 Orchard Lake Rd.) Proposed Restaurant

The Fire Department has no objection to approval of this pre-existing site, contingent upon compliance with the following:

1. Building shall be maintained in accordance with minimum Fire Prevention Code requirements.

2. Kitchen System (UL300) shall have a submittal sent to the Fire Department, a permit and Acceptance Test.

Jason Baloga, Fire Marshal

JB/ss

Proposed Redevelopment

Site Plan Package

31130 Orchard Lake

Farmington Hills, Oakland County, Michigan, 48334

LEGAL DESCRIPTION:

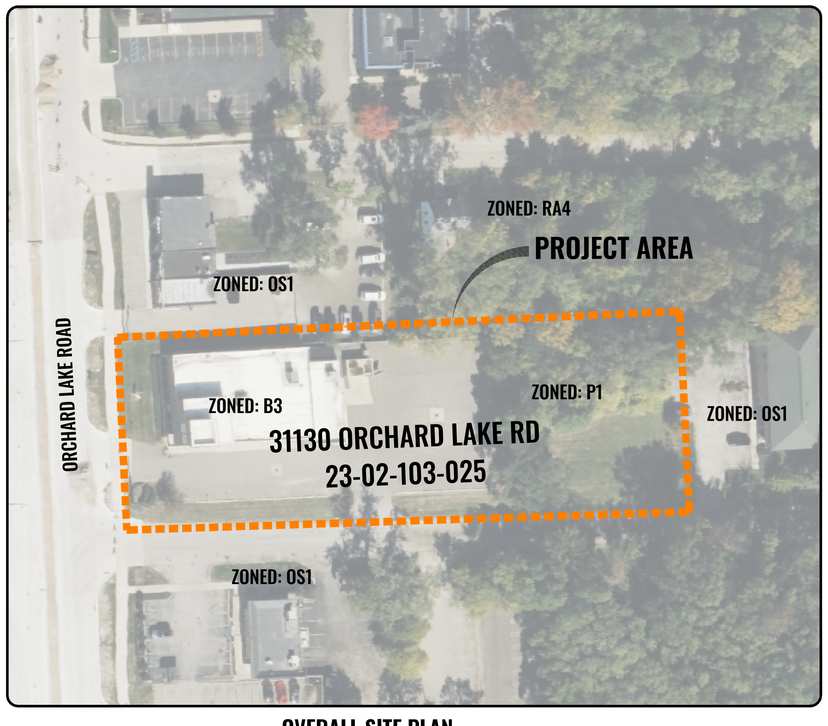
PARCEL 1:
LOTS 1 TO 6 INCLUSIVE BLOCK C, ALSO LOTS 12 TO 24 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-025
ADDRESS:
31130 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341

PARCEL 2:
LOTS 31 TO 32 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-006
ADDRESS:
31307 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341

PARCEL 3:
LOT 33 BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-007
ADDRESS: NONE

PARCEL 4:
LOT 34 BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-008
ADDRESS: NONE

PARCEL 5:
LOTS 35 TO 37 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-009
ADDRESS:
31291 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341



OVERALL SITE PLAN
NOT TO SCALE



COUNTY MAP
NOT TO SCALE



SITE LOCATION MAP
NOT TO SCALE

VARIANCE REQUEST

THE FOLLOWING VARIANCES ARE RESPECTFULLY REQUESTED FOR CONSIDERATIONS PART OF THIS PROJECT:

- PARKING VARIANCE: REQUEST TO ALLOW A REDUCED NUMBER OF REQUIRED ON-SITE PARKING SPACES DUE TO SITE CONSTRAINTS.
- SIDE SETBACK VARIANCE: REQUEST TO PERMIT THE PROPOSED BUILDING ADDITION WITHIN THE REQUIRED 10-FOOT SIDE YARD SETBACK.
- OUTDOOR SEATING VARIANCE: REQUEST TO ALLOW OUTDOOR SEATING LOCATED WITHIN 200 FEET OF A RESIDENTIAL USE/PROPERTY WHERE THE REQUIRED SEPARATION CANNOT BE MET.

UTILITY/MUNICIPAL CONTACTS

WATER
FARMINGTON HILLS
DEPARTMENT OF PUBLIC SEVICES
31555 ELEVEN MILE ROAD
FARMINGTON HILLS, MI 48336
PH: 248-871-2400

FIRE
31455 W. 11 MILE RD.
FARMINGTON HILLS, MI 48336
JASON BALOGA
PH: 248-871-2805
JBALOGA@FHGOV.COM

SEWER
FARMINGTON HILLS
DEPARTMENT OF PUBLIC SEVICES
31555 ELEVEN MILE ROAD
FARMINGTON HILLS, MI 48336
PH: 248-871-2400

GAS
MICHIGAN GAS UTILITIES
ATTN: CUSTOMER SERVICE
PO BOX 19001
GREEN BAY, WI 54307-9001

STORM
FARMINGTON HILLS
DEPARTMENT OF PUBLIC SEVICES
31555 ELEVEN MILE ROAD
FARMINGTON HILLS, MI 48336
PH: 248-871-2400

UTILITY WARNING!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

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

ARCHITECT

JJV DESIGN GROUP
1565 KIRKWAY ROAD
BLOOMFIELD, MI 48302

CONTACT: JOHN JANVIRIYA
PH: 248-724-8226
EMAIL: JOHNJANVIRIYA@YAHOO.COM

ENGINEER

PRIORITY ENGINEERING, LLC
1420 WASHINGTON BLVD
DETROIT, MI 48226

CONTACT: TEON C. SUJAK, PE
PH: 813-406-4234
www.priority-eng.com

PROJECT NO. 25-0117

LANDSCAPE ARCHITECT

DUL LANDSCAPE ARCHITECTURE
74 W. LONG LAKE
SUITE 104
BLOOMFIELD HILLS, MI 48304

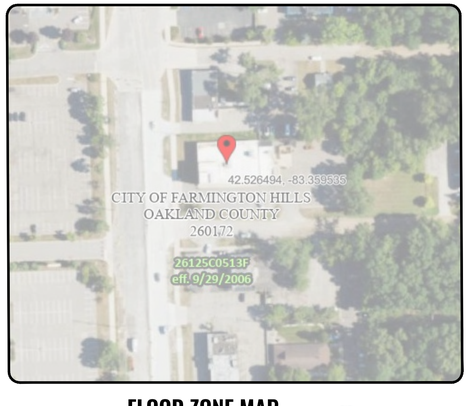
CONTACT: MICHAEL L. JACOBS PLA
PH: 248-644-3410

PROJECT DESCRIPTION:

PROJECT INVOLVES THE REDEVELOPMENT OF THE EXISTING COMMERCIAL PROPERTY AT 31130 ORCHARD LAKE ROAD IN FARMINGTON HILLS TO ACCOMMODATE A RESTAURANT USE, INCLUDING A 1,417 SF BUILDING ADDITION AND SUPPORTING INFRASTRUCTURE IMPROVEMENTS REQUIRED FOR CITY APPROVALS AND PERMITTING.

FLOODPLAIN NOTE:

THE SUBJECT PROPERTY LIES IN FLOOD ZONE "X", ACCORDING TO FLOOD INSURANCE RATE MAP, MAP NO. 26125C0513F FOR OAKLAND COUNTY, MICHIGAN, DATED SEPTEMBER 29, 2006 AND ISSUED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. LINES SHOWN HAVE BEEN DIGITALLY TRANSLATED FROM DFIRM DATABASE INFORMATION SUPPLIED BY THE FEMA MAP SERVICE CENTER HTTPS://MSC.FEMA.GOV).



FLOOD ZONE MAP
NOT TO SCALE

DRAWING INDEX:

SHEET No.	*SHEET TITLE*
C-1.0	COVER SHEET
C-2.0	EXISTING SITE CONDITIONS PLAN
C-3.0	SESC PLAN
C-4.0	DEMOLITION & REMOVAL PLAN
C-5.0	SITE LAYOUT PLAN
C-6.0	PAVING & GRADING PLAN
C-7.0	UTILITY PLAN
C-8.0	PAVEMENT MARKINGS & SIGNAGE PLAN
L1	LANDSCAPING PLAN

SITE DATA TABLE

Zoning	B3 (General Business District) & P1 (Parking District)
Area of Lot	45,525 SF, 1.05 Acres
Site Address	31130 Orchard Lake Road, Farmington Hills, MI
County	Oakland County
Parcel ID	23-02-103-025
Current Zoning	B3 (General Business), P1 (Parking District)
Proposed Zoning	B3 (General Business), P1 (Parking District)
North Adjacent Zoning	B3 (General Business), RA4 (One Family Residential District) & OS1 (Office Service District)
East Adjacent Zoning	OS1 (Office Service District)
South Adjacent Zoning	B3 (General Business), P1 (Parking District) & OS1 (Office Service District)
West Adjacent Zoning	B2 (Community Business District)
Max Building Height	50 ft max.
Front Setback	25 ft min.
Side Setback (Interior)	10 ft min. 20 ft where abuttign residential (Variane required for proposed addition along north property line)
Side Setback (Corner Lot)	25 ft min.
Rear Setback	20 ft min.
ROW Buffer / Front Yard Parking	Parking allowed with 10 ft landscaped greenbelt between parking and ROW [Sec. 98-723(a)(4)]
Screenwall	Rrequired along north propoerty line (P1 district)

PRIORITY ENGINEERING LLC

Engineer's Seal
STATE OF MICHIGAN
TEON C SUJAK
License No. 6201046896
LICENSED PROFESSIONAL ENGINEER

Certification

North | SCALE

Project
PROPOSED BUILDING AND PARKING LOT IMPROVEMENT PLAN

Project Location
31130 ORCHARD LAKE ROAD
FARMINGTON HILLS, MI 48334

Sheet Name
COVER SHEET

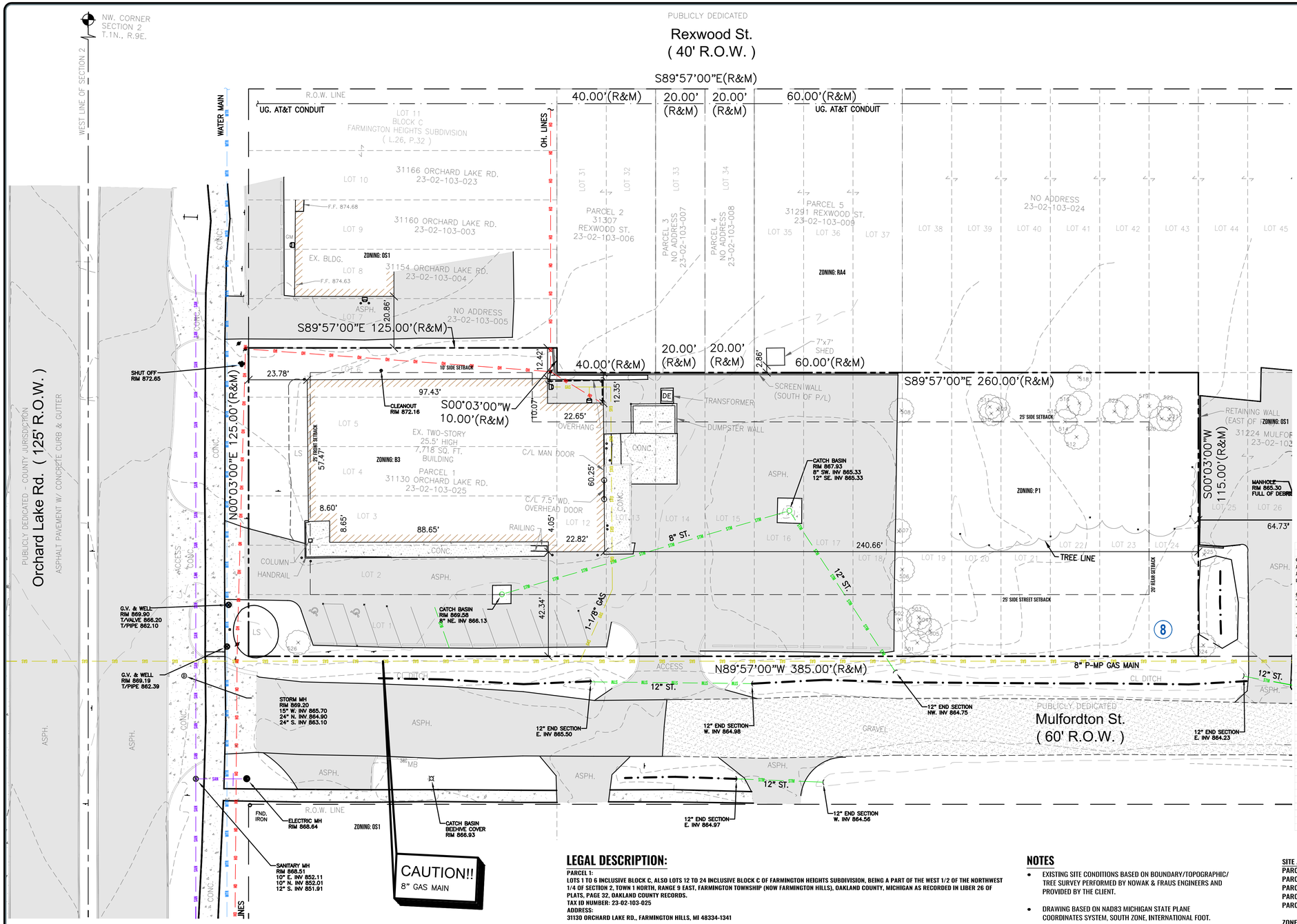
ISSUED FOR SITE PLAN APPROVAL

Revisions

REV	ISSUED FOR	ISSUE DATE	BY

Date:
Reviewed By:
ENG/CADD:
Checked By:
PE Project No.
Sheet No. C.1.0

DRAWING NOTE: SCALE SHOWN IS MEANT FOR 24" X 36" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA BESIDES 11" X 17"
NO REPRODUCTION SHALL BE MADE WITHOUT PRIOR CONSENT OF PRIORITY ENGINEERING, LLC.
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EXISTING LEGEND

CONTOUR
INDEX CONTOUR
WATER MAIN
COMBINED SEWER
STORM SEWER
SANITARY SEWER
CABLETV
OVERHEAD UTILITY
FIBER OPTIC
GAS
ELECTRICAL
CHAIN LINK FENCE
IRON FENCE
WOOD FENCE
HYDRANT
GATE VALVE
POST INDICATOR VALVE (PIV)
WATER MAIN MANHOLE
SQUARE CATCH BASIN
ROUND CATCH BASIN
BEEHIVE CATCH BASIN
SANITARY MANHOLE
END SECTION
CULVERT
STORM MANHOLE
CLEAN OUT
SIGN
UTILITY POLE
GUY WIRE
LIGHT POLE
LANDSCAPE LIGHT
RISER
ELECTRICAL BOX
ELECTRICAL MANHOLE
FLAG POLE
MAILBOX
TOP OF CURB
GUTTER
EX. GRADE
EDGE OF ASPHALT
TOP OF WALL
BOTTOM OF WALL
TREE
CONCRETE
ASPHALT PAVEMENT
GRAVEL

Master Tree List

Client Name: The Mannik Smith Group
Job Number: N931
Job Location: 31130 Orchard Lake Road, Farmmington Hills, MI
Date Completed: 12/13/2023

Condition Description Notes:
"Good" - no observed structural defects*
"Fair" - minor structural defects, marginal form, some insect activity noted*
"Poor" - major structural defects, poor form, insect infested*

*Structural defects may include decayed wood, cracks, root problems, weak branch unions cankers, poor tree architecture, dead/failed branches due to various causes.

Tree #	Botanical Name	Common Name	Dia.	Type	Other Dia.	Condition	Comments
501	Populus deltoides	Eastern Cottonwood	8.4	twin	7.4	fair	
502	Populus deltoides	Eastern Cottonwood	13.5			fair	trunk damage
503	Populus deltoides	Eastern Cottonwood	10	twin	6	fair	
504	Populus deltoides	Eastern Cottonwood	6.7			poor	leaning into #503
505	Populus deltoides	Eastern Cottonwood	8.7	multi	8.3,8.1,5.3,	poor	
506	Populus deltoides	Eastern Cottonwood	12	twin	7	fair	broken limbs, trunk damage
507	Robinia psuedoacacia	Black Locust	23.9			fair	insects, trunk damage
508	Populus deltoides	Eastern Cottonwood	9.9			fair	
509	Fraxinus pennsylvanica	Green Ash	13	multi	12,8	poor	horizontal habit
510	Fraxinus pennsylvanica	Green Ash	9			poor	
511	Fraxinus pennsylvanica	Green Ash	11	twin	8	poor	horizontal habit, suckering
512	Fraxinus pennsylvanica	Green Ash	12	multi	6,5,8,10	poor	horizontal habit, suckering
513	no tree w/ this tag						
514	Populus deltoides	Eastern Cottonwood	9			fair	
515	Ulmus pumila	Siberian Elm	11.6			fair	
516	Populus deltoides	Eastern Cottonwood	10	twin	8	fair	
517	Populus deltoides	Eastern Cottonwood	13.5	twin	11	poor	
518	Populus deltoides	Eastern Cottonwood	7.6	twin	6	poor	
519	Populus deltoides	Eastern Cottonwood	9			poor	crowded
520	Populus deltoides	Eastern Cottonwood	10.2			poor	
521	Ulmus pumila	Siberian Elm	7.5			poor	
522	Populus deltoides	Eastern Cottonwood	7.5			poor	
523	Fraxinus pennsylvanica	Green Ash	6.5			poor	horizontal habit, suckering
524	Acer rubrum	Red Maple	5.8			good	
525	Acer rubrum	Red Maple	5			good	
526	Malus spp	Crabapple	6.8			good	

FLOODPLAIN NOTE:

THE SUBJECT PROPERTY LIES IN FLOOD ZONE "X", ACCORDING TO FLOOD INSURANCE RATE MAP, MAP NO. 26125C0513F FOR OAKLAND COUNTY, MICHIGAN, DATED SEPTEMBER 29, 2006 AND ISSUED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. LINES SHOWN HAVE BEEN DIGITALLY TRANSLATED FROM DFIRM DATABASE INFORMATION SUPPLIED BY THE FEMA MAP SERVICE CENTER HTTPS://MSC.FEMA.GOV).

BENCHMARK DATA

BM
ARROW ON HYDRANT
SW CORNER OF GREENING ST.
AND MULFORDTON ST.
ELEV. 866.93
NAVD 88 DATUM

BASIS OF BEARING

ALL BEARINGS ARE IN RELATION TO THE PREVIOUSLY ESTABLISHED WEST LINE OF SECTION 2 OF FARMINGTON HEIGHTS SUBDIVISION AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS. (N.00°03'E.)

LEGAL DESCRIPTION:

PARCEL 1:
LOTS 1 TO 6 INCLUSIVE BLOCK C, ALSO LOTS 12 TO 24 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-025
ADDRESS:
31130 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341

PARCEL 2:
LOTS 31 TO 32 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-006
ADDRESS:
31307 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341

PARCEL 3:
LOT 33 BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-007
ADDRESS: NONE

PARCEL 4:
LOT 34 BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-008
ADDRESS: NONE

PARCEL 5:
LOTS 35 TO 37 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.
TAX ID NUMBER: 23-02-103-009
ADDRESS:
31291 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341

NOTES

- EXISTING SITE CONDITIONS BASED ON BOUNDARY/TOPOGRAPHIC/ TREE SURVEY PERFORMED BY NOWAK & FRAUS ENGINEERS AND PROVIDED BY THE CLIENT.
- DRAWING BASED ON NAD83 MICHIGAN STATE PLANE COORDINATES SYSTEM, SOUTH ZONE, INTERNATIONAL FOOT.
- THIS SURVEY WILL NOT SHOW ALL EASEMENTS OF RECORD UNTIL AN UPDATED TITLE POLICY HAS BEEN FURNISHED TO THE SURVEYOR BY THE OWNER.
- ALL ELEVATIONS ARE EXISTING ELEVATIONS
- THE LOCATION OF THE EXISTING UTILITIES AS SHOWN WERE OBTAINED FROM MUNICIPAL AND UTILITY COMPANIES RECORDS. NO GUARANTEE CAN BE MADE REGARDING THE COMPLETENESS OR EXACTNESS OF THE UTILITIES LOCATION. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY IN THE FIELD THE LOCATION OF ALL UTILITIES.

ON-SITE SOIL TYPES

PER NATIONAL SOIL SURVEY
52A - SELFRIDGE LOAMY SAND, 0 TO 3 PERCENT (P1 ZONING)

59 - URBAN LAND (B3 ZONING)

SITE AREA:
PARCEL 1: 45,525.00 SQUARE FEET OR 1.045 ACRES
PARCEL 2: 4,600.00 SQUARE FEET OR 0.106 ACRES
PARCEL 3: 2,300.00 SQUARE FEET OR 0.053 ACRES
PARCEL 4: 2,300.00 SQUARE FEET OR 0.053 ACRES
PARCEL 5: 6,900.00 SQUARE FEET OR 0.158 ACRES

ZONED:
PARCEL 1: B-3, GENERAL BUSINESS DISTRICT AND P-1, VEHICULAR PARKING DISTRICT
PARCEL 2: RA-4, ONE FAMILY RESIDENTIAL DISTRICT
PARCEL 3: RA-4, ONE FAMILY RESIDENTIAL DISTRICT
PARCEL 4: RA-4, ONE FAMILY RESIDENTIAL DISTRICT
PARCEL 5: RA-4, ONE FAMILY RESIDENTIAL DISTRICT

PARKING SPACES:
PARCEL 1:12 TOTAL SPACES, INCLUDING 2 BARRIER-FREE SPACES
PARCELS 2-5: NONE

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 FARMINGTON HILLS TO INSURE CONFORMITY AS WELL AS MAKE A FINAL DETERMINATION OF THE REQUIRED BUILDING SETBACK REQUIREMENTS.

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

UTILITY WARNING!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

PRIORITY ENGINEERING LLC

Engineer's Seal

STATE OF MICHIGAN
TEON C SUJAK
License No. 6201046896
LICENSED PROFESSIONAL ENGINEER

Certification

North

SCALE
0' 20' 40'
GRAPHIC SCALE: 1" = 20'

Project
PROPOSED BUILDING AND PARKING LOT IMPROVEMENT PLAN

Project Location
31130 ORCHARD LAKE ROAD FARMINGTON HILLS, MI 48334

Sheet Name
EXISTING SITE CONDITIONS

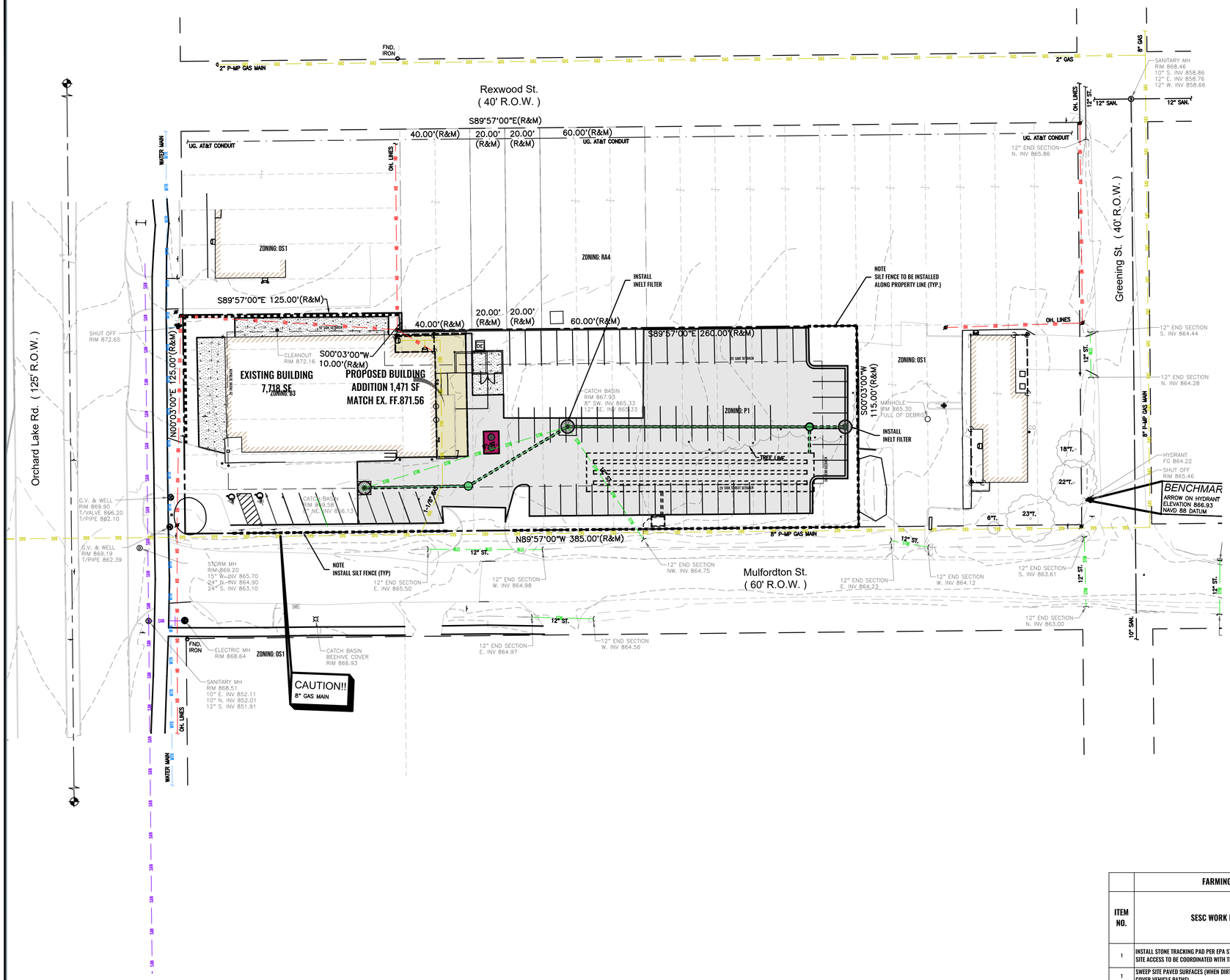
ISSUED FOR SITE PLAN APPROVAL

Revisions

REV	ISSUED FOR	ISSUE DATE	BY

Date: 01/23/2026
Reviewed By: TCS
ENG/CADD: BH
Checked By: TCS
PE Project No. 25-0117
Sheet No. C-2.0

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SOIL EROSION CONTROL LEGEND

I.D.	SYMBOL	DESCRIPTION
SE-1		FURNISH & INSTALL PAVEMENT INLET PROTECTION FILTER PER GOVERNING AGENCIES STANDARDS & SPECIFICATIONS
SE-2		FURNISH & INSTALL SILT FENCE PER GOVERNING AGENCIES STANDARDS & SPECIFICATIONS
SE-3		FURNISH & INSTALL TREE PROTECTIVE FENCING PER GOVERNING AGENCIES STANDARDS & SPECIFICATIONS WHERE INDICATED
SE-4		FURNISH & INSTALL STABILIZED CONSTRUCTION ENTRANCE PER GOVERNING AGENCIES STANDARDS & SPECIFICATIONS
SE-5		RESTORE AREA PER GOVERNING AGENCY STANDARDS & SPECIFICATIONS
SE-6		AREA OF DISTURBANCE, 0.76 ACRES (INCLUDES RIGHT-OF-WAY)

EROSION CONTROL NOTES:

EARTH DISTURBANCE IS NOT PERMITTED OUTSIDE THE NOTED DISTURBANCE LIMITS. DISTURBANCE IS NOT PERMITTED WITHIN THE FLOODPLAIN LIMITS.

EARTH EXCAVATION FOR THIS PROJECT SHALL INCLUDE THE EXCAVATION FOR UNDERGROUND UTILITIES & SITE BALANCING TO REACH FINAL PAVEMENT SUBGRADE LEVELS.

THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION & MAINTENANCE OF ALL SOIL EROSION & SEDIMENTATION CONTROL (SESC) MEASURES, INCLUDING DUST CONTROL.

THE FOLLOWING MINIMUM SESC MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION & MAINTAINED UNTIL CONSTRUCTION IS COMPLETE & TURF IS ESTABLISHED:

1. MUD MATS AT SITE ENTRANCE/EXIT POINTS TO MINIMIZE THE TRACKING OF DEBRIS/SOIL ONTO ROADWAYS OR NEIGHBORING PROPERTY. MUD MATS SHALL CONSIST OF LARGE COARSE AGGREGATE OVERLYING A GEOTEXTILE SEPARATOR FABRIC.
2. STOCKPILED SOILS SHALL BE COVERED OR OTHERWISE PROTECTED FROM ERODING INTO OFFSITE AREAS.
3. THE CONTRACTOR SHALL ESTABLISH PERMANENT STABILIZATION OF ALL EXPOSED AREAS WITHIN 7 DAYS OF FINAL GRADING.
4. BURLAP &/OR STRAW BALES ARE NOT ALLOWED.
5. SEDIMENT TRAPS (I.E., SILT SACKS) SHALL BE INSTALLED AT EXISTING & NEWLY INSTALLED INLET STRUCTURES & SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
6. SILT FENCING SHALL BE INSTALLED ALONG THE PERIMETER OF THE DISTURBED LIMITS (SEE PLAN) & MAINTAINED.

RESTORATION NOTE

ALL AREAS THAT HAVE BEEN CLEARED AND WILL REMAIN SO FOR 30 DAYS OR LONGER WITHOUT APPRECIABLE ACTIVITY SHALL BE SEEDED AND MULCHED WITH 7 DAYS (PER 2.2.14 OF 2017 CGP) OF BEING DISTURBED, OR HAVE TACKIFIER APPLIED. IF SEEDING OR ANOTHER VEGETATIVE EROSION CONTROL METHOD IS USED, GERMINATION SHALL BE EVIDENT WITHIN 2 WEEKS OR THE CITY MAY REQUIRE THE LOT TO BE RESEEDED OR NON-VEGETATIVE OPTION EMPLOYED (SUCH AS TACKIFIER)

MAINTENANCE NOTES & REQUIREMENTS
ALL TEMPORARY & PERMANENT SOIL EROSION CONTROL MEASURE TO BE INSPECTED & MAINTAINED WEEKLY & AFTER EVERY STORM EVENT BY THE SELECTED CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR THE REGULAR INSPECTION & MAINTENANCE OF ALL SOIL EROSION & SEDIMENTATION CONTROL (SESC) MEASURES THROUGHOUT CONSTRUCTION IN ACCORDANCE WITH CITY, COUNTY & STATE REQUIREMENTS.
SITE OPERATOR SHALL MAINTAIN A RECORD OF PRECIPITATION EVENTS ON A WEEKLY BASIS & INDICATE IN MAINTENANCE SCHEDULE RECORDS WHEN PRECIPITATION EVENT TRIGGERS FURTHER EVALUATION & MAINTENANCE.
PRECIPITATION OF 0.25 INCHES OR MORE IN 24 HOUR PERIOD SHALL BE RECORDED BY WEATHER UNDERGROUND OR LOCAL WEATHER STATION DATA.
REINSTALL OR OTHERWISE REPLACE SESC MEASURES IF FOUND TO BE DEFICIENT OR DO NOT MEET THE INTENDED FUNCTION.
SEDIMENT & DEBRIS ACCUMULATIONS SHALL BE REGULARLY REMOVED FROM SITE ENTRANCES, CLEARED FROM SILT FENCE, & INLET FILTERS. SEDIMENT & DEBRIS SHALL NOT BE PERMITTED TO MIGRATE OUTSIDE OF THE DISTURBANCE LIMITS INDICATED ON THESE DRAWINGS. ANY SILT OR MUD TRACKED ON PAVED SURFACES OUTSIDE OF THE AREA OF DISTURBANCE SHALL BE REMOVED IN A MANNER THAT DOES NOT GENERATE AIRBORNE DUST.
DUST CONTROL ACTIVITIES SHALL BE PERFORMED ON AN AS-NEEDED BASIS (MINIMUM OF ONCE PER DAY), & SHALL CONSIST OF AT LEAST THE USE OF A WATER TRUCK.
DUST CONTROL ACTIVITIES SHALL BE PERFORMED ON AN AS-NEEDED BASIS (MINIMUM OF ONCE PER DAY), & SHALL CONSIST OF AT LEAST THE USE OF A WATER TRUCK.

EXCAVATION NOTES
1. EXCAVATED SOILS SHALL BE UTILIZED TO BACKFILL & ROUGH GRADE BEHIND CURBS. 2. EXCESS EXCAVATED SOILS SHALL BE TRANSPORTED OFF SITE & DISPOSE IN A LEGAL MANNER.
RESTORATION NOTES
FOLLOWING FINAL GRADING CONTRACTOR SHALL INSTALL 3 INCHES OF TOPSOIL & SEED OF DISTURBED AREAS.
FURNISH & INSTALL SOIL EROSION BLANKET ON ALL DISTURBED AREAS WITH SLOPES FLATTER THAN 1V:2H.
FURNISH & INSTALL HIGH VELOCITY SOIL EROSION BLANKET ON ALL DISTURBED AREAS WITH SLOPE STEEPER THAN 1V:2H.

NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS, SPECIFICATIONS AND GENERAL CONDITIONS OF THE CITY OF FARMINGTON HILLS.
2. THE DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH ARE THE RESULT OF THE DEVELOPERS ACTIONS.
3. CALL MISS DIG BEFORE YOU DIG
   CONTRACTOR SHALL NOTIFY MISS DIG 811 AT LEAST THREE (3) FULL WORKING DAYS PRIOR TO ANY EXCAVATION, GRADING, OR UNDERGROUND CONSTRUCTION IN ACCORDANCE WITH PUBLIC ACT 174 OF 2013 (MISS DIG UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT). CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT AND SHALL COORDINATE UTILITY LOCATIONS WITH MISS DIG 811 AND ALL UTILITY OWNERS PRIOR TO COMMENCING WORK.

	FARMINGTON HILLS - SOIL EROSION CONTROL SEQUENCE OF CONSTRUCTION & INSPECTION								
ITEM NO.	SESC WORK ITEM	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SCHEDULE FOR NON DAILY ITEMS
1	INSTALL STONE TRACKING PAD PER EPA STANDARDS & SPECIFICATIONS. SITE ACCESS TO BE COORDINATED WITH THE OWNER.		X	X	X	X	X	X	
1	SWEEP SITE PAVED SURFACES (WHEN DIRT / DUST ACCUMULATES TO COVER VEHICLE PATHS)								*AS NEEDED*
1	SCRAPE SITE PAVED SURFACES (WHEN DIRT ACCUMULATES TO COVER VEHICLE PATHS)								*AS NEEDED*
2	INSTALL SILT FENCING & TREE PROTECTIVE FENCING		X	X	X	X	X	X	
3	INSTALL PAVEMENT INLET FILTERS		X	X	X	X	X	X	
4	STRIP & STOCKPILE TOPSOIL								*AS NEEDED*
5	EXCAVATE TO ACCOMMODATE PROPOSED PAVEMENT SECTION								*AS NEEDED*
6	GRADE & BALANCE AS REQUIRED. STABILIZE AREAS & SLOPES								*AS NEEDED*
7	INSTALL UTILITIES STORM SEWER & WATER MAIN UTILITIES. PLACE INLET FILTERS ON NEW STRUCTURES		X	X	X	X	X	X	*AS NEEDED*
8	INSTALL CONDUIT, ELECTRICAL, CABLE, TELEPHONE, IRRIGATION, ETC.								*AS NEEDED*
9	INSTALL HMA								*AS NEEDED*
10	ESTABLISH VEGETATION FOR ALL DISTURBED AREAS UTILIZING HIGH VELOCITY MULCH BLANKET & HYDROSEED PER SPECIFICATIONS								*AS NEEDED*
11	CLEAN OUT STORM SEWER SYSTEM								*AS NEEDED*
12	REMOVE SILT FENCING, TREE PROTECTIVE FENCING & PAVEMENT INLET FILTERS								*FOLLOWING GOVERNING AGENCY APPROVAL*

PRIORITY ENGINEERING LLC

Engineer's Seal
STATE OF MICHIGAN
TEON C SUJAK
License No. 6201046896
LICENSED PROFESSIONAL ENGINEER

Certification

North

SCALE
0' 30' 60'
GRAPHIC SCALE: 1" = 30'

Project
PROPOSED BUILDING AND PARKING LOT IMPROVEMENT PLAN

Project Location
31130 ORCHARD LAKE ROAD FARMINGTON HILLS, MI 48334

Sheet Name
SOIL EROSION & SEDIMENT CONTROL PLAN

ISSUED FOR SITE PLAN APPROVAL

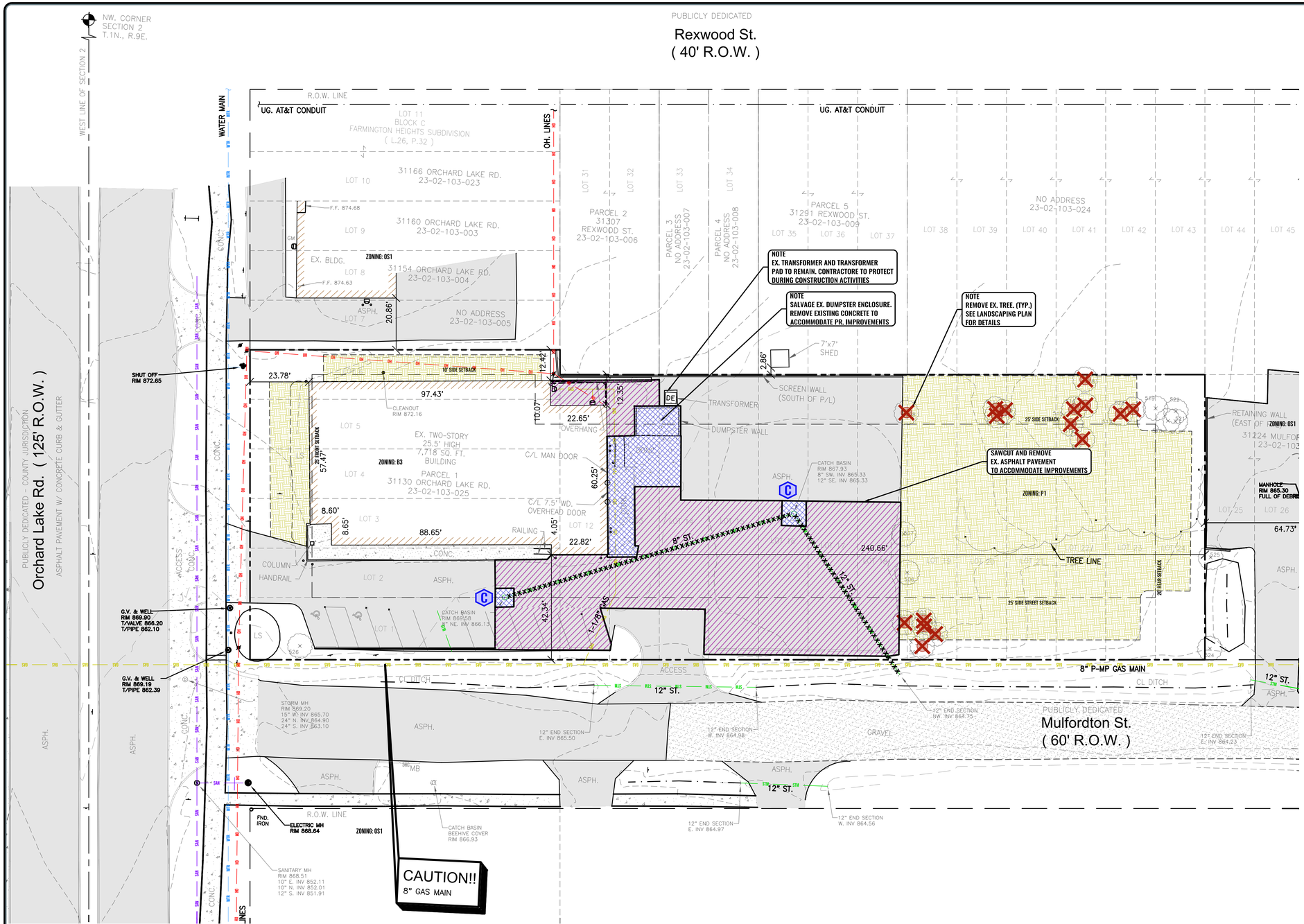
Revisions

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Checked By:	TCS
PE Project No.	25-0117
Sheet No.	C-3.0

DRAWING NOTE: SCALE SHOWN IS MEANT FOR 24" X 36" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA BESIDES 11" X 17"

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REMOVAL LEGEND

NOTE: REMOVAL SHALL INCLUDED SURFACE ITEMS NOTED BELOW IN ADDITION TO UNDERLYING BASE, SUBBASE, SUBGRADE AND DELETERIOUS MATERIAL TO ACCOMMODATE PROPOSED IMPROVEMENTS.

- SAWCUT & REMOVE EXISTING ASPHALT
- SAWCUT & REMOVE EXISTING CONCRETE PAVEMENT
- CLEAR, GRUB & REMOVE EXISTING TREES/BRUSH
- AREA OF GRADING/EARTHWORK
- DEMOLISH & REMOVE EXISTING BUILDING
- REMOVE CURB & GUTTER
- REMOVE EXISTING FENCE
- REMOVE EXISTING WALL
- REMOVE EXISTING UTILITY AS NOTED
- CAUTION!!!!! EXISTING UTILITY IN AREA *(SEE EXISTING/RECORD UTILITIES NOTE, THIS SHEET)*
- REMOVE/RELOCATE EXISTING MISC. ITEM AS NOTED ON PLANS
- REMOVE EXISTING TREE
- A — ADJUST RIM AS NOTED ON GRADING PLAN
- B — ADJUST EXISTING STRUCTURE RIM/VALVE AS NOTED ON THE GRADING PLAN
- C — CONTRACTOR TO RECONSTRUCT/REPLACE ENTIRE STRUCTURE
- D — REMOVE & DISPOSE OF EXISTING CATCH BASIN
- E — REMOVE & DISPOSE OF EXISTING MANHOLE
- R-SGN — REMOVE & DISPOSE OF EXISTING SIGN, POST & FOUNDATION.
- R-BOL — REMOVE & DISPOSE OF EXISTING BOLLARD.
- R-LP — REMOVE & DISPOSE OF EXISTING LIGHT FIXTURE, POLE AND BASE.
- SB-# — SOIL BORING LOCATION (SEE GEOTECHNICAL REPORT BY OTHERS)

NOTES:

- ALL CONSTRUCTION AT PROJECT SITE WILL USE BEST MANAGEMENT PRACTICES INCLUDING SOIL EROSION CONTROL MEASURES, AS ALSO REQUIRED BY LOCAL JURISDICTION, & NOTED ON THE CONSTRUCTION DRAWINGS.
- CONTRACTOR SHALL RESTORE & REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION.
- ALL NEW WORK TO BE PERFORMED PER STANDARDS AND SPECIFICATIONS OF THE GOVERNING JURISDICTION.
- THE CONTRACTOR TO CALL 811 TO MARK EXISTING UTILITIES WITHIN THE WORK AREA. DO NOT EXCAVATE UNTIL EXISTING UTILITIES HAVE BEEN PAINTED IN THE FIELD AND ANY CONCERNS NEED TO BE BROUGHT TO THE ENGINEER'S ATTENTION.

BENCHMARK DATA

BM
ARROW ON HYDRANT
SW CORNER OF GREENING ST.
AND MULFORDTON ST.
ELEV. 866.93
NAVD 88 DATUM

EXISTING/RECORD UTILITIES NOTE

THE LOCATION OF THE EXISTING UTILITIES AS SHOWN WERE OBTAINED FROM MUNICIPAL AND UTILITY COMPANY RECORDS, FIELD OBSERVATIONS AND OWNER PROVIDED DRAWINGS. NO GUARANTEE CAN BE MADE REGARDING THE COMPLETENESS OR EXACTNESS OF THE UTILITIES LOCATION. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY IN THE FIELD THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES SHOWN, REFERENCED OR MARKED IN THE FIELD. CONTRACTOR TO REPORT ANY CONFLICTS IN THE FIELD TO THE ENGINEER. CONTRACTOR METHODS FOR UTILITY LOCATING SHALL AT A MINIMUM INCLUDE UTILIZING A UTILITY LOCATING COMPANY, HYDRO EXCAVATION, SOFT DIG AND POT HOLING.

PRIORITY ENGINEERING LLC

Engineer's Seal

STATE OF MICHIGAN
TEON C SUJAK
License No. 6201046896
LICENSED PROFESSIONAL ENGINEER

Certification

North

SCALE
0' 20' 40'
GRAPHIC SCALE: 1" = 20'

Project
PROPOSED BUILDING AND PARKING LOT IMPROVEMENT PLAN

Project Location
31130 ORCHARD LAKE ROAD FARMINGTON HILLS, MI 48334

Sheet Name
REMOVAL/DEMOLITION PLAN

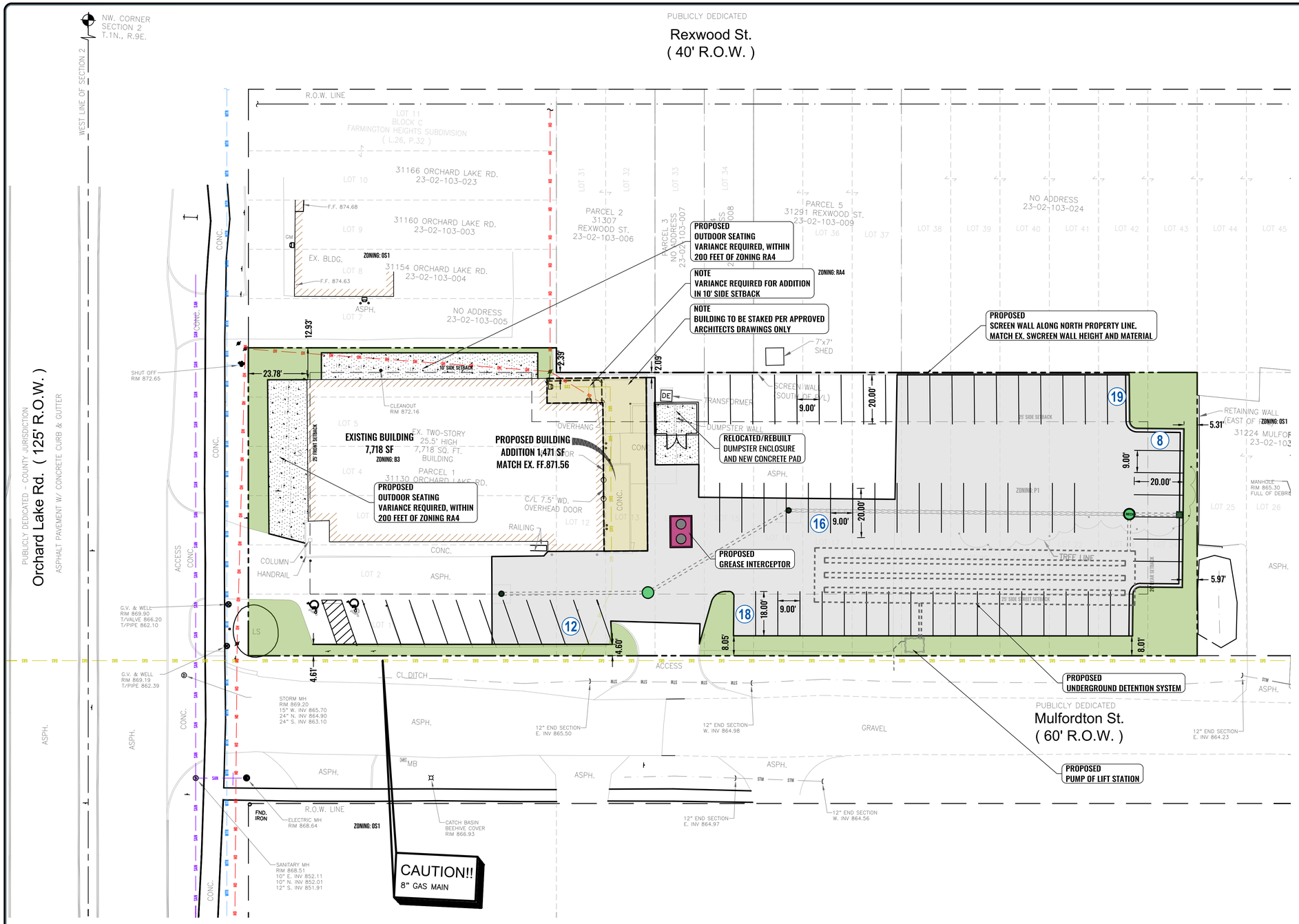
ISSUED FOR SITE PLAN APPROVAL

Revisions

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Sheet No.	C-4.0

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SITE PLAN LEGEND

- PROPERTY BOUNDARY LINE
- EASEMENT (AS NOTED)
- RIGHT OF WAY LINE
- SETBACK LINE
- GREENBELT AREA/LANDSCAPE AREA
- PROPOSED HMA PAVEMENT SECTION
- PROPOSED CONCRETE PAVEMENT SECTION
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CONCRETE CURB & GUTTER
- FURNISH AND INSTALL WOOD FENCE
- FURNISH AND INSTALL CHAIN LINK FENCE
- PROPOSED STORM SEWER STRUCTURE AS NOTED
- PROPOSED DOWNSPOUT
- SANITARY MANHOLE
- SANITARY CLEANOUT
- HYDRANT
- GATE VALVE
- PROPOSED SIGN
- FURNISH AND INSTALL WHEEL STOP
- FURNISH AND INSTALL BOLLARD
- FURNISH & INSTALL TRUNCATED DOME FOR ADA RAMP
- PROPOSED PARKING COUNT

SITE LAYOUT NOTES:

- ALL WORK SHALL COMPLY WITH VILLAGE/COUNTY /STATE/FEDERAL REGULATIONS, CODES & STANDARDS.
- ALL DIMENSIONS & RADII ARE TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL REFER TO THE APPROVED ARCHITECTURAL PLANS FOR PROPOSED BUILDING DIMENSIONS & UTILITY ENTRANCE LOCATIONS.
- ALL PROPOSED ADA RAMPS, PARKING AREAS & ACCESSIBLE ROUTES SHALL STRICTLY COMPLY WITH CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS, INCLUDING BUT NOT NECESSARILY LIMITED TO THE ADA (AMERICANS WITH DISABILITIES ACT) ACCESSIBILITY GUIDELINES (ADAAG).
- ALL ADA ACCESSIBLE ROUTES SHALL HAVE DETECTABLE WARNINGS INSTALLED AS REQUIRED BY THE ADAAG.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, (UNLESS OTHERWISE NOTED ON PLANS) INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES REQUIREMENTS AND PROJECT SITE WORK SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.
- SEE LANDSCAPING PLANS FOR PLANTINGS & DETAILS.

PROPOSED PARKING DATA

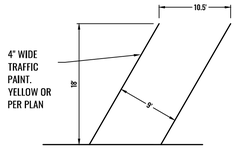
REQUIRED PARKING, 1 SPACE PER 85 SF OF USABLE FLOOR AREA (UFA)
ASSUME 80% OF GROSS FLOOR AREA (GFA) IS USABLE
ESTIMATED UFA = 0.80 × 9,189 = 7,351 SF
REQUIRED SPACES = 7,351 ÷ 85 = 86.48 → 87 SPACES
OUTDOOR DINING REQUIRES 1 SPACE PER 75 SF
REQUIRED SPACES = 1950 ÷ 75 = 26 SPACES
TOTAL REQUIRED SPACES = 87 + 26 = 113

PROVIDED PARKING

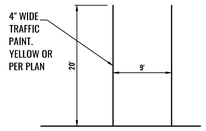
STD STALLS	= 7
ADA VAN ACCESSIBLE PROVIDED	= 2
TOTAL PROVIDED PARKING	= 73

NOTES

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60° ANGLE PARKING - DETAIL
NOT TO SCALE



90° ANGLE PARKING - DETAIL
NOT TO SCALE

PRIORITY ENGINEERING LLC

Engineer's Seal

STATE OF MICHIGAN
TEON C SUJAK
License No. 6201046896
LICENSED PROFESSIONAL ENGINEER

Certification

North

SCALE
0' 20' 40'
GRAPHIC SCALE: 1" = 20'

Project
PROPOSED BUILDING AND PARKING LOT IMPROVEMENT PLAN

Project Location
31130 ORCHARD LAKE ROAD FARMINGTON HILLS, MI 48334

Sheet Name
SITE PLAN

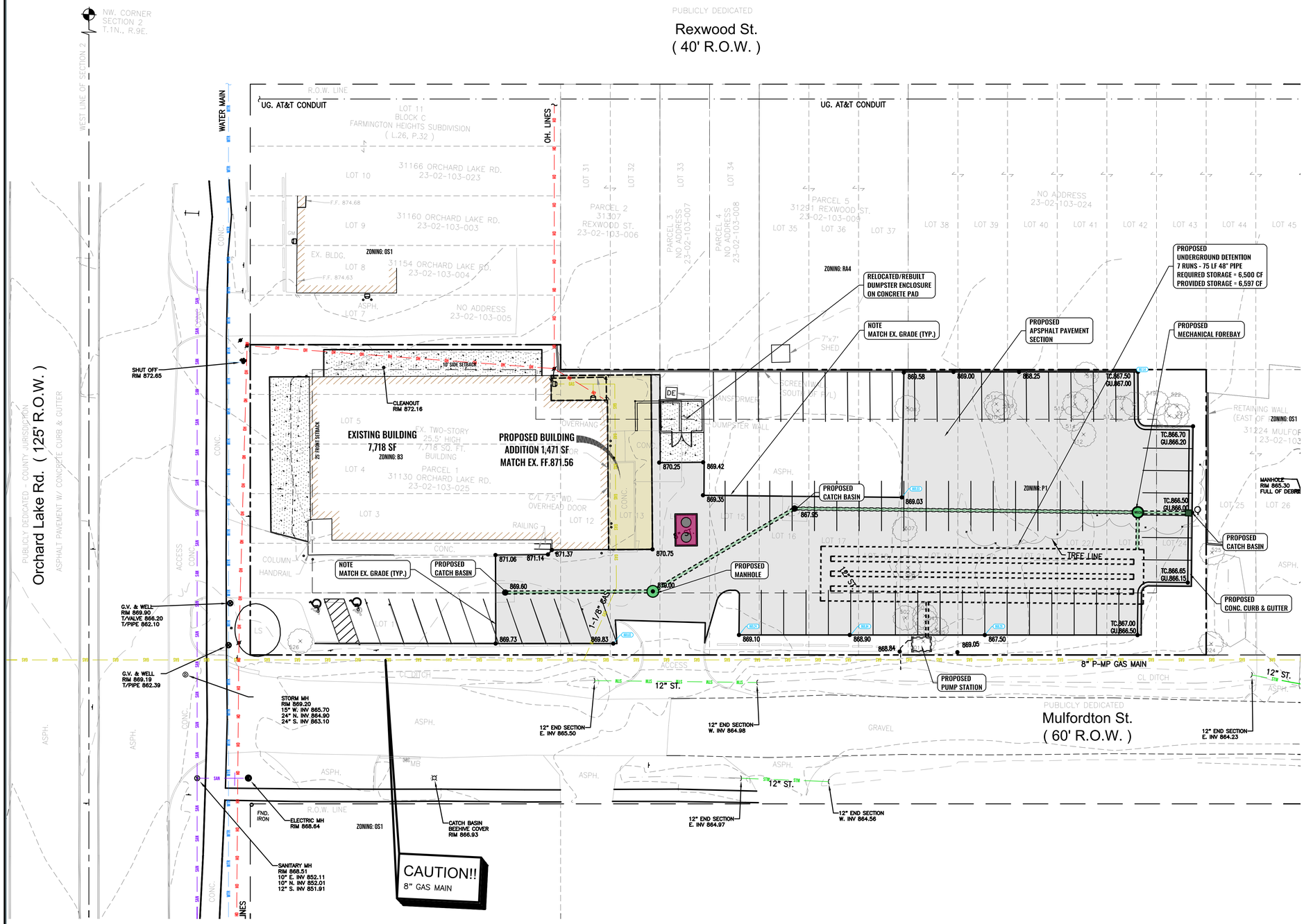
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ENG/CADD:	BH
Checked By:	TCS
PE Project No.	25-0117
Sheet No.	C-5.0

DRAWING NOTE: SCALE SHOWN IS MEANT FOR 24" X 36" AND WILL SCALE INCORRECTLY IF PRINTED ON ANY OTHER SIZE MEDIA BESIDES 11" X 17"
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PAVING & GRADING LEGEND

- PROPERTY BOUNDARY LINE
- PROPOSED R.O.W. LINE
- PROPOSED SETBACK LINE
- PROPOSED EASEMENT (AS NOTED)
- 80 — PROPOSED CONTOUR
- 80 — EXISTING CONTOUR
- PROPOSED STORM SEWER
- PROPOSED HMA PAVEMENT SECTION PER CITY STDS & SPECIFICATIONS
- PROPOSED CONCRETE SIDEWALK PER CITY STDS & SPECIFICATIONS
- PROPOSED CONCRETE PAVEMENT PER CITY STDS & SPECIFICATIONS
- PROPOSED STANDARD CURB PER VILLAGE/TWP/CITY STANDARD
- PROPOSED CATCH BASIN
- PROPOSED MECHANICAL FOREBAY
- PROPOSED CLEANOUT
- PROPOSED DOWNSPOUT
- 81.19 — PROPOSED SPOT ELEVATION
- SLOPE DIRECTION (PAVEMENT)
- SLOPE DIRECTION (GREENBELT)

PAVING NOTES

- CONTRACTOR TO CONTACT 811 AT LEAST THREE WORKING DAYS PRIOR TO EXCAVATION/CONSTRUCTION FOR UTILITY LOCATIONS.
- PROPOSED ELEVATIONS ARE SHOWN WHERE SIGNIFICANT GRADE CHANGES ARE ANTICIPATED. IF PROPOSED GRADES ARE NOT SHOWN THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING POSITIVE DRAINAGE WITH MIN. SLOPE OF 1.0%. LONGITUDINAL SLOPE ALONG GUTTER LINES SHALL BE 0.5% MIN.
- PROPOSED SIDEWALKS SHALL HAVE MIN. 1.0% AND MAX. 2.0% CROSS SLOPE AND A MAX. 5.0% RUNNING SLOPE UNLESS PARALLEL TO AN EXISTING DRIVE/ROAD.
- ADA ACCESSIBLE AREAS SHALL NOT EXCEED THE FOLLOWING SLOPES:
  - RAMPS - 1:12 (8.3%) MAX.
  - ROUTES - 1:20 (5.0%) MAX.
  - PARKING - 1:50 (2.0%) MAX.
  - CROSS SLOPES - 1:50 (2.0%) MAX.
- CONTRACTOR SHALL ADJUST ALL UTILITY RIMS LOCATED WITHIN THE WORK LIMITS AS NECESSARY TO BE FLUSH WITH THE PROPOSED FINISHED SURFACE. THIS INCLUDES ALL STORM MANHOLES, CATCH BASINS, CLEANOUTS, SANITARY MANHOLES AND CLEANOUTS, WATER MAIN MANHOLES, GATE VALVES, AND BOXES OR ANY OTHER UTILITY RIMS OR BOXES.
- WHERE PROPOSED PAVEMENT ABUTS EXISTING PAVEMENT DESIGNATED TO REMAIN, MATCH ELEVATIONS UNLESS INDICATED OTHERWISE ON THE PLANS.
- ADJUST GUTTER PAN FROM SPILL IN TO SPILL OUT AS REQUIRED TO ACHIEVE POSITIVE DRAINAGE AND AS INDICATED ON PLANS.
- ADJUST ELEVATION OF CURB REPAIRS AS REQUIRED TO ACHIEVE POSITIVE DRAINAGE.
- TAPER CURB HEIGHT TO 0" IN 5' WHEN ABUTTING TO EX. PAVEMENT WITHOUT CURB.
- NEW PAVEMENT SHALL BE OF THE TYPE, THICKNESS AND CROSS-SECTION INDICATED ON THE PLANS OR REFERRED BY A GEOTECHNICAL ENGINEER.
- MATCH EXISTING ELEVATIONS WHERE NEW PAVEMENT ABUTS EXISTING PAVEMENTS OR OTHER FIXED OBJECTS.
- CONTRACTOR SHALL MATCH EXISTING STRIPING PATTERNS UNLESS OTHERWISE SHOWN ON THE PLANS. CONTRACTOR SHALL DOCUMENT EXISTING STRIPING PATTERN PRIOR TO REMOVAL OF ANY PAVEMENT.
- CONTRACTOR IS RESPONSIBLE FOR LAYOUT TO PROVIDE POSITIVE SITE DRAINAGE. WATER PONDING AND BIRD BATHS SHALL BE CORRECTED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES OF CUT AND/OR FILL FOR ESTIMATING AND CONSTRUCTION AND SHOULD ALERT THE ENGINEER OF ANY EXCESSIVE CUT AND/OR FILL. ESPECIALLY IF ADDITIONAL CUT AND/OR FILL WILL BE REQUIRED DUE TO POOR EXISTING SOIL CONDITIONS DISCOVERED DURING EARTHWORK OPERATIONS.
- THE CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL / SOILS REPORT AND BECOME THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION AND FULLY IMPLEMENT RECOMMENDATIONS GIVEN THEREIN.
- SUBGRADE SOIL FOUND TO BE UNSUITABLE SHALL BE RECONDITIONED OR REPLACED AS DIRECTED BY THE ENGINEER, INCLUDING THE NECESSARY FINE GRADING TO ENSURE THAT MINIMUM SPECIFIED PAVEMENT THICKNESS IS ACHIEVED.

PRIORITY ENGINEERING LLC

Engineer's Seal
STATE OF MICHIGAN
TEON C SUJAK
License No. 6201046896
LICENSED PROFESSIONAL ENGINEER

Certification

North

SCALE
0' 20' 40'
GRAPHIC SCALE: 1" = 20'

Project
PROPOSED BUILDING AND PARKING LOT IMPROVEMENT PLAN

Project Location
31130 ORCHARD LAKE ROAD FARMINGTON HILLS, MI 48334

Sheet Name
PAVING & GRADING PLAN

ISSUED FOR SITE PLAN APPROVAL

Revisions

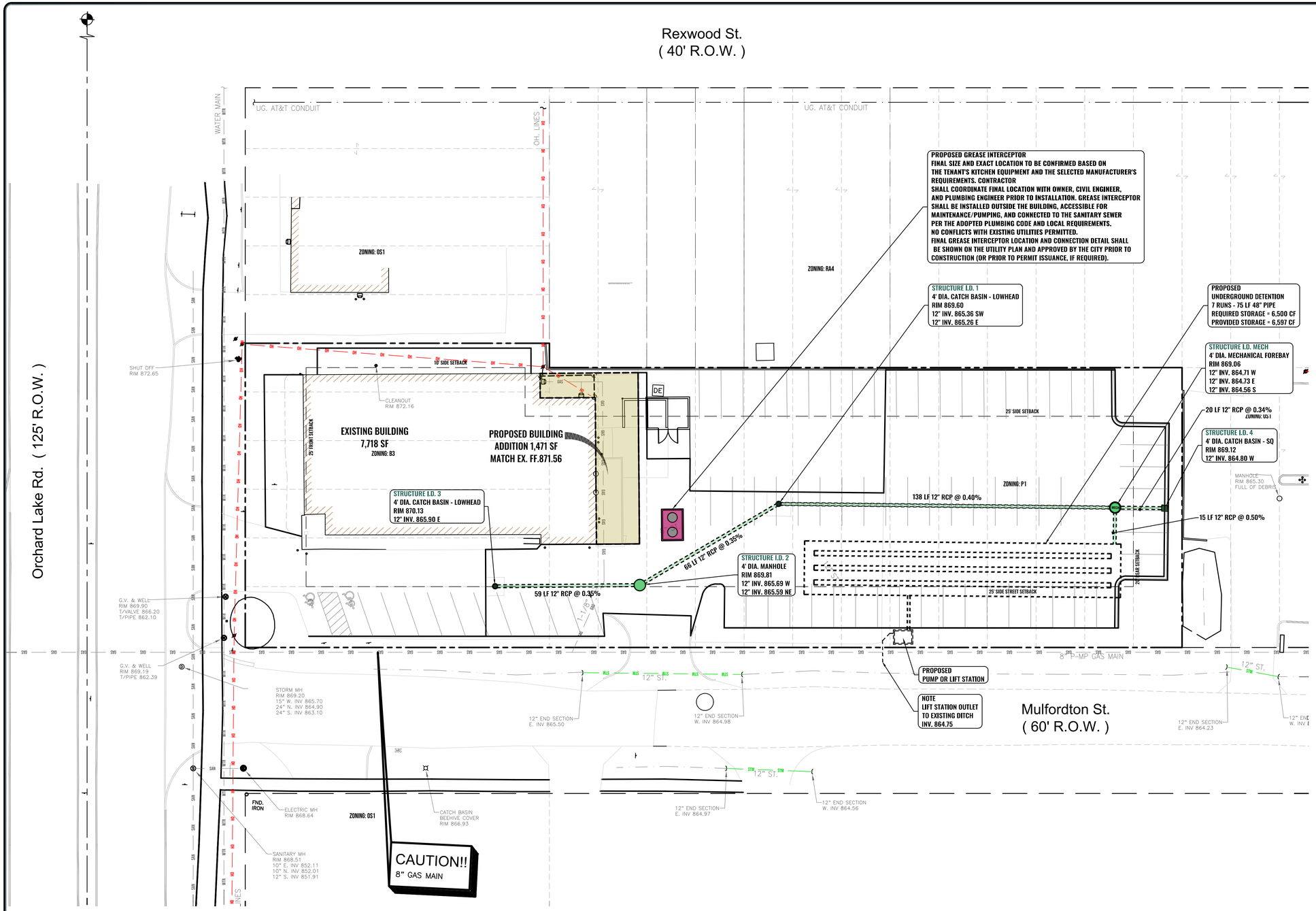
REV	ISSUED FOR	ISSUE DATE	BY

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Sheet No.	C-6.0

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UTILITY LEGEND

- PROPOSED STORM SEWER
- PROPOSED WATER MAIN
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED HYDRANT
- PROPOSED GATE VALVE
- PROPOSED DRAINAGE INLET STRUCTURE AS NOTED
- PROPOSED DRAINAGE MANHOLE
- PROPOSED DRAINAGE END SECTION (OUTFALL)
- PROPOSED CATCH BASIN AS NOTED
- PROPOSED REAR YARD CATCH BASIN
- PROPOSED MECHANICAL FOREBAY
- PROPOSED OUTLET CONTROL STRUCTURE
- PROPOSED OVERFLOW MANHOLE
- PROPOSED STORM CLEANOUT
- PROPOSED DOWNSPOUT

UTILITY NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS, SPECIFICATIONS AND GENERAL CONDITIONS OF THE AUTHORITY HAVING JURISDICTION.
- THE DEVELOPER IS RESPONSIBLE FOR RESOLVING ANY DRAINAGE PROBLEMS ON ADJACENT PROPERTIES WHICH ARE THE RESULT OF THE DEVELOPERS ACTIONS.
- CALL MISS DIG BEFORE YOU DIG CONTRACTOR SHALL NOTIFY MISS DIG 811 AT LEAST THREE (3) FULL WORKING DAYS PRIOR TO ANY EXCAVATION, GRADING, OR UNDERGROUND CONSTRUCTION IN ACCORDANCE WITH PUBLIC ACT 174 OF 2013 (MISS DIG UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT). CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES WHETHER SHOWN OR NOT AND SHALL COORDINATE UTILITY LOCATIONS WITH MISS DIG 811 AND ALL UTILITY OWNERS PRIOR TO COMMENCING WORK.
- THE EXISTING UTILITY INFRASTRUCTURE IS SUBJECT TO FIELD VERIFICATION. VERIFICATION OF THE SIZE, LOCATION, DEPTH, MATERIAL TYPE AND ANY OTHER PERTINENT INFORMATION IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO CONSTRUCTION.
- EXISTING BUILDING AND ADDITION ARE TO USE EXISTING GAS LEADS.
- STORM DETAILS TO BE SPECIFIED AT TIME OF PERMIT SUBMITTAL REVIEW.

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North

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0' 20' 40'
GRAPHIC SCALE: 1" = 20'

Project
PROPOSED BUILDING AND PARKING LOT IMPROVEMENT PLAN

Project Location
31130 ORCHARD LAKE ROAD FARMINGTON HILLS, MI 48334

Sheet Name
UTILITY PLAN

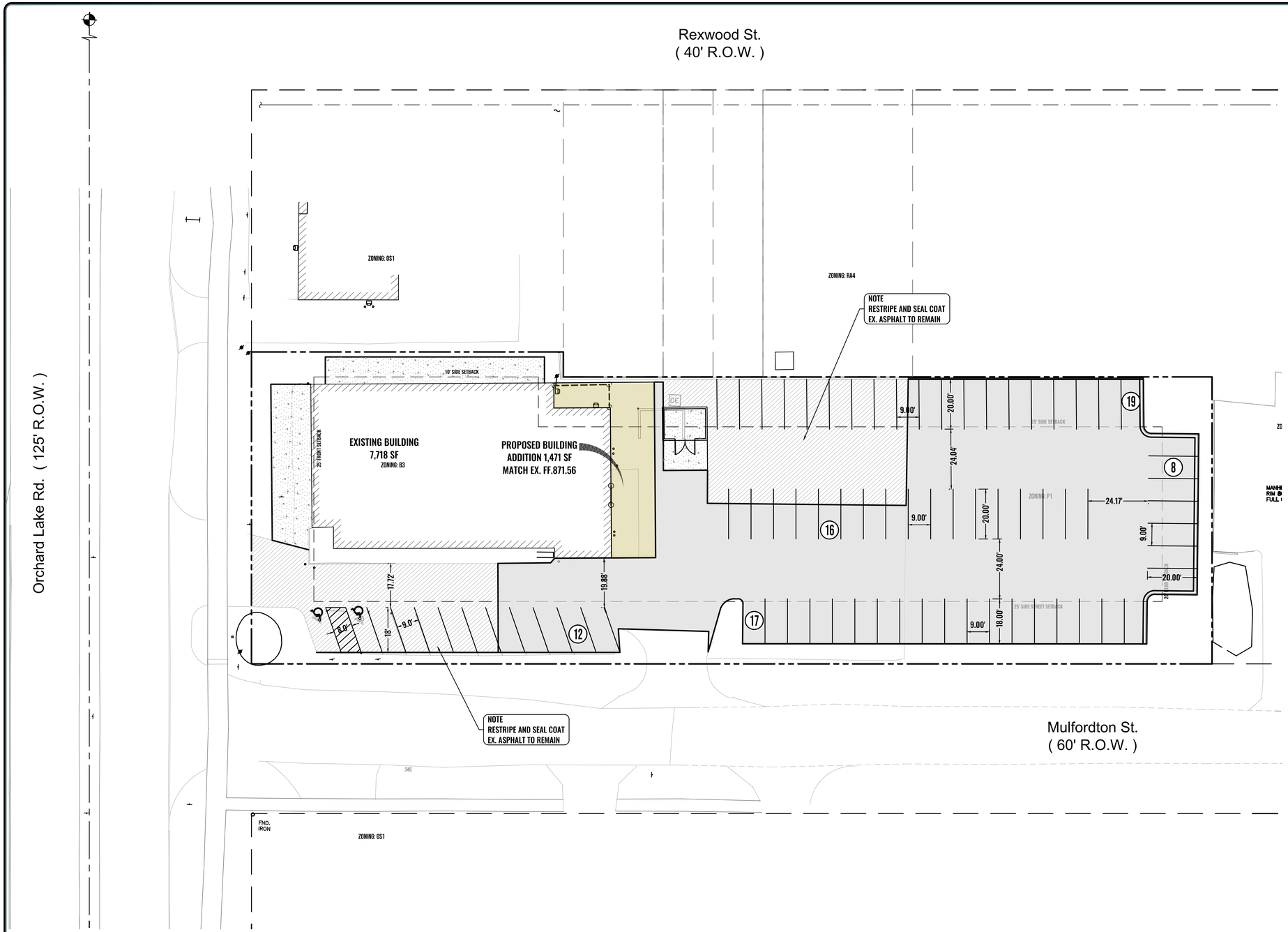
ISSUED FOR SITE PLAN APPROVAL

Revisions

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PAVEMENT MARKINGS & SIGNAGE LEGEND

- PROPOSED 24" WHITE STOP BAR (YELLOW IN CONCRETE AREAS)
- PROPOSED 4" THICK SOLID YELLOW LINE
- PROPOSED PEDESTRIAN CROSSWALK
- PROPOSED CRACK SEAL AND SEAL COAT
- PROPOSED HATCH MARKINGS @ 45° & 2' O.C.
- PROPOSED ADA SYMBOL
- PROPOSED PAINTED ARROWS
- PROPOSED SIGN ON POST IN GREENBELT AS INDICATED ON PLANS
- PROPOSED SIGN ON POST IN BOLLARD AS INDICATED ON PLANS

STRIPING & SIGNAGE GENERENOTE:

- ALL PAVEMENT MARKINGS AND SIGNAGE SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND ANY APPLICABLE STATE OR LOCAL AMENDMENTS.
- ALL PAVEMENT MARKINGS SHALL BE PAINT UNLESS OTHERWISE SPECIFIED. PAINT SHALL BE DURABLE, WATERBORNE, OR HIGH-BUILD TRAFFIC PAINT WITH GLASS BEADS MEETING ASTM D 6359 OR EQUIVALENT.
- MARKINGS SHALL BE APPLIED ONLY AFTER THE FINAL SURFACE COURSE IS PLACED, CLEANED, AND COMPLETELY DRY. NO PAINTING SHALL OCCUR WHEN TEMPERATURES ARE BELOW 50 °F OR WHEN PRECIPITATION IS EXPECTED WITHIN 24 HOURS.
- APPLY PAVEMENT MARKINGS IN TWO UNIFORM COATS AT A MINIMUM 15 MIL WET FILM THICKNESS PER COAT, OR AS RECOMMENDED BY THE MANUFACTURER. ALLOW EACH COAT TO CURE FULLY BEFORE TRAFFIC IS PERMITTED.
- LINE WIDTHS AND DIMENSIONS SHALL CONFORM TO MUTCD STANDARDS:
  4" — LANE LINES, EDGE LINES, AND PARKING STALLS
  6" — CHANNELIZING OR GORE LINES
  12" — STOP BARS
  24" — CROSSWALKS AND YIELD LINES
  YELLOW — CENTERLINES AND OPPOSING TRAFFIC SEPARATION
  WHITE — LANE AND PARKING MARKINGS
  BLUE — ACCESSIBLE (ADA) STALLS AND SYMBOLS
- ALL LAYOUT AND STRIPING SHALL BE FIELD-VERIFIED PRIOR TO APPLICATION. ADJUST MARKINGS AS NECESSARY TO ALIGN WITH AS-BUILT CURB LINES, PAVEMENT EDGES, AND DRIVE ENTRANCES.
- REMOVE ALL CONFLICTING OR OBSOLETE PAVEMENT MARKINGS BY GRINDING OR WATER-BLASTING PRIOR TO RESTRIPING. PAINTING OVER EXISTING LINES IS NOT PERMITTED.
- ALL NEWLY APPLIED MARKINGS SHALL ACHIEVE MINIMUM INITIAL RETROREFLECTIVITY OF:
  WHITE ≥ 250 MCD/M²/LX
  YELLOW ≥ 150 MCD/M²/LX
  (MEASURED PER ASTM E1710.)
- CONTRACTOR SHALL MAINTAIN APPROPRIATE TRAFFIC CONTROL DURING ALL STRIPING AND SIGN WORK IN ACCORDANCE WITH MUTCD PART 6, TEMPORARY TRAFFIC CONTROL.
- ALL PERMANENT TRAFFIC SIGNS SHALL BE FABRICATED FROM ALUMINUM BLANKS WITH ASTM D4956 TYPE IV (HIGH-INTENSITY PRISMATIC) REFLECTIVE SHEETING, UNLESS OTHERWISE NOTED.
- SIGN POSTS SHALL BE GALVANIZED OR PERFORATED SQUARE STEEL TUBE WITH BREAKAWAY BASES, INSTALLED PLUMB AND ALIGNED WITH TRAFFIC FLOW.
- SIGN INSTALLATION HEIGHTS AND OFFSETS SHALL CONFORM TO MUTCD REQUIREMENTS:
  7 FT MINIMUM CLEARANCE FROM BOTTOM OF SIGN TO GRADE IN PEDESTRIAN AREAS
  5 FT MINIMUM IN RURAL AREAS
  2 FT MINIMUM LATERAL OFFSET FROM FACE OF CURB (URBAN) OR 6 FT FROM PAVEMENT EDGE (RURAL)
- ALL SIGN LOCATIONS SHOWN ARE APPROXIMATE; VERIFY IN THE FIELD FOR VISIBILITY, SIGHT DISTANCE, AND CONFLICTS WITH UTILITIES, LANDSCAPING, OR STRUCTURES.
- PROTECT ALL NEWLY PAINTED MARKINGS AND INSTALLED SIGNAGE UNTIL FULLY CURED AND ACCEPTED. DAMAGED OR MARRED MARKINGS SHALL BE REMOVED AND REPLACED AT NO ADDITIONAL COST.
- ACCESSIBLE PARKING SPACES AND SIGNAGE SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) 2010 STANDARDS FOR ACCESSIBLE DESIGN AND APPLICABLE STATE ACCESSIBILITY CODES.
- ALL STRIPING AND SIGNAGE WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE ENGINEER AND THE GOVERNING AUTHORITY PRIOR TO FINAL ACCEPTANCE.

PROPOSED PARKING DATA

REQUIRED PARKING, 1 SPACE PER 85 SF OF USABLE FLOOR AREA (UFA)
ASSUME 80% OF GROSS FLOOR AREA (GFA) IS USABLE
ESTIMATED UFA = 0.80 × 9,189 = 7,351 SF
REQUIRED SPACES = 7,351 ÷ 85 = 86.48 → 87 SPACES
OUTDOOR DINING REQUIRES 1 SPACE PER 75 SF
REQUIRED SPACES = 1950 ÷ 75 = 26 SPACES
TOTAL REQUIRED SPACES = 87 + 26 = 113

PROVIDED PARKING
STD STALLS = 7
ADA VAN ACCESSIBLE PROVIDED = 2
TOTAL PROVIDED PARKING = 73

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Project
PROPOSED BUILDING AND PARKING LOT IMPROVEMENT PLAN

Project Location
31130 ORCHARD LAKE ROAD FARMINGTON HILLS, MI 48334

Sheet Name
PAVEMENT MARKING & SIGNAGE PLAN

ISSUED FOR SITE PLAN APPROVAL

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LANDSCAPE REQUIREMENTS

EXISTING SITE ZONING: B-3 GENERAL BUSINESS DISTRICT &
P-1 VEHICULAR PARKING DISTRICT
EXISTING SITE AREA: 45,525 S.F. OR 1.05 ACRES

TREE PRESERVATION

(SEE TREE PRESERVATION CHART)

EXISTING TREES AND REQUIRED REPLACEMENT TREES:

(25) EXISTING TREES ON SITE
- (13) EXISTING TREES IN POOR CONDITION (EXEMPTED) TO BE REMOVED
  - (0) REPLACEMENT TREES REQUIRED
- (9) EXISTING TREES IN FAIR CONDITION TO BE REMOVED
  - (9) REPLACEMENT TREES REQUIRED
- (3) EXISTING TREES IN GOOD CONDITION TO REMAIN
  - (0) REPLACEMENT TREES REQUIRED

PROPOSED REPLACEMENT TREES:

(9) REPLACEMENT TREES PROVIDED

PARKING LOT

REQUIRED PARKING LOT LANDSCAPING:
- 1 TREE REQUIRED PER 2,800 S.F. PAVED SURFACE AREA
- TREES REQUIRED: 27,343 S.F. / 2,800 S.F. = 9.77 OR 10 TREES
- ALL PARKING LOTS SHALL BE SEPARATED FROM A PUBLIC THOROUGHFARE BY A PLANTED HEDGE

PROPOSED PARKING LOT LANDSCAPING:
- TREES PROVIDED: 10 TREES
- PLANTED HEDGE PROVIDE ALONG MULFORDTON ST.

SUMMARY:

19 DECIDUOUS & EVERGREEN TREES REQUIRED	10 DECIDUOUS TREES PROVIDED 20 EVERGREEN TREES PROVIDED
19 TOTAL TREES REQUIRED	30 TOTAL TREES PROVIDED

TOTAL TREES PROVIDED MEETS REQUIREMENTS

Master Tree List

Client Name: The Mannik Smith Group
Job Number: N931
Job Location: 31130 Orchard Lake Road, Farmmington Hills, MI
Date Completed: 12/13/2023

Condition Description Notes:
"Good" - no observed structural defects*
"Fair" - minor structural defects, marginal form, some insect activity noted*
"Poor" - major structural defects, poor form, insect infested*

****Structural defects may include decayed wood, cracks, root problems, weak branch unions cankers, poor tree architecture, dead/failed branches due to various causes.***

Tree #	Botanical Name	Common Name	Dia.	Type	Other Dia.	Condition	Comments
501	Populus deltoides	Eastern Cottonwood	8.4	twin	7.4	fair	
502	Populus deltoides	Eastern Cottonwood	13.5			fair	trunk damage
503	Populus deltoides	Eastern Cottonwood	10	twin	6	fair	
504	Populus deltoides	Eastern Cottonwood	6.7			poor	leaning into #503
505	Populus deltoides	Eastern Cottonwood	8.7	multi	8.3,8.1,5.3,	poor	
506	Populus deltoides	Eastern Cottonwood	12	twin	7	fair	broken limbs, trunk damage
507	Robinia psuedoacacia	Black Locust	23.9			fair	insects, trunk damage
508	Populus deltoides	Eastern Cottonwood	9.9			fair	
509	Fraxinus pennsylvainca	Green Ash	13	multi	12,8	poor	horizontal habit
510	Fraxinus pennsylvainca	Green Ash	9			poor	
511	Fraxinus pennsylvainca	Green Ash	11	twin	8	poor	horizontal habit, suckering
512	Fraxinus pennsylvainca	Green Ash	12	multi	6,5,8,10	poor	horizontal habit, suckering
513	no tree w/ this tag						
514	Populus deltoides	Eastern Cottonwood	9			fair	
515	Ulmus pumila	Siberian Elm	11.6			fair	
516	Populus deltoides	Eastern Cottonwood	10	twin	8	fair	
517	Populus deltoides	Eastern Cottonwood	13.5	twin	11	poor	
518	Populus deltoides	Eastern Cottonwood	7.6	twin	6	poor	
519	Populus deltoides	Eastern Cottonwood	9			poor	crowded
520	Populus deltoides	Eastern Cottonwood	10.2			poor	
521	Ulmus pumila	Siberian Elm	7.5			poor	
522	Populus deltoides	Eastern Cottonwood	7.5			poor	
523	Fraxinus pennsylvainca	Green Ash	6.5			poor	horizontal habit, suckering
524	Acer rubrum	Red Maple	5.8			good	
525	Acer rubrum	Red Maple	5			good	
526	Malus spp	Crabapple	6.8			good	

TREE PRESERVATION SUMMARY

TOTAL NUMBER OF TREES SURVEYED:	25
TOTAL NUMBER OF TREES IN GOOD CONDITION:	3
TOTAL NUMBER OF TREES IN FAIR CONDITION:	9
TOTAL NUMBER OF TREES IN POOR CONDITION:	13
TOTAL NUMBER OF TREES TO BE REMOVED:	22
TOTAL NUMBER OF TREES TO REMAIN:	3

TREE INVENTORY NOTES

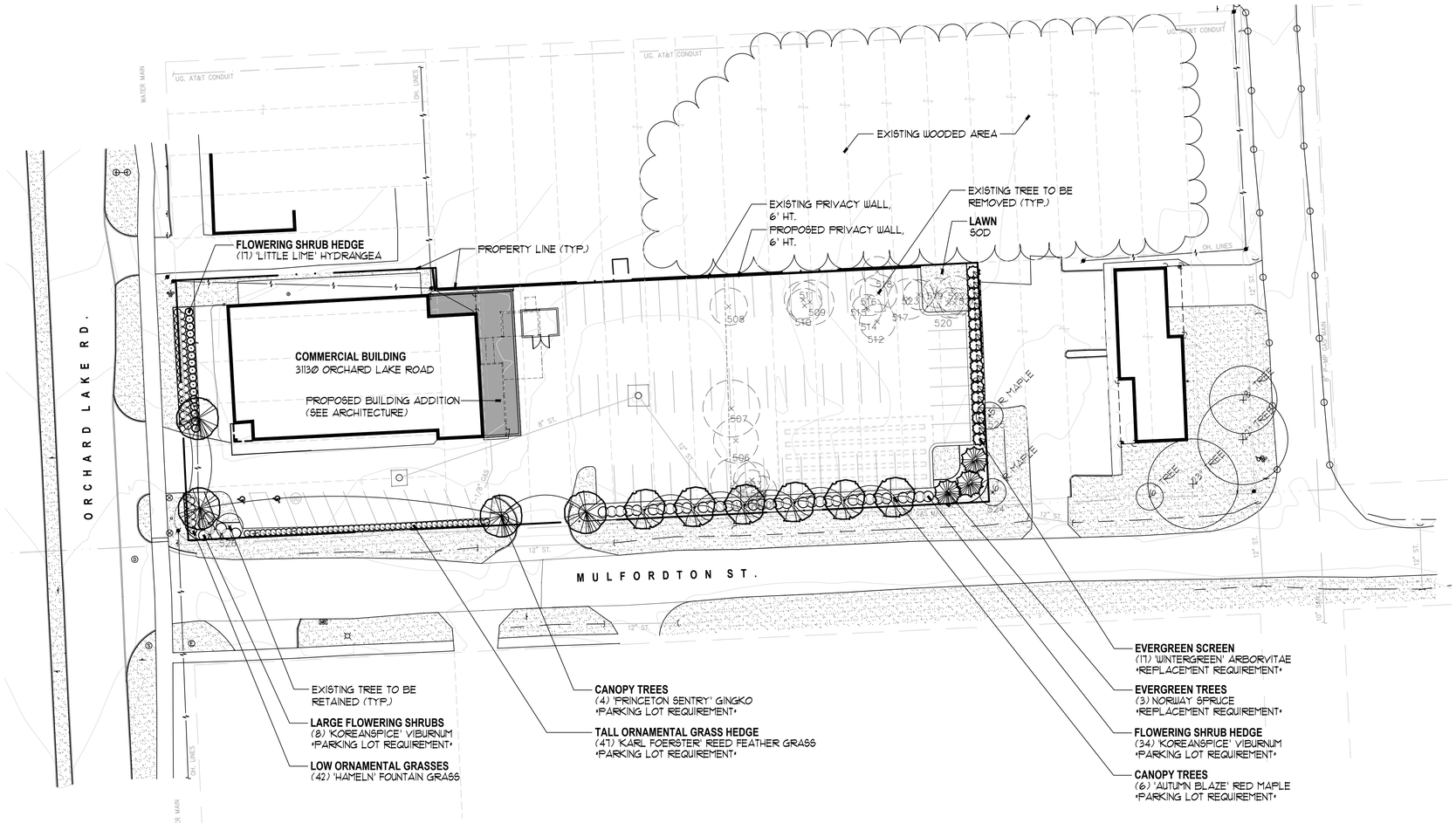
TREE INVENTORY LIST PROVIDED BY NF ENGINEERS CONFIRMED BY DUL LANDSCAPE ARCHITECTURE FALL 2025

IRRIGATION NOTES

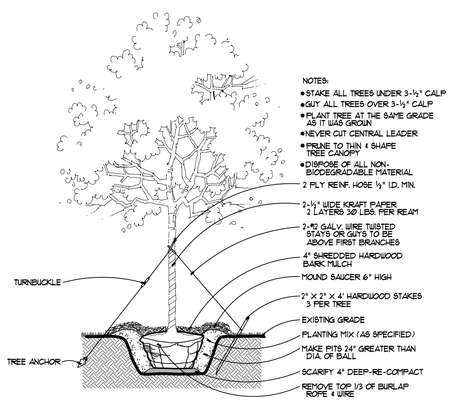
1.) INSTALL UNDERGROUND AUTOMATIC IRRIGATION SYSTEM FOR ALL PROPOSED LAWN, TREE AND PLANTING BEDS.
2.) USE SEPARATE ZONES FOR LAWN, DECIDUOUS SHRUBS, AND EVERGREEN SHRUBS.
3.) WATER SOURCED FROM CITY WATER/ BUILDING TAP
4.) OWNER TO DECIDE IRRIGATION CONTROLLER LOCATION.

PLANT & MATERIAL SCHEDULE

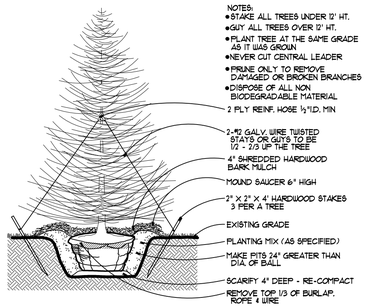
Sym.	Qty.	Botanical Name	Common Name	Size	Root	Comments
		Evergreen Trees				
PAN	3	Picea abies	Norway Spruce	10' ht.	B&B	Unsheared, branched to ground
PAN	17	Thuja occidentalis 'Hetz Wintergreen'	Hetz Wintergreen Arborvitae	6' ht.	B&B	Unsheared, branched to ground
		Deciduous Trees				
ARA	6	Acer rubrum 'Autumn Blaze'	Autumn Blaze Red Maple	3-3 1/2" cal.	B&B	Full uniform heads, single stem
GBP	4	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry Ginkgo	3" cal.	B&B	Full uniform heads, single stem
		Flowering Shrubs				
HPL	17	Hydrangea paniculata 'Little Lime''	Little Lime Hydrangea	3 gal.	Can	Min. 3 gal., space 42" o.c.
VCC	42	Viburnum carlessi 'Koreanspice''	Koreanspice Viburnum	3 gal.	Can	Min. 3 gal., space 48" o.c.
		Perennials & Ornamental Grasses				
CAK	47	Calamagrostis acutiflora 'Karl Foerster'	Karl Foerster Reed Feather Grass	3 gal.	Can	Space 36" o.c.
PAH	42	Pennisetum alopecuroides 'Hameln'	Hameln Fountain Grass	1 gal.	Can	Space 30" o.c.
		Materials				
SB		Shredded hardwood bark mulch (seasoned, dark brown), 3" deep in perennial and groundcover beds, 4" depth in shrub/tree beds.				
PM		Planting mix - 3 parts well drained screened imported topsoil, to 1 part clean sand, to 1 part Canadian sphagnum peat moss,				
RE		3/16" x 4" J.D. Russell Steel Edging (BLACK)-install per manufacturer's specifications				
SOD		Finegrade and Sod (Class 'A' Blended Bluegrass) on a minimum 3" imported, screened topsoil				



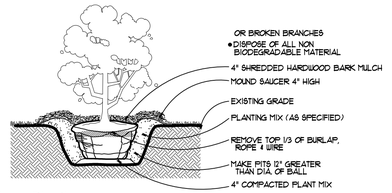
A L1 LANDSCAPE PLAN
Plan 1"=30'-0"



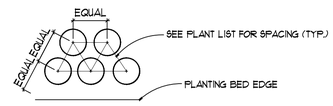
B L1 Deciduous Tree Planting
Section No Scale



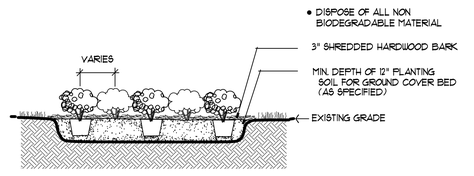
C L1 Evergreen Tree Planting
Section No Scale



D L1 Shrub Planting
Section No Scale



E L1 Ground Cover / Perennial Planting
Plan No Scale



F L1 Ground Cover / Perennial Planting
Section No Scale

dūL
LANDSCAPE ARCHITECTURE
248.644.3410
duldesign.com

COMMERCIAL PROPERTY
31130 Orchard Lake Rd.
Farmington Hills, Michigan 48334

PROJECT

PRELIMINARY

Landscape Development
LANDSCAPE PLAN

SHEET TITLE

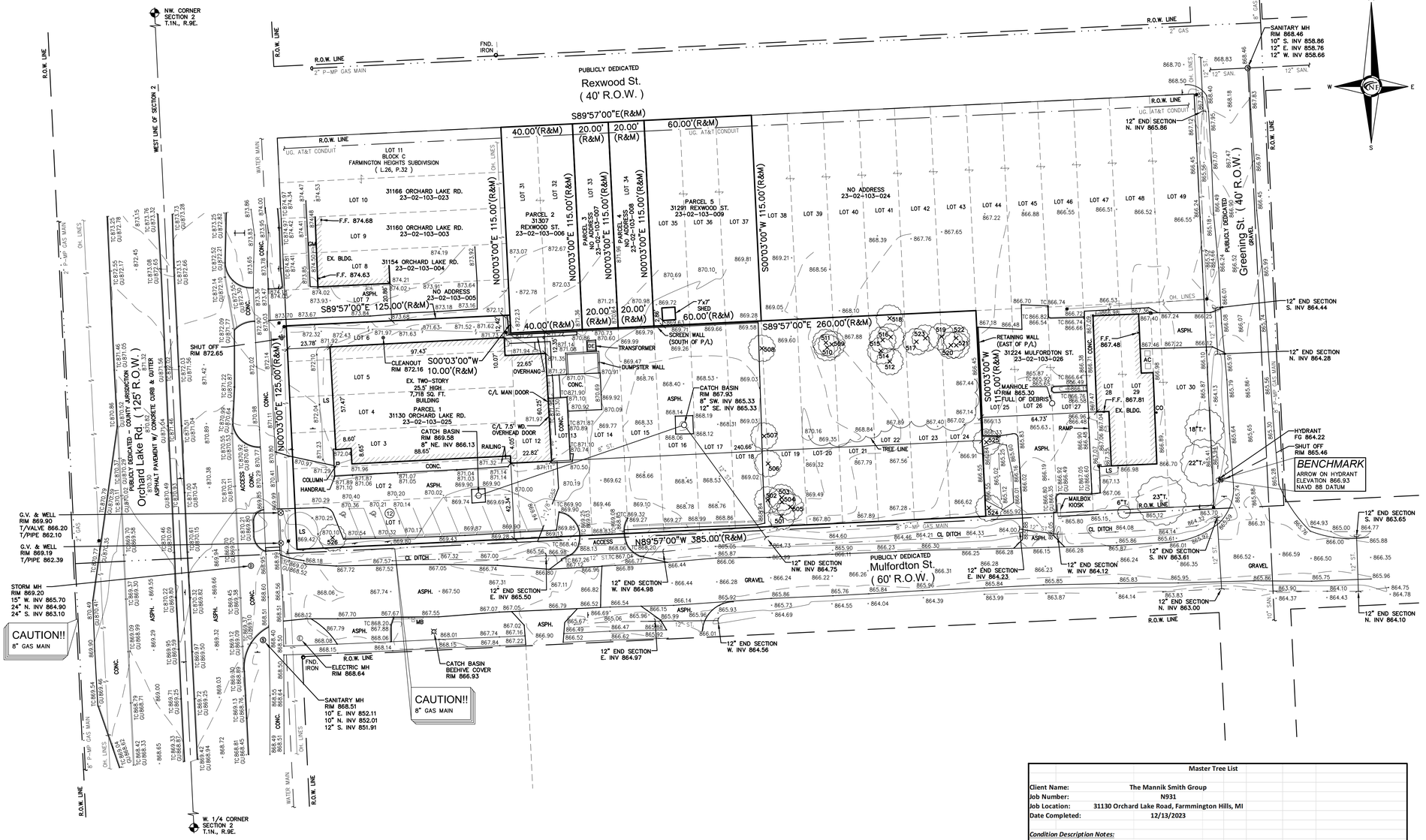
STATE OF MICHIGAN
TIMOTHY F. SHOEMAKER
LANDSCAPE ARCHITECT
NO. 1680
REGISTERED LANDSCAPE ARCHITECT

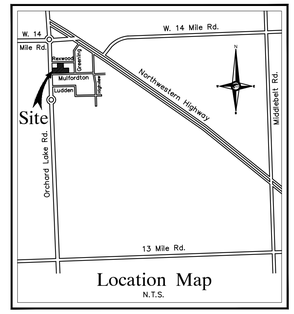
1"=30'-0" NORTH

SCALE

PROJECT NUMBER: 25193
DRAWN: M. Jacobs
CHECKED: T. Shoemaker
DATE: January 22, 2026
REVISIONS:

L1





LEGAL DESCRIPTIONS - PER RECORD

PARCEL 1:
LOTS 1 TO 6 INCLUSIVE BLOCK C, ALSO LOTS 12 TO 24 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.

TAX ID NUMBER: 23-02-103-025

ADDRESS:
31130 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341

PARCEL 2:
LOTS 31 TO 32 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.

TAX ID NUMBER: 23-02-103-006

ADDRESS:
31307 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341

PARCEL 3:
LOT 33 BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.

TAX ID NUMBER: 23-02-103-007

ADDRESS: NONE

PARCEL 4:
LOT 34 BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.

TAX ID NUMBER: 23-02-103-008

ADDRESS: NONE

PARCEL 5:
LOTS 35 TO 37 INCLUSIVE BLOCK C OF FARMINGTON HEIGHTS SUBDIVISION, BEING A PART OF THE WEST 1/2 OF THE NORTHWEST 1/4 OF SECTION 2, TOWN 1 NORTH, RANGE 9 EAST, FARMINGTON TOWNSHIP (NOW FARMINGTON HILLS), OAKLAND COUNTY, MICHIGAN AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS.

TAX ID NUMBER: 23-02-103-009

ADDRESS:
31291 ORCHARD LAKE RD., FARMINGTON HILLS, MI 48334-1341

SURVEY DATA

SITE AREA:
PARCEL 1: 45,525.00 SQUARE FEET OR 1.045 ACRES
PARCEL 2: 4,600.00 SQUARE FEET OR 0.106 ACRES
PARCEL 3: 2,300.00 SQUARE FEET OR 0.053 ACRES
PARCEL 4: 2,300.00 SQUARE FEET OR 0.053 ACRES
PARCEL 5: 6,900.00 SQUARE FEET OR 0.158 ACRES

ZONED:
PARCEL 1: B-3, GENERAL BUSINESS DISTRICT AND P-1, VEHICULAR PARKING DISTRICT
PARCEL 2: RA-4, ONE FAMILY RESIDENTIAL DISTRICT
PARCEL 3: RA-4, ONE FAMILY RESIDENTIAL DISTRICT
PARCEL 4: RA-4, ONE FAMILY RESIDENTIAL DISTRICT
PARCEL 5: RA-4, ONE FAMILY RESIDENTIAL DISTRICT

PARKING SPACES:
PARCEL 1:12 TOTAL SPACES, INCLUDING 2 BARRIER-FREE SPACES
PARCELS 2-5: NONE

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 FARMINGTON HILLS TO INSURE CONFORMITY AS WELL AS MAKE A FINAL DETERMINATION OF THE REQUIRED BUILDING SETBACK REQUIREMENTS.

LEGEND

MANHOLE(MH)	EXISTING SANITARY SEWER
CO	EXISTING SAN. CLEAN OUT
HYDRANT(HYD)	EXISTING WATER MAIN
GATE VALVE(GVW)	EXISTING STORM SEWER
MANHOLE(MH) CATCH BASIN(CB)	EX. BEEHIVE CATCH BASIN
CBB	EX. UNDERGROUND (UG.) CABLE
UTILITY POLE GUY POLE	OVERHEAD (OH.) LINES
UP GUY WIRE	LIGHT POLE
LP	SIGN
	EXISTING GAS MAIN
ASPH.	ASPHALT
CONC.	CONCRETE
FD. / FND.	FOUND
RET. WALL	RETAINING WALL
R.O.W.	RIGHT-OF-WAY
SPK	SET PK NAIL
(TYP)	TYPICAL
(R)	RECORD
(M)	MEASURED
C/L	CENTERLINE
P/L	PROPERTY LINE
GM	GAS METER
EM	ELECTRIC METER
LS	LANDSCAPE
DS	DOWNSPOUT
GP	GUARD POST
MB	MAIL BOX

TOPOGRAPHIC SURVEY NOTES

ALL ELEVATIONS ARE EXISTING ELEVATIONS, UNLESS OTHERWISE NOTED.

UTILITY LOCATIONS WERE OBTAINED FROM MUNICIPAL OFFICIALS AND RECORDS OF UTILITY COMPANIES, AND NO GUARANTEE CAN BE MADE TO THE COMPLETENESS, OR EXACTNESS OF LOCATION.

THIS SURVEY MAY NOT SHOW ALL EASEMENTS OF RECORD UNLESS AN UPDATED TITLE POLICY IS FURNISHED TO THE SURVEYOR BY THE OWNER.

DTE DISCLAIMER NOTE

PLEASE NOTE THAT 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

CERTIFICATE OF SURVEY

WE HEREBY CERTIFY THAT WE HAVE SURVEYED THE PROPERTY HEREIN DESCRIBED.

KEVIN NAVAROLI, P.S. NO. 4001053503
DATE OF PLAT OR MAP: 12-28-2023

STATE OF MICHIGAN
KEVIN CHRISTOPHER NAVAROLI
License No. 4001053503
REGISTERED PROFESSIONAL SURVEYOR

BASIS OF BEARING NOTE

ALL BEARINGS ARE IN RELATION TO THE PREVIOUSLY ESTABLISHED WEST LINE OF SECTION 2 OF FARMINGTON HEIGHTS SUBDIVISION AS RECORDED IN LIBER 26 OF PLATS, PAGE 32, OAKLAND COUNTY RECORDS. (N.00°03'E.)

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 FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NO. 26125C0513F BEARING AN EFFECTIVE DATE OF 09/29/2006.

MISS DIG / UTILITY DISCLAIMER NOTE

A MISS DIG TICKET NUMBER 2023121101061, PURSUANT TO MICHIGAN PUBLIC ACT 174 WAS ENTERED FOR THE SURVEYED PROPERTY. DUE TO THE EXTENDED REPORTING PERIOD FOR UNDERGROUND FACILITY OWNERS TO PROVIDE THEIR RECORDS, THE SURVEY MAY NOT REFLECT ALL THE UTILITIES AT THE TIME THE SURVEY WAS ISSUED ON DECEMBER 28, 2023. THE SURVEY ONLY REFLECTS THOSE UTILITIES WHICH COULD BE OBSERVED BY THE SURVEYOR IN THE FIELD OR AS DEPICTED BY THE UTILITY COMPANY RECORDS FURNISH PRIOR TO THE DATE THIS SURVEY WAS ISSUED. THE CLIENT AND/OR THEIR AUTHORIZED AGENT SHALL VERIFY WITH THE FACILITY OWNERS AND/OR THEIR AUTHORIZED AGENTS, THE COMPLETENESS AND EXACTNESS OF THE UTILITIES LOCATION.

Master Tree List

Client Name: The Mannik Smith Group
Job Number: N931
Job Location: 31130 Orchard Lake Road, Farmmington Hills, MI
Date Completed: 12/13/2023

Condition Description Notes:
"Good" - no observed structural defects*
"Fair" - minor structural defects, marginal form, some insect activity noted*
"Poor" - major structural defects, poor form, insect infested*

*Structural defects may include decayed wood, cracks, root problems, weak branch unions cankers, poor tree architecture, dead/failed branches due to various causes.

Tree #	Botanical Name	Common Name	Dia.	Type	Other Dia.	Condition	Comments
501	Populus deltoides	Eastern Cottonwood	8.4	twin	7.4	fair	
502	Populus deltoides	Eastern Cottonwood	13.5			fair	trunk damage
503	Populus deltoides	Eastern Cottonwood	10	twin	6	fair	
504	Populus deltoides	Eastern Cottonwood	6.7			poor	leaning into #503
505	Populus deltoides	Eastern Cottonwood	8.7	multi	8.3,8.1,5.3,	poor	
506	Populus deltoides	Eastern Cottonwood	12	twin	7	fair	broken limbs, trunk damage
507	Robinia psuedoacacia	Black Locust	23.9			fair	insects, trunk damage
508	Populus deltoides	Eastern Cottonwood	9.9			fair	
509	Fraxinus pennsylvainca	Green Ash	13	multi	12,8	poor	horizontal habit
510	Fraxinus pennsylvainca	Green Ash	9			poor	
511	Fraxinus pennsylvainca	Green Ash	11	twin	8	poor	horizontal habit, suckering
512	Fraxinus pennsylvainca	Green Ash	12	multi	6,5,8,10	poor	horizontal habit, suckering
513	no tree w/ this tag						
514	Populus deltoides	Eastern Cottonwood	9			fair	
515	Ulmus pumila	Siberian Elm	11.6			fair	
516	Populus deltoides	Eastern Cottonwood	10	twin	8	fair	
517	Populus deltoides	Eastern Cottonwood	13.5	twin	11	poor	
518	Populus deltoides	Eastern Cottonwood	7.6	twin	6	poor	
519	Populus deltoides	Eastern Cottonwood	9			poor	crowded
520	Populus deltoides	Eastern Cottonwood	10.2			poor	
521	Ulmus pumila	Siberian Elm	7.5			poor	
522	Populus deltoides	Eastern Cottonwood	7.5			poor	
523	Fraxinus pennsylvainca	Green Ash	6.5			poor	horizontal habit, suckering
524	Acer rubrum	Red Maple	5.8			good	
525	Acer rubrum	Red Maple	5			good	
526	Malus spp	Crabapple	6.8			good	

NF ENGINEERS
CIVIL ENGINEERS
LAND SURVEYORS
LAND PLANNERS

NOWAK & FRAUS ENGINEERS
46777 WOODWARD AVE.
PONTIAC, MI 48342-5032
TEL. (248) 332-7931
FAX. (248) 332-8257
WWW.NFE-ENGR.COM

SEAL

PROJECT
31130 Orchard Lake Rd. /
31291 & 31307 Rexwood St.
Farmington Hills, MI 48334

CLIENT
The Mannik Smith Group

Contact:
Kyle Wrentmore, PE
Phone: 614.441.4222 x 1202
Email:
kwrentmore@manniksmithgroup.com

PROJECT LOCATION
Part of the NW 1/4
of Section 2
T.1N., R.9E.,
City of Farmington Hills,
Oakland County, Michigan

SHEET
Boundary / Topographic / Tree Survey

811 Know what's below Call before you dig.

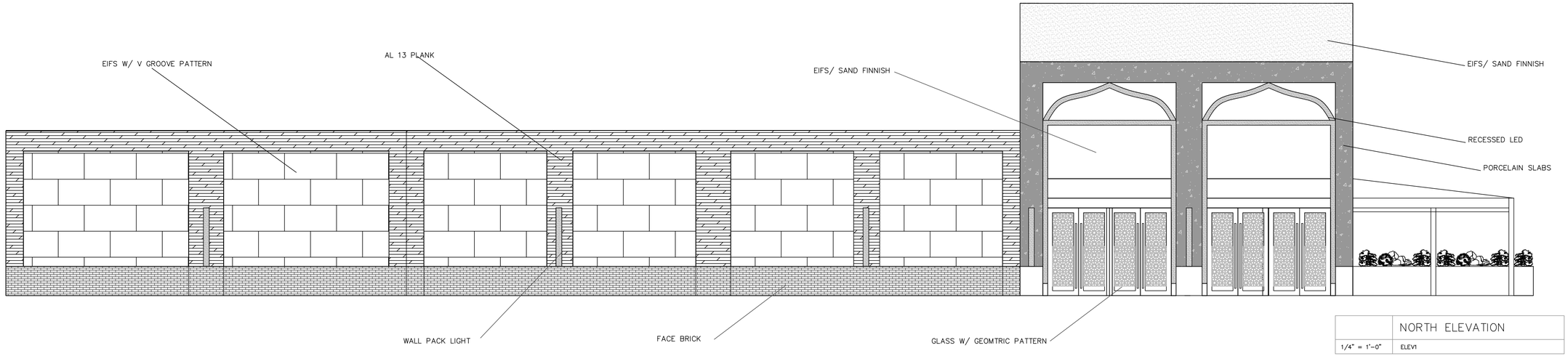
DATE	ISSUED/REVISED
12-28-23	SURVEY ISSUED

DRAWN BY:
M. Carnaghi
DESIGNED BY:

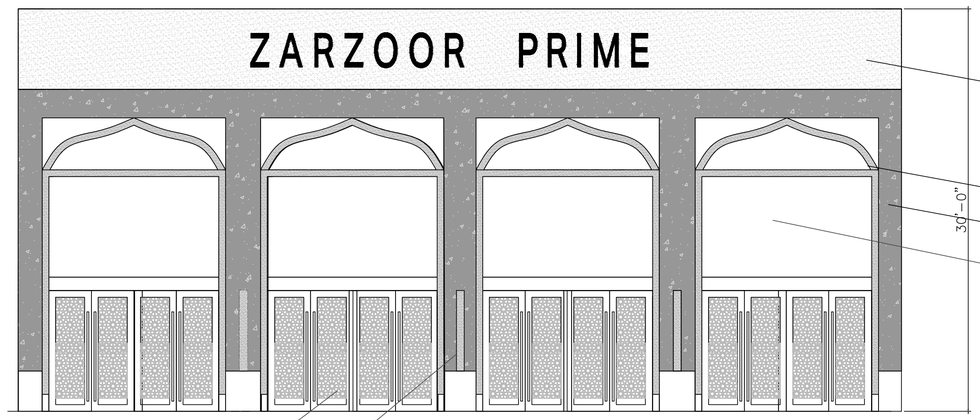
APPROVED BY:
K. Navaroli
DATE:
December 28, 2023

SCALE: 1" = 30'
30 15 0 15 30 45

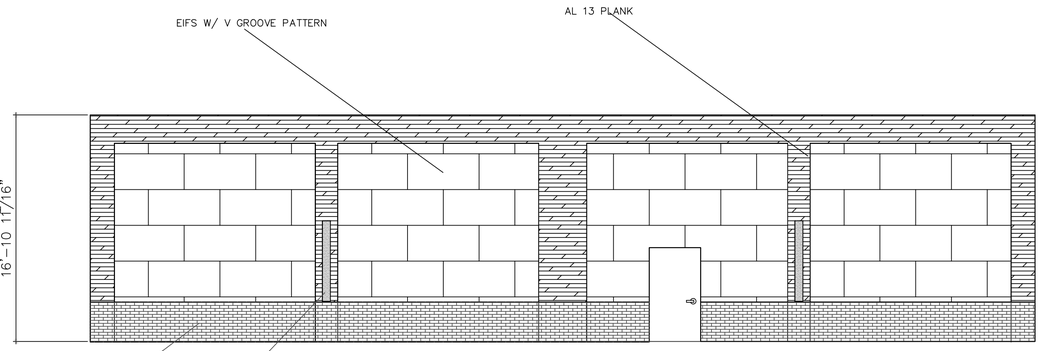
NFE JOB NO. N931
SHEET NO. 1 of 1



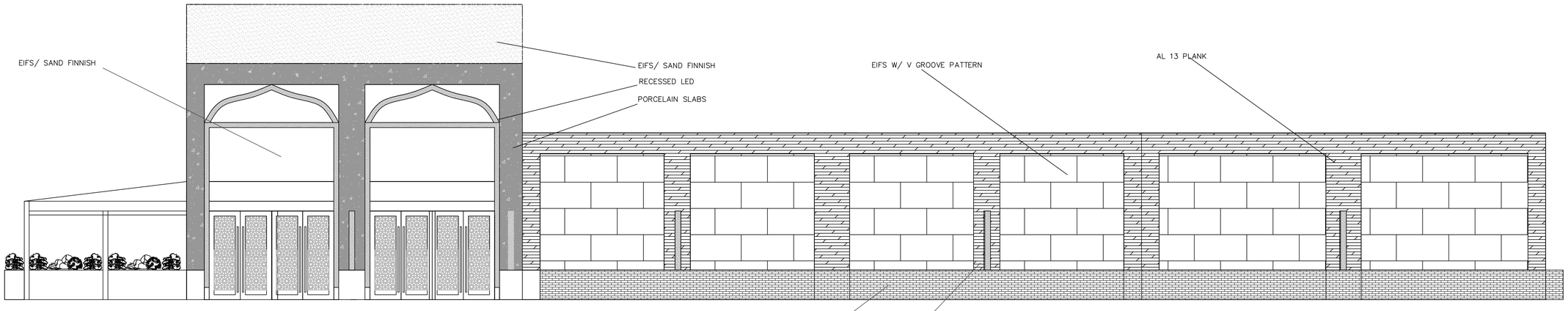
	NORTH ELEVATION
1/4" = 1'-0"	ELEV1



	WEST ELEVATION
1/4" = 1'-0"	ELEV1



	EAST ELEVATION
1/4" = 1'-0"	ELEV1



	SOUTH ELEVATION
1/4" = 1'-0"	ELEV1

FACADE MATERIAL FINISH SCHEDULE

	PRODUCT	MANUFACTURER	PATTERN / NUMBER	COLOR	SIZE / WEIGHT / FINISH
AL-13	PLANK SYSTEM 6"	AL13 ARCHITECT. SYSTEMS	SOLID	DRIFT WOOD	7 1/4" X 5/6" (6" SIDDING EXPOSURE)
EIFS	EXTERIOR INSULATION AND FINNISHING SYSTEMS	DRYVIT	103	NATURAL WHITE	FINE/ FINNISH
PORC	PORCEALIN SLAB	SAPIENSTONE	BASALT CREAM	BASALT CREAM	HONED 12MM
BRICK	FACE BRICK	BELDEN	FACE BRICK C216	ANCHOR GREY VELOUR	UTILITY 3 5/8" X 11 5/8"

JJV DESIGN GROUP
1565 KIRKWAY RD
BLOOMFIELD MI 48302
248-724-8226

ZARZOOR

ZARZOOR PIRME
31130 ORCHARD LAKE RD
FARMINGTON HILLS, MI

DRAWN:	DESIGNED:	CHECKED:
JJ	JJ	JJ

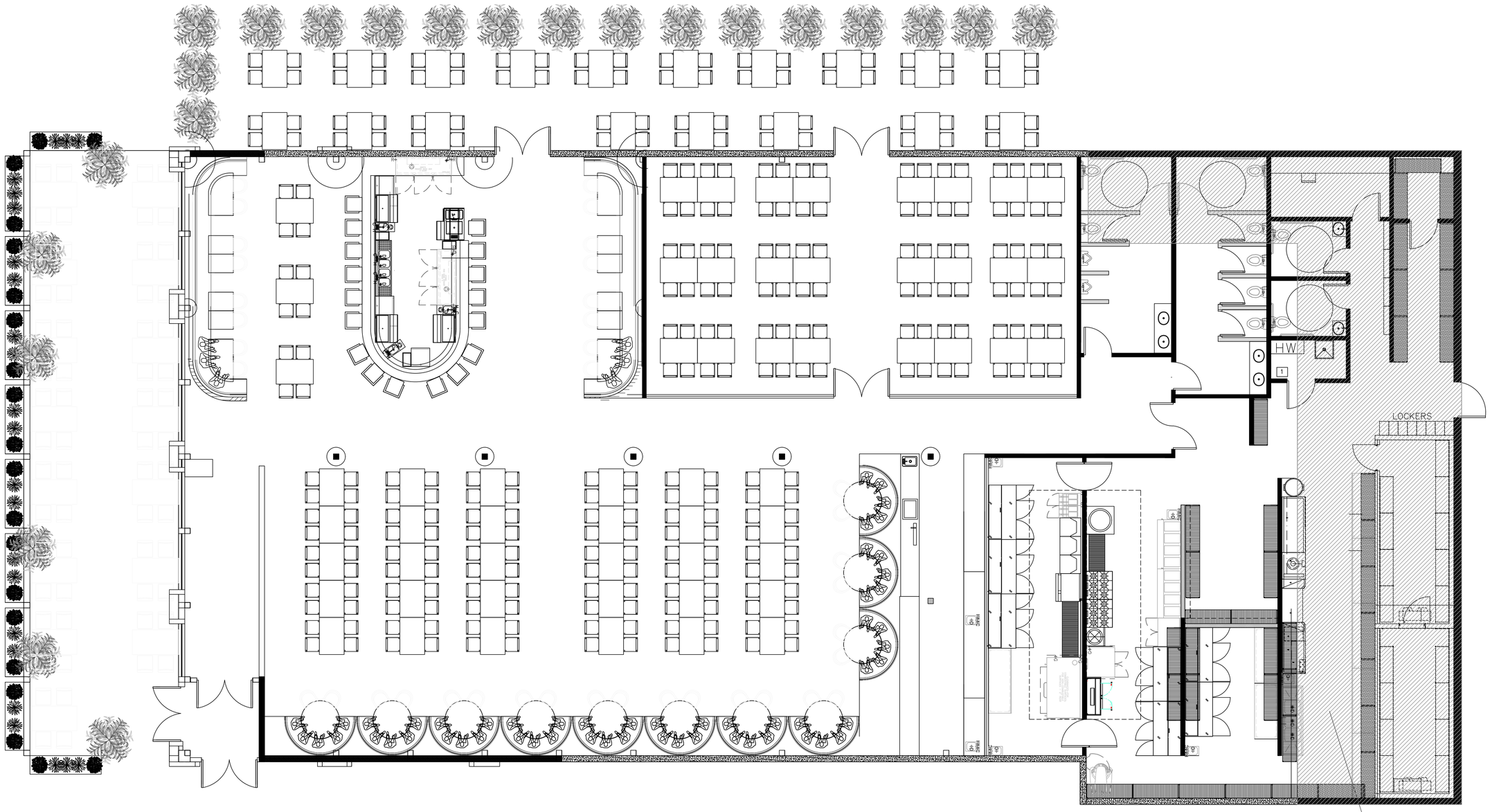
SCALE : 3/16"=1'

FILE NAME : ZARZOOR

JOB #: 010607

SHEET TITLE
ZARZOOR PRIME ELEVATIONS

SHEET #
ELEV1



EGRESS PLAN

1/4" = 1'-0" EGRES

JJV DESIGN GROUP
1565 KIRKWAY RD
BLOOMFIELD MI 48302
248-724-8226

ZARZOOR

ZARZOOR PIRME
31130 ORCHARD LAKE RD
FARMINGTON HILLS, MI

DRAWN:	DESIGNED:	CHECKED:
JJ	JJ	JJ

SCALE : 3/16"=1'

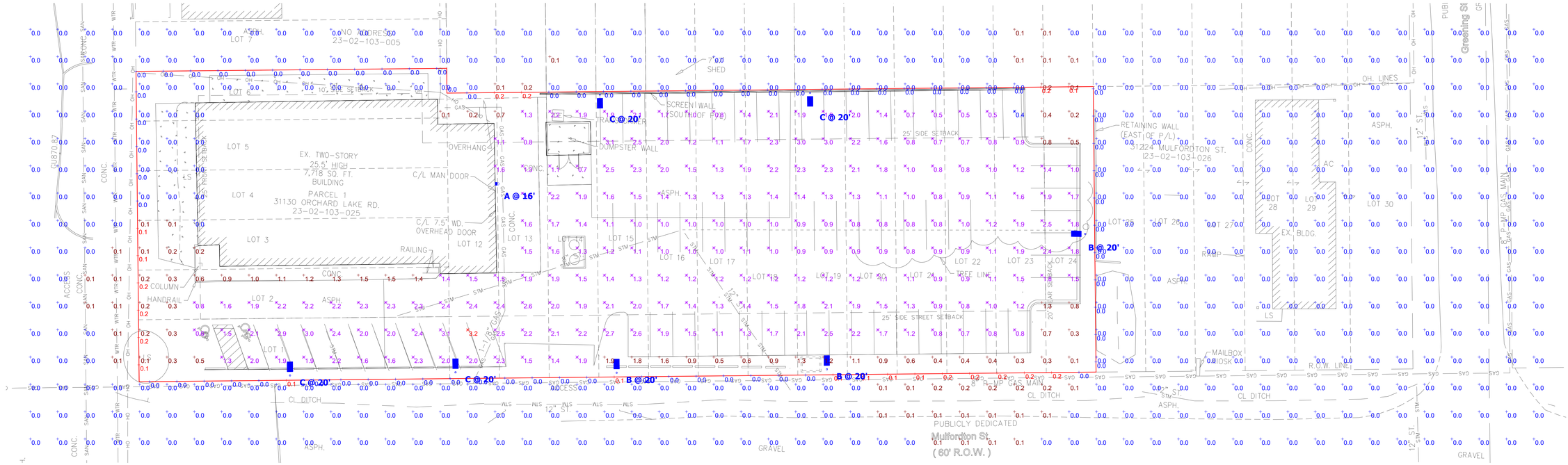
FILE NAME : ZARZOORA

JOB #: 010607

SHEET TITLE
ZARZOOR PRIME
FLOOR PLAN

SHEET #
A100

ZARZOOR



Plan View
Scale - 1" = 20ft



D-Series Size 0
LED Area Luminaire

d-series

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements

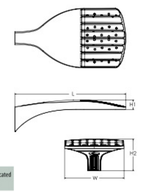
Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

Specifications

EPA:	0.44 ft² (0.04 m²)
Length:	26.18" (66.5 cm)
Width:	14.06" (35.7 cm)
Height H1:	2.26" (5.7 cm)
Height H2:	7.46" (18.9 cm)
Weight:	23 lbs (10.4 kg)



Design Select options indicated by this color background.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect. *See ordering tree for details

Ordering Information

EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series	LEDs	Color temperature[1]	Color Rendering Index[2]	Distribution	Voltage	Mounting
DSX0 LED	**Forward optics** P1 P5 P2 P6 P3 P7 P4 **Rotated optics** P10[3] P12[3] P11[3] P13[3]	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 70CRI 80CRI 80CRI 80CRI 80CRI 80CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare[4] T4M Type IV medium T4LG Type IV low glare[4] TFTM Forward throw medium T5M Type V medium T5LG Type V low glare T5W Type V wide BLC3 Type III backlight control[4] BLC4 Type IV backlight control[4] LCCO Left corner cutoff[4] RCCO Right corner cutoff[4]	MVOLT (120V-277V)[5,6] HVOLT (347V-480V)[5,6] XVOLT (277V-480V)[5,6] 120[6,26] 208[6,26] 240[6,26] 277[6,26] 347[6,26] 480[6,26]	**Shipped included** SPA Square pole mounting (4holes drilling, 3.5" min. SQ pole) RPA Round pole mounting (4holes drilling, 3" min. RND pole) SPA5 Square pole mounting (4holes drilling, 3" min. SQ pole)[7] RPA5 Round pole mounting (4holes drilling, 3" min. RND pole)[7] SPA8N Square narrow pole mounting (4holes drilling, 3" min. SQ pole)[7] WBA Wall bracket[8] MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)[9]

Control options		Other options		Finish (required)	
Shipped installed		**Shipped installed**		DDBXD Dark Bronze	
NLTAIR2 PIRHN	nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8–40' mounting height, ambient sensor enabled at 2fc[10,11,13,14]	HS Houseside shield (black finish standard)[20]		DBLBD Black	
PIR	High/low, motion/ambient sensor, 8–40' mounting height, ambient sensor enabled at 2fc[11,13,14]	L90 Left rotated optics[1]		DNAXD Natural Aluminum	
PER	NEMA twist-lock receptacle only (controls ordered separate)[15]	R90 Right rotated optics[1]		DWHXD White	
PER7	Seven-pin receptacle only (controls ordered separate)[16,17]	CCE Coastal Construction[21]		DDBTXD Textured dark bronze	
FAO	Field adjustable output[12,13]	HA 50°C ambient operation[22]		DBLBXD Textured black	
BL30	Bi-level switched dimming, 30%[16,17]	BAA Buy American Act and/or Build America Buy America Qualified		DNATXD Textured natural aluminum	
BL50	Bi-level switched dimming, 50%[16,17]	SF Single fuse (120, 277, 347V)[24]		DWHGXD Textured white	
DMG	0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately)[17]	DF Double fuse (208, 240, 480V)[24]			
PERS	Five-pin receptacle only (controls ordered separate)[16,17]	**Shipped separately**			
		EGSR External Glare Shield (reversible, field install required, matches housing finish)			
		BSDB Bird Spikes (field install required)			

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WDGE2 LED
Architectural Wall Sconce
Precision Refractive Optic

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements

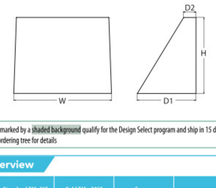
Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 with industry leading precision refractive optics provides great uniform distribution and optical control. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

Specifications

Depth (D1):	7"
Depth (D2):	1.5"
Height:	9"
Width:	11.5"
Weight: (without options)	13.5 lbs



design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect. *See ordering tree for details

WDGE LED Family Overview

Luminaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Sensor	Approximate Lumens (4000K, 80CRI)						
					P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W		--	750	1,200	2,000	--	--	--	--
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight	--	1,200	2,000	3,000	4,500	6,000	--
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200	--	--
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight	--	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	Precision Refractive			Standalone / nLight	--	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI T3M MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE2 LED	P0[1] P1[1] P2[1] P3[1] P4[1]	27K 2700K 30K 3000K 40K 4000K 50K 5000K AMB[2] Amber	70CRI[3] 80CRI LW[2] Limited Wavelength	T1S Type I Short T2M Type II Medium T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium	MVOLT 347[4] 480[4]	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry[5] damp locations only)[6] **Shipped separately** AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available

Options			Finish	
E10WH Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 0°C min)	**Standalone Sensors/Controls**		DDBXD	Dark bronze
E20WC Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min)	PIR Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching.		DBLBD	Black
PE[7] Photocell, Button Type	PIRH Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching		DNAXD	Natural aluminum
DMG[7] 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)	PIR1FC3V Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.		DWHXD	White
BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points.	PIRH1FC3V Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.		DSSXD	Sandstone
CCE Coastal Construction	**Networked Sensors/Controls**		DDBTXD	Textured dark bronze
	NLTAIR2 PIR Embedded wireless controls by nLight with Passive Infrared Occ sensor and on/off photocell for 8-15' mounting heights.		DBLBXD	Textured black
	NLTAIR2 PIRH Embedded wireless controls by nLight with Passive Infrared Occ sensor and on/off photocell for 15-30' mounting heights.		DNATXD	Textured natural aluminum
	NLTAIRE2 Embedded wireless controls by nLight with UL924 listed emergency operation, Passive Infrared Occ sensor and on/off.		DWHGXD	Textured white
	PIRH photocell for 15-30' mounting heights		DSSTXD	Textured sandstone
	see page 4 for 4 out of box functionality			

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Statistics							
Description	**Symbol**	**Avg**	**Max**	**Min**	**Max/Min**	**Avg/Min**	**Avg/Max**
PARKING LOT	+	1.5 fc	3.2 fc	0.4 fc	8.0:1	3.8:1	0.5:1
PROPERTY LINE	+	0.0 fc	0.2 fc	0.0 fc	N/A	N/A	0.0:1

Schedule									
Symbol	**Label**	**QTY**	**Manufacturer**	**Catalog Number**	**Description**	**Number Lamps**	**Lumens per Lamp**	**LLF**	**Wattage**	**Mounting Height**
	A	1	Lithonia Lighting	WDGE2 LED P3 40K 80CRI TFTM	WDGE2 LED WITH P3 - PERFORMANCE PACKAGE, 4000K, 80CRI, TYPE FORWARD THROW MEDIUM OPTIC	1	3166	0.9	32.1375	16'-0"
	B	3	Lithonia Lighting	DSX0 LED P4 40K 80CRI BLC4	D-Series Size 0 Area Luminaire P4 Performance Package 4000K CCT 80 CRI Type 4 Extreme Backlight Control	1	7672	0.9	93.04	20'-0"
	C	4	Lithonia Lighting	DSX0 LED P4 40K 80CRI BLC3	D-Series Size 0 Area Luminaire P4 Performance Package 4000K CCT 80 CRI Type 3 Extreme Backlight Control	1	7428	0.9	93.04	20'-0"

Ordering Note

FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

Drawing Note

THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

General Note

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIRMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT CONTROLS@GASSERBUSH.COM OR 734-266-6705.

31130 ORCHARD LAKE ROAD
PHOTOMETRIC SITE PLAN
GASSER BUSH ASSOCIATES
PREPARED FOR: JJV DESIGN GROUP
WWW.GASSERBUSH.COM

Designer
JM/KB
Date
02/11/2026
Scale
Not to Scale
Drawing No.
#26-54397-V1

1 of 1

ELECTION OF OFFICERS

CITY OF FARMINGTON HILLS
PLANNING COMMISSION SPECIAL MEETING
31555 W ELEVEN MILE ROAD
FARMINGTON HILLS, MICHIGAN
FEBRUARY 19, 2026, 6:00 P.M.

CALL MEETING TO ORDER

The Planning Commission Special Meeting was called to order by Chair Trafelet at 6:07pm.

ROLL CALL

Commissioners present:	Countegan, Grant, Lindquist (arr. 6:15pm), Stimson, Trafelet
Commissioners Absent:	Brickner, Mantey, Ware
Others Present:	Staff Planner Mellem, City Attorney Schultz, Economic Development Director Brockway, Planning Consultant Carlisle

The commission heard a presentation by Bob Gibbs of the Gibbs Planning Group on the *Grand River Avenue Corridor Growth Strategy & Plan.*

Mr. Gibbs explained that the Grand River Avenue Corridor Growth Strategy & Plan covers the two-mile corridor from Orchard Lake Road to 8 Mile, with a broader six-square-mile influence area. Grand River is a historic regional highway designed to carry significantly more traffic than it currently does.

Market research indicates strong demand for residential, office, retail, and restaurant uses within the corridor. The absence of desired development was attributed primarily to non-market factors, including zoning constraints, site conditions, and perceptions, rather than a lack of market demand. The purpose of the Plan is to remove barriers and enable private-sector investment consistent with demonstrated demand.

Three primary objectives were outlined: (1) strengthen surrounding neighborhoods to improve quality of life and property values; (2) improve aesthetics and placemaking along Grand River, including beautification and outdoor dining opportunities; and (3) encourage investment and growth by creating predictable regulatory standards.

The research process included stakeholder interviews, advanced market analysis across multiple land uses, and a comprehensive review of the existing GR-1 overlay district and zoning code. Approximately 100 zoning modifications were recommended, addressing parking requirements, setbacks, building heights, and land use standards.

Key recommendations include expanding overlay zoning – proposed by right GR-2 – to cover the broader corridor while maintaining the existing GR-1 and base zoning unchanged. The result would provide updated, predictable by right standards under the by GR-2 overlay, while preserving existing regulations as an option for those who do not want to develop under the new overlay. Developers indicated a preference for predictable by right standards – even ones they don't necessarily like – over negotiated Planned Unit Developments (PUDs).

Additional recommendations include conducting community workshops and site-specific planning

charrettes; establishing a five-year sunset provision for the GR-2 Overlay District to encourage timely investment; creating blue-ribbon panels to review engineering standards and architectural requirements; continuing corridor beautification efforts; and exploring stormwater and shared parking strategies.

Mr. Gibbs emphasized that Grand River functions as a regional highway rather than a small-town downtown, and zoning and design standards should reflect that context. Given its width, speed, and traffic volumes (approximately 20,000 vehicles per day in some segments), it is unlikely to function as a traditional walkable, two-sided downtown corridor. The scale, setbacks, and landscaping should reflect its highway character.

Mr. Gibbs recommended that the City consider strategic public investment, including the development of small shared public parking lots and common stormwater retention facilities. These improvements could function as "banks," allowing adjacent properties to utilize shared parking and stormwater capacity, thereby improving redevelopment feasibility and walkability. Recommendations also included offering low-cost or City-supported architectural design assistance to help property owners visualize façade and site improvements.

Mr. Gibbs identified several larger redevelopment opportunity sites, including parcels of 20 to 30 acres, that could support substantial residential or mixed-use projects if zoning were predictable. Residential builders are expressing interest in the corridor, citing strong surrounding demographics and demand for updated housing options for residents who wish to remain in the area.

Mr. Gibbs summarized market findings indicating strong demographics *within a five-mile radius*—approximately 225,000 residents, 100,000 households, and average household incomes of about $105,000—well above thresholds typically sought by retailers and restaurants, reinforcing the corridor's underlying market strength. Detailed market analysis findings for the corridor's *defined trade area* included approximately 120,000 residents and 50,000 households, with average incomes near $100,000. Although portions of the corridor appear physically tired, the underlying demographics are strong, with high income and education levels. The trade area extends toward Livonia and northwest Detroit and represents a significantly underserved retail market.

Within a five-minute drive, approximately 15,000 workers generate an estimated $40 million annually in retail and dining spending. Capturing even 5–10% of that spending locally would support new commercial development. Workers and employers have both indicated a desire for walkable amenities such as restaurants and coffee shops.

Market demand analysis identified support for approximately 400–600 new housing units, including townhomes, cottage-style homes or duplexes, and garden-style apartments. Many existing residents live in older 1950s–60s housing stock and expressed interest in downsizing into newer homes while remaining in the community. Developers are indicating interest in building smaller, updated housing types to meet this demand.

The study also found supportable demand for approximately 75,000 square feet of new office space, primarily professional and medical office serving local needs. Retail demand was estimated at roughly 90,000 square feet, including approximately 15 stores and six restaurants. A medium-sized grocery store

(approximately 30,000 square feet) was identified as a strong opportunity, with projected sales levels exceeding typical industry averages. Restaurant demand was also characterized as strong and underserved. Development of a coordinated mixed-use project on a larger assembled site could increase overall demand beyond the baseline projections.

The study analyzed spending patterns in moderate-income, higher-density neighborhoods, demonstrating that when measured per acre, retail and dining spending is comparable to or greater than higher-income, lower-density areas, such as that located in the northeast portion of the City. Despite skepticism from some, the data indicates that the southern portion of the trade area generates substantially more retail spending than the northern comparison area, but lacks corresponding retail supply. As a result, significant consumer spending is currently leaking to other communities.

The corridor presents a substantial opportunity for residential, office, and retail growth. The completed market study can serve as a tool for local businesses and developers to support financing, investment decisions, and recruitment efforts, including mixed-use development.

Mr. Gibbs discussed recommended revisions to building height, massing, and setback standards to better align with market realities and neighborhood compatibility. He recommended simplifying the existing height regulations, which currently allow varying maximum heights (three, five, and seven stories) within the GR-1 overlay district. This structure is confusing and may artificially inflate land values by suggesting development potential that is not economically feasible. He advised establishing a consistent three-story maximum height across the corridor, measured to the eave rather than the midpoint of the gable, to simplify administration and encourage residential-style rooflines. A half-story bonus within a pitched roof attic was suggested to maintain neighborhood character while allowing additional usable space.

He also discussed the benefits of vertically integrated mixed-use development, noting that residential units above retail generally command higher rents and sale values. While common in other states, this model has been less prevalent locally but remains viable if properly zoned and scaled.

Turning to setbacks, Mr. Gibbs observed that the existing GR-1 overlay limits front setbacks to a maximum of 15 feet, a standard more appropriate for a traditional downtown than a high-speed regional highway. He recommended increasing setbacks along Grand River to a 20’ minimum for small lots and 60’ minimum for larger redevelopment sites, to better reflect the highway character and provide room for landscaping and buffering. Greater setbacks would improve corridor aesthetics and functionality.

Mr. Gibbs stressed the importance of strong buffering standards between commercial and residential properties. Insufficient transitions can negatively affect adjacent neighborhoods and discourage reinvestment. He recommended reduced building heights near residential areas, enhanced landscaping, and clearly defined separation standards to protect neighborhood stability while accommodating corridor redevelopment.

He also recommended increasing rear yard setbacks—generally 30–40 feet—to provide stronger buffering between commercial and residential properties. The intent is to eliminate maximum setback restrictions, encourage greater flexibility, and enhance predictability for homeowners.

Mr. Gibbs proposed allowing limited front-yard parking for retail and restaurant uses, capped at 25% of total required parking, provided the site is well-landscaped and set back appropriately. He noted that highway-oriented retail often relies on visible and convenient front-door access, and prohibiting all front parking may discourage redevelopment. This modification alone could significantly increase private investment interest along the corridor.

He further emphasized the importance of shared or municipal parking lots to support walkability and redevelopment, particularly on smaller lots. Common parking areas, rather than individual on-site lots, would allow buildings to be closer together and create a more cohesive development pattern.

Mr. Gibbs advocated for streamlining the zoning code overall, suggesting that standards be condensed into a clear, user-friendly format that property owners and developers can easily interpret without extensive consultation.

These changes—combined with improved landscaping and clearer standards—would better align redevelopment expectations with the corridor's highway character while promoting reinvestment and protecting adjacent neighborhoods.

Planning Commission discussion
In response to questions, Director Brockway said that MDOT would allow trees to be planted in the right of way, depending on the tree type.

Commissioner Countegan expressed strong support for the recommendations, describing the approach as practical, financially grounded, and a significant shift from decades of corridor micromanagement. He characterized the proposal as a major policy change, particularly regarding building heights and regulatory simplification, and asked whether City Council was aware of and supportive of the overall direction.

Director Brockway confirmed that City Council has been informed throughout the research process, beginning with Master Plan discussions that identified long-standing zoning and nonconformity issues along the corridor. Updates have been shared with Council and the Grand River Corridor Improvement Authority, and further policy discussions will occur as implementation moves forward. Director Brockway also confirmed that developers are "ready to go," once the changes are implemented.

Mr. Gibbs clarified that while the proposed by right GR-2 overlay would incentivize preferred development patterns, certain auto-oriented uses could be restricted within the overlay while still remaining permitted under the underlying zoning. The intent is not to remove property rights but to make desired redevelopment more feasible and attractive.

He also recommended simplifying existing architectural and form-based standards, which he described as overly prescriptive and better suited to traditional downtown environments than a regional highway corridor. Examples included detailed window, awning, and glass-percentage requirements. He emphasized creating clearer, more flexible, and more easily administered standards, particularly through predictable "by right" approvals, in order to reduce negotiation and uncertainty. Mr. Gibbs said that his focus was on defining "what" should change, with Planning Commission, staff and planning

consultants determining “how” to implement the revisions.

In response to questions regarding older residential neighborhoods, Mr. Gibbs clarified that the Plan does not propose demolishing existing homes. Instead, providing new downsized housing options would allow older residents to remain in the community while creating opportunities for first time homebuyers to purchase and invest in older housing stock.

Mr. Gibbs reaffirmed the plan’s three core objectives: strengthening neighborhoods, beautifying the corridor, and encouraging private investment, noting that these goals are interdependent and must be pursued together to achieve long-term revitalization.

Commissioner Stimson asked whether there have been discussions with the State regarding reducing the number of travel lanes on Grand River in order to reclaim space for redevelopment. Director Brockway explained that a recent traffic study included simulations evaluating the impact of removing a lane. The analysis indicated that lane reductions would result in failing conditions during peak traffic periods due to traffic volumes at both ends of the corridor. Current traffic modeling does not support reducing the number of lanes. The proposed strategy represents a practical approach that works within the corridor’s existing conditions rather than assuming a significant roadway transformation that may not be feasible.

PUBLIC COMMENT

Evan Rosen and Phillip McKenna, Farmington Hills residents, gave comments regarding the presentation.

ADJOURNMENT

The meeting adjourned at 7:28pm.

/cem

CITY OF FARMINGTON HILLS
PLANNING COMMISSION REGULAR MEETING
31555 W ELEVEN MILE ROAD
FARMINGTON HILLS, MICHIGAN
FEBRUARY 19, 2026, 7:30 P.M.

CALL MEETING TO ORDER
The Planning Commission Regular Meeting was called to order by Chair Trafelet at 7:36 p.m.

ROLL CALL
Commissioners present: Countegan, Grant, Lindquist, Stimson, Trafelet

Commissioners Absent: Brickner, Mantey, Ware

Others Present: Staff Planner Mellem, City Attorney Schultz

APPROVAL OF AGENDA
MOTION by Countegan, support by Stimson, to approve the agenda as published.
Motion passed unanimously by voice vote.

PUBLIC HEARING
A. 2026/2027 THROUGH 2031/2032 CAPITAL IMPROVEMENTS PLAN
ACTION REQUESTED: Adoption of plan

Commissioner Countegan explained that the Planning Commission met with all City departments as part of its annual review to gather capital needs for the next five years. These needs were reviewed and prioritized within the Capital Improvements Plan (CIP), which establishes the City's capital goals. The CIP serves as a planning document that captures anticipated capital expenditures and provides recommendations to the City Council, which considers the Plan when establishing the capital budget.

MOTION by Stimson, support by Lindquist, that the City of Farmington Hills Capital Improvements Plan for 2026/2027 – 2031/2032 BE ADOPTED and FORWARDED to City Council.

Motion passed unanimously by voice vote.

REGULAR MEETING
A. HISTORIC DISTRICT COMMISSION 2025 ANNUAL REPORT
ACTION REQUESTED: Acceptance of report

Ken Klemmer, Chair, Historic District Commission, presented the Historic District Commission 2025 Annual Report.

2025 Goals and Activities:
- Continued work on the Sarah Fisher site development project
- Hosted educational gatherings for the public
- Ongoing efforts to expand Historic District properties
- Cemetery monument restoration program in coordination with the Public Works Department
- Continued restoration efforts at the Spicer House

2026 Goals:
- Continue 2025 initiatives
- Host a public engagement event to educate the public about the HDC
- Plan to host a workshop for owners of historic properties
- Promote locally available historic preservation workshops
- Recruit new homes for inclusion in the Historic District
- Continue restoration of the Spicer House exterior
- Continue work with DPW on cemetery preservation plan
- Continue updates to the Blue Book inventory of historic properties.
- Provide updates to HDC website

2025 Meetings and Administrative Activity:
- Eight regular meetings held
- Ten Certificates of Appropriateness issued: 7 formal, 3 administrative

Certificates of Appropriateness – Notable Projects:
- Lemuel Botsford House: Window replacements
- Spicer House: Ongoing repairs including doors, shutters, windows, gutters, and downspouts
- Arthur Beckwick House: Replacement of pool house structure
- John Pettibone House: Installation of new commercial signage
- Orville Botsford (Lone Ranger) House: Fire-related repairs and window work
- Kirby White House: Installation of shutters, fence, and generator
- Nehemiah Hoyt House: Ongoing restoration under new ownership

Fifth Year of Cemetery Restoration Program:
- Utley Cemetery: 11 markers restored
- West Cemetery: Roof replacement on storage building
- Volunteer participation included Boy Scout Troops 45 and 179 and HDC members
- Troop 45: Re-leveled five tombstones and maintenance work
- Troop 179: Re-leveled 13 tombstones

Public Outreach and Events:
- Spicer House open house with approximately 30–40 attendees
- Oakwood Cottage (Edward Beals House) 100th anniversary event with approximately 130–140 attendees

Planning Commission discussion:
Commissioners discussed with HDC Chair Klemmer the future of the Spicer House, including accessibility and future plans for museum exhibits. Spicer house is 100 years old this year.

Acknowledging the importance of the HDC's efforts to the City, Planning Commissioners thanked the HDC for its work in preserving local history and maintaining attention to historic districts.

MOTION by Grant, support by Stimson, that the 2025 Historic District Commission Annual Report be accepted.

Motion passed unanimously by voice vote.

APPROVAL OF MINUTES **January 15, 2026, and January 22, 2026**

MOTION by Countegan, support by Stimson, to approve the January 15, 2026, and January 22, 2026 meeting minutes as submitted.

Motion passed unanimously by voice vote.

PUBLIC COMMENT

Patrick Chisolm, Redford, introduced himself as a past resident of Farmington Hills and expressed his interest in learning about the local government in the City. Chair Trafelet invited Mr. Chisolm to participate with the cemetery restoration efforts.

COMMISSIONER/STAFF COMMENTS

- Staff Planner Mellem announced an upcoming opportunity for Planning Commissioners and City Council members to meet in pairs (one commissioner and one council member) with planning staff to discuss future planning efforts, including master plan implementation and related initiatives. Meetings will be approximately 30 minutes and held in the planning office.
- Staff Planner Mellem advised that an applicant had requested a meeting on March 12, 2026 for a site plan review, and as a quorum of commissioners appeared to be available, the following motion was offered:

MOTION by Stimson, support by Countegan, to schedule a special Planning Commission meeting on March 12, 2026.

Motion passed unanimously by voice vote.

ADJOURNMENT

MOTION by Stimson, support by Grant, to adjourn the meeting.
Motion passed unanimously by voice vote.

The meeting ended at 8:01pm.

/cem