



TREK ADDITION JSP23-32

JSP23-32 TREK ADDITION

Consideration of Special Land Use, Preliminary Site Plan, and Stormwater Management Plan approval at the request of Trek, Inc. for an addition to the existing Trek building. The subject property is composed of two parcels planned to be combined. The first parcel, which contains the existing Trek building, is 0.46 acres in size. The second parcel, which is currently vacant, is 1.56 acres in size. The subject property is located within the Beck North Corporate Park site condo on the north side of Desoto Court, east of Hudson Drive. Both parcels are zoned I-1 Light Industrial. The applicant is proposing to add a warehouse to the existing Trek building to store more material and products for the business.

Required Action

Approve/Deny the Special Land Use, Preliminary Site Plan, and Stormwater Management Plan.

Note

The applicant has submitted a revised Preliminary Site Plan following the staff and consultant's initial review of the plans. The significant modification is to remove a the previously proposed drive aisle north of the warehouse building along with 14 previously proposed parking spaces. In addition, the applicant has made some landscape changes in an attempt to come into compliance and has removed proposed lighting that previously faced the residential district to the east. Staff's recommendations remain the same.

REVIEW	RESULT	DATE	COMMENTS
Planning	Approval recommended	12-7-23	<ul style="list-style-type: none"> • Zoning Board of Appeals Variance from Section 5.2.12.E for being deficient in parking by 24 spaces. 90 spaces required, 66 provided. • Items to be addressed by the applicant prior to Final Site Plan approval
Engineering	Approval recommended	12-5-23	<ul style="list-style-type: none"> • Items to be addressed by the applicant prior to Final Site Plan approval
Landscaping	Approval recommended	11-22-23	<ul style="list-style-type: none"> • Items to be addressed by the applicant prior to Final Site Plan approval
Traffic	Approval recommended	12-4-23	<ul style="list-style-type: none"> • Items to be addressed by the applicant prior to Final Site Plan approval
Façade	Approval recommended	11-29-23	<ul style="list-style-type: none"> • Items to be addressed by the applicant prior to Final Site Plan approval
Fire	Approval recommended	11-20-23	<ul style="list-style-type: none"> • Items to be addressed by the applicant prior to Final Site Plan approval

MOTION SHEET

Approval – Special Land Use Permit

In the matter of Trek Addition, JSP23-32, motion to **approve** the Special Land Use Permit based on the following findings:

- a. Relative to other feasible uses of the site:
 - i. The proposed use will not cause any detrimental impact on existing thoroughfares in terms of overall volumes, capacity, safety, vehicular turning patterns, intersections, view obstructions, line of sight, ingress and egress, acceleration/deceleration lanes, off-street parking, off-street loading/unloading, travel times and thoroughfare level of service *(since the building addition is intended to provide more storage space, but no additional employees will be coming or going from the site)*
 - ii. The proposed use will not cause any detrimental impact on the capabilities of public services and facilities, including water service, sanitary sewer service, storm water disposal, and police and fire protection to serve existing and planned uses in the area *(no impacts to utilities are anticipated);*
 - iii. The proposed use is compatible with the natural features and characteristics of the land, including existing woodlands, wetlands, watercourses, and wildlife habitats *(since the applicant intends to replace the trees that have died near the berm as shown on the original landscape plan and has no plans to impact existing woodlands or wetlands);*
 - iv. The proposed use is compatible with adjacent uses of land in terms of location, size, character, and impact on adjacent property or the surrounding neighborhood *(since the distance away from the residential property line is consistent with other buildings located within the industrial park, and there is no driveway or parking proposed adjacent to the existing residential uses);*
 - v. The proposed use is consistent with the goals, objectives, and recommendations of the City's Master Plan or Land Use *(as it fulfills one of the Master plan objectives to see existing businesses expand and stay in Novi);*
 - vi. The proposed use will promote the use of land in a socially and economically desirable manner *(as it expands onto an existing building rather than constructing an entirely new building);*
 - vii. The proposed use is listed among the provision of uses requiring special land use review as set forth in the various zoning districts of this Ordinance, and is in harmony with the purposes and conforms to the applicable site design regulations of the zoning district in which it is located;

b. *(additional comments here if any)*

(This motion is made because the plan is otherwise in compliance with Article 3, Article 4, Article 5, and Article 6 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)

– AND –

Approval – Preliminary Site Plan

In the matter of Trek Addition, JSP23-32, motion to **approve** the Preliminary Site Plan based on and subject to the following:

- a. The Zoning Board of Appeals granting a variance from Section 5.2.12.E of the Zoning Ordinance for not providing the required amount of parking per the Ordinance (90 spaces required and 66 provided) *because the proposed warehouse expansion is not proposed to increase the number of employees, so additional parking is not required.*
- b. The findings of compliance with Ordinance standards in the staff and consultant review letters and the conditions and the items listed in those letters being addressed on the Final Site Plan; and
- c. *(additional conditions here if any)*

(This motion is made because the plan is otherwise in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)

– AND –

Approval – Stormwater Management Plan

In the matter of Trek Addition JSP23-32, motion to **approve** the Stormwater Management Plan based on and subject to the following:

- a. The findings of compliance with Ordinance standards in the staff and consultant review letters, and the conditions and items listed in those letters being addressed on the Final Site Plan; and
- b. *(additional conditions here if any)*

(This motion is made because the plan is otherwise in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance.)

– OR –

Denial – Special Land Use Permit

In the matter of Trek Addition, JSP23-32, motion to **deny** the Special Land Use Permit... *(because the plan is not in compliance with Article 4, Article 5, and Article 6 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)*

Denial – Preliminary Site Plan

In the matter of Trek Addition, JSP23-32, motion to **deny** the Preliminary Site Plan... *(because the plan is not in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)*

– AND –

Denial – Stormwater Management Plan

In the matter of Trek Addition, JSP23-32, motion to **deny** the Stormwater Management Plan...
(because the plan is not in compliance with Chapter 11 of the Code of Ordinances and all other applicable provisions of the Ordinance.)

MAPS

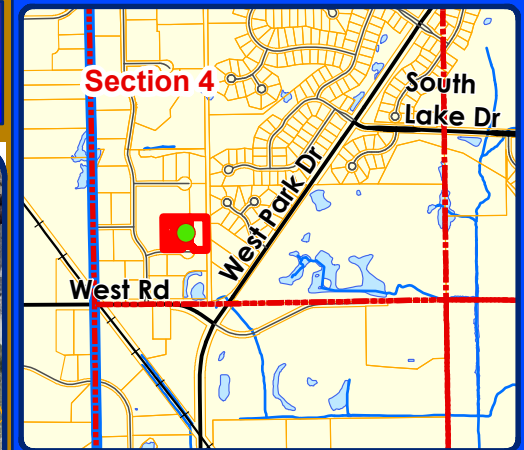
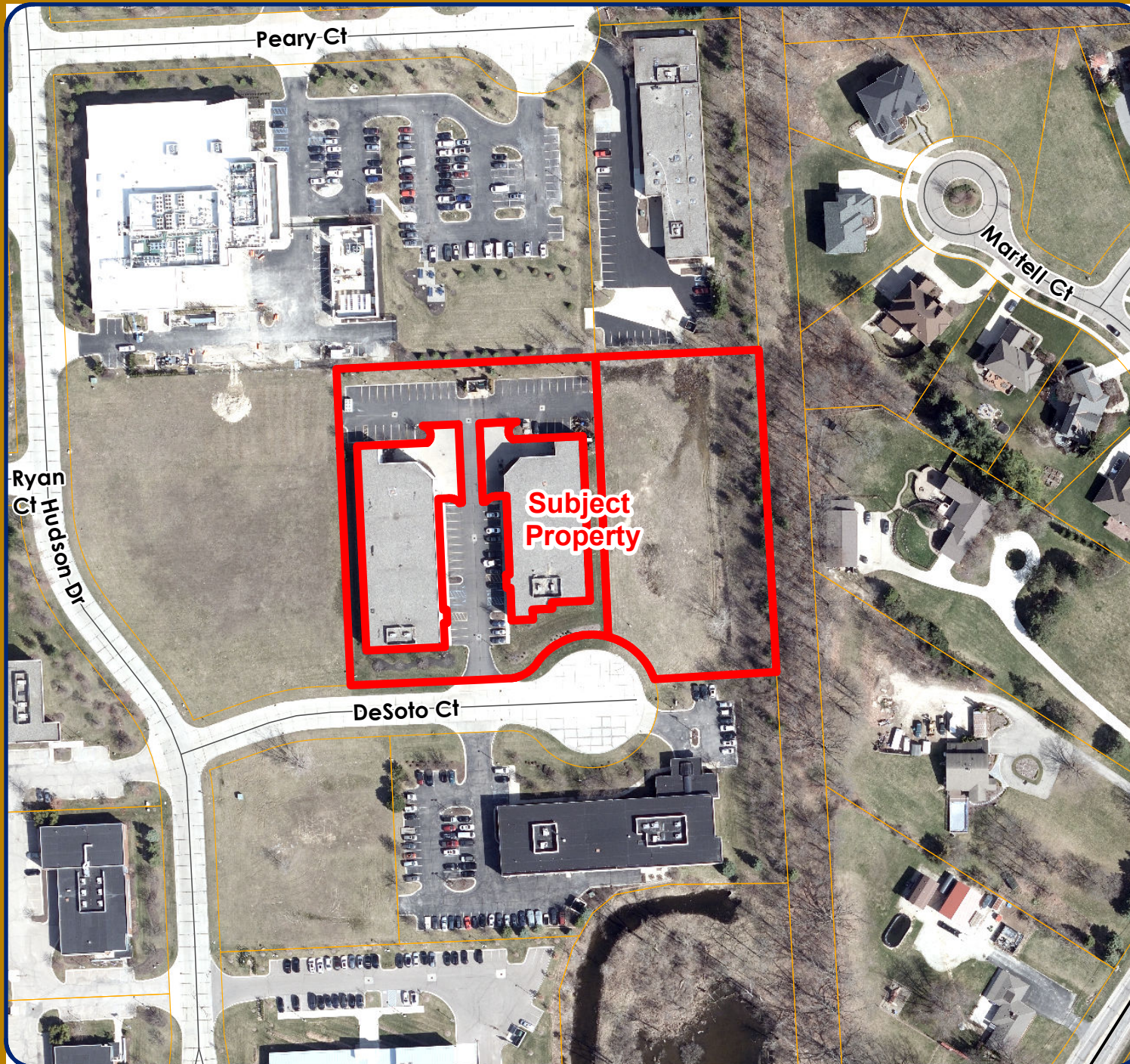
Location

Zoning


Future Land Use

Natural Features

TREK ADDITION LOCATION



LEGEND

 Subject Property

City of Novi

Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

Map Author: James Hill
Date: 1/2/2024
Project: TREK ADDITION
Version #: 1

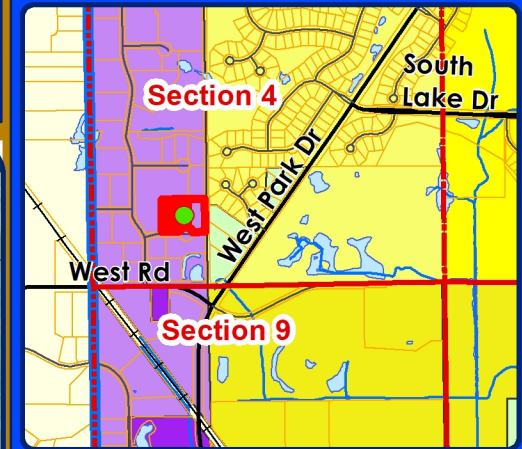
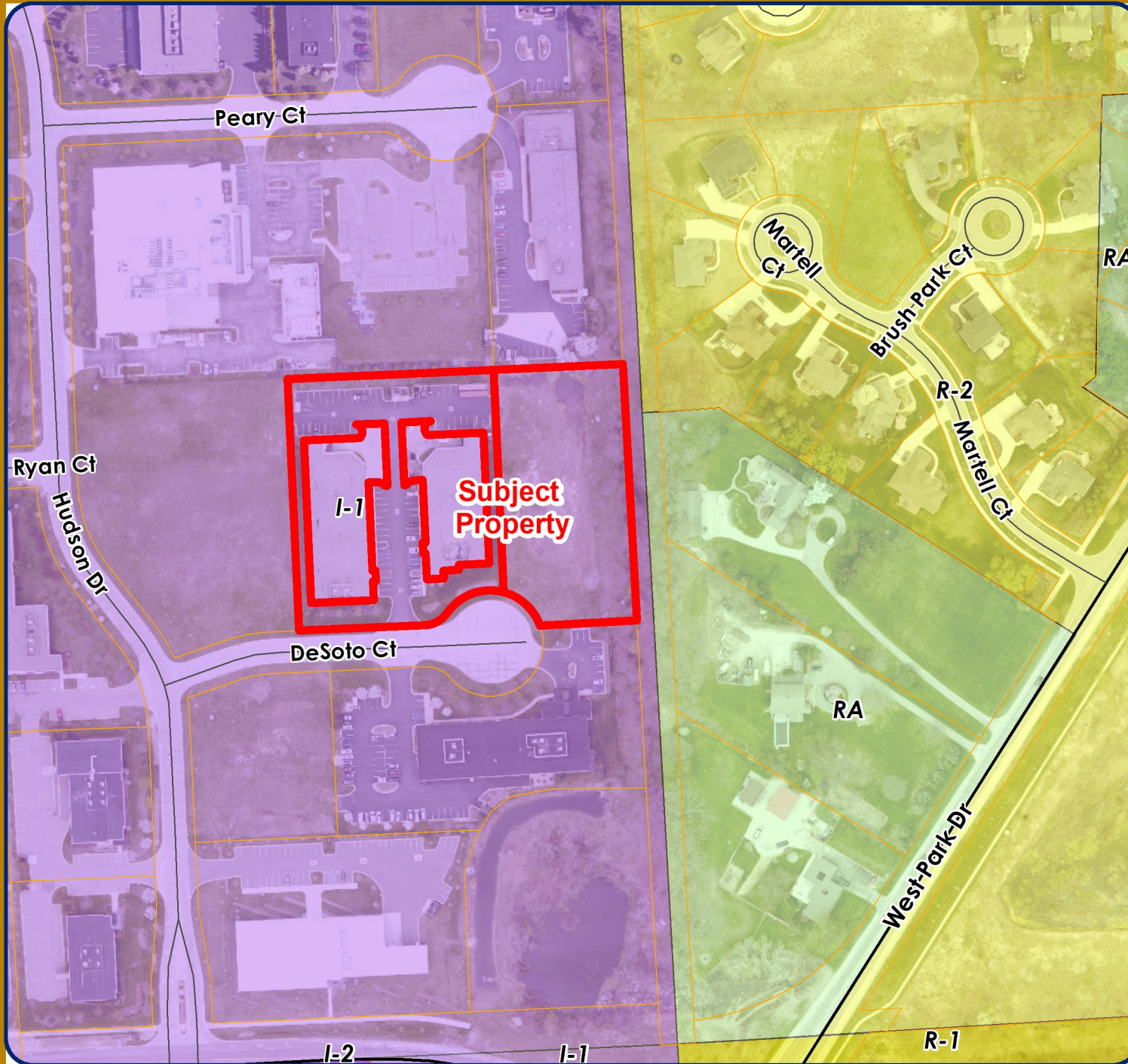
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1 inch = 166 feet



MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

TREK ADDITION ZONING



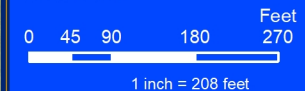
LEGEND

- R-A: Residential Acreage
- R-1: One-Family Residential District
- R-2: One-Family Residential
- R-4: One-Family Residential District
- I-1: Light Industrial District
- I-2: General Industrial District
- Subject Property

City of Novi

Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

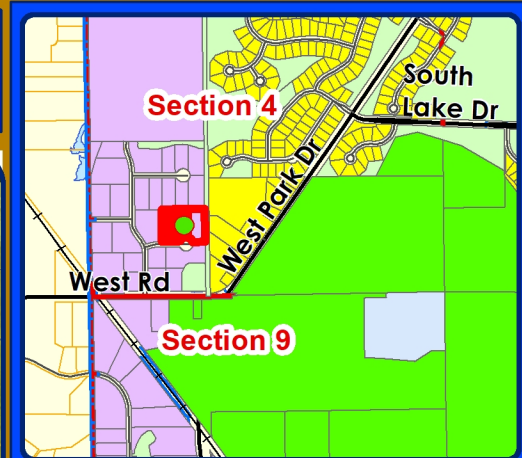
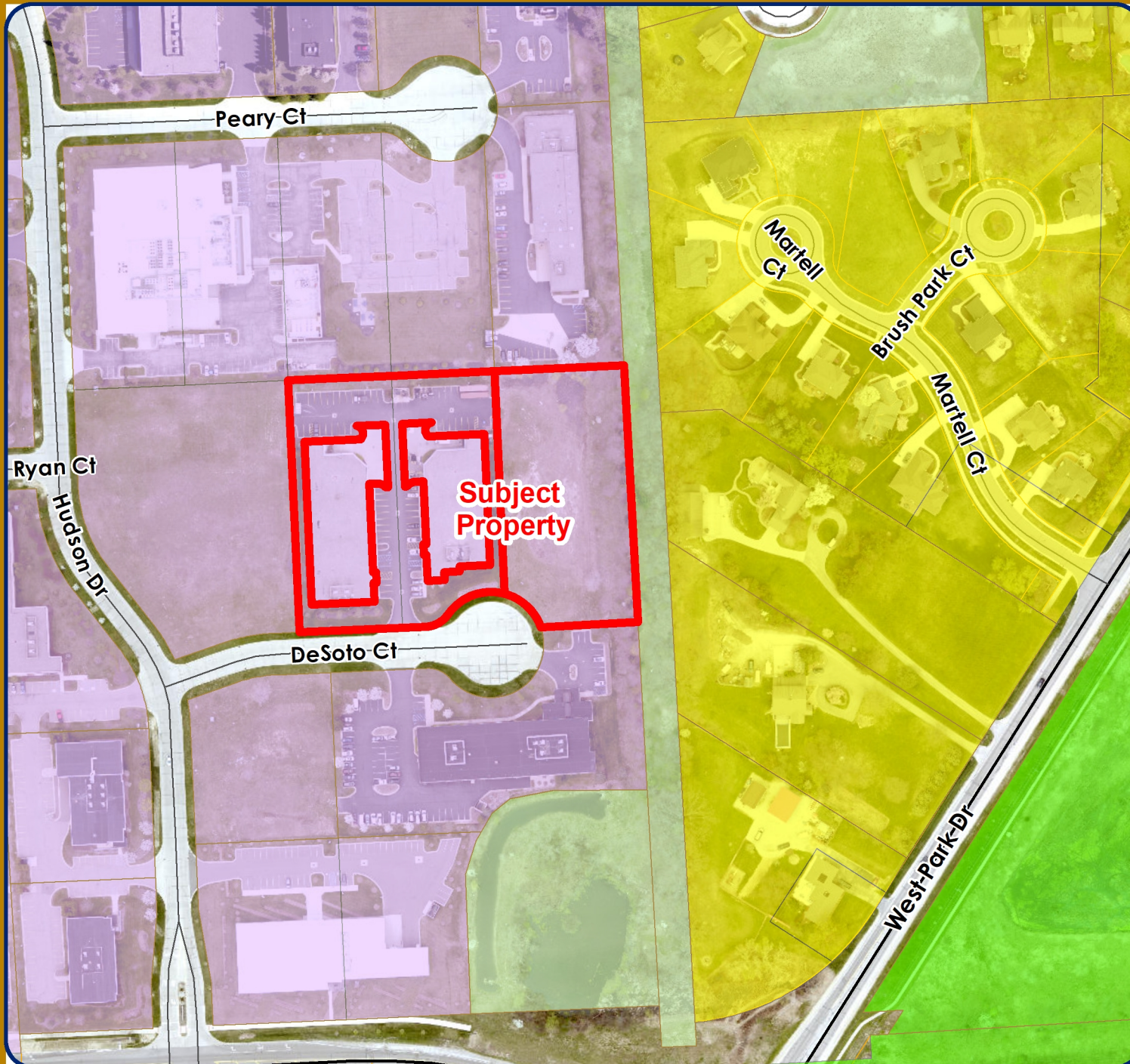
Map Author: James Hill
Date: 1/3/24
Project: TREK ADDITION
Version #: 1



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TREK ADDITION FUTURE LAND USE



LEGEND

Land Use Description

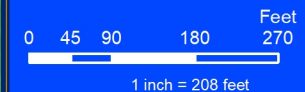
- INDUSTRIAL, RESEARCH, DEVELOPMENT AND TECHNOLOGY
- PRIVATE PARK
- PUBLIC
- PUBLIC PARK
- SINGLE FAMILY

Subject Property

City of Novi

Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

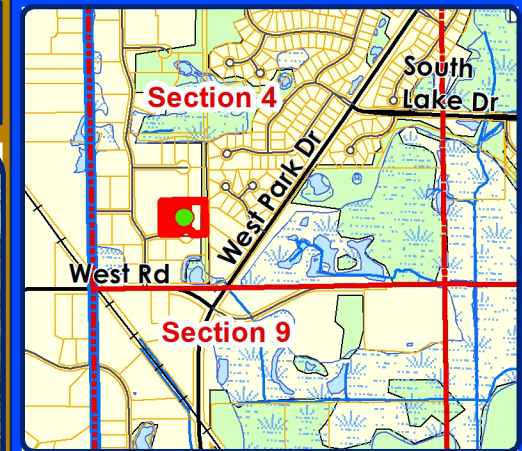
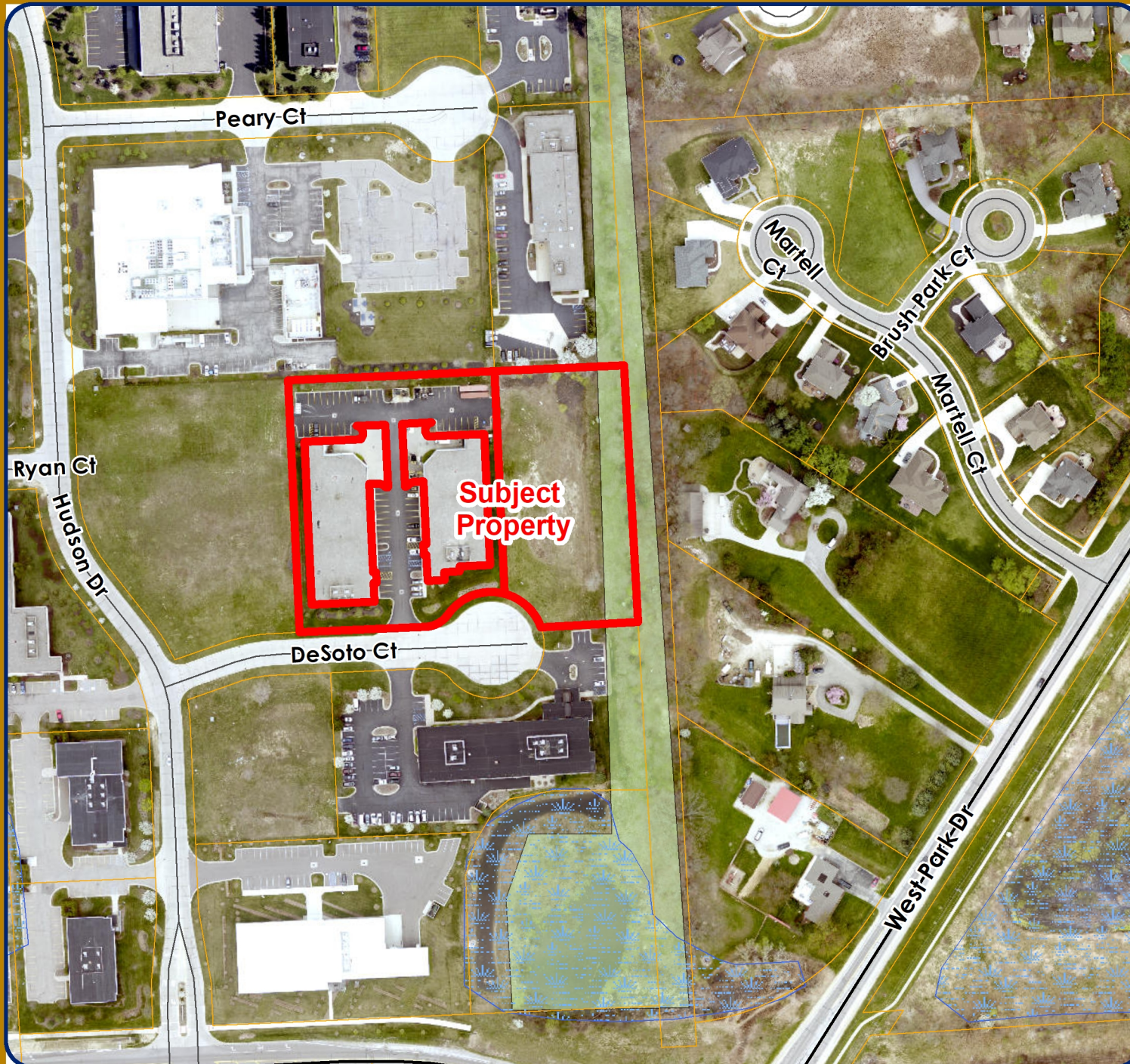
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

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TREK ADDITION NATURAL FEATURES



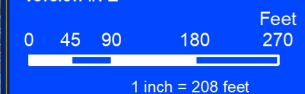
LEGEND

-  WETLANDS
-  WOODLANDS
-  Subject Property

City of Novi

Dept. of Community Development
City Hall / Civic Center
45175 W Ten Mile Rd
Novi, MI 48375
cityofnovi.org

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PLANNING REVIEW



PLAN REVIEW CENTER REPORT

Planning Review

TREK ADDITION

JSP 23-23

November 30, 2023

PETITIONER

Brivar Construction

REVIEW TYPE

Preliminary Site Plan

PROPERTY CHARACTERISTICS

Section	4	
Site Location	46470 Desoto Court; 22-04-379-002, 22-04-378-009; East of Hudson Dr, North side of DeSoto Ct	
Site School	Walled Lake Consolidated School District	
Site Zoning	I-1 Light Industrial	
Adjoining Zoning	North	I-1 Light Industrial
	East	RA Residential Acreage
	West	I-1 Light Industrial
	South	I-1 Light Industrial
Current Site Use	Vacant	
Adjoining Uses	North	Aramco Research Center
	East	Residential
	West	Legacy Volleyball Club
	South	Design Research Engineering
Site Size	3.95 acres	
Plan Date	November 14, 2023	

PROJECT SUMMARY

The applicant is proposing to construct a 27,743 square foot warehouse expansion of the existing Trek, Inc. building on Desoto Court in the Beck North Corporate Park site condominium. An additional 14 parking spacings are proposed north of the expansion, in addition to a second truck well for loading and unloading product and equipment.

RECOMMENDATION

Approval of the Preliminary Site Plan is recommended by Planning staff if the variance for the deficiency in parking spaces is granted by the Zoning Board of Appeals. The plan mostly complies with the ordinance requirements. All reviewers recommend approval, some with conditions, of the Preliminary Site Plan.

ORDINANCE REQUIREMENTS

This project was reviewed for compliance with the City of Novi Zoning Ordinance and any other applicable provisions of the ordinance, as noted. The plans show general compliance with ordinance requirements. Please address any items in **bold** with the next review.

1. Uses Permitted (Sec. 3.1.18.B/C): An industrial office expansion for the warehouse is a special land use in the I-1, Light Industrial, Zoning District, when adjacent to residential. **Planning Commission approval of the Special Land Use Permit, Preliminary Site Plan and Stormwater Management Plan is required. A public hearing with notices to property owners within 300 feet will be required.**
2. Windows and Doors (Sec. 3.14.5.F): Windows and doors of non-office use areas of structures in an I-1 district may not be left open. **Please add a note to the plans that this standard will be met for the windows and doors of the warehouse facing the residential district.**
3. Planning Commission Findings (Sec. 3.14.3): As part of the Planning Commission review of the Preliminary Site Plan, they shall consider the scale, size, building design, façade materials, landscaping, lighting, noise, vibration, odor, truck delivery, and activity of the site. **This shall be a condition of Planning Commission approval.**
4. Number of Parking Spaces (Sec. 5.2.12.E): 91 spaces required for Industrial Establishments and Related Offices, 80 spaces proposed. **If parking requirement cannot be met, a variance from the ZBA will be required.** *Staff notes that the proposed warehouse expansion will likely not require as much parking per the Ordinance, but in the case of a different industrial establishment moving into the space in the future, there may not be adequate parking provided.*
5. Long Term Truck Parking (Sec. 3.14.3.C): Long term delivery truck parking is not permitted. **Please provide a note to the site plan that long-term delivery truck parking will not occur on the site.**
6. Economic Impact Information: Requested economic impact information has not been provided at this time. **Please provide the total estimated cost of the proposed building & site improvements and number of anticipated jobs created (temporary construction and permanent) prior to the Planning Commission meeting.**
7. Performance Standards (Sec. 3.14.3.C): **A noise impact statement will need to be conducted before the Planning Commission meeting.**
8. Special Land Use Considerations for I-1 Sites Adjacent to Residential Districts (Sec. 6.1.2.C):
 - a. Traffic Circulation and Safety: The proposed use will not cause any detrimental impact on existing thoroughfares in terms of overall volumes, capacity, safety, etc. *Traffic recommends approval*
 - b. Public Services and Utilities: The proposed use will not cause any detrimental impact on the capabilities of public services and facilities. *Site a part of stormwater detention system as part of Beck North Corporate Park*
 - c. Natural Features: the proposed use is compatible with the natural features and characteristics of the land. *No regulated woodlands or wetlands being impacted*
 - d. Impact on Surrounding Neighborhoods: the proposed use is compatible with adjacent uses of land in terms of location, size, character, and impact on adjacent property. *Setback to adjacent residential district seems to match that of other buildings in the Industrial Park.*
 - e. Master Plan for Land Use: The proposed use is consistent with the goals, objectives, and recommendations of the City's Master Plan for Land Use. *Promotes the expansion of an existing business within the City and matches the contemplated future land use for the area*

- f. Social and Economic Impact: The proposed use will promote the use of land in a socially and economically desirable manner: *economic impact statement to be provided*
 - g. Zoning Ordinance and Land Use: The proposed use is listed among the provision of uses requiring special land use review. *Warehousing listed among the uses.*
9. Color Spectrum Management: For all permanent lighting installations, minimum Color Rendering Index of 70 and Correlated Color Temperature of no greater than 3000 Kelvin. **Please indicate compliance with minimum CRI and maximum CCT.**
 10. Signage: For sign permit information please contact Maureen Underhill at 248-347-0438 or munderhill@cityofnovi.org in the Code Compliance Division for more information.
 11. Planning Chart: Please refer to the attached Planning Chart for additional comments to address in the next submittal.

OTHER REVIEWS

- a. Engineering Review: Engineering is recommending approval of the Preliminary Site Plan with comments to be addressed on the Final Site Plan submittal.
- b. Landscape Review: Landscape is recommending approval of the Preliminary Site Plan with comments to be addressed on the Final Site Plan submittal.
- c. Traffic Review: Traffic is recommending approval of the Preliminary Site Plan with comments to be addressed on the Final Site Plan submittal.
- d. Façade Review: Façade is recommending approval of the Preliminary Site Plan with comments to be addressed on the Final Site Plan submittal.
- e. Fire Review: Fire is recommending approval the Preliminary Site Plan with comments to be addressed on the Final Site Plan submittal.

NEXT STEP: PLANNING COMMISSION AND RESPONSE LETTER

The Special Land Use, Preliminary Site Plan and Stormwater Management Plan are required to go before the Planning Commission at a Public Hearing. The applicant has expressed interest in appearing on the January 10 agenda. Please provide the following **by January 3** to remain on that agenda:

1. Site Plan submittal in PDF format (maximum of 10MB). **NO CHANGES MADE. (we already have this)**
2. A response letter addressing ALL the comments from ALL the review letters and a request for waivers/variances as you see fit.
3. A color rendering of the Site Plan (to be used for Planning Commission presentation).
4. A façade sample board of the façade materials proposed.

FUTURE STEP: ZONING BOARD OF APPEALS

After receiving Planning Commission's approval of the Preliminary Site Plan, at least one variance from the Zoning Board of Appeals will be necessary prior to the approval of the Final Site Plan. Please submit this application to Sarah Fletcher to go before the Zoning Board of Appeals. The deadline for Zoning Board of Appeals applications is typically the first of the month for the following month.

FUTURE STEP: FINAL SITE PLAN SUBMITTAL

After receiving Planning Commission's approval of the Preliminary Site Plan and any necessary variances from the ZBA, please submit the following for review:

1. **Six** copies of Final Site Plan sets (24" x 36", folded) addressing ALL comments from Preliminary Site Plan Review.
2. Response letter addressing ALL comments from ALL review letters and **refer to sheet numbers where the change is reflected.**
3. Final Site Plan Application
4. Final Site Plan Checklist

5. [No Revision Façade Affidavit](#) (only if no façade changes have been made)
6. An itemized engineering cost estimate including sanitary sewer, watermain, storm sewer, paving and grading costs, size 8.5" x 11" (The cost estimate should not include soil erosion or demolition costs.)
7. An itemized landscaping cost estimate including greenbelt and greenbelt ornamental trees, perennials, pond plantings, shrubs, edging, mulch, seed mix and seeded lawn, size 8.5" x 11" (The cost estimate should not include woodland trees, replacement trees or mitigation.)
8. A [Right-Of-Way Permit Application](#)
9. A [Soil Erosion Permit Application](#)
10. An [Other Agencies Checklist](#)

FUTURE STEP: ELECTRONIC STAMPING SET SUBMITTAL AND RESPONSE LETTER

After receiving Final Site Plan approval, plans addressing the comments in all the staff and consultant review letters should be submitted electronically for informal review and approval prior to printing Stamping Sets. A letter from either the applicant or the applicant's representative addressing comments in this and other review letters and associated charts is to be submitted with the electronic stamping set. This letter should address all comments in ALL letters and ALL charts and **refer to sheet numbers where the change is reflected**.

If required, drafts for all legal documents with a legal transmittal are to be submitted along with stamping sets. Please note that any off-site easements will need to be approved prior to Stamping Set approval.

FUTURE STEP: STAMPING SET APPROVAL

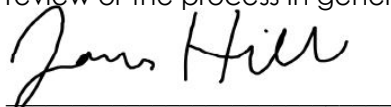
Stamping sets will be required for this project. After having received all the review letters from City staff the applicant should make the appropriate changes on the plans and submit **12 size 24" x 36" copies, folded, with signature and seal (may be electronic)** to the Community Development Department for final Stamping Set approval.

FUTURE STEP: PRE-CONSTRUCTION MEETING

A Pre-Construction meeting is required for this project. Prior to the start of any work on the site, Pre-Construction (Pre-Con) meetings must be held with the applicant's contractor and the City's consulting engineer. Pre-Con meetings are generally held after Stamping Sets have been issued and prior to the start of any work on the site. There are a variety of requirements, fees and permits that must be issued before a Pre-Con can be scheduled, so it is suggested you contact Sarah Marchioni (248.347.0430 or smarchioni@cityofnovi.org) once the Final Site Plan has been approved to begin the Pre-Con checklist. If you have questions regarding the checklist or the Pre-Con itself, please contact Sarah.

CHAPTER 26.5

Chapter 26.5 of the City of Novi Code of Ordinances generally requires all projects be completed within two years of the issuance of any starting permit. Please contact Sarah Marchioni at 248-347-0430 for additional information on starting permits. The applicant should review and be aware of the requirements of Chapter 26.5 before starting construction. If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.347.0547 or jhill@cityofnovi.org.



James Hill, Planner



PLANNING REVIEW CHART: I-1, Light Industrial Zoning District

Review Date: November 30, 2023
Review Type: Preliminary Site Plan Review
Project Name: JSP 23-32 Trek Addition
 50-22-04-378-009; North of Desoto Court, East of Hudson Dr
Plan Date: November 13, 2023
Prepared by: James Hill, Planner
E-mail: jhill@cityofnovi.org **Phone:** (248) 347-0547

Items in **Bold** need to be addressed by the applicant with next submittal. *Italicized* items should be noted.

Item	Required Code	Proposed	Meets Code	Comments
Zoning and Use Requirements				
Master Plan <i>(adopted July 27, 2017)</i>	Industrial Research Development and Technology	Industrial Office	Yes	
Zoning <i>(Effective January 8, 2015, as amended)</i>	I-1: Light Industrial District	No Change	Yes	
Uses Permitted <i>(Sec 3.1.18.B & C)</i>	Sec. 3.1.18.B Permitted Uses Sec. 3.1.18.C Special Land Uses	Industrial Office expansion for Warehouse	Yes	Planning Commission approval of the Special Land Use and Preliminary Site Plan is required.
Height, Bulk, Density, and Area Limitations (Sec. 3.1.18.D)				
Frontage on a Public Street <i>(Sec. 5.12)</i>	Frontage on a Public Street is required.	Frontage on DeSoto Ct	Yes	
Access to a Major Thoroughfare (Sec. 5.13)	Vehicular access shall be provided only to an existing or planned major thoroughfare or freeway service drive OR access driveway on other street type is not across street from existing or planned single-family uses.	Complies	Yes	
Minimum Zoning Lot Size for each Unit in Ac <i>(Sec 3.6.2.D)</i>	Except where otherwise provided in this Ordinance, the minimum lot area and width, and the maximum percent of lot coverage shall be determined on the basis of off-street parking, loading, greenbelt screening, yard setback or usable open space	Complies	Yes	
Minimum Zoning Lot Size for each Unit: Width in Feet		Complies	Yes	
Maximum % of Lot Area Covered (By All Buildings)	(Sec 3.6.2.D)	29,140 sf (proposed bldg.) + 19,507 sf (ex. Bldg. 1) + 16,025 (ex. Bldg. 2) / 164,034 sf (parcels -001, -002, -003, and -009) = 39.43%	Yes	
Building Height	25 ft	Average	Yes	

Item	Required Code	Proposed	Meets Code	Comments
(Sec. 3.1.18.D)	Sec. 3.14.5.C: The maximum heights of any building)in the I-1 District) constructed on a lot or site adjacent to a residential district shall be twenty-five (25) feet	height of 22'4"		
Building Setbacks (Sec. 3.1.18.D)				
Front (South)	40 ft	65.4 ft for addition, 40 ft for existing bldg.	Yes	
Ext. Side (East)	111.5' from the residential district, given the average building height of 22'4"	111.9'	Yes	
Int. Side (West)	20 ft	NA (attached to existing bldg. to the west)	Yes	Combination of parcels will have to occur before Final Site Plan can be approved
Rear (North)	20 ft	63 ft	Yes	
Parking Setbacks (Sec. 3.1.18.D) Refer to applicable notes in Sec. 3.6.2				
Front (South)	40 ft (Sec. 3.6.2.E)	Existing	Yes	
Ext. Side (East)	100 ft from the adjacent residential district (Sec. 3.6.2.F)	101.8'	Yes	
Int. Side (West)	10 ft	NA	NA	
Rear (North)	10 ft	21.4 ft	Yes	
Note to District Standards (Sec. 3.6.2)				
Exterior Side Yard Abutting a Street (Sec 3.6.2.C)	All exterior side yards abutting a street shall be provided with a setback equal to front yard.	NA	NA	
Off-Street Parking in Front Yard (Sec 3.6.2.E)	Off-street parking is allowed in front yard if:			
	The site is a minimum 2 acre site			
	Does not extend into the minimum required front yard			
	Cannot occupy more than 50% of the area between min. front yard setback & bldg. setback,			
	Must be screened by brick wall or landscaped berm 2.5 ft tall			
	Lighting compatible with surrounding neighborhood	NA	NA	
Off-Street Parking in Side and Rear Yards (Sec 3.6.2.F)	Off-street parking is allowed in side and rear yards if the site does not abut residential. If it does, additional conditions apply: i. shall not occupy more than 50% of side yard area abutting residential ii. parking setback no less than 100 ft from res district	Parking in the rear, greater than 100 feet from residential district	Yes	
Setback from	I-1 and I-2 districts, five (5) feet of	Complies	Yes	

Item	Required Code	Proposed	Meets Code	Comments
Residential District - Building (Sec 3.6.2.H)	horizontal setback for each foot of building height, or one-hundred (100) feet, whichever is greater. (unless separated by a thoroughfare or RR ROW)			
Wetland/Watercourse Setback (Sec 3.6.2.M)	A setback of 25ft from wetlands and from high watermark course shall be maintained	Does not apply	NA	
Additional Height (Sec 3.6.2.O)	Additional heights for selected buildings is allowed based on conditions listed in Sec 3.6.2.O	Does not apply	NA	
Parking setback screening (Sec 3.6.2.P)	Required parking setback area shall be landscaped per Sec. 5.5.3.	Complies	Yes	See Landscape letter for further details
Modification of parking setback requirements (Sec 3.6.2.Q)	The Planning Commission may modify parking setback requirements based on conditions listed in Sec. 3.6.2.Q	Not proposed	NA	
Parking and Loading Requirements				
Number of Parking Spaces (Sec. 5.2.12.E, as amended December 26, 2019)	Industrial Establishments & Related Offices: 1 space per 700 sf usable floor area OR 5 spaces + 1 space for each 1.5 employees in the largest working shift, whichever is greater. 64,265 sf/700 sf = 91 spaces required	80 spaces proposed (4 barrier free)	No	If parking requirement cannot be met, a variance from the Zoning Board of Appeals will be required
Parking Space Dimensions and Maneuvering Lanes (Sec. 5.3.2)	- 90° Parking: 9 ft. x 19 ft. - 24 ft. two way drives - 9 ft. x 17 ft. parking spaces allowed along 7 ft. wide interior sidewalks as long as detail indicates a 4" curb at these locations and along landscaping	9' x 19' parking spaces with 24 ft. drive aisle	Yes	
End Islands (Sec. 5.3.12)	- End Islands with landscaping and raised curbs are required at the end of all parking bays that abut traffic circulation aisles. - The end islands shall generally be at least 8 ft. wide, have an outside radius of 15 ft., and be constructed 3 ft. shorter than the adjacent parking stall	Island proposed to be same length as adjacent stall	Yes?	The island that is a part of the proposed parking lot improvements could be shortened so that it is 3 ft. shorter than the adjacent stall, but it's also an extension of an existing island, so would not be required
Parking stall located adjacent to a parking lot entrance (public or private) (Sec. 5.3.13)	Shall not be located closer than twenty-five (25) feet from the street right-of-way (ROW) line, street easement or sidewalk, whichever is closer	Complies	Yes	
Barrier Free	4 barrier free spaces required	4 barrier free	Yes	Existing

Item	Required Code	Proposed	Meets Code	Comments
Spaces (Barrier Free Code)		spaces provided		
Barrier Free Space Dimensions (Barrier Free Code)	- 8' wide with an 8' wide access aisle for van accessible spaces - 8' wide with a 5' wide access aisle for regular accessible spaces	8' wide with 8' access aisle	Yes	
Barrier Free Signs (Barrier Free Code)	One sign for each accessible parking space.	Shown	Yes	Existing
Minimum number of Bicycle Parking (Sec. 5.16.1)	Bicycle parking shall be required at the time of an enlargement of any principal building by ten (10) percent or more; Industrial: Five (5) percent of required automobile spaces, minimum two (2) spaces	5 bicycle racks totaling 10 spaces	Yes	Please confirm that there are 5 proposed bicycle racks
Bicycle Parking General requirements (Sec. 5.16)	No farther than 120 ft. from the entrance being served	Complies	Yes	
	When 4 or more spaces are required for a building with multiple entrances, the spaces shall be provided in multiple locations	NA	NA	
	Spaces to be paved and the bike rack shall be inverted "U" design Shall be accessible via 6 ft. paved sidewalk	Complies	Yes	
Bicycle Parking Lot layout (Sec 5.16.6)	Parking space width: 7 ft. One tier width: 11 ft. Two tier width: 18 ft. Maneuvering lane width: 4 ft. Parking space depth: 32 inches	Parking space width: 6ft One tier width: 12 ft. Maneuvering lane width: 4 ft. Parking space depth: 2 ft.	No	Please revise the bicycle parking so that it complies with the requirements
Loading Spaces (Sec. 5.4.3)	All loading and unloading operations shall be conducted in the rear yard, except in those instances where: - The Industrial district abuts a residential district, in which case, the conditions of Section 3.14.5 shall apply, or, - An interior side yard is located adjacent to I district, EXPO district, or EXO Overlay district property, loading and unloading may be conducted in that interior side yard when located near the rear	Loading in the rear yard.	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	of the building. When loading and unloading is to be conducted within an interior side yard, the City may require aesthetic screening of the facility in accordance with the guidelines set forth in Section 5.5.			
Dumpster, Accessory Structures, and Rooftop Equipment (Sec. 4.19)				
Dumpster (Sec 4.19.2.F)	<ul style="list-style-type: none"> - Located in rear yard - Attached to the building or - No closer than 10 ft. from building if not attached - Not located in parking setback - If no setback, then it cannot be any closer than 10 ft. from property line. Away from Barrier free Spaces	No change	NA	
Dumpster Enclosure (Sec. 21-145. (c) Chapter 21 of City Code of Ordinances)	<ul style="list-style-type: none"> - Screened from public view - A wall or fence 1 ft. higher than height of refuse bin - And no less than 5 ft. on three sides - Posts or bumpers to protect the screening - Hard surface pad. Screening Materials: Masonry, wood or evergreen shrubbery	No change	NA	
Roof top equipment and wall mounted utility equipment (Sec. 4.19.2.E.ii)	All roof top equipment must be screened and all wall mounted utility equipment must be enclosed and integrated into the design and color of the building	No rooftop equipment proposed on addition	Yes	
Roof top appurtenances screening	Roof top appurtenances shall be screened in accordance with applicable facade regulations, and shall not be visible from any street, road or adjacent property.	No rooftop equipment proposed on addition	Yes	
Building Code and Other Requirements				
Woodlands (City Code Ch. 37)	Replacement of removed trees	Not shown	TBD	Please include proposed tree removals and replacements as required
Wetlands (City Code Ch. 12, Art. V)	Mitigation of removed wetlands at ratio of 1.5:1 emergent wetland, 2:1 for forested wetlands	None	NA	
Design and Construction Standards Manual	Land description, Sidwell number (metes and bounds for acreage parcel, lot number(s), Liber, and page for subdivisions).	Provided	Yes	
General layout and dimension of proposed physical	Location of all existing and proposed buildings, proposed building heights, building layouts, (floor area in square feet),	Provided	Yes	

Item	Required Code	Proposed	Meets Code	Comments
improvements	location of proposed parking and parking layout, streets and drives, and indicate square footage of pavement area (indicate public or private).			
Economic Impact Information	- Total cost of the proposed building & site improvements - Number of anticipated jobs created (during construction & after building is occupied, if known)	Not provided	TBD	Provide prior to Planning Commission Meeting.
Building Exits	Building exits must be connected to sidewalk system or parking lot.	Provided	Yes	
Phasing	All projects must be completed within two years of the issuance of any starting permit or phasing plan should be provided	Not proposed	NA	
Other Permits and Approvals				
Development/ Business Sign (City Code Sec 28.3)	The leading edge of the sign structure shall be a minimum of 10 ft. behind the right-of-way. Entranceway shall be a maximum of 24 square feet, measured by completely enclosing all lettering within a geometric shape. Maximum height of the sign shall be 5 ft.	Does not apply at this time	NA	Contact Maureen Underhill at 248.735.5602 munderhill@cityofnovi.org for more information.
Project & Street Naming Committee	Some projects may need approval from the Street & Project Naming Committee	Project name provided	Yes	
Planning Commission Findings for Permitted Uses				
Adjacent Residential uses (Sec. 3.14.3.A)	Protecting current and future residential uses from development impact			
Long term truck parking (Sec. 3.14.3.B)	Long-term delivery truck parking is not permitted	Not indicated	TBD	Please add a note to the site plan that long-term delivery truck parking will not occur on the site
Performance standards (Sec 3.14.3.C)	The lighting, noise, vibration, odor and other possible impacts are in compliance with standards and intent of the article and performance standards of Section 5.14	Fire and Hazardous Chemical survey provided	Partially	A noise impact statement will need to be conducted before the Planning Commission meeting
Storage and/or use of material (Sec. 4.13.3.D)	The storage and/or use of any volatile, flammable or other materials shall be fully identified in application and shall comply with any city ordinances regarding toxic or hazardous materials	Checklis provided with the Preliminary Site Plan submittal	Yes	
Considerations for I-1 Permitted Uses Adjacent to a Residential District (Sec. 3.14.5)				

Item	Required Code	Proposed	Meets Code	Comments
Loading Area (Sec. 3.14.5.A)	No truck well, loading dock or door, shall be permitted on or in the wall of the building which faces the abutting residential district and only pedestrian exits or emergency doors shall be allowed on such wall	Truck well in the rear yard facing away from the residential district	Yes	
Outdoor Storage and Parking Screening (Sec. 3.14.5.B)	No outside storage of any materials, equipment, trash or waste shall be permitted, except that dumpsters may be permitted outdoors where properly screened pursuant to the requirements of this Ordinance	Outdoor storage does not appear to be proposed.	Yes	
	All off-street parking areas used for vehicular repair, delivery, loading/unloading and transport shall not be closer than one-hundred (100) feet from the boundary of a residential district and effectively screened from view from said residential district by landscaping, walls or berms pursuant to the requirements of Section 3.14.5.E.	Proposed loading area is over 100 feet away from the residential district to the east		
Building Height (Sec. 3.14.5.C)	The maximum heights of any building constructed on a lot or site adjacent to a residential district shall be twenty-five (25) feet, except where there is a street, road, highway or freeway between said lot or site & the abutting residential district.	Parapet of existing Trek building is 26'8"	No	Because of the parcel combination, the original Trek building will be on a parcel that abuts the residential district (whereas before a parcel sat in between the two). This is considered an existing condition.
Windows and Doors (Sec. 3.14.5.F)	Windows and doors of non-office use areas of structures in an I-1 district may not be left open	Not indicated	TBD	Please add a note to the plans that this standard will be met
Special Land Use Considerations for I-1 Sites Adjacent to Residential Districts (Sec. 6.1.2.C)				
Traffic Circulation and Safety (Sec. 6.1.2.C.i)	The proposed use will not cause any detrimental impact on existing thoroughfares in terms of overall volumes, capacity, safety, vehicular turning patterns, intersections, view obstructions, line of sight, ingress and egress, accel/decel lanes off-street parking, off-street loading & unloading, travel times and thoroughfare level of service.		TBD	See Traffic review letter for further details
Public Services & Utilities (Sec. 6.1.2.C.j)	The proposed use will not cause any detrimental impact on the		TBD	See Engineering review for further details

Item	Required Code	Proposed	Meets Code	Comments
6.1.2.C.ii)	capabilities of public services and facilities, including water service, sanitary sewer service, storm water disposal, and police and fire protection to serve existing and planned uses in the area.			
Natural Features (Sec. 6.1.2.C.iii)	The proposed use is compatible with the natural features and characteristics of the land, including existing woodlands, wetlands, watercourses and wildlife habitats.	Project does not appear to impact natural features	Yes	See Landscape review for further details
Impact on Surrounding Neighborhoods (Sec. 6.1.2.C.iv)	The proposed use is compatible with adjacent uses of land in terms of location, size, character, and impact on adjacent property or the surrounding neighborhood.	Yes	Yes	Setback to adjacent residential district seems to match that of other buildings in the Industrial Park
Master Plan for Land Use (Sec. 6.1.2.C.v)	The proposed use is consistent with the goals, objectives and recommendations of the City's Master Plan for Land Use.	Complies	Yes	
Social and Economic Impact (Sec. 6.1.2.C.vi)	The proposed use will promote the use of land in a socially and economically desirable manner	Information not provided	TBD	Please provide an economic impact statement with the next submittal
Zoning Ordinance and Land Use (Sec. 6.1.2.C.vii)	The proposed use is listed among the provision of uses requiring special land use review as set forth in the various zoning districts of this Ordinance and is in harmony with the purposes and conforms to the applicable site design regulations of the zoning district in which it is located.	Complies	Yes	
Lighting and Photometric Plan (Sec. 5.7)				
Intent (Sec. 5.7.1)	Establish appropriate minimum levels, prevent unnecessary glare, reduce spillover onto adjacent properties & reduce unnecessary transmission of light into the night sky	Photometric plan provided	Yes	
Lighting Plan (Sec. 5.7.A.i)	Site plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas & exterior lighting fixtures	Lighting plan does not include existing buildings	No	Please show lighting around existing buildings and parking areas
Building Lighting (Sec. 5.7.2.A.iii)	Relevant building elevation drawings showing all fixtures, the portions of the walls to be	Elevation drawings do not show all	No	Please show lighting fixtures on elevation drawings

Item	Required Code	Proposed	Meets Code	Comments
	illuminated, illuminance levels of walls and the aiming points of any remote fixtures.	fixtures		
Lighting Standards (Sec. 5.7.A.2.ii)	Specifications for all proposed & existing lighting fixtures	Provided	Yes	See note above about including information for existing building and parking area
	Photometric data	Provided	Yes	
	Fixture height	Provided	Yes	
	Mounting & design	Provided	Yes	
	Glare control devices (Also see Sec. 5.7.3.D)	Provided	Yes	Please include hours of operation
	Type & color rendition of lamps	Provided	Yes	
	Hours of operation	Not indicated	No	Spill-over from neighboring properties not shown
	Photometric plan illustrating all light sources that impact the subject site, including spill-over information from neighboring properties	Not indicated	No	
Max Height (Sec. 5.7.3.A)	Height not to exceed maximum height of zoning district (or 25 ft. where adjacent to residential districts or uses			
Standard Notes (Sec. 5.7.3.B)	<ul style="list-style-type: none"> - Electrical service to light fixtures shall be placed underground - Flashing light shall not be permitted - Only necessary lighting for security purposes & limited operations shall be permitted after a site's hours of operation 	Provided	Yes	
Security Lighting (Sec. 5.7.3.H)	<ul style="list-style-type: none"> - All fixtures shall be located, shielded and aimed at the areas to be secured. - Fixtures mounted on the building and designed to illuminate the facade are preferred - Lighting for security purposes shall be directed only onto the area to be secured. 	Provided	Yes	
Average Light Levels (Sec.5.7.3.E)	Average light level of the surface being lit to the lowest light of the surface being lit shall not exceed 4:1	3.4:1	Yes	
Color Spectrum Management (Sec. 5.7.3.F)	For all permanent lighting installations – minimum Color Rendering Index of 70 and Correlated Color Temperature of no greater than 3000 Kelvin	Not Indicated	No	Please indicate compliance with minimum CRI and maximum CCT
Min. Illumination	Parking areas: 0.2 min	0.5	Yes	

Item	Required Code	Proposed	Meets Code	Comments
(Sec. 5.7.3.L)	Loading & unloading areas: 0.4 min	1.3	Yes	
	Walkways: 0.2 min	n/a	Yes	
	Building entrances, frequent use: 1.0 min	1.4	Yes	
	Building entrances, infrequent use: 0.2 min	1	Yes	
Max. Illumination adjacent to Non-Residential (Sec. 5.7.3.L)	When site abuts a non-residential district, maximum illumination at the property line shall not exceed 1 foot candle	0	Yes	

NOTES:

1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.
2. The section of the applicable ordinance or standard is indicated in parenthesis. Please refer to those sections in Article 3, 4 and 5 of the zoning ordinance for further details
3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.

ENGINEERING REVIEW



PLAN REVIEW CENTER REPORT

12/5/2023

Engineering Review

Trek Building Addition
JSP23-0032

APPLICANT

Brivar Construction Company

REVIEW TYPE

Preliminary Site Plan

PROPERTY CHARACTERISTICS

- Site Location: 46470 DeSoto Court. North of West Rd. West of W Park Dr.
- Site Size: 1.56 acres
- Plan Date: November 13th, 2023
- Design Engineer: Monument Engineering Group Associates, Inc.

PROJECT SUMMARY

- Construction of approximately 29,140 SF building and associated parking.
- An additional catch basin and manhole will be added to the existing storm water collection system. Also, a new collection system will be added to the east side of the building and would discharge to an existing storm manhole.
- Site access would be provided via shared access with adjacent properties.

RECOMMENDATION

Approval of the Preliminary Site Plan is recommended, with items to be addressed at Final Site Plan submittal.

Comments:

The Preliminary Site Plan meets the general requirements of the design and construction standards as set forth in [Chapter 11 of the City of Novi Code of Ordinances](#), the Storm Water Management Ordinance and the [Engineering Design Manual](#) with the following items to be addressed at the time of Final Site Plan submittal (further engineering detail will be required at the time of the final site plan submittal):

General

1. Provide a note on the plans that all work shall conform to the current City of Novi standards and specifications.

2. **Only at the time of the printed Stamping Set submittal**, provide the City's standard detail sheets storm sewer (2 sheets), and paving (2 sheets) The most updated details can be found on the City's website under [Engineering Standards and Construction Details](#).
3. Provide a traffic control sign table listing the quantities of each **permanent** sign type proposed for the development. Provide a note along with the table stating all traffic signage will comply with the current MMUTCD standards.
4. Provide a note that compacted sand backfill (MDOT sand Class II) shall be provided for all utilities within the influence of paved areas and illustrate and label on the profiles.
5. Provide a construction materials table on the utility plan listing the quantity and material type for each utility (water, sanitary and storm) being proposed.
6. Provide a utility crossing table indicating that at least 18-inch vertical clearance will be provided, or that additional bedding measures will be utilized at points of conflict where adequate clearance cannot be maintained.
7. Where the minimum 18-inch clearance at utility crossings cannot be achieved, provide a prominent note stating the substandard clearance and that proper bedding/encasement will be determined by the inspecting engineer.
8. Generally, all proposed trees shall remain outside utility easements. Where proposed trees are required within a utility easement, the trees shall maintain a minimum 5-foot horizontal separation distance from any existing or proposed utility. All utilities shall be shown on the landscape plan, or other appropriate sheet, to confirm the separation distance.
9. If applicable, show the locations of all light poles on the utility plan and indicate the typical foundation depth for the pole to verify that no conflicts with utilities will occur. Light poles in a utility easement will require a License Agreement.
10. The grading and SESC sheets shall show the tree fence at least as far from the trunk as the critical root zone, defined as a circular area around a tree with a radius measured to the tree's longest dripline radius plus one (1) foot. No grading shall occur within the dripline. If the critical root zone is not fully protected, then replacements for that tree may be required.

Irrigation Comments

11. Clarify whether irrigation is proposed, and if so, include containment notes on irrigation sheets.
12. For common area irrigation systems connected to public water supplies: Install a backflow prevention Reduced Pressure Zone Assembly (RPZ) with an ASSE 1013 listing approval at each tap to the public water supply. A minimum clearance of 12-inches measured from the bottom of pressure relief valve to the finished landscaped grade shall be required. Provide a detail showing the RPZ installation setup and height above grade. If backflow preventer is to be

enclosed, provide a detail of the enclosure with required drainage outlets. Show all locations on a site plan. A plumbing permit is required for the installation of the backflow preventer. Installation of the backflow preventer shall be in such a manner as to not require blowing out the system through the backflow preventer. Drain ports and blow out ports shall be included. Any deviations from these requirements must be approved through the Novi Water & Sewer Division Cross Connection Control Specialist (248-735-5661).

Storm Sewer

13. A minimum cover depth of 3 feet shall be maintained over all proposed storm sewer. Currently, a few pipe sections do not meet this standard. Grades shall be elevated, and minimum pipe slopes shall be used to maximize the cover depth. In situations where the minimum cover cannot be achieved, Class V pipe must be used with an absolute minimum cover depth of 2 feet. An explanation shall be provided where the cover depth cannot be provided.
14. Storm manholes with differences in invert elevations exceeding two feet shall contain a 2-foot-deep plunge pool.
15. Provide a four-foot-deep sump and an oil/gas separator in the last storm structure prior to discharge off- site/to the storm water basin.
16. Provide profiles for all storm sewer 12-inch and larger. All storm pipes accepting surface drainage shall be 12-inch or larger.
17. Label all inlet storm structures on the profiles. Inlets are only permitted in paved areas and when followed by a catch basin within 50-feet.
18. Label the 10-year HGL on the storm sewer profiles and ensure the HGL remains at least 1-foot below the rim of each structure.
19. Show and label all roof conductors and show where they tie into the storm sewer.

Storm Water Management Plan

20. The Storm Water Management Plan (SWMP) for this development shall be designed in accordance with the Storm Water Ordinance and Chapter 5 of the [Engineering Design Manual](#).
21. A runoff coefficient of 0.35 shall be used for all turf grass lawns (mowed lawns) and 0.95 shall be used for all impervious surfaces. The current compound runoff coefficient for Area 1&7 shows 0.20. Revise the calculation accordingly.

Paving & Grading

22. Provide a construction materials table on the Paving Plan listing the quantity and material type for each pavement cross-section being proposed.
23. Retaining walls that are 48-inches or larger shall need a permit from the Community Development Department.

Soil Erosion and Sediment Control

24. A SESC permit is required. A full review has not been completed at this time but will be completed once a complete package has been submitted, according to the permit application requirements.

Off-Site Easements

25. Any off-site utility easements anticipated must be executed **prior to final approval of the plans**. If you have not already done so, drafts of the easements and a recent title search shall be submitted to the Community Development Department as soon as possible for review and shall be approved by the Engineering Division and the City Attorney prior to executing the easements.

The following must be submitted with the Final Site Plan:

26. A letter from either the applicant or the applicant's engineer must be submitted with final site plans highlighting the changes made to the plans addressing each of the comments listed above and indicating the revised sheets involved. **Additionally, a statement must be provided stating that all changes to the plan have been discussed in the applicant's response letter.**
27. An itemized construction cost estimate must be submitted to the Community Development Department for the determination of plan review and construction inspection fees. This estimate should only include the civil site work and not any costs associated with construction of the building or any demolition work. **The estimate must be itemized** for each utility (water, sanitary, storm sewer), on-site paving (square yardage, should include number do detectable warning plates), right-of-way paving (including proposed right-of-way), grading, and the storm water basin (basin construction, control structure, pre-treatment structure and restoration).

The following must be submitted with the Stamping Set:

(Please note that all documents must be submitted together as a package with the Stamping Set submittal with a [legal review transmittal form](#). Partial submittals will not be accepted. Links to the PDF copy of the easements are below, word document versions of each legal document can be found on the City's Website under [Forms and Permits](#))

28. A draft copy of the [Storm Drainage Facility Maintenance Easement Agreement \(SDFMEA\)](#), as outlined in the Storm Water Management Ordinance, must be submitted to the Community Development Department. Once the agreement is approved by the City's Legal Counsel, this agreement will then be sent to City Council for approval/acceptance. The SDFMEA will then be recorded at the office of the Oakland County Register of Deeds. This document is available on our website.
29. A draft copy of the [Ingress/Egress Easement](#) for shared use of the drive entry on Desoto Ct. must be submitted to the Community Development Department. This document is available on our website.

Prior to preparing stamping sets, the Applicant should submit the Electronic Stamping set to Planning for review, if any changes are proposed after Electronic Stamping set approval send revised sheets directly to Engineering for an informal review and approval.

Engineering Review of Preliminary Site Plan

Trek Building Addition

JSP23-0032

12/5/2023

Page 5 of 5

To the extent this review letter addresses items and requirements that require the approval of or a permit from an agency or entity other than the City, this review shall not be considered an indication or statement that such approvals or permits will be issued.

Please contact Adam Yako at (248)735-5695 or email at ayako@cityofnovi.org with any questions.



Adam Yako
Project Engineer

cc: James Hill Community Development
Humna Anjum, Engineering
Ben Croy, City Engineer

LANDSCAPE REVIEW



PLAN REVIEW CENTER REPORT

November 22, 2023

TREK Addition

Preliminary Site Plan - Landscaping

Review Type

Preliminary Site Plan Landscape Review

Job

JSP23-0032

Property Characteristics

- Site Location: 46470 Desoto Court
- Site Acreage: 2.95 ac.
- Site Zoning: I-1
- Adjacent Zoning: North, South, East, West: I-1 (RA beyond the City of Novi I-1 strip)
- Plan Date: 11/5/2023

Ordinance Considerations

This project was reviewed for conformance with Chapter 37: Woodland Protection, Zoning Article 5.5 Landscape Standards, the Landscape Design Manual and any other applicable provisions of the Zoning Ordinance. Items in **bold** below must be addressed and incorporated as part of the revised Preliminary Site Plan submittal. Underlined items must be addressed on the Final Site Plans. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review and the accompanying Landscape Chart are summaries and are not intended to substitute for any Ordinance.

RECOMMENDATION:

This project is **recommended for approval**, contingent on all of the required foundation landscaping and greenbelt landscaping being proposed. The remaining issues can be resolved on the Final Site Plans.

LANDSCAPE WAIVERS REQUIRED FOR THE PROPOSED LAYOUT:

- Insufficient building foundation landscaping – *not supported by staff*
- Insufficient landscaping in the greenbelt – *not supported by staff*

PLEASE ADD THE CITY PROJECT NUMBER, JSP23-0032, TO THE BOTTOM RIGHT CORNER OF THE SET COVER SHEET.

Ordinance Considerations

Existing Trees (Sec 37 Woodland Protection, Preliminary Site Plan checklist #17 and LDM 2.3 (2))

1. Tree survey is provided.
2. There are no wetlands on the site.
3. **The trees on the berm that will be removed for the work there need to be added to the survey and replaced when the work is complete.**
4. **If existing trees along the north side of the proposed parking will be used to meet the perimeter parking lot requirement, they should be added to the tree survey.**

Adjacent to Residential - Buffer (Zoning Sec. 5.5.3.B.ii and iii)

1. The project is adjacent to a buffer strip owned by the City between the site and residential property to the east. That meets the requirement for the required landscaped

berm.

2. **As noted above, any trees to be removed from the berm, must be replaced to restore the buffering they provide.**

Adjacent to Public Rights-of-Way – Berm/Wall, Buffer and Street Trees (Zoning Sec. 5.5.3.B.ii, iii)

The project only faces an interior drive of an industrial subdivision so this requirement does not apply.

Interior Street in an Industrial subdivision (Zoning Sec 5.5.3.F.6)

1. The large canopy trees have been provided as required.
2. The remaining requirements are not met completely, or at all. **These deficiencies require a landscape waiver** that is *not supported by staff*.

Parking Lot Landscaping (Zoning Sec. 5.5.3.C.)

1. The required interior parking lot area and trees are provided.
2. The required parking lot perimeter trees are provided, but not adjacent to the new parking lot. **Please move the trees to the new lot.**

Building Foundation landscaping

1. Only 25% of the required foundation landscaping is provided.
2. **The deficiency requires a landscape waiver** that is *not supported by staff*.

Plant List (LDM 4, 10)

1. 9 of 11 species used (82%) are native to Michigan
2. The tree diversity meets the requirements of LDM Section 4.

Planting Notations and Details (LDM 10)

Provided

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 3)

1. No new detention is proposed.
2. **If any additions to the regional basin are required, the revised section of the detention basin landscaping will need to be landscaped per the current ordinance.**

Irrigation (LDM 10)

1. If an irrigation system will be used, a plan for it must be provided with Final Site Plans.
2. If alternative means of providing water to the plants for their establishment and long-term survival, information regarding that is also required with Final Site Plans.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5621 or rmeader@cityofnovi.org.



Rick Meader – Landscape Architect

LANDSCAPE REVIEW SUMMARY CHART – PRELIMINARY SITE PLAN

Review Date: November 22, 2023
Project Name: JSP23-0032: TREK Addition
Plan Date: November 5, 2023
Prepared by: Rick Meader, Landscape Architect E-mail: rmeader@cityofnovi.org;
 Phone: (248) 735-5621

Items in **Bold** need to be addressed by the applicant before approval of the Preliminary Site Plan.
Underlined items need to be addressed for Final Site Plan.

LANDSCAPE WAIVERS REQUIRED BY PLAN:

- Insufficient building foundation landscaping – *not supported by staff*
- Insufficient landscaping in the greenbelt – *not supported by staff*

Please add the City Project number, JSP23-0032, to the bottom corner of the overall set cover sheet, not just the landscape plans.

Item	Required	Proposed	Meets Code	Comments
Landscape Plan Requirements (LDM (2))				
Landscape Plan (Zoning Sec 5.5.2, LDM 2.e.)	<ul style="list-style-type: none"> • New commercial or residential developments • Addition to existing building greater than 25% increase in overall footage or 400 SF whichever is less. • 1"=20' minimum with proper North. Variations from this scale can be approved by LA • Consistent with plans throughout set 	Scale: 1"=30'	Yes	
Project Information (LDM 2.d.)	Name and Address	Provided on title block	Yes	
Owner/Developer Contact Information (LDM 2.a.)	Name, address and telephone number of the owner and developer or association	Provided on title block	Yes	
Landscape Architect contact information (LDM 2.b.)	Name, Address and telephone number of RLA/PLA/LLA who created the plan	Felino Pascual, FPA	Yes	
Sealed by LA. (LDM 2.g.)	Requires original signature	Seal & signature on title block	Yes	
Miss Dig Note (800) 482-7171 (LDM.3.a.(8))	Show on all plan sheets	In Title Block	Yes	
Zoning (LDM 2.f.)	Include all adjacent zoning	On Sheet V-1.0 Site: I-1	Yes	

Item	Required	Proposed	Meets Code	Comments
		North, South, West: I-1 East: City of Novi property, then RA		
Survey information (LDM 2.c.)	<ul style="list-style-type: none"> • Legal description or boundary line survey • Existing topography 	<ul style="list-style-type: none"> • Legal description on Cover Sheet • Topographical survey on V-1.0 	Yes	
Existing plant material Existing woodlands or wetlands (LDM 2.e.(2))	<ul style="list-style-type: none"> • Show location type and size. Label to be saved or removed. • Plan shall state if none exists. 	<ul style="list-style-type: none"> • Tree survey on Sheet V-3.0. Woodlands are along the east side of the site. • No wetlands are on the site. • 1 regulated tree is shown as being removed – 1 replacement is required 	<ul style="list-style-type: none"> • Yes • Yes 	<ol style="list-style-type: none"> 1. Please add tree fencing for Tree #1000 on the Soil Erosion Control Plan and add the city tree protection fence detail. 2. Even if they are not 8"dbh, all trees on the berm in the area that is shown as being graded must be shown on the plan and replaced as part of this project as they were part of the original plantings for Beck North. 3. See Mannik & Smith and DRG group letters for complete woodland and wetland reviews. 4. <u>Any plants missing from the original approved plan, (included with this review) should be replaced when the new plantings are installed to make the site compliant with Section 5.5.6.</u>
Soil types (LDM.2.r.)	<ul style="list-style-type: none"> ▪ As determined by Soils survey of Oakland county ▪ Show types, boundaries 	On Sheet V-1.0	Yes	
Existing and proposed improvements (LDM 2.e.(4))	Existing and proposed buildings, easements, parking spaces, vehicular use areas, and R.O.W	Included on landscape plan	Yes	
Existing and	<ul style="list-style-type: none"> • Overhead and 	<ul style="list-style-type: none"> • All utilities are 	<ul style="list-style-type: none"> • Yes 	1. Please clearly show

Item	Required	Proposed	Meets Code	Comments
proposed utilities (LDM 2.e.(4))	underground utilities, including hydrants • Proposed light posts	shown on C-3.0 • Not all utilities and easements are shown on the landscape plan • The drains on the east side of the building do not appear to connect to any storm drain.	<ul style="list-style-type: none"> • No • TBD 	all utility lines, structures and easements on landscape plan. 2. Please include proposed lighting on landscape plan. 3. Please adjust utilities, light posts and/or proposed trees as required to allow all required trees to be planted. 4. Trees should be at least 10 feet from hydrants, catch basins and manholes and 5 feet from underground lines.
Proposed grading. 2' contour minimum (LDM 2.e.(1))	Provide proposed contours at 2' interval	Sheet C-7.0	Yes	
Snow deposit (LDM.2.g.)	Show snow deposit areas on plan	Yes	Yes	
LANDSCAPING REQUIREMENTS				
Berms, Walls and ROW Planting Requirements				
Berms				
<ul style="list-style-type: none"> • All berms shall have a maximum slope of 33%. Gradual slopes are encouraged. Show 1ft. contours • Berm should be located on lot line except in conflict with utilities. • Berms should be constructed of loam with 6" top layer of topsoil. 				
Residential Adjacent to Non-residential (Sec 5.5.3.A) & (LDM 1.a)				
Berm requirements (Zoning Sec 5.5.A)	The site is adjacent to an existing easement east of the project. Beyond that is residential property.	<ul style="list-style-type: none"> • A large, landscaped berm is in the 50-foot buffer easement. • A 50-foot buffer strip is provided as a part of the overall industrial park 	Yes	As noted above, any berm trees removed as part of this project must be replaced to restore the screening they provide.
Walls (LDM 2.k & Zoning Sec 5.5.3.vi)				
Material, height and type of construction footing	Freestanding walls should have brick or stone exterior with masonry or concrete interior	No new walls are proposed.		
Walls greater than 3 ½ ft. should be designed and sealed		None		

Item	Required	Proposed	Meets Code	Comments
by an Engineer				
ROW Landscape Screening Requirements (Sec 5.5.3.B. ii) and (LDM 1.b)				
Greenbelt width (2)(3) (5)	As noted by the zoning ordinance site requirements 40 ft	65 feet	Yes	
Berm requirements (Zoning Sec 5.5.3.A.(5))				
Min. berm crest width	No berm is required along Desoto Court	No berm is proposed	Yes	
Minimum berm height (9)	No berm is required along DeSoto Court	No berm is proposed	Yes	
3' wall	(4)(7)	None		
Canopy deciduous or large evergreen trees Notes (1) (10)	See Industrial Subdivision requirements below			
Sub-canopy deciduous trees Notes (2)(10)	See Industrial Subdivision requirements below			
Canopy deciduous trees in area between sidewalk and curb (Novi Street Tree List)	See Industrial Subdivision requirements below			
Cross-Section of Berms (LDM 2.j)				
Slope, height and width	<ul style="list-style-type: none"> • Label contour lines • Maximum 33% • Constructed of loam • 6" top layer of topsoil 	No berms are proposed	Yes	
Type of Ground Cover		NA		
Setbacks from Utilities	Overhead utility lines and 15 ft. setback from edge of utility or 20 ft. setback from closest pole	No overhead utilities exist on the site.		
Non-Residential Projects (Zoning Sec 5.5.3.F.6) – FOR DESOTO COURT FRONTAGE				
Greenbelt of an Interior Street in an Industrial subdivision (Zoning Sec 5.5.3.F.6)	<ul style="list-style-type: none"> • 1 canopy deciduous or 1 large evergreen per 35 l.f. along ROW (of those 1 canopy tree per 50 feet must be located along street as street trees) • 1 sub canopy tree per 40 l.f. frontage • 1 shrub per 20 lf frontage • Plant massing for 10% of ROW Screening hedge or berm for parking lot	<ul style="list-style-type: none"> • 2 canopy trees at street • 1 canopy tree near building • 2 subcanopy trees • 3 evergreens shown as replacements • No shrubs • No massing at frontage 	<ul style="list-style-type: none"> • Yes • Yes • No • TBD • No • No 	<ol style="list-style-type: none"> 1. Please correct the calculations per the requirements shown here and revise the plantings per these requirements 2. Any parking lot replacement trees should be located at the parking lot. 3. A landscape waiver would be required for the current deficiencies. It would not be

Item	Required	Proposed	Meets Code	Comments
	100 ft of frontage <ul style="list-style-type: none"> • 3 large trees (2 at street) • 3 subcanopy trees • 5 shrubs • Massing 10 lf 			<i>supported by staff.</i>
Parking Area Landscape Requirements LDM 1.c. & Calculations (LDM 2.o.)				
General requirements (LDM 1.c)	<ul style="list-style-type: none"> • Clear sight distance within parking islands • No evergreen trees 	No blocking landscaping is proposed	Yes	
Name, type and number of ground cover (LDM 1.c.(5))	As proposed on planting islands	All groundcovers shown on L-2	Yes	
General (Zoning Sec 5.5.3.C.ii)				
Parking lot Islands (a, b, i)	<ul style="list-style-type: none"> • A minimum of 200 SF to qualify • Minimum 200 SF per tree planted in island • 6" curbs • Islands minimum width 10' BOC to BOC 	The interior island and corner are properly sized	Yes	
Curbs and Parking stall reduction (c)	Parking spaces can be reduced to 17' if a 4" curb is used.	Spaces are 19 feet long	Yes	Spaces could be shortened to 17' if spaces have 2' of overhang available.
Contiguous space limit (i)	<ul style="list-style-type: none"> • Maximum of 15 contiguous spaced • All endcap islands should also be at least 200sf with 1 tree planted in it. 	All bays are 15 spaces or less	Yes	
Plantings around Fire Hydrant (d)	<ul style="list-style-type: none"> • No plantings with matured height greater than 12' within 10 ft. of fire hydrants of utility structures (manholes, catch basins). • Trees also need to have at least 5 feet between the trunk and underground utility lines. 	The existing hydrant on the site is not blocked by any existing or proposed landscaping	Yes	
Landscaped area (g)	Areas not dedicated to parking use or driveways exceeding 100 sq. ft. shall be landscaped	All areas are landscaped or covered with groundcover	Yes	
Clear Zones (LDM 2.3.(5))	No new entry to DeSoto Court is proposed	NA		

Item	Required	Proposed	Meets Code	Comments
Category 1: For OS-1, OS-2, OSC, OST, B-1, B-2, B-3, C, NCC, EXPO, FS, TC, TC-1, RC, Special Land Use or non-residential use in any R district (Zoning Sec 5.5.3.C.iii)				
A = Total square footage of vehicular use area up to 50,000 sf x 7.5%	$A = x \text{ SF} \times 7.5\% = A \text{ sf}$	NA		
B = Total square footage of additional paved vehicular use areas over 50,000 SF) x 1 %	$B = x \text{ SF} \times 1\% = B \text{ sf}$	NA		
Category 2: For: I-1 and I-2 (Zoning Sec 5.5.3.C.iii)				
A = Total square footage of vehicular use area up to 50,000 sf x 5%	$A = x \text{ SF} \times 6\% = A \text{ sf}$ $A = 5949\text{sf} \times 6\% = 357\text{sf}$			
B = Total square footage of additional paved vehicular use areas over 50,000 SF x 0.5 %	$B = (x \text{ SF} - 50000) \times 0.5\%$ $= B \text{ SF}$			
All Categories				
C = A+B Total square footage of landscaped islands required	<ul style="list-style-type: none"> • C = A + B • C = 357 + 0 = 357 SF 	460 sf	Yes	
D = D/200 Number of canopy trees required	<ul style="list-style-type: none"> • D = C/200 = xx trees • D = 357/200 = 2 trees 	2 trees	Yes	
Parking Lot Perimeter Trees (Sec 5.5.3.C.iv)	<p>1 Canopy tree per 35 lf</p> <p>Perimeter along building does not need to be included in calculation.</p> <p>$154/35 = 4 \text{ trees}$</p>	5 trees including 3 along the existing parking area and 2 evergreens	No	<ol style="list-style-type: none"> 1. Please show the perimeter line used as the basis of calculations on landscape plans. 2. The trees should all be along the proposed parking lot addition unless existing trees make that infeasible. 3. Existing trees within 15 feet of the parking lot that are planted on the site may be able to count toward the requirement but they would need to be shown on the survey. 4. Any missing perimeter trees along

Item	Required	Proposed	Meets Code	Comments
				the existing parking lot should also be replaced.
Parking land banked	NA	None		
Other Landscaping				
Other Screening				
Screening of outdoor storage, loading/unloading (Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)		Loading zone will be on the west side of the building, screened from DeSoto Court by the original building	Yes	
Transformers/Utility boxes (LDM 1.e from 1 through 5)	<ul style="list-style-type: none"> A minimum of 2ft. separation between box and the plants Ground cover below 4" is allowed up to pad. No plant materials within 8 ft. from the doors 	No utility box is shown	TBD	<ol style="list-style-type: none"> 1. <u>Provide proper screening for any transformers.</u> 2. <u>If all transformer locations are not provided on plan, please add a note stating that all transformers and other utility boxes shall be screened per the city detail.</u> 3. <u>Please add 12 shrubs per new utility box to the plant list.</u>
Building Foundation Landscape Requirements (Sec 5.5.3.D)				
Interior site landscaping SF	<ul style="list-style-type: none"> Equal to entire perimeter of the building (less paved access areas) x 8 with a minimum width of 4 ft. A minimum of 75% of the building should have foundation landscaping. xx lf x 8ft = xx sf 481lf * 8 ft = 3848 sf 	975sf	No	<ol style="list-style-type: none"> 1. All 3 exposed sides need to be included in the calculation. 2. As no landscaping can be placed along the north side, both the east and south sides need to be entirely landscaped with the required square footage. 3. A landscape waiver is required for the proposed configuration. It would not be supported by staff as there is no reason why the required area can't be provided. Please provide all of the

Item	Required	Proposed	Meets Code	Comments
				required foundation landscape area.
Zoning Sec 5.5.3.D.ii. All items from (b) to (e)	If visible from public street a minimum of 60% of the exterior building perimeter should be covered in green space	All of the new frontage facing DeSoto Court is landscaped	Yes	
Detention/Retention Basin Requirements (Sec. 5.5.3.E.iv)				
Planting requirements (Sec. 5.5.3.E.iv)	<ul style="list-style-type: none"> Clusters of large native shrubs shall cover 70-75% of the basin rim area located at 10 feet above the permanent water level or pond bottom if it's a dry pond. Canopy trees at 1/35th of the east, south and west sides of the pond, located at about 10 feet away from the permanent water level 10" to 14" tall grass along sides of basin Refer to wetland for basin mix 	None proposed – regional basin for the overall park is used	TBD	If any enlargements to the pond used are required, the altered section(s) must be landscaped per the current ordinance.
Phragmites Control (Sec 5.5.6.C)	<ul style="list-style-type: none"> Any and all populations of Phragmites australis and/or Japanese knotweed on the site shall be included on tree survey. Treat populations per MDEQ guidelines and requirements to eradicate the weed from the site. 	<p>None indicated</p> <p>A Google Maps image indicates Phragmites is on the lot</p>	TBD	<p>1. Please survey the site for any populations of <i>Phragmites australis</i> and/or Japanese knotweed and add plans for its complete removal if any is found.</p> <p>2. If none is found, please indicate that on the survey.</p>
LANDSCAPING NOTES, DETAILS AND GENERAL REQUIREMENTS				
Landscape Notes – Utilize City of Novi Standard Notes				
Installation date (LDM 2.l. & Zoning Sec 5.5.5.B)	<ul style="list-style-type: none"> Provide intended dates Should be between March 15 and November 15. 	Provided	Yes	
Maintenance & Statement of intent (LDM 2.m & Zoning Sec 5.5.6)	<ul style="list-style-type: none"> Include statement of intent to install and guarantee all materials for 2 years. Include a minimum one cultivation in 	Both notes are provided	Yes	1. Please correct the City of Novi Landscape Note #7 and the Planting Landscape Note #2 to say failed material

Item	Required	Proposed	Meets Code	Comments
	June, July and August for the 2-year warranty period.			<u>must be replaced within 3 months, not 1 year.</u> 2. Please correct the last note in the City of Novi Landscape Note to refer to Section 5.5, not 2509.
Plant source (LDM 2.n & LDM 3.a.(2))	Shall be northern nursery grown, No.1 grade.	Provided	Yes	
Irrigation plan (LDM 2.s.)	A method for providing the water required for plant establishment and long-term survival must be provided.	No	No	1. <u>Need for final site plan</u> 2. <u>Please provide either an irrigation system plan or information regarding the alternative method that will be used to water the plants</u> 3. <u>If an irrigation system will be used, it should meet the requirements listed at the end of the chart.</u>
Other information (LDM 2.u)	Required by Planning Commission	NA		
Establishment period (Zoning Sec 5.5.6.B)	2 yr. Guarantee	Provided	Yes	
Approval of substitutions. (Zoning Sec 5.5.5.E)	City must approve any substitutions <u>in writing</u> prior to installation.	Provided	Yes	
Plant List (LDM 4, 11)) – Include all cost estimates				
Quantities and sizes	<ul style="list-style-type: none"> A minimum of 50% of species used on the site, not including any woodland replacements, must be native to Michigan. The Tree Diversity standards of the Landscape Design Manual Section 4 must be met for all non-woodland replacement trees used. No Prohibited Species listed on Table 11.b.(2)b may be used. 	Yes	Yes	
Root type		Yes	Yes	
Botanical and common names		<ul style="list-style-type: none"> 9 of 11 species used (82%) are native to Michigan. The tree diversity meets the requirements of LDM Section 4. 	<ul style="list-style-type: none"> Yes Yes 	
Type and amount of lawn		Yes	Yes	

Item	Required	Proposed	Meets Code	Comments
Cost estimate (LDM 2.f)	For all new plantings, mulch and sod as listed on the plan	No		<u>Please add on Final Site Plans.</u>
Planting Details/Info (LDM 2.i) – Utilize City of Novi Standard Details				
Canopy Deciduous Tree	Refer to LDM for detail drawings	Yes	Yes	
Evergreen Tree		Yes	Yes	
Multi-stem Tree		Yes	Yes	
Shrub		Yes	Yes	
Perennial/ Ground Cover		Yes	Yes	
Tree stakes and guys. (Wood stakes, fabric guys)		Yes	Yes	
Tree protection fencing	Located at Critical Root Zone (1' outside of dripline)	No	No	<ol style="list-style-type: none"> 1. <u>Please include a detail showing fence one foot outside of dripline.</u> 2. <u>Show tree protection fence lines for all trees to be saved on grading plan and SESC plan</u>
Other Plant Material Requirements (LDM 3)				
General Conditions (LDM 3.a)	Plant materials shall not be planted within 4 ft. of property line	No	No	<u>Please add note on plan view near property line.</u>
Plant Materials & Existing Plant Material (LDM 3.b)	Clearly show trees to be removed and trees to be saved.	Sheet V-3.0	Yes	
Landscape tree credit (LDM3.b.(d))	<ul style="list-style-type: none"> • Substitutions to landscape standards for preserved canopy trees outside woodlands/ wetlands should be approved by LA. • Refer to Landscape tree Credit Chart in LDM 	No		
Plant Sizes for ROW, Woodland replacement and others (LDM 3.c)	Refer to Landscape Design Manual for requirements	On plant list	Yes	
Plant size credit (LDM3.c.(2))	NA	No		
Prohibited Plants (LDM 3.d)	No plants on City Invasive Species List	No prohibited plants are proposed	Yes	

Item	Required	Proposed	Meets Code	Comments
Recommended trees for planting under overhead utilities (LDM 3.e)	Label the distance from the overhead utilities	No overhead utilities are indicated on the site		
Collected or Transplanted trees (LDM 3.f)		None		
Nonliving Durable Material: Mulch (LDM 4)	<ul style="list-style-type: none"> Trees shall be mulched to 3" depth and shrubs, groundcovers to 2" depth Specify natural color, finely shredded hardwood bark mulch. Include in cost estimate. 	On details	Yes	

NOTES:

1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.
2. The section of the applicable ordinance or standard is indicated in parenthesis. For the landscape requirements, please see the Zoning Ordinance landscape section 5.5 and the Landscape Design Manual for the appropriate items under the applicable zoning classification.
3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.

Irrigation System Requirements

- Any booster pump installed to connect the project's irrigation system to an existing irrigation system must be downstream of the RPZ.
- The RPZ must be installed in accordance with the 2015 Michigan Plumbing Code.
- The RPZ must be installed in accordance with the manufacture installation instructions for winterization that includes drain ports and blowout ports.
- The RPZ must be installed a minimum of 12-inches above FINISHED grade.
- Attached is a handout that addresses winterization installation requirements to assist with this.
- A plumbing permit is required.
- The assembly must be tested after installation with results recorded on the City of Novi test report form.

FAÇADE REVIEW



November 29, 2023

City of Novi Planning Department
45175 W. 10 Mile Rd.
Novi, MI 48375- 3024

Façade Review Status Summary:
**Approved, Administrative Approval
Recommended.**

Re: **FACADE ORDINANCE REVIEW**
Trek Addition, JSP23-32
Façade Region: 1, Zoning District: B-3

Dear Ms. McBeth;

The following is the Façade Review for the above referenced project based on the drawings prepared by Fika Architects LLC, dated 11/9/23. The proposed percentages of materials on each elevation are shown in the table below. The maximum percentage allowed by the Ordinance is shown in the right-hand column.

Façade Region 3	South (Front)	North	East	West	Façade Ordinance Section 5.15 Maximum
Fluted & Split Faced CMU	20%	20%	29%	UN	75%
Striated CMU	37%	41%	18%	UN	25%
Flat Metal	41%	37%	49%	UN	75%
Trim	2%	2%	4%	UN	15%
UN = Unaltered					

This project is considered an addition as described in Section 5.15.7 of the Façade Ordinance. In this case the addition is greater than 100% of the existing building. Therefore, the entire area of each façade is taken into consideration for compliance with the Façade Ordinance. As shown above, all facades are in full compliance with the Façade Ordinance. This application therefore qualifies for administrative approval in accordance with Section 6.1.1.c.x. of the Zoning Ordinance, provided that all other requirements for administrative approval are met.

Notes to the Applicant:

1. Façade Ordinance requires façade inspection(s) for all projects. Materials and colors must be consistent with those displayed on the approved sample board or otherwise approved. It is the applicant's responsibility to request the inspection of each façade material at the appropriate time, prior to installation. Inspections may be requested using the Novi Building Department's Online Inspection Portal with the following link. Please click on "Click here to Request an Inspection" under "Contractors", then click "Façade". <http://www.cityofnovi.org/Services/CommDev/OnlineInspectionPortal.asp>.
2. All roof top equipment must be concealed from view from all vantage points both on-site and off-site using extended parapets or roof screens constructed of materials in compliance with the Façade Chart and harmonious with other façade materials.

If you have any questions regarding this review, please do not hesitate to call.

Sincerely,
DRN & Architects PC

A handwritten signature in black ink, appearing to read "Douglas R. Necci", written over a light gray circular background.

Douglas R. Necci, AIA

TRAFFIC REVIEW



AECOM
39575 Lewis Dr, Ste. 400
Novi
MI, 48377
USA
aecom.com

Project name:
JSP23-32 – Trek Addition Preliminary Traffic Review

From:
AECOM

Date:
December 4, 2023

To:
Barbara McBeth, AICP
City of Novi
45175 10 Mile Road
Novi, Michigan 48375

CC:
Lindsay Bell, Humna Anjum, Diana Shanahan,
James Hill, Ian Hogg, Heather Zeigler, Adam Yako

Memo

Subject: JSP23-32 – Trek Addition Preliminary Traffic Review

The preliminary site plan was reviewed to the level of detail provided and AECOM recommends **approval** as long as the comments provided below are adequately addressed to the satisfaction of the City.

GENERAL COMMENTS

1. The applicant, Brivar Contruction Company, is proposing a 27,743 SF addition to the existing 16,025 SF building.
2. The development is located on the north side of Desoto Court, east of Hudson Drive. Desoto Court is under the jurisdiction of the City of Novi.
3. The site is zoned I-1 (Light Industrial).
4. The following traffic related deviations will be required if changes to the plans are not made:
 - a. Provided a 5' clear path from street to bicycle parking instead of the required 6'.

TRAFFIC IMPACTS

1. AECOM performed an initial trip generation based on the ITE Trip Generation Manual, 11th Edition, as follows.

ITE Code: 110 – General Light Industrial
Development-specific Quantity: 27,743 SFT
Zoning Change: None

Trip Generation Summary	Estimated Trips	Estimated Peak-Direction Trips	City of Novi Threshold	Above Threshold?
AM Peak-Hour Trips	21	18	100	No
PM Peak-Hour Trips	18	15	100	No
Daily (One-Directional) Trips	135	N/A	750	No

2. The City of Novi generally requires a traffic impact study/statement if the number of trips generated by the proposed development exceeds the City's threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour, or if the project meets other specified criteria.

Trip Impact Study Recommendation	
Type of Study:	Justification
-	None

TRAFFIC REVIEW

The following table identifies the aspects of the plan that were reviewed. Items marked O are listed in the City's Code of Ordinances. Items marked with ZO are listed in the City's Zoning Ordinance. Items marked with ADA are listed in the Americans with Disabilities Act. Items marked with MMUTCD are listed in the Michigan Manual on Uniform Traffic Control Devices.

The values in the 'Compliance' column read as 'met' for plan provision meeting the standard it refers to, 'not met' stands for provision not meeting the standard and 'inconclusive' indicates applicant to provide data or information for review and 'NA' stands for not applicable for subject Project. The 'remarks' column covers any comments reviewer has and/or 'requested/required variance' and 'potential variance'. A potential variance indicates a variance that will be required if modifications are not made or further information provided to show compliance with the standards and ordinances. The applicant should put effort into complying with the standards; the variances should be the last resort after all avenues for complying have been exhausted. Indication of a potential variance does not imply support unless explicitly stated.

EXTERNAL SITE ACCESS AND OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
1	Driveway Radii O Figure IX.3	Not indicated	N/A	No changes proposed.
2	Driveway Width O Figure IX.3	Not indicated	N/A	No changes proposed.
3	Driveway Taper O Figure IX.11			
3a	Taper length	-	N/A	
3b	Tangent	-	N/A	
4	Emergency Access O 11-194.a.19	Not indicated	N/A	No changes proposed.
5	Driveway sight distance O Figure VIII-E	Not indicated	N/A	No changes proposed.
6	Driveway spacing			
6a	Same-side O 11.216.d.1.d	Not indicated	N/A	No changes proposed.
6b	Opposite side O 11.216.d.1.e	Not indicated	N/A	No changes proposed.
7	External coordination (Road agency)	Not indicated	N/A	No changes proposed.
8	External Sidewalk Master Plan & EDM	Not indicated	N/A	No changes proposed.
9	Sidewalk Ramps EDM 7.4 & R-28-J	Not indicated	N/A	No changes proposed.
10	Any Other Comments:			

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
11	Loading zone ZO 5.4	Proposed truck bay (816 SF)	Met	
12	Trash receptacle ZO 5.4.4	Existing in rear yard	N/A	No changes proposed.
13	Emergency Vehicle Access	1 existing access point	N/A	Provided truck turning movements.
14	Maneuvering Lane ZO 5.3.2	24'	Met	
15	End islands ZO 5.3.12			
15a	Adjacent to a travel way	Dimensioned	Met	
15b	Internal to parking bays	Dimensioned	Met	
16	Parking spaces ZO 5.2.12	91 required, 80 provided		See Planning review letter.

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
17	Adjacent parking spaces ZO 5.5.3.C.ii.i	<15 spaces in all parking bays	Met	
18	Parking space length ZO 5.3.2	19'	Met	
19	Parking space Width ZO 5.3.2	9'	Met	
20	Parking space front curb height ZO 5.3.2	6"	Met	
21	Accessible parking – number ADA	4 existing, 4 required	Met	
22	Accessible parking – size ADA	Not indicated	N/A	No changes proposed.
23	Number of Van-accessible space ADA	Not indicated	N/A	No changes proposed.
24	Bicycle parking			
24a	Requirement ZO 5.16.1	2 required, 6 proposed	Met	
24b	Location ZO 5.16.1	Near existing entrance	Met	
24c	Clear path from Street ZO 5.16.1	Indicated along existing sidewalk	Not Met	6' is required and it appears the existing sidewalk is 5'. AECOM would support an administrative waiver for the 6' requirement if the existing sidewalk is 5' wide.
24d	Height of rack ZO 5.16.5.B	3'	Met	
24e	Other (Covered / Layout) ZO 5.16.1	Dimensioned, Revise to new standard	Not Met	Update layout per Text Amendment 18.301.
25	Sidewalk – min 5' wide Master Plan	Not indicated	N/A	No changes proposed.
26	Sidewalk ramps EDM 7.4 & R-28-J	Not indicated	N/A	No changes proposed.
27	Sidewalk – distance back of curb EDM 7.4	Not indicated	N/A	No changes proposed.
28	Cul-De-Sac O Figure VIII-F	-	N/A	
29	EyeBrow O Figure VIII-G	-	N/A	
30	Turnaround ZO 5.10	Dimensioned	Met	
31	Any Other Comments:			

SIGNING AND STRIPING				
No.	Item	Proposed	Compliance	Remarks
32	Signing: Sizes MMUTCD	Not indicated	N/A	No proposed signing.
33	Signing table: quantities and sizes	-	N/A	
34	Signs 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post MMUTCD	-	N/A	
35	Signs greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post MMUTCD	-	N/A	
36	Sign bottom height of 7' from final grade MMUTCD	-	N/A	

SIGNING AND STRIPING				
No.	Item	Proposed	Compliance	Remarks
37	Signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign MMUTCD	-	N/A	
38	FHWA Standard Alphabet series used for all sign language MMUTCD	-	N/A	
39	High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity MMUTCD	-	N/A	
40	Parking space striping notes	Not indicated on site plan	Not Met	Sheet C-12.1 calls for white or yellow, as shown on the plans. Label sheet C-1.0 as yellow markings to match existing.
41	The international symbol for accessibility pavement markings ADA	Not indicated	N/A	No changes proposed.
42	Crosswalk pavement marking detail	-	N/A	
43	Any Other Comments:			

Note: Hyperlinks to the standards and Ordinances are for reference purposes only, the applicant and City of Novi to ensure referring to the latest standards and Ordinances in its entirety.

Should the City or applicant have questions regarding this review, they should contact AECOM for further clarification.

Sincerely,

AECOM



Paula K. Johnson, PE
Senior Transportation Engineer



Saumil Shah, PMP
Project Manager

FIRE REVIEW



November 20, 2023

TO: Barbara McBeth - City Planner
Lindsay Bell - Plan Review Center
Ian Hogg – Plan Review Center
James Hill – Plan Review Center
Heather Zeigler – Plan Review Center
Diana Shanahan – Planning Assistant

CITY COUNCIL

Mayor
Bob Gatt

Mayor Pro Tem
Dave Staudt

Laura Marie Casey

Hugh Crawford

Justin Fischer

Brian Smith

Ericka Thomas

City Manager
Victor Cardenas

Director of Public Safety
Chief of Police
Erick W. Zinser

Interim Fire Chief
John B. Martin

Assistant Chief of Police
Scott R. Baetens

Assistant Fire Chief
Todd Seog

Novi Public Safety Administration
45125 Ten Mile Road
Novi, Michigan 48375
248.348.7100
248.347.0590 fax

cityofnovi.org

RE: Trek Addition

PSP# 23-0051

Pre-App #23-0015

Project Description:

Build a 27,908 Sq. Ft addition to an existing structure.

Comments:

- **All** fire hydrants **MUST** be installed and operational prior to any combustible material is brought on site. **IFC 2015 3312.1**
- For new buildings and existing buildings, you **MUST** comply with the International Fire Code Section 510 for Emergency Radio Coverage. This shall be completed by the time the final inspection of the fire alarm and fire suppression permits.
- All fire apparatus access roads (public and private) with a dead-end drive in excess of one hundred fifty (150) feet shall be designed with a turn-around designed in accordance with Figure VIII-I or a cul-de-sac designed in accordance with Figure VIII-F. **(D.C.S. Sec 11-194 (a)(20))**
- **North parking lot.**
- Fire apparatus access drives to and from buildings through parking lots shall have a minimum fifty (50) feet outside turning radius and designed to support a minimum of thirty-five (35) tons. **(D.C.S. Sec 11-239(b)(5))**
- Hydrants shall be spaced approximately three hundred (300) feet apart online in commercial, industrial, and multiple-residential areas. In cases where the buildings within developments are fully fire suppressed, hydrants shall be no more than five hundred (500) feet apart. The spacing of hydrants around commercial and/or industrial developments shall be considered as individual cases where special circumstances exist upon consultation with the fire chief. **(D.C.S. Sec. 11-68 (f)(1)c)**
- **Corrected 11/20/23 KSP-** Water-mains and fire hydrants shall be put on the site plans for review.
- No part of a commercial, industrial, or multiple residential area shall be more than 300 feet from a hydrant. **(D.C.S. Sec. 11-68 (f)(1)c.1)**

Recommendation:

Approved with conditions.

Sincerely,

A handwritten signature in black ink, appearing to read 'KSP', with a long horizontal flourish extending to the right.

Kevin S. Pierce-Fire Marshal
City of Novi – Fire Dept.

cc: file

APPLICANT'S RESPONSE LETTER



9325 Maltby Road
Brighton, MI 48116
PH: 248-446-8000
www.brivar.com

City of Novi
Mr. James Hill
Community Development – Planning Division
45175 Ten Mile Road
Novi, MI 48375

Re: Plan Review Center Report – Planning Review – Trek Addition

Project Information:
JSP 23-23
46470 Desoto Court

Dear: Mr. James Hill

Brivar Construction Company is in receipt of the City of Novi's reviews for the Trek Building addition Preliminary Site Plan. We offer the following responses following the format of the All Reviews JSP23-32 Trek Addition letter dated.

Planning Review, November 30, 2023

1. Uses Permitted (Se. 3.1.18.B/C):
 - a. A special land use permit has been applied for.
 - b. Preliminary site plan has been applied for.
 - c. Discussions with the City's engineering department have indicated that the current stormwater management system for the Beck North Corporate Park is sufficient for the proposed improvements. No new stormwater management improvements will be necessary either on or off the site.
2. Windows and Doors (Sec. 3.14.5.F):
 - a. A note has been added to the plans that windows and doors will not be left open.
 - b. The proposed building does not have any door or windows facing the adjacent residential district, and the windows are non operable. Therefore, all doors and windows will remain closed.
3. Planning Commission Findings (Sec. 3.14.3):
 - a. It is understood that the Planning Commission will consider all aspects of the development in their consideration of approval.
4. Number of Parking Spaces (Sec. 5.2.12.E):
 - a. A variance for the required number of parking spaces has been applied for.
5. Long Term Truck Parking (Sec. 3.14.3.C):
 - a. A note has been put on the plans that no long-term delivery truck parking will occur on the site.
6. Economic Impact Information:
 - a. Estimate Cost of improvements is \$3,100,00
 - b. There will be 0 Jobs Created
 - i. We expect 0 Temporary Construction Jobs Created
 - ii. We expect 0 Permanent Jobs Created

7. Performance Standards (Sec. 3.14.3.C):
 - a) Noise/vibration levels 5'-6" from lot line @ 5'-0" above grade will not exceed:
 - Night time hours = 70 Decibels
 - Daytime Hours = 75 Decibels
 - b) We will continue to meet the current standard.
8. Special Land Use Considerations for I-1 Sites Adjacent to Residential Districts (Sec. 6.1.2.C):
 - a. Traffic Circulation and Safety: Acknowledged
 - b. Public Services and Utilities: Acknowledged
 - c. Natural Features: Acknowledged
 - d. Impact on Surrounding Neighborhoods: Acknowledged
 - e. Master Plan for Land Use: Acknowledged
 - f. Social and Economic Impact: Provided above
 - g. Zoning Ordinance and Land Use: Acknowledged
9. Color Spectrum Management:
 - a. Trek will be installing 4 permanent lighting installations, one at each exterior door including the overhead door. All lighting devices will be a minimum of 70CRI and maximum of 3000k per Ordinance Requirements
10. Signage:
 - a. No new signage is proposed. Ground Mounted or Wall Mounted.
11. Planning Chart:
 - a. Will be reviewed for specific comments to address.

PLANNING CHART

The items below are items in the planning chart that are not addressed above.

Building Setbacks (Sec. 3.1.18.D) *"Combination of parcels will have to occur before Final Site Plan can be approved"*

The condominium master deed and exhibit B documents are in the process of being amended.

End Islands (Sec. 5.3.12) *"The island that is a part of the proposed parking lot improvements could be shortened so that it is 3 ft. shorter than the adjacent stall, but it's also an extension of an existing island, so would not be required"*

This island will not be adjusted.

Minimum number of Bicycle Parking (Sec. 5.16.1) *"Please confirm that there are 5 proposed bicycle racks"*

There are 5 proposed bike racks.

Bicycle Parking Lot layout (Sec 5.16.6) *"Please revise the bicycle parking so that it complies with the requirements"*

Bicycle parking has been revised to comply with the requirements.

Woodlands (City Code Ch. 37) *"Please include proposed tree removals and replacements as required"*

Tree removals and replacements have been updated on the landscape plans.

Building Height (Sec. 3.14.5.C) *“Because of the parcel combination, the original Trek building will be on a parcel that abuts the residential district (whereas before a parcel sat in between the two). This is considered an existing condition.”*

Acknowledged

Lighting Plan (Sec. 5.7.A.i) *“Please show lighting around existing buildings and parking areas”*

All existing and proposed lighting is shown on the lighting plan. Light poles are shown on the utility plan for conflict resolution.

Building Lighting (Sec. 5.7.2.A.iii) *“Please show lighting fixtures on elevation drawings”*

Wall mounted lighting is shown on the building elevations and site plan.

Lighting Standards (Sec. 5.7.A.2.ii)

“See note above about including information for existing building and parking area”

All existing and proposed lighting is shown on the lighting plan.

“Please include hours of operation”

Hours of operation are noted on the plans. 8am to 5 pm Mon-Fri.

“Spill-over from neighboring properties not shown”

The photometric plan demonstrates that there is no spill-over lighting onto the neighboring parcels.

Engineering Review, December 5, 2023

General

1. A note has been added to the plans stating “all work shall conform to the current City of Novi standards and specifications.”
2. Acknowledged
3. No new traffic control signs are being proposed.
4. A note for compacted sand backfill will be added on the plans and is illustrated in profiles and details.
5. A utility quantity table has been add to the plans.
6. No utility crossings are proposed.
7. Not applicable.
8. Not applicable.
9. No new light poles
10. Tree fence has been added to the SESC plan around trees to be protected during construction.

Irrigation Comments

11. All greenbelt areas will be irrigated.
 - a. Containment notes are on the irrigation plan.
12. The proposed irrigation is an extension of the existing irrigation system and will comply with city regulations.

Storm Sewer

- 13. All proposed storm sewers have min 3' of cover.
- 14. Not applicable.
- 15. Discussions with the City of Novi Engineering Department indicated this is not required. There will be no operational activity near proposed storm sewers that pose a spill risk.
- 16. All storm sewers larger than 12" has been profiled.
- 17. Inlets are labeled and properly proposed.
- 18. The 10-year HGL is illustrated in the storm sewer profiles.
- 19. All roof conductors have been shown and labeled.

Strom Water Management Plan

- 20. Discussions with the City's engineering department have indicated that the current stormwater management system for the Beck North Corporate Park is sufficient for the proposed improvements. No new stormwater management improvements will be necessary either on or off the site.
- 21. A runoff coefficient of 0.35 has been used for grass surfaces and stormwater calculations have been adjusted.

Paving & Grading

- 22. A paving quantities table has been added to the plans.
- 23. Retaining wall details for the truck dock will be added to the building plans and permits will be applied for through the building department.

Soil Erosion and Sediment Control

- 24. A soil erosion and sediment control (SESC) permit will be applied for with the final submittal.

Off-Site Easements

- 25. There are no off-site easements anticipated for this project.

The following must be submitted with the Final Site Plan:

- 26. A letter will be provided addressing all comments from the city in the final submission.
- 27. A cost estimate will be provided in the final submission.

The following must be submitted with the Stamping Set:

- 28. A Storm Drainage Facility Maintenance Easement Agreement will be submitted in the final submission.
- 29. The shared driveway for the entry off Desoto Court is addressed in the condominium documents and master deed.

Landscaping November 22, 2023

Existing Trees (Sec 37 Woodland Protection, Preliminary Site Plan checklist #17 and LDM 2.3 (2))

1. Acknowledged
2. Acknowledged
3. Trees on the berm that are proposed to be removed or were part of the original approved landscape plan and have since been removed, will be replaced accordingly.
4. All trees used to meet perimeter parking lot requirements are included in the tree survey.

Adjacent to Residential - Buffer (Zoning Sec. 5.5.3.B.ii and iii)

1. Acknowledged
2. Trees on the berm that are proposed to be removed or were part of the original approved landscape plan and have since been removed, will be replaced accordingly.

Adjacent to Public Rights-of-Way – Berm/Wall, Buffer and Street Trees (Zoning Sec. 5.5.3.B.ii, iii)

Acknowledged

Interior Street in an Industrial subdivision (Zoning Sec 5.5.3.F.6)

1. Acknowledged
2. The landscape plan has been revised to meet these requirements. No waiver is being sought.

Parking Lot Landscaping (Zoning Sec. 5.5.3.C.)

1. Acknowledged
2. The landscape plan has been revised to meet these requirements. No waiver is being sought.

Building Foundation landscaping

1. The landscape plan has been revised to meet these requirements. No waiver is being sought.
2. The landscape plan has been revised to meet these requirements. No waiver is being sought.

Plant List (LDM 4, 10)

1. Acknowledged
2. Acknowledged

Planting Notations and Details (LDM 10)

Acknowledged

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 3)

1. Acknowledged
2. No modifications are proposed to the regional basin.

Irrigation (LDM 10)

1. An irrigation plan will be submitted as part of the final submission.
2. Not applicable.

LANDSCAPE CHART

The items below are items in the landscape chart that are not addressed above.

Existing and Proposed Utilities

1. All existing and proposed utilities are shown on the landscape plan.
2. All proposed light poles are on the landscape plan.
3. All proposed landscaping is shown to avoid existing and proposed utilities.
4. Trees will be offset from structures and underground utilities accordingly.

Greenbelt of an Interior Street in an Industrial subdivision (Zoning Sec 5.5.3.F.6)

1. Planting calculations have been revised to meet the ordinance requirements.
2. Not applicable.
3. No waivers are being sought.

Curbs and Parking stall reduction (c)

Not applicable.

Parking Lot Perimeter Trees (Sec 5.5.3.C.iv)

1. A perimeter line has been added to the landscape plans.
2. Not applicable.
3. Acknowledged.
4. Trees will be replaced as necessary.

Transformers/Utility boxes (LDM 1.e from 1 through 5)

1. Transformer is screened from the west side.
 - a. Perimeter trees to the north provide screening.
 - b. The building provided screening to the east and south.
 - c. Additional plantings on the island immediately to the north or south would eliminate the clear space required for the transformer.
2. Transformer location is shown on the plans.

3. 12 shrubs have been added to the plant list.

Interior site landscaping SF

1. The 3 exposed sides are included in the calculations.
2. Landscaping will be added to the north side as the proposed parking there is no longer being proposed.
3. The intent is to meet the landscape requirements and not seeking any waivers.

Phragmites Control (Sec 5.5.6.C)

1. Phragmites was found to be on site. The survey has been updated to show this location. All Phragmites were found within the proposed building addition location and will be removed.
 - a. The contractor will insure that all phragmites are dead or destroyed before removing from the site and will be properly disposed of.
2. Not applicable, see response above.

Maintenance & Statement of intent (LDM 2.m & Zoning Sec 5.5.6)

1. Landscape notes have been revised.
2. Landscape notes have been revised.

Irrigation plan (LDM 2.s.)

1. An irrigation plan will be provided in the final submission.
2. An irrigation plan will be provided in the final submission.
3. The irrigation plan will conform to the city requirements.

Cost estimate (LDM 2.t)

A cost estimate of the proposed landscaping will be provided with the final submission.

General Conditions (LDM 3.a)

A note has been added to the plans.

Irrigation System Requirements.

- Notes will be added to the irrigation plan accordingly.

Façade Ordinance Review, November 29, 2023**General Comments**

1. Applicant will request inspection of each façade material prior to installation.
2. No rooftop equipment will be installed on this project.
- 3.

Preliminary Traffic Review, December 4, 2023

General Comments

4. Acknowledged
5. Acknowledged
6. Acknowledged
7. Traffic related deviations
 - a. Plans show a 5' clear path in leu of the required 6' path.

Traffic Impacts

1. Acknowledged
2. Acknowledged

Operations Table

13 Emergency vehicle maneuvering was provided on the preliminary site plan submission.

24e the number of bicycle parking spaces has been revised to meet the ordinance standards.

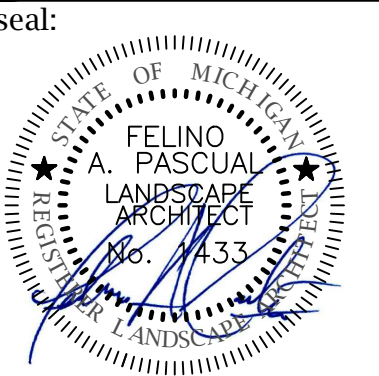
40 No new parking spaces are now being proposed. Sheet C-12.1 has been revised to reflect the city requirements for parking lot striping. Existing parking lot striping conforms to city requirements.

Fire Department, November 20, 2023

Comments

- Acknowledged
- Acknowledged
- The plans have been revised to not create a dead end greater than 150'. This is based on the lack of need for additional parking for the intended use and the fact that a turn-around is not physically possible based on existing site conditions.
- No changes are proposed to the existing parking lot. An emergency vehicle circulation plan is provided as part of the site plan demonstrating the emergency vehicles can adequately maneuver throughout the site.
- A new hydrant has been added to the site to provide proper hydrant coverage.
- Both existing and proposed water mains and hydrants are shown on the plans.
- A new hydrant has been added to the site to provide proper hydrant coverage.

SITE PLAN (REVISED 12/27/2023)
(Full plan set available for viewing at the Community Development Department)



client:
**BRIVAR
CONSTRUCTION
COMPANY**
9325 Maltby Road Brighton,
Michigan 48116

project:
**TREK
BUILDING
ADDITION**

project location:
**City of Novi,
Michigan**
46470, 46500, & 46440
Desoto Court

sheet title:
**COLORED
LANDSCAPE
PLAN**

job no. / issue / revision date:
LS23.115.11 PSP 11-9-2023
LS23.115.11 PSP 12-22-2023

drawn by:
JP
checked by:
FP
date:
11-5-2023

notice:
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Associates
Do Not scale drawings. Use
figured dimensions only



The location 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 of accuracy. contractor
shall be exclusively responsible for
determining the exact location and
elevation prior to the start of
construction

project no:
LS23.115.11

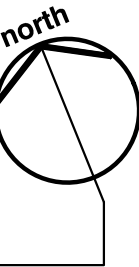
sheet no:
LS-1 of 2



Trek Building Addition

City of Novi, Michigan

scale: 0' 15' 30' 60' 90'
1" = 30' - 0"



City Project No.
JSP23-0032



LEGAL DESCRIPTION (AS PROVIDED)

(PER TITLE AGENCY: FIRST AMERICAN TITLE INSURANCE COMPANY, TITLE COMMITMENT NO: TC13-109053), EFFECTIVE DATE: 06/30/2023)

SCHEDULE C DESCRIPTION:

LAND SITUATED IN THE CITY OF NOVI, COUNTY OF OAKLAND, STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:

UNIT NO. 12, BECK NORTH CORPORATE PARK-NOVI, A (SITE) CONDOMINIUM PROJECT, ACCORDING TO THE CONSOLIDATING MASTER DEED RECORDED IN LIBER 29298, PAGES 637 THROUGH 669 INCLUSIVE, AS AMENDED BY FIRST AMENDMENT TO CONSOLIDATING MASTER DEED RECORDED IN LIBER 31608, PAGES 491 THROUGH 504 INCLUSIVE, AS AMENDED BY SECOND AMENDMENT TO CONSOLIDATING MASTER DEED RECORDED IN LIBER 36625, PAGES 450 THROUGH 460 INCLUSIVE, AS AMENDED BY THIRD AMENDMENT TO CONSOLIDATING MASTER DEED RECORDED IN LIBER 39407, PAGES 518 THROUGH 530 INCLUSIVE, AS AMENDED BY FOURTH AMENDMENT TO CONSOLIDATING MASTER DEED RECORDED IN LIBER 40090, PAGES 777 THROUGH 787 INCLUSIVE, AS AMENDED BY FIFTH AMENDMENT TO CONSOLIDATING MASTER DEED RECORDED IN LIBER 47255, PAGES 841 THROUGH 851 INCLUSIVE, AS AMENDED BY SIXTH AMENDMENT TO CONSOLIDATING MASTER DEED RECORDED IN LIBER 50099, PAGES 58 THROUGH 68 INCLUSIVE, AS AMENDED BY SEVENTH AMENDMENT TO CONSOLIDATING MASTER DEED RECORDED IN LIBER 58226, PAGES 133 THROUGH 144 INCLUSIVE, OAKLAND COUNTY RECORDS AND DESIGNATED AS OAKLAND COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 1264, TOGETHER WITH RIGHTS IN THE GENERAL COMMON ELEMENTS AND LIMITED COMMON ELEMENTS, AS SET FORTH IN THE ABOVE DESCRIBED CONSOLIDATING MASTER DEED AND AS DESCRIBED IN ACT 59 OF THE PUBLIC ACTS OF 1978, AS AMENDED.

BEARING REFERENCE

BEARINGS ARE BASED ON PROJECT COORDINATE SYSTEM: MICHIGAN STATE PLANE COORDINATE SYSTEM, NAD83 (CONUS) (MOL) (GRS80), SOUTH ZONE 2113, INTERNATIONAL FEET, GROUND (LAT: 42°30'39.61"N, LON: 83°30'28.63"W, ELEV: 947, SCALE FACTOR: 1.00011713).

DESIGN ENGINEER/SURVEYOR

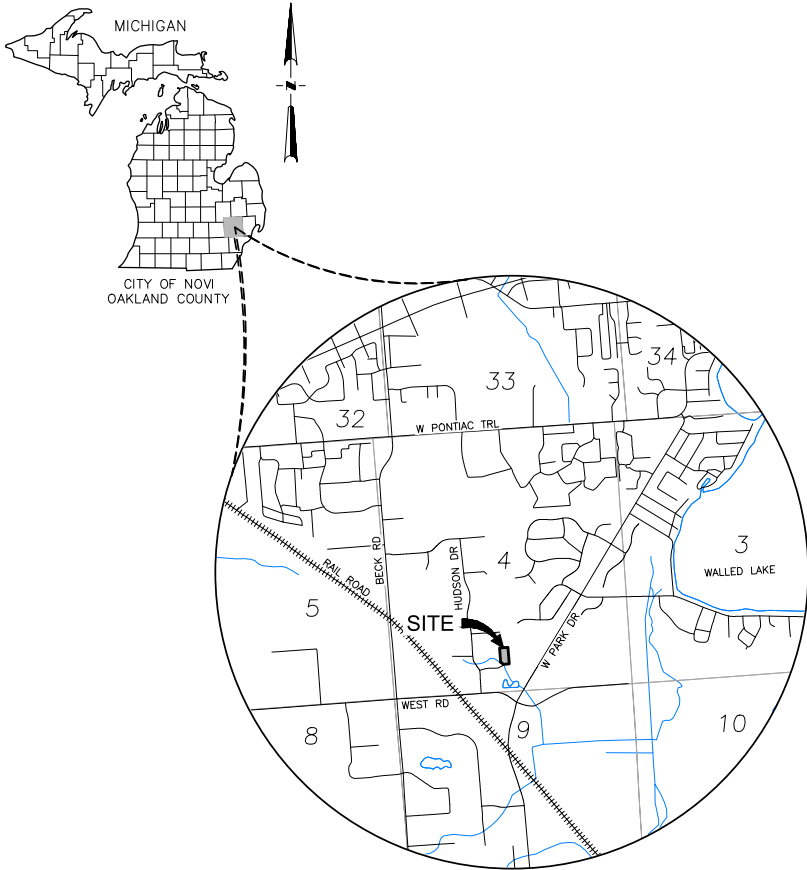


MONUMENT ENGINEERING GROUP ASSOCIATES, INC

INNOVATIVE GEOSPATIAL & ENGINEERING SOLUTIONS

298 VETERANS DRIVE,
FOWLerville, MI 48836
PHONE: 517-223-3512

SITE PLAN DRAWING FOR
TREK BUILDING
ADDITION



LOCATION MAP

CLIENT



BRIVAR CONST. CO.
9325 MALTBY ROAD
BRIGHTON, MI 48116
(248) 446-8000

ARCHITECT

FIKA ARCHITECTS LLC
3411 GEDDES ROAD
ANN ARBOR, MI 48105
POC: DAVID M. MURPHY
PHONE: 248-946-1622

SHEET INDEX

		PLAN SUBMITTALS					
		SITE PLAN SUBMITTAL	REVISED SP SUBMITTAL	JSP23-0032			
		11/13/2023	12/27/2023				
		INCLUDED SHEETS					
GENERAL							
SHEET	G-1.0	COVER	•	•			
SURVEY							
SHEET	V-1.0	TOPOGRAPHIC SURVEY & DEMO PLAN	•	•			
SHEET	V-3.0	TREE SURVEY	•	•			
SITE PLAN							
SHEET	C-1.0	DIMENSION AND PAVING PLAN	•	•			
VEHICLE CIRCULATION							
SHEET	C-2.0	EMERGENCY VEHICLE CIRCULATION	•	•			
SHEET	C-2.1	WB-67 TRUCK & TRAILER CIRCULATION	•	•			
UTILITY							
SHEET	C-3.0	UTILITY PLAN	•	•			
SHEET	C-3.1	UTILITY PROFILES		•			
GRADING							
SHEET	C-7.0	GRADING PLAN	•	•			
SOIL EROSION & SEDIMENTATION CONTROL (SESC)							
SHEET	C-8.0	SESC PLAN	•	•			
SHEET	C-8.1	OAKLAND COUNTY SESC NOTES AND DETAILS	•	•			
STORM WATER MANAGEMENT							
SHEET	C-9.0	DRAINAGE AREA PLAN	•	•			
SHEET	C-9.1	STORM WATER CALCULATIONS	•	•			
DETAILS							
SHEET	C-11.0	DETAILS	•	•			
SPECIFICATIONS							
SHEET	C-12.0	SPECIFICATIONS	•	•			
SHEET	C-12.1	SPECIFICATIONS	•	•			
LANDSCAPE							
SHEET	LS-1	LANDSCAPE PLANTING DETAILS	•	•			
SHEET	LS-2	PLANTING DETAILS AND LANDSCAPE NOTES	•	•			
		CITY OF NOVI, OAKLAND COUNTY STANDARD DETAILS					

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MONUMENTENGINEERING.COM

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Michigan's One-Call

Utility Notification Organization

1-800-482-7171

www.missdig.org

THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE AND GUARANTEED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT :

BRIVAR CONST. CO.
9325 MALTBY ROAD
BRIGHThON, MI 48116
(248) 446-8000

COVER

TREK BUILDING ADDITION
46470, 46500, & 46440 DESOTO CT.
PART OF THE SW 1/4, SECTION 4, T1N-R8E
CITY OF NOVI, OAKLAND COUNTY, MI.

DATE	11/13/2023	12/27/2023					
PLAN SUBMITTALS/REVISIONS							
SITE PLAN SUBMITTAL							
REVISED SP SUBMITTAL	JSP23-0032						

ORIGINAL ISSUE DATE:
11/13/2023

PROJECT NO: 23-127

SCALE: N/A

FIELD: RZ
DRAWN BY: DAH
DESIGN BY: KCM
CHECK BY: MEB

G-10

NOT FOR CONSTRUCTION



- 



C.O.S.
SEC. 4
T1N-R8E

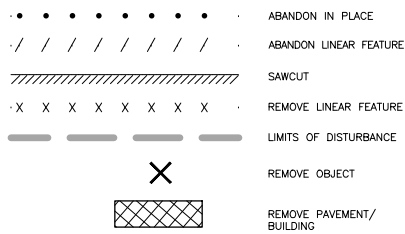
S 1/4 COR.
SEC. 4
T1N-R8E
F-03

REGULAR SPACES:	62
BARRIER FREE SPACES	4
TOTAL PARKING SPACES:	66

EX. SANITARY SEWER		
STRUCTURE	RIM ELEV.	PIPES
(50418) SMH	946.77	8" W IE= 936.05
(50499) SMH	946.28	8" N IE= 935.93 8" SE IE= 936.00
(51422) SMH	945.26	8" E IE= 935.41 10" W IE= 935.31 6" N IE= 939.41

EX. STORM SEWER		
STRUCTURE	RIM ELEV.	PIPES
(50145) CBS	947.43	16" W IE= 940.18 16" E IE= 940.13 12" NW IE= 940.01
(50155) STMH	946.95	16" W IE= 940.08 12" SE IE= 938.99 12" N IE= 941.75
(50271) STMH	946.20	N PIPE NOT VISIBLE 60" W IE= 936.40 60" E IE= 936.21
(50281) CBS	944.38	24" N IE= 936.43 24" S IE= 936.38
(50339) CBS	944.37	24" S IE= 936.74 24" N IE= 936.78
(50346) STMH	945.65	24" NW IE= 936.67 24" S IE= 936.61
(50690) CBS	944.76	18" N IE= 937.11 24" SE IE= 937.04
(50844) CBS	945.02	18" S IE= 937.70 8" E IE= 940.47 10" W IE= 940.17 12" N IE= 938.00
(50909) CBS	945.14	12" E IE= 939.02 12" S IE= 939.07
(50966) CBS	944.92	12" W IE= 938.85 12" W IE= 938.90 12" E IE= 938.92
(51065) CBS	945.05	12" W IE= 939.35 12" S IE= 939.55
(51154) CBS	942.78	PIPE NOT VISIBLE
(51172) CBS	942.68	12" N IE= 939.75
(51427) CBB	948.55	16" W IE= 940.53 16" N IE= 939.80
(51428) STMH	953.96	48" N IE= 936.31 48" S IE= 936.21

LIGHT POLE CONC BASE FMAG , 10'± WEST & 77'± NORTH OF THE NORTHEAST CORNER OF BUILDING
#46500
ELEV = 948.74



ACCORDING TO THE DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE) WEBS ([HTTPS://WWW.MCGI.STATE.MI.US/WETLANDS/MCGIMAP.HTML](https://www.mcgi.state.mi.us/wetlands/mcgimap.html)), THERE ARE NO NOTED WETLANDS ON THE SUBJECT PARCEL. WETLAND FLAGGING WAS NOT OBSERVED DURING THE FIELD SURVEY. AN OFFICIAL STUDY FOR THE PRESENCE OF WETLANDS WAS NOT CONDUCTED BY MONUMENT ENGINEERING GROUP ASSOCIATES.

FEMA MAP SCALES DO NOT SUPPLY SUFFICIENT LEVEL OF DETAIL TO PLOT ACCURATELY. ZONES IF PLOTTED HEREIN ARE APPROXIMATE.

BY SCALED MAP LOCATION AND GRAPHIC PLOTTING ONLY, THE SUBJECT PROPERTY APPEARS TO LIE ENTIRELY IN ZONE (X) AREA DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOOD PLAIN ACCORDING TO THE FLOOD INSURANCE RATE MAP FOR THE COUNTY OF OAKLAND, COMMUNITY PANEL NO. (26125C0469F), EFFECTIVE DATE SEPTEMBER 29, 2006.

SOIL TYPES ARE ACCORDING TO THE USDA SOIL SURVEY WEB SITE
(<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>)

- 17A: WASEPI SANDY LOAM, 0-3% SLOPES
- 44C: RIDDLES SANDY LOAM, 6-12% SLOPES

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CLIENT :



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BRIGHTON, MI 48116
(248) 446-8000

TREK BUILDING ADDITION
46470, 46500, & 46440 DESOTO CT.
T OF THE SW 1/4, SECTION 4, T1N-R
CITY OF NOVI, OAKLAND COUNTY, MI.

PLAN SUBMITTALS/REVISIONS	DATE
SITE PLAN SUBMITTAL	11/13/2023
REVISED SF SUBMITTAL	12/27/2023

ORIGINAL ISSUE DATE:

PROJECT NO: 23-127

SCALE: 1" = 30'

0 $\frac{1}{2}$ 1

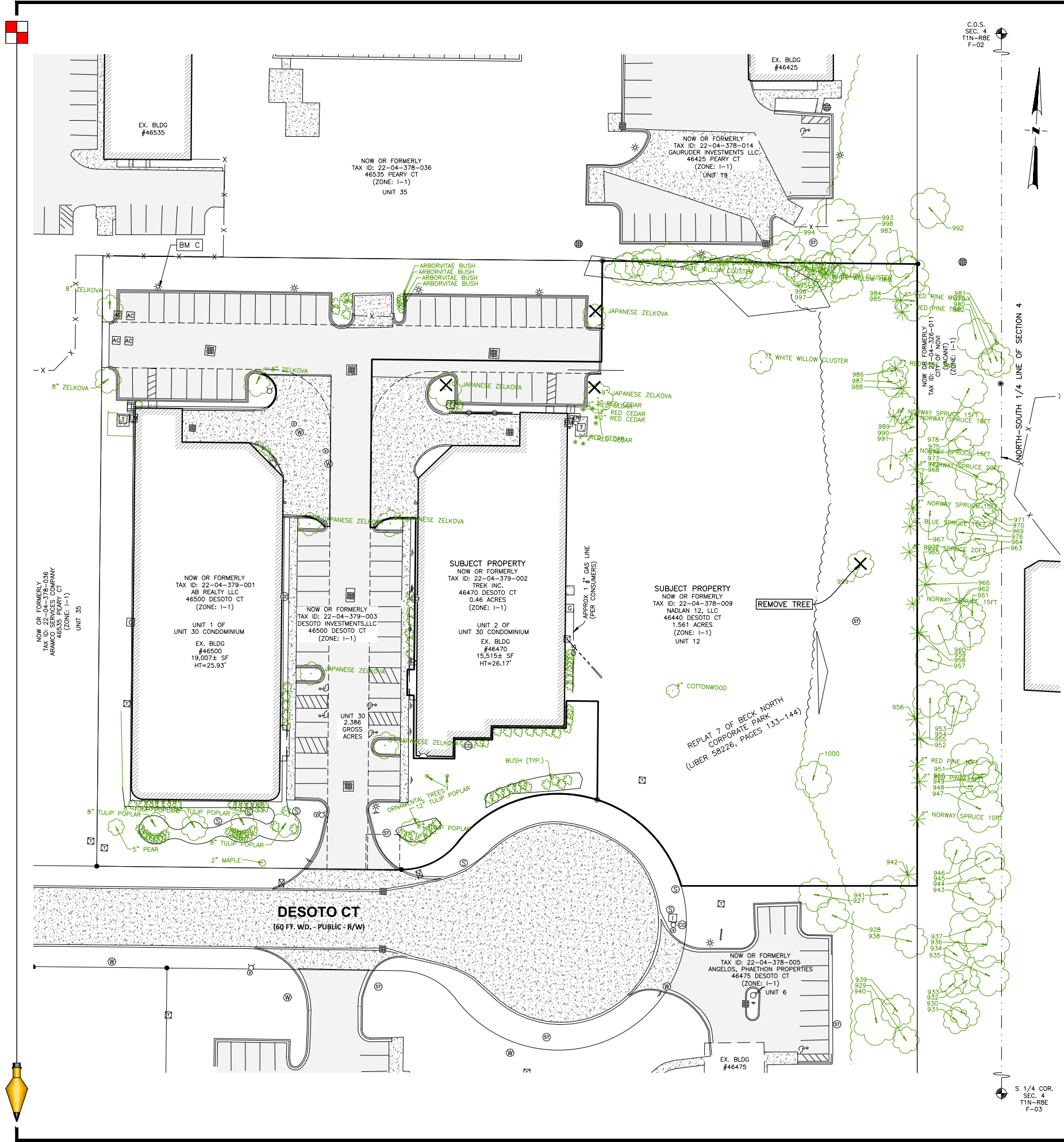
FIELD: RZ
DRAWN BY: DAH

DESIGN BY: KCM

CHECK BY: MEB

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(517) 223-3512
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Tree Survey

Project No./Name: 23-127 TREK BUILDING ADDITION Date: 10/13/2023

Tag No.	Species Name	Description	D.B.H.
927	HONEY LOCUST		10
928	HONEY LOCUST		10
929	SILVER MAPLE		8
930	AMERICAN BASSWOOD		9
931	AMERICAN BASSWOOD		8
932	AMERICAN BASSWOOD		8
933	AMERICAN BASSWOOD		8
934	AMERICAN BASSWOOD	TRIPLE	8
935	AMERICAN BASSWOOD		12
936	AMERICAN ELM		14
937	WHITE OAK		13
938	SILVER MAPLE		10
939	HONEY LOCUST		10
940	HONEY LOCUST	CLUSTER	14
941	HONEY LOCUST		11
942	NORWAY SPRUCE		9
943	AMERICAN BASSWOOD	CLUSTER	13
944	HONEY LOCUST		16
945	BLACK CHERRY		9
946	WHITE OAK		8
947	BLACK CHERRY		14
948	AMERICAN BASSWOOD		8
949	BLACK CHERRY		12
950	SHAGBARK HICKORY		8
951	AMERICAN BASSWOOD		13
952	RED PINE		8
953	AMERICAN BASSWOOD	TWIN	10
954	AMERICAN BASSWOOD		10
955	HONEY LOCUST	TWIN	11
956	RED PINE		8
957	SILVER MAPLE		8
958	NORWAY SPRUCE		8
959	HONEY LOCUST		11
960	WHITE OAK		9
961	WHITE OAK		8
962	RED PINE	TWIN	14
963	AMERICAN BASSWOOD	CLUSTER	13
964	AMERICAN BASSWOOD	TRIPLE	13
965	NORWAY SPRUCE		8
966	NORWAY SPRUCE		8
967	HONEY LOCUST		12
968	NORWAY SPRUCE		9
969	AMERICAN BASSWOOD		8
970	SHAGBARK HICKORY		8
971	SHAGBARK HICKORY		9
972	SHAGBARK HICKORY		10
973	RED OAK		14
974	AMERICAN BASSWOOD		8
975	WHITE OAK		13
976	AMERICAN BASSWOOD	CLUSTER	8
977	AMERICAN BASSWOOD		8
978	HONEY LOCUST		11
979	SHAGBARK HICKORY		10
980	AMERICAN BASSWOOD		8
981	SHAGBARK HICKORY		10
982	SILVER MAPLE	TWIN	12
983	HONEY LOCUST	TWIN	9
984	COMMON HACKBERRY		12
985	HONEY LOCUST		12
986	HONEY LOCUST		8
987	HONEY LOCUST		9
988	RED PINE		8
989	COMMON HACKBERRY		9
990	HONEY LOCUST		8
991	HONEY LOCUST	CLUSTER	8
992	HONEY LOCUST		12
993	BRADFORD PEAR		13
994	BRADFORD PEAR		11
995	WHITE POPLAR		11
996	WHITE POPLAR		10
997	WHITE POPLAR		10
998	HONEY LOCUST		14
999	HONEY LOCUST		8
1000	WHITE POPLAR	TRIPLE	11

REMOVED

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TREE SURVEY

TREK BUILDING ADDITION
46470, 46500, & 46440 DESOTO CT.
PART OF THE SW 1/4, SECTION 4, T1N-R8E
CITY OF NOVI, OAKLAND COUNTY, MI.

DATE	11/13/2023
PLAN SUBMITTALS/REVISIONS	
SITE PLAN SUBMITTAL	
REVISED SP SUBMITTAL	JP23-0032

ORIGINAL ISSUE DATE:
11/13/2023

PROJECT NO: 23-127

SCALE: 1" = 30'
0 1/2" 1"

FIELD: RZ
DRAWN BY: DAH
DESIGN BY: KCM
CHECK BY: MEB

V-3.0

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ZONING INFORMATION

THIS ZONING INFORMATION IS TAKEN FROM CITY OF NOVI ZONING ORDINANCE
DATED: JUNE 4, 2018

SUBJECT PARCEL ZONING: (I-1) LIGHT INDUSTRIAL	SUBJECT PARCEL		PROPOSED BUILDING	MAXIMUM HEIGHT OF BUILDING		BUILDING SETBACKS (FT)			PARKING SETBACKS (FT)			BUILDING SETBACK FROM RESIDENTIAL (FT)	PARKING SETBACK FROM RESIDENTIAL (FT)
	AREA (AC)	WIDTH AT BUILDING SITE (FT)	PR. BUILDING "A" (SF)	IN STORIES	IN FEET	FRONT (S)	SIDE (E)	REAR (N)	FRONT (S)	SIDE (E)	REAR (N)		
REQUIRED	-	-		2	40	40	20	20	40	10	10	111.66	100
PROVIDED	1.56	186.6	29,140	1	24	40.4	62.1	64.4	277.3	187	21.4	111.9	236.9

ADJACENT ZONING

NORTH: (I-1) LIGHT INDUSTRIAL DISTRICT
SOUTH: (I-1) LIGHT INDUSTRIAL DISTRICT
EAST: (RA) RESIDENTIAL ACREAGE
WEST: (I-1) LIGHT INDUSTRIAL DISTRICT

% LOT AREA COVERAGE (BUILDINGS ONLY)

BUILDINGS ONLY:
3.95 AC = 171,916 SF
62,265 SF/171,916 SF = 36%

% OF IMPERVIOUS SURFACES

BUILDINGS AND IMPERVIOUS SURFACES:
99,082 SF/171,916 SF = 58%

PAVEMENT LEGEND

	EX. ASPHALT
	EX. CONCRETE
	EX. GRAVEL
	PR. STANDARD DUTY ASPHALT
	PR. HEAVY DUTY ASPHALT
	PR. CONCRETE
	PR. GRAVEL
	STANDARD CURB AND GUTTER
	REVERSE CURB AND GUTTER

PROPOSED PARKING

1 SPACE PER 700 SF

EX. BUILDING 1 19,007 SF
EX. BUILDING 2 15,515 SF
PR. ADDITION 27,743 SF
TOTAL 62,265 SF

62,265 SF / 700 SF PER SPACE = 89 SPACES
INCLUDING 4 BARRIER FREE SPACES

TOTAL PARKING REQUIRED: 91 ☒ REGULAR SPACES ☒ BARRIER FREE SPACES

EX. PARKING SPACES: 62
EX. BARRIER FREE SPACES: 4
TOTAL PARKING PROVIDED: 66

REQUIRED BICYCLE PARKING = 5% OF REQUIRED PARKING

91 X 5% = 5 BICYCLE PARKING SPACES

EX. BICYCLE PARKING SPACES: 0
PR. BICYCLE PARKING SPACES: 6
TOTAL PARKING PROVIDED: 6 (3 BICYCLE RACKS)

NOTES

- SCREENING SHALL BE PROVIDED FOR ALL MECHANICAL EQUIPMENT.
- PARKING LOT ISLANDS SHALL BE FINISHED IN GRASS, GROUND COVER OR MULCH.
- NO LONG-TERM DELIVERY TRUCK PARKING TO OCCUR ON SITE.
- WINDOWS AND DOORS OF NON-OFFICE AREAS SHALL NOT BE LEFT OPEN.
- HOURS OF OPERATION ARE 8AM TO 5PM, MONDAY THROUGH FRIDAY.
- NO NEW PERMANENT SIGNS ARE PROPOSED.
- NO NEW LIGHT POLES ARE PROPOSED.
- ALL WORK SHALL CONFORM WITH CURRENT CITY OF NOVI STANDARDS AND SPECIFICATIONS.

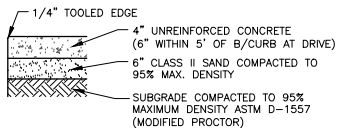
DIMENSIONING NOTE

- RADII DIMENSIONS ARE TO THE BACK OF CURB UNLESS OTHERWISE SPECIFIED.
- ALL OTHER DIMENSIONS ARE TO THE FACE OF CURB OR EDGE OF PAVEMENT UNLESS OTHERWISE SPECIFIED.

BC = BACK OF CURB
FC = FACE OF CURB

CONCRETE SIDEWALK SECTION

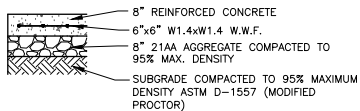
Applies to: Site



NOTE:
PROVIDE 1.5\"/>

HEAVY DUTY CONCRETE PAVEMENT SECTION

Applies to: Site

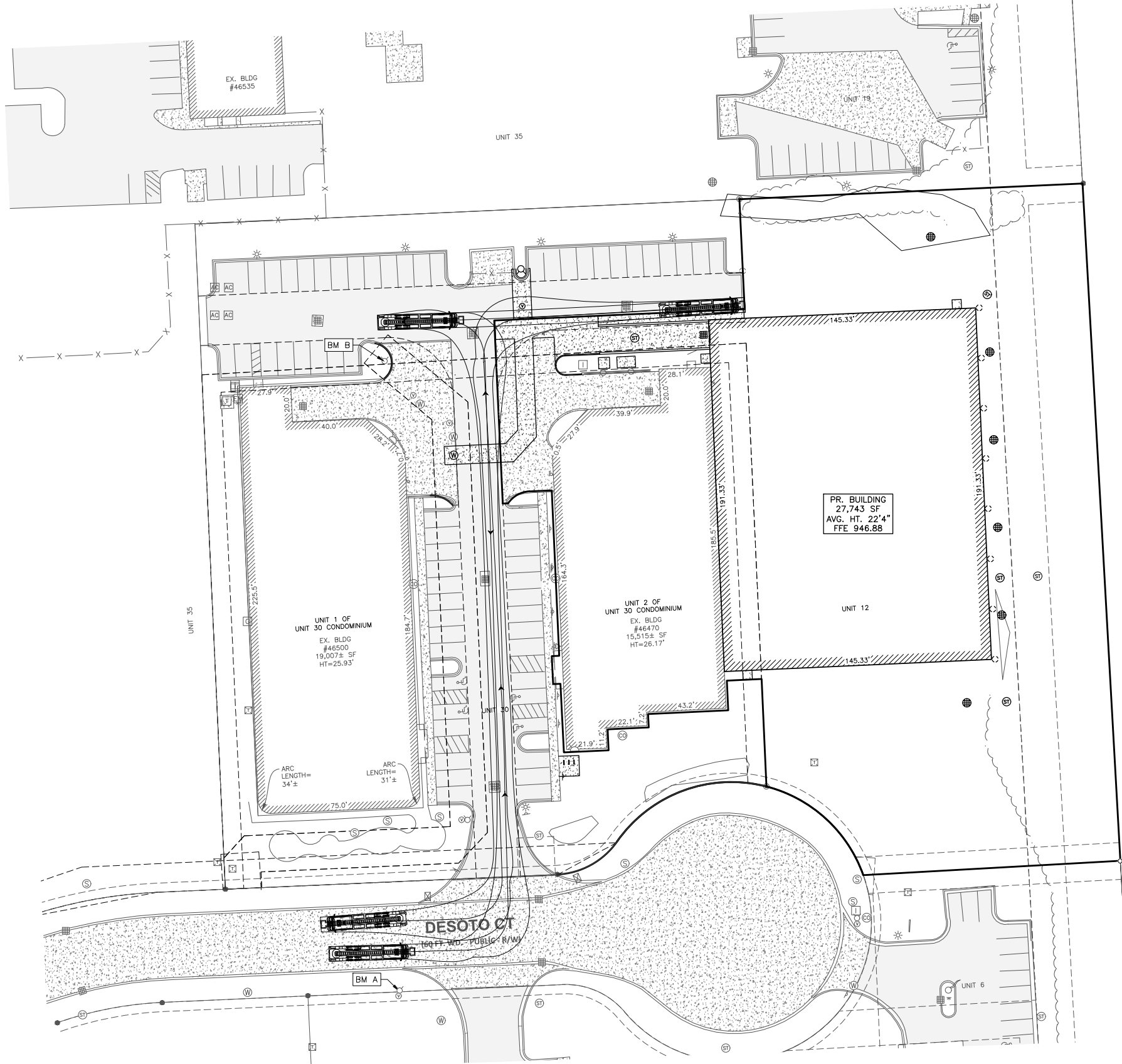


PAVEMENT QUANTITIES

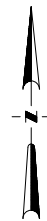
QTY	UNIT	ITEM
196	SF	4\"/>
196	SF	6\"/>
58	LF	6\"/>
3,315	SF	8\"/>
3,315	SF	8\"/>
2	EA	60' LONG TRUCK WELL WALLS



CLIENT :



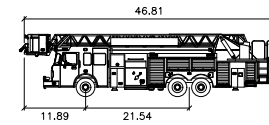
C.O.S.
SEC. 4
T1N-R8E
F-02



NORTH-SOUTH 1/4 LINE OF SECTION 4

S 1/4 COR.
SEC. 4
T1N-R8E
F-03

EMERGENCY VEHICLE



MFPD 100' Aerial Platform Pierce Arrow XT

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

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EMERGENCY VEHICLE CIRCULATION

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CITY OF NOVI, OAKLAND COUNTY, MI.

DATE	PLAN SUBMITTALS/REVISIONS
11/13/2023	SITE PLAN SUBMITTAL
12/27/2023	REVISED SP SUBMITTAL
	JS23-0032

ORIGINAL ISSUE DATE:
11/13/2023

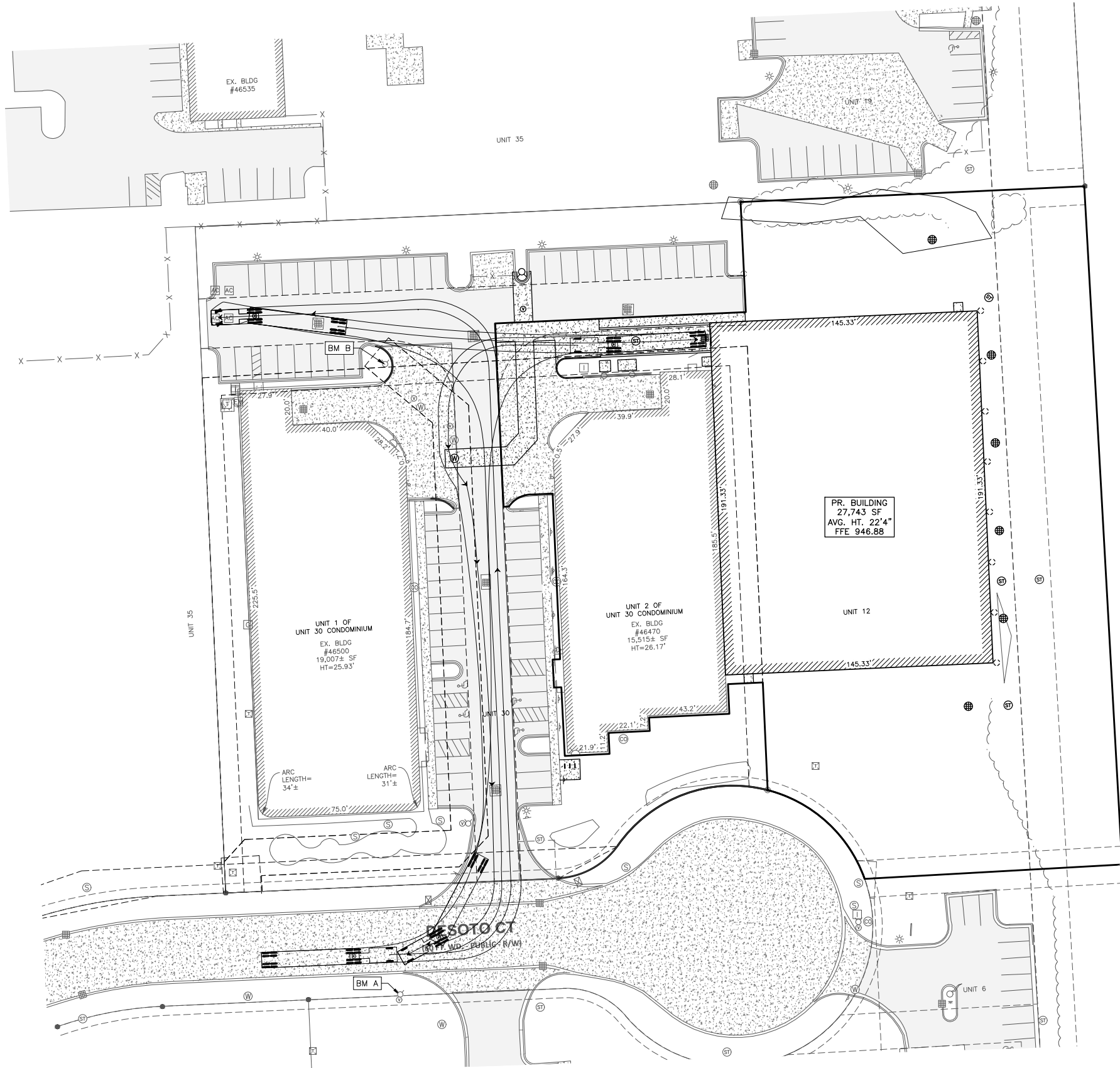
PROJECT NO: 23-127

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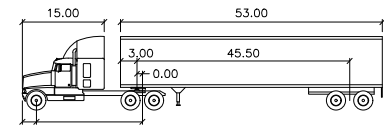
FIELD: RZ
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DESIGN BY: KCM
CHECK BY: MEB

C-2.0

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WB-67 TRUCK & TRAILER



WB-67	FEET	LOCK TO LOCK TIME	: 6.0
TRACTOR WIDTH	: 8.00	STEERING ANGLE	: 28.4
TRAILER WIDTH	: 8.50	ARTICULATING ANGLE	: 75.0
TRACTOR TRACK	: 8.00		
TRAILER TRACK	: 8.50		

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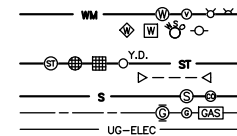
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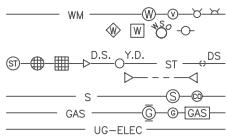


UTILITY LEGEND

PROPOSED



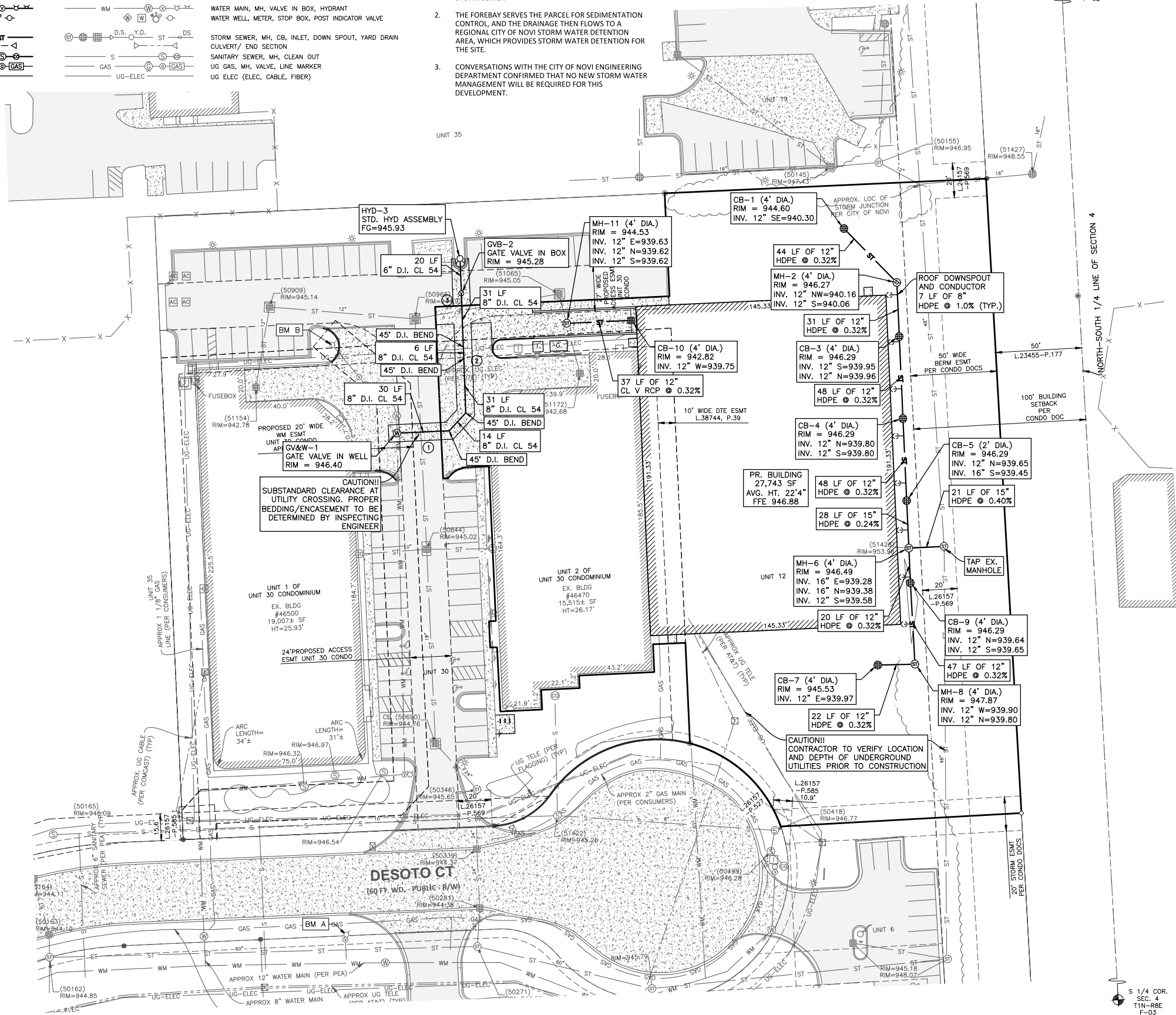
EXISTING



WATER MAIN, MH, VALVE IN BOX, HYDRANT
WATER WELL, METER, STOP BOX, POST INDICATOR VALVE
STORM SEWER, MH, CB, INLET, DOWN SPOUT, YARD DRAIN
CULVERT/ END SECTION
SANITARY SEWER, MH, CLEAN OUT
UG GAS, MH, VALVE, LINE MARKER
UG ELEC (ELEC, CABLE, FIBER)

STORM WATER MANAGEMENT NOTES

- THE SITE CURRENTLY DRAINS TO AN EXISTING SEDIMENTATION FOREBAY THROUGH AN EXISTING 60" STORM SEWER
- THE FOREBAY SERVES THE PARCEL FOR SEDIMENTATION CONTROL, AND THE DRAINAGE THEN FLOWS TO A REGIONAL CITY OF NOVI STORM WATER DETENTION AREA, WHICH PROVIDES STORM WATER DETENTION FOR THE SITE.
- CONVERSATIONS WITH THE CITY OF NOVI ENGINEERING DEPARTMENT CONFIRMED THAT NO NEW STORM WATER MANAGEMENT WILL BE REQUIRED FOR THIS DEVELOPMENT.



UTILITY NOTES

- PROPOSED BUILDING ADDITION TO HAVE SPRINKLED FIRE SUPPRESSION.
- "IN" & "CB" STRUCTURES SHALL HAVE EJIW 1020 FRAME WITH TYPE M1 GRATE.
- CURB "IN" & "CB" STRUCTURES SHALL HAVE EJIW 7010 FRAME WITH TYPE M1 GRATE.
- STORM "MH" STRUCTURES SHALL HAVE EJIW 1040 FRAME WITH A TYPE A PERFORATED COVER.
- MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.
- WATER AND SANITARY TO BE PLUMBED THROUGH EXISTING BUILDING.
- COMPACTED SAND BACKFILL (MDOT CL II) SHALL BE PROVIDED FOR ALL UTILITIES WITHIN THE INFLUENCE OF PAVEMENT.

STRUCTURE SCHEDULE

PROPOSED STORM SEWER			
STRUCTURE	RIM ELEV.	PIPES	
CB-1	944.60	12" SE IE=	940.30
CB-3	946.29	12" S IE=	939.95
CB-4	946.29	12" N IE=	939.80
CB-5	946.29	12" N IE=	939.65
CB-7	945.53	12" E IE=	939.97
CB-9	946.29	12" N IE=	939.64
CB-10	942.82	12" W IE=	939.75
EX MH (51428)	953.32	16" W IE=	939.20
		48" N IE=	936.31
		48" S IE=	936.21
MH-2	946.27	12" NW IE=	940.16
MH-6	946.49	16" E IE=	939.28
MH-8	947.87	12" N IE=	939.38
		12" S IE=	939.58
MH-11	944.53	12" E IE=	939.63
		12" N IE=	939.62
		12" S IE=	939.62

STORM SEWER QUANTITIES

QTY	UNIT	ITEM
260	LF	12" HDPE
49	LF	15" HDPE
37	LF	CL V RCP
1	EA	TAP EX. 12" STORM SEWER
1	EA	TAP EX. MANHOLE
7	EA	4" DIA. CATCH BASIN
4	EA	4" MANHOLE

WATER MAIN QUANTITIES

QTY	UNIT	ITEM
112	LF	8" DI CL 54 WATER MAIN
20	LF	6" DI CL 54 WATER MAIN
4	EA	8" 45° BEND
1	EA	6"x8" GV&W
1	EA	6" GVB
1	EA	STANDARD HYDRANT ASSEMBLY

CROSSING SCHEDULE

NOTE: MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.

ABBREVIATIONS:
IE = INVERT ELEVATION
TP = TOP OF PIPE
BP = BOTTOM OF PIPE

1	12" STORM SEWER TP	=	939.48
	8" WATER MAIN IE	=	940.45
2	UG ELEC IE	=	942.22
	8" WATER MAIN TP	=	938.66
3	12" STORM SEWER IE	=	939.06
	8" WATER MAIN TP	=	937.54

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UTILITY PLAN

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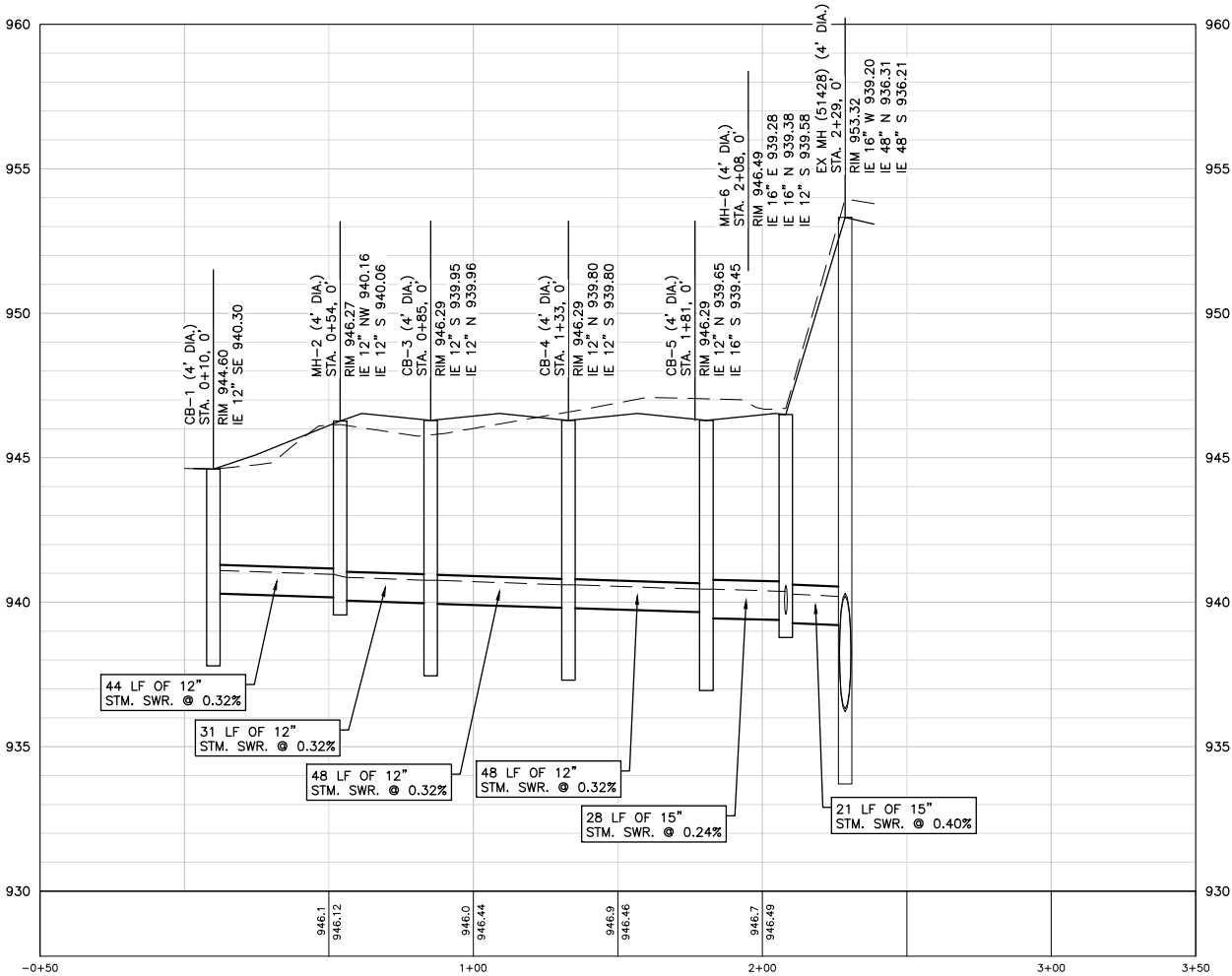
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FIELD: RZ
DRAWN BY: DAH
DESIGN BY: KCM
CHECK BY: MEB

C-3.0

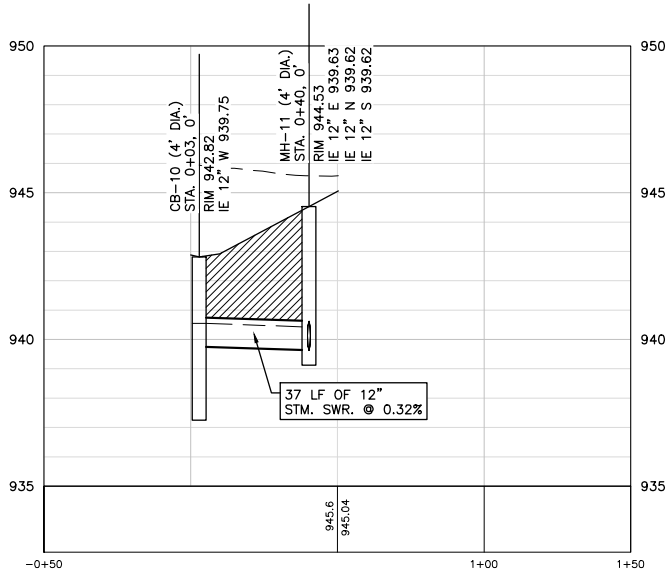
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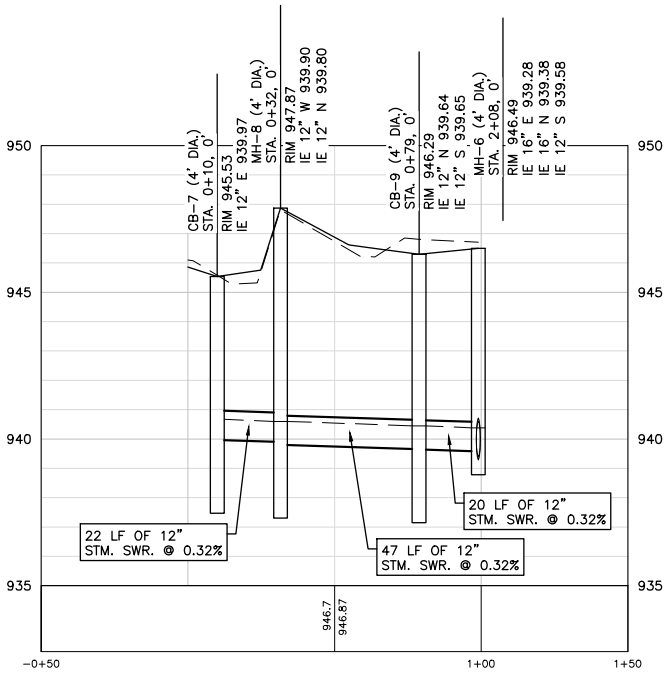
PR STRM - CB-1 TO EX MH

PROFILE SCALE
HORIZ: 1"=30'
VERT: 1"=3'



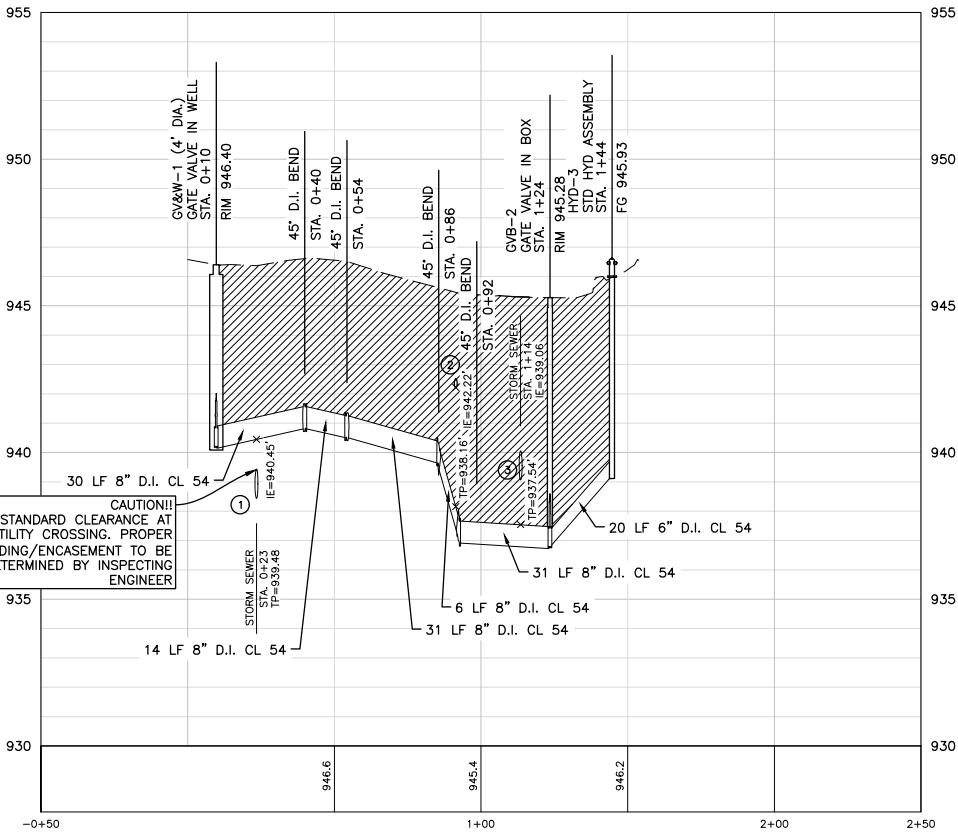
PR STRM - CB-10 TO MH-11

PROFILE SCALE
HORIZ: 1"=30'
VERT: 1"=3'



PR STRM - CB-7 TO MH-6

PROFILE SCALE
HORIZ: 1"=30'
VERT: 1"=3'

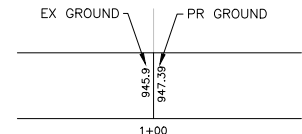


PR WM - GV&W-1 TO HYD-3

PROFILE SCALE
HORIZ: 1"=30'
VERT: 1"=3'

PROFILE LEGEND

- UTILITY CROSSING
- SAND BACKFILL (REFER TO TRENCH DETAILS)
- EXISTING GROUND
- PROPOSED GROUND
- 10-YR H.G. LINE



NOTES

- SAND BACKFILL AND BEDDING TO BE MDOT CL II.
- MAINTAIN MINIMUM 18" VERTICAL CLEARANCE BETWEEN ALL UTILITIES.

INNOVATIVE GEOSPATIAL & ENGINEERING SOLUTIONS

MEGA Engineering Group Associates, Inc.

238 VETERANS DRIVE
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(OFFICE) 517-223-3512
MONUMENTENGINEERING.COM

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THE LOCATION AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT :

Brivar
DESIGN • BUILD • DELIVER

BRIVAR CONST. CO.
9325 MALTBY ROAD
BRIGHTON, MI 48116
(248) 446-8000

UTILITY PROFILES

TREK BUILDING ADDITION
46470, 46500, & 46440 DESOTO CT.
PART OF THE SW 1/4, SECTION 4, T1N-R8E
CITY OF NOVI, OAKLAND COUNTY, MI.

DATE	11/13/2023
PLAN SUBMITTALS/REVISIONS	
SITE PLAN SUBMITTAL	
REVISED SP SUBMITTAL	JS22-0032

ORIGINAL ISSUE DATE:
11/13/2023

PROJECT NO: 23-127

SCALE: N/A
0 1/2" 1"

FIELD: RZ
DRAWN BY: DAH
DESIGN BY: KCM
CHECK BY: MEB

C-3.1

NOT FOR CONSTRUCTION



SOILS INFO

SOIL TYPES ARE ACCORDING TO THE USDA SOIL SURVEY WEB SITE
(<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>)

- SOIL TYPE LIMIT AND LABEL
- 17A: WASEPI SANDY LOAM, 0-3% SLOPES
 - 44C: RIDDLES SANDY LOAM, 6-12% SLOPES

SESC LEGEND

- SILT FENCE
- — — — — LIMITS OF DISTURBANCE
- STABILIZED CONSTRUCTION ACCESS
- RIP RAP

DTMB SOIL EROSION & SEDIMENTATION CONTROL MEASURES

MICHIGAN DEPARTMENT OF TECHNOLOGY, MANAGEMENT, AND BUDGET (DTMB)

EROSION CONTROLS

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
E6	MULCH		FOR USE IN AREAS SUBJECT TO EROSION SURFACE FLOWS OR SEVERE WIND OR ON NEWLY SEEDS AREAS.
E8	PERMANENT SEEDING		STABILIZATION METHOD UTILIZED ON SITES WHERE EARTH CHANGE HAS BEEN COMPLETED (FINAL GRADING ATTAINED).

SEDIMENT CONTROLS

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
S51	SILT FENCE		USE ADJACENT TO CRITICAL AREAS, TO PREVENT SEDIMENT LADEN SHEET FLOW FROM ENTERING THESE AREAS.
S53	STABILIZED CONSTRUCTION ACCESS		USED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE.
S55	SEDIMENT BASIN		AT THE OUTLET OF DISTURBED AREAS AND AT THE LOCATION OF A PERMANENT DETENTION BASIN.
S58	INLET PROTECTION FABRIC DROP		USE AT STORMWATER INLETS, ESPECIALLY AT CONSTRUCTION SITES.

EROSION & SEDIMENT CONTROLS

KEY	BEST MANAGEMENT PRACTICES	SYMBOL	WHERE USED
ES31	CHECK DAM		USED TO REDUCE SURFACE FLOW VELOCITIES WITHIN CONSTRUCTED AND EXISTING FLOW CORRIDORS.

XX TEMPORARY XX PERMANENT

EROSION CONTROL STANDARDS

- ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE OAKLAND COUNTY WATER RESOURCE COMMISSIONER'S OFFICE.
- DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR FOR EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES, AND ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY.
- EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES AND PONDS.
- CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. CONTRACTOR SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES AND OTHER CHANGES HAS BEEN ACCOMPLISHED.
- STAGING OF THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLACES AND AS REQUIRED TO INSURE PROGRESSIVE STABILIZATION OF DISTURBED AREAS.
- SOIL EROSION CONTROL PRACTICES WILL BE ESTABLISHED IN EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF SILT OFF THE SITE.
- A CERTIFIED STORM WATER OPERATOR WILL BE NAMED ON THE EGLE NOTICE OF COVERAGE FOR NPDES AS REQUIRED.
- ALL DISTURBED AREAS ARE TO BE TOP SOILED AND SEEDDED WITH THE FOLLOWING MIN RATIO:
TOPSOIL TO BE SCREENED, 3" MIN. IN DEPTH, GRASS SEED 218 LBS PER ACRE, FERTILIZER 150 LBS PER ACRE, STRAW MULCH 3" DEPTH 1.5 TO 2 TONS PER ACRE.
- HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%. ON SLOPES OVER 1%, STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER, OR STRAW BLANKETS PEGGED IN PLACE.

SOIL EROSION CONTROL MAINTENANCE SCHEDULE AND NOTES.

- CONTRACTOR MUST OBTAIN A SOIL EROSION AND SEDIMENTATION CONTROL PERMIT FROM THE OAKLAND COUNTY WATER RESOURCE COMMISSIONER'S OFFICE PRIOR TO COMMENCING WORK.
- EARTHWORK SHALL BE LIMITED TO THE PROPOSED SITE AS SHOWN ON THE PLAN.
- CONTRACTOR SHALL INSPECT THE SOIL EROSION/SEDIMENTATION CONTROL DEVICES ONCE A WEEK AND/OR WITHIN 24 HOURS OF A RAINFALL EVENT WHICH RESULTS IN A STORM WATER DISCHARGE FROM THE SITE. ANY DAMAGE TO EROSION CONTROL MEASURES MUST BE REPAIRED IMMEDIATELY.
- ALL MUD OR DEBRIS TRACKED ONTO EXISTING PUBLIC ROADS FROM THE SITE DUE TO CONSTRUCTION SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR.
- SILT FENCE MAINTENANCE SHALL INCLUDE THE REMOVAL OF ANY BUILT-UP SEDIMENT WHEN THE SEDIMENT HEIGHT ACCUMULATES TO 1/3 TO 1/2 OF THE HEIGHT OF THE FENCE. THE CONTRACTOR IS RESPONSIBLE TO REMOVE, REPLACE, RETRENCH OR RE-BACKFILL THE SILTATION FENCE SHOULD IT FAIL OR BE DAMAGED DURING CONSTRUCTION.
- PERMANENT STABILIZATION MUST BE COMPLETED WITHIN 30 DAYS OF FINAL GRADING.
- ACCESS ROADS MUST BE MAINTAINED AS NECESSARY, TO KEEP THEM EFFECTIVE, NEW LAYERS OF STONE MAY BE ADDED AS OLD LAYERS BECOME COMPACTED. STEPS SHOULD ALSO BE TAKEN TO REPAIR THE ACCESS ROADS IF RUTS OR PONDING WATER APPEARS.
- INLET FILTERS SHOULD BE INSPECTED FOR BUILDUP OF SILT AND OTHER DEBRIS. THIS IS EVIDENT IF GEOTEXTILE/SOD STRUCTURE IS CAUSING FLOODING. MAINTENANCE WOULD CONSIST OF REMOVING OF SEDIMENTS WITH A STIFF BRISTLE BROOM OR SQUARE POINT SHOVEL. IF INLET FILTER IS BEYOND THIS LEVEL OF REPAIR, IT MAY BE NECESSARY TO REPLACE BOTH THE SOD AND GEOTEXTILE FILTER.
- IF SOIL EROSION/SEDIMENT CONTROL MEASURES ARE INADEQUATE FOR THE SITE, THE PROPER EROSION CONTROL AUTHORITY MUST BE NOTIFIED.
- ANY DEWATERING REQUIRED SHALL HAVE A DEWATERING PLAN SUBMITTED PRIOR TO STARTING THE ACTIVITY AND MAY REQUIRE EGLE APPROVAL.

EROSION CONTROL QUANTITIES

Disturbed Area: 1.08 Acres

QTY	UNIT	ITEM
670	LF	SILT FENCE
10	EA	INLET FILTER
1	EA	STABILIZED CONSTRUCTION ACCESS

NOTE: QUANTITIES ARE FOR ENTIRE SITE

CLIENT :

SESC PLAN

TREK BUILDING ADDITION
46470, 46500, & 46440 DESOTO CT.
PART OF THE SW 1/4, SECTION 4, T1N-R8E
CITY OF NOVI, OAKLAND COUNTY, MI.

DATE	11/13/2023
PLAN SUBMITTALS/REVISIONS	
SITE PLAN SUBMITTAL	12/27/2023
REVISED SP SUBMITTAL	12/27/2023

ORIGINAL ISSUE DATE:
11/13/2023

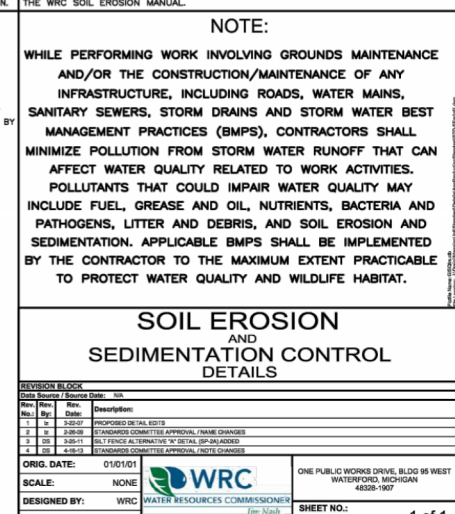
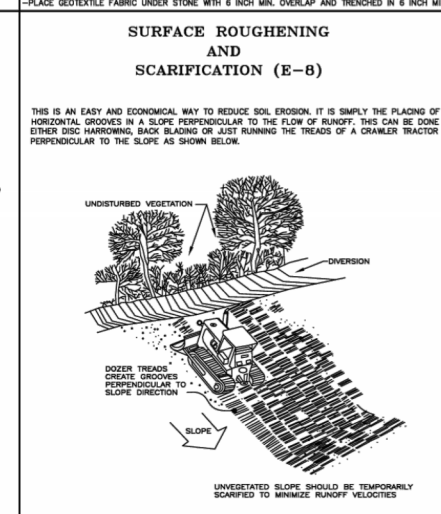
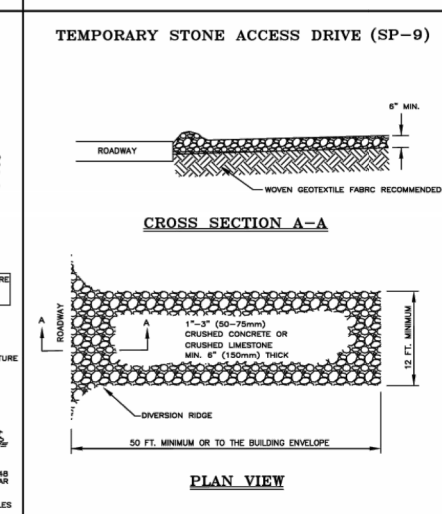
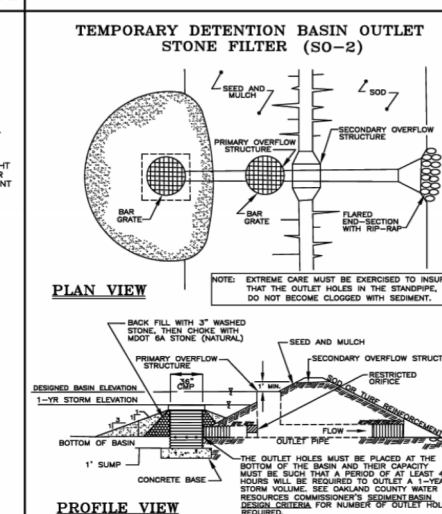
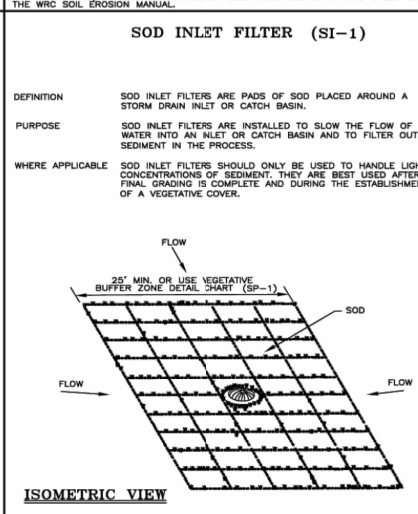
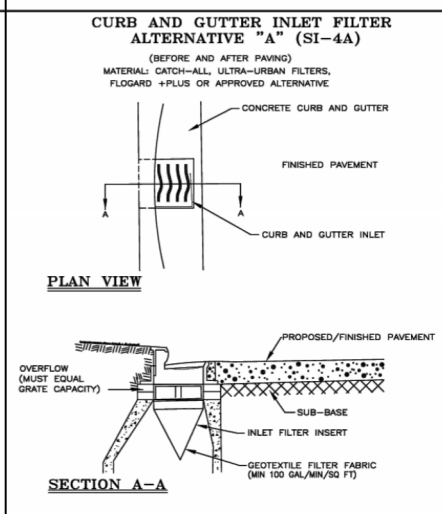
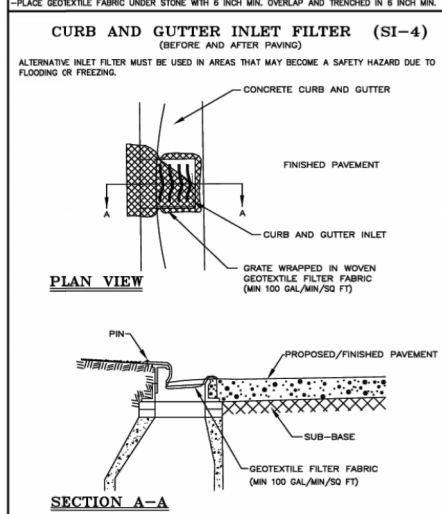
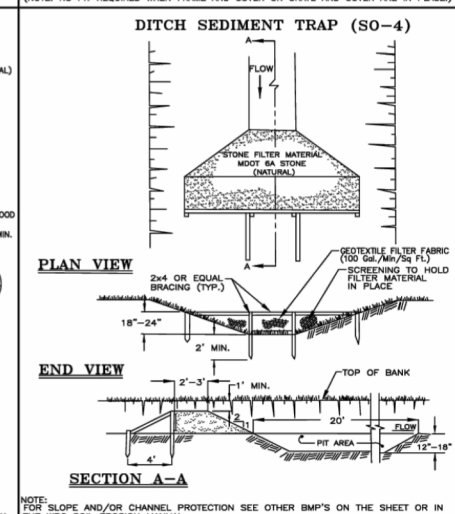
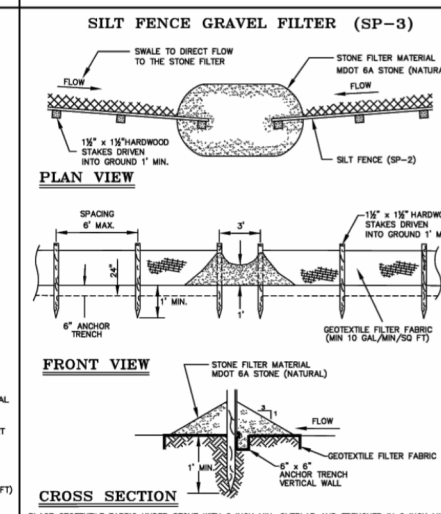
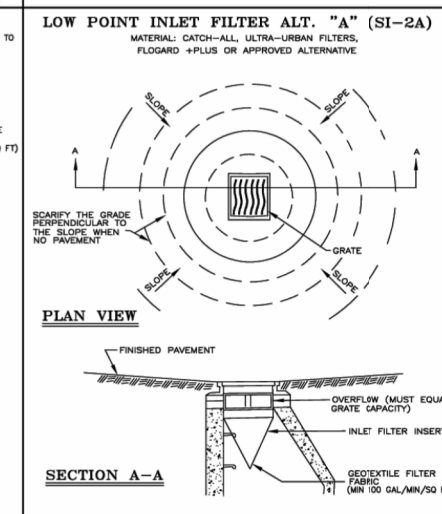
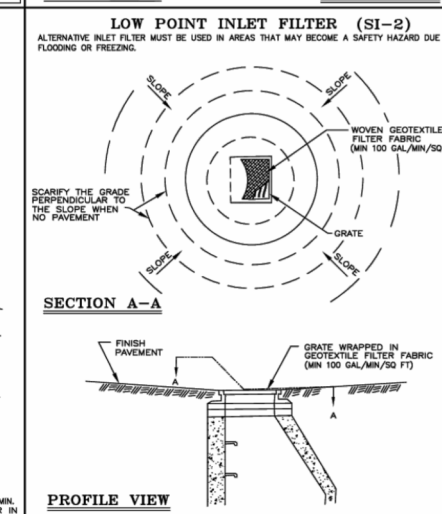
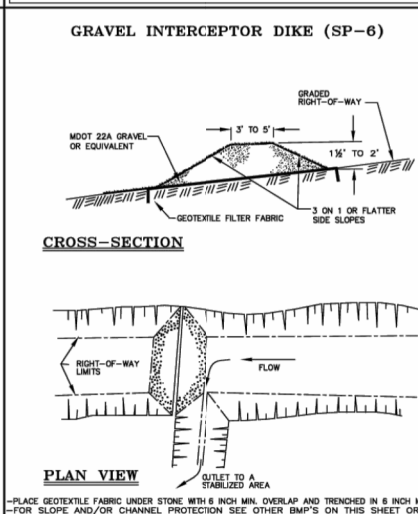
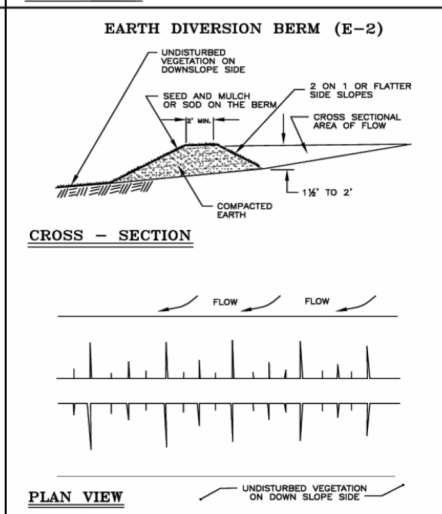
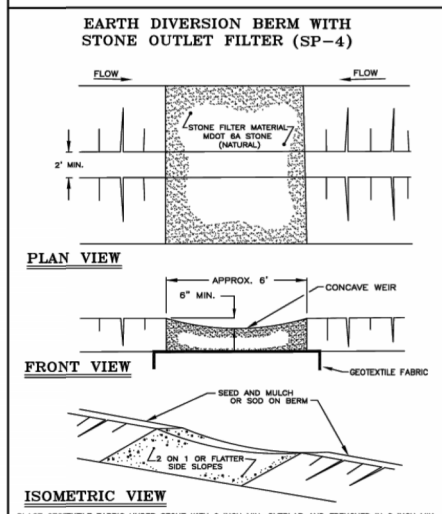
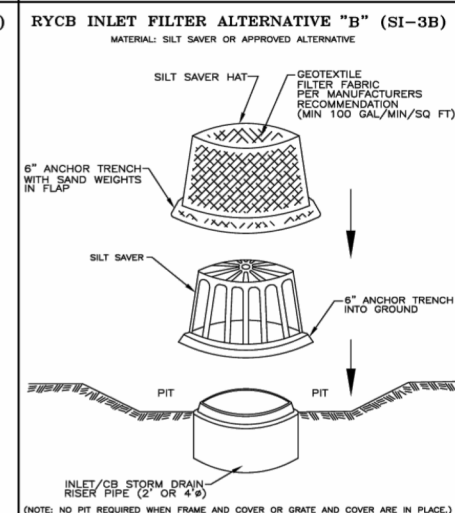
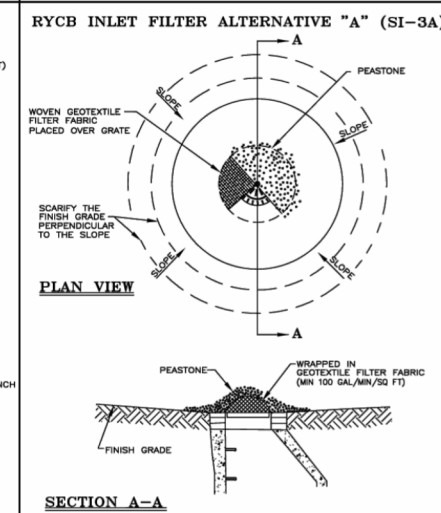
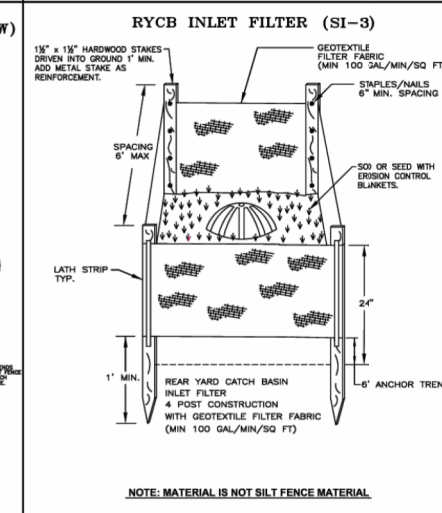
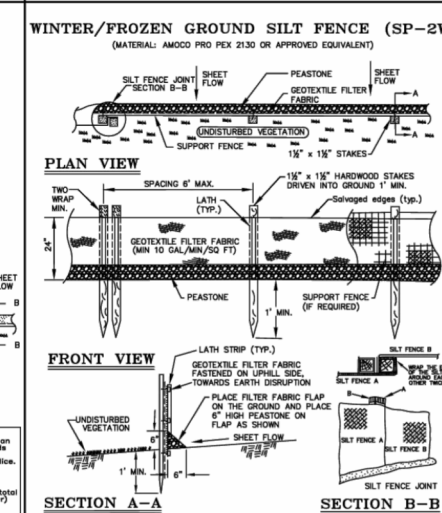
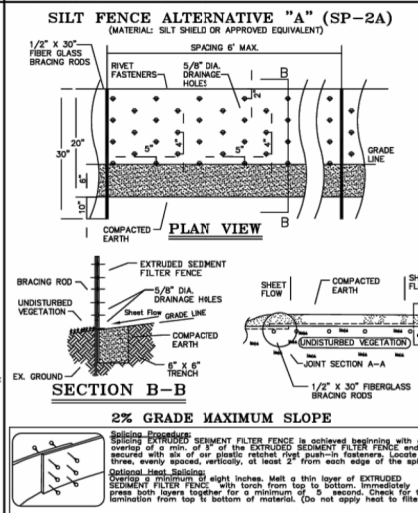
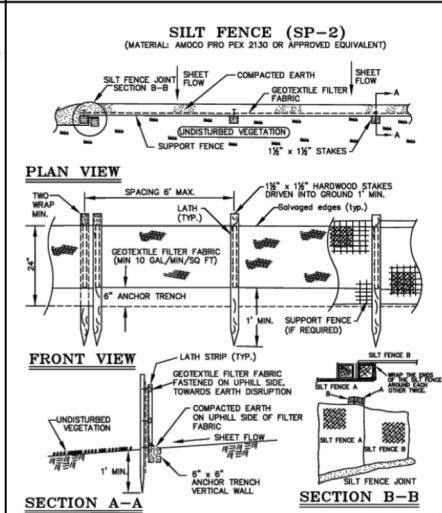
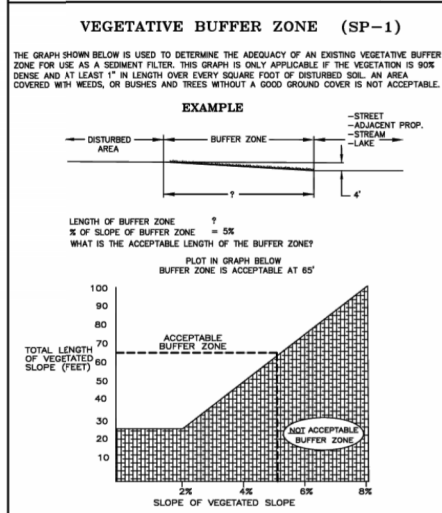
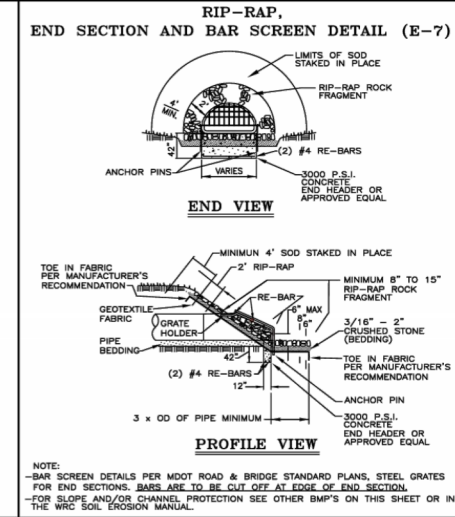
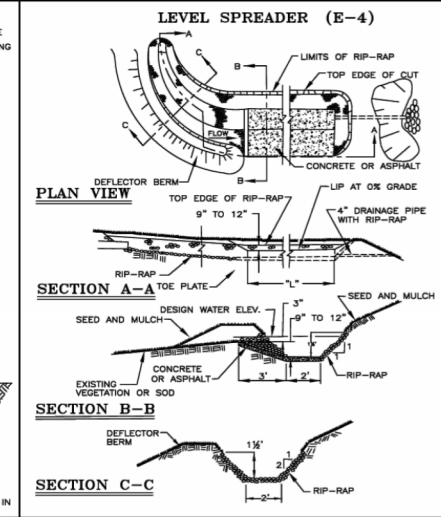
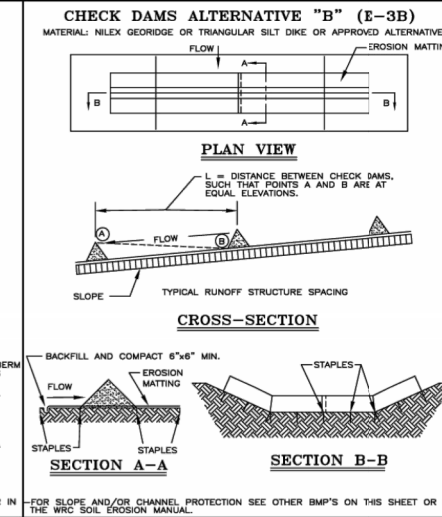
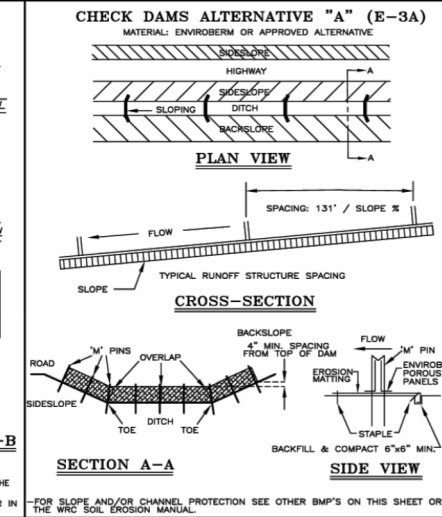
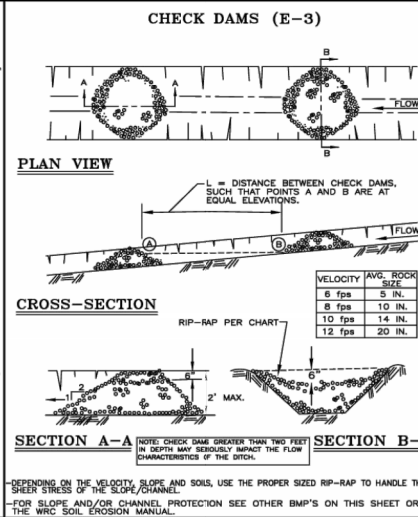
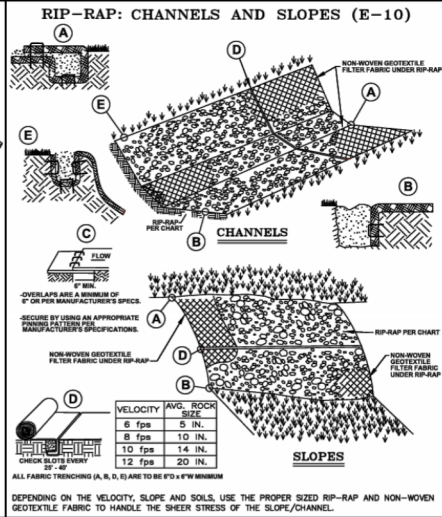
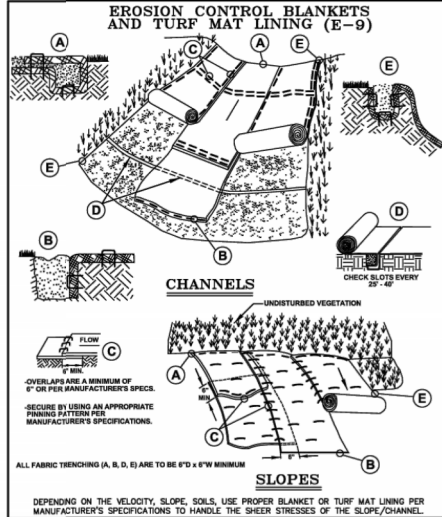
PROJECT NO: 23-127

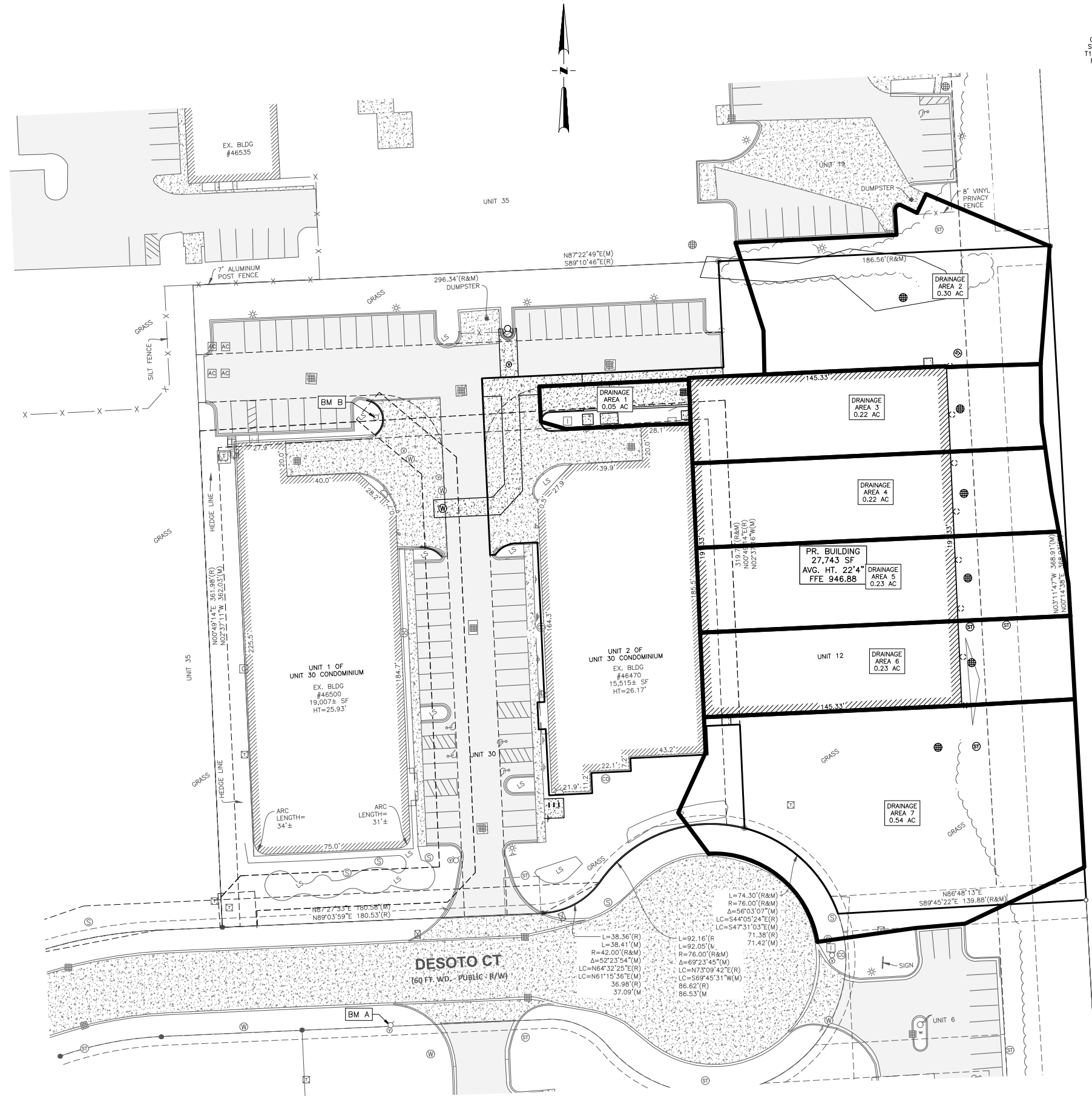
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0 1/2" 1"

FIELD: RZ
DRAWN BY: DAH
DESIGN BY: KCM
CHECK BY: MEB

C-8.0

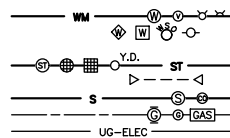
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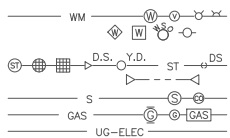


UTILITY LEGEND

PROPOSED

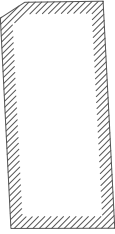


EXISTING



WATER MAIN, MH, VALVE IN BOX, HYDRANT
WATER WELL, METER, STOP BOX, POST INDICATOR VALVE
STORM SEWER, MH, CB, INLET, DOWN SPOUT, YARD DRAIN
CULVERT/ END SECTION
SANITARY SEWER, MH, CLEAN OUT
UG GAS, MH, VALVE, LINE MARKER
UG ELEC (ELEC, CABLE, FIBER)

NORTH-SOUTH 1/4 LINE OF SECTION 4



INNOVATIVE GEOSPATIAL & ENGINEERING SOLUTIONS

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CLIENT :

BRIVAR CONST. CO.
9325 MALTBY ROAD
BRIGHTON, MI 48116
(248) 446-8000

DRAINAGE AREA PLAN
TREK BUILDING ADDITION
46470, 46500, & 46440 DESOTO CT.
PART OF THE SW 1/4, SECTION 4, T1N-R8E
CITY OF NOVI, OAKLAND COUNTY, MI.

DATE	11/13/2023
PLAN SUBMITTALS/REVISIONS	
SITE PLAN SUBMITTAL	
REVISED SP SUBMITTAL	
DATE	11/13/2023

ORIGINAL ISSUE DATE:
11/13/2023

PROJECT NO: 23-127

SCALE: 1" = 30'
0 1/2" 1"

FIELD: RZ
DRAWN BY: DAH
DESIGN BY: KCM
CHECK BY: MEB

C-9.0

NOT FOR CONSTRUCTION



STORM SEWER DESIGN												MONUMENT ENGINEERING GROUP ASSOCIATES, LLC												
Q = C I A Q = A x 1.486/n x R ^{2/3} x S ^{1/2} I = 175/(t+25)			t = 20' n1 = 0.01 HDPE & PVC n2 = 0.013 CONC.			298 VETERANS DRIVE FOWLERVILLE, MI 48836 517-223-3512																		
FROM STR TO STR	AREA A	COEFF. C	A x C	AREA TOTAL At ac.	TOTAL C x A	TIME t min.	INT. I in/hr	FLOW Q c.f.s.	PIPE CAP. c.f.s.	PIPE AREA sq.ft.	PIPE LENGTH ft.	PIPE DIA. in.	PIPE SLOPE %	MIN PIPE SLOPE	H.G. SLOPE	VEL. FULL ft/sec	TIME FLOW min.	H.G. ELEV. UP STREAM	DOWN STREAM	INVERT ELEV. UP STREAM	DOWN STREAM	RIM ELEV. UP STREAM	RIM ELEV. DOWN STREAM	
	ac.														%									
MAIN RUN	CB1-MH2	0.30	0.35	0.105	0.300	0.105	20.00	3.89	0.41	2.01	0.79	44	12	0.32	0.30	0.32	2.56	0.29	941.10	940.96	940.30	940.16	944.60	946.27
	MH2-CB3	0.00	0.00	0.000	0.300	0.105	20.29	3.86	0.41	2.01	0.79	31	12	0.32	0.30	0.32	2.56	0.20	940.86	940.76	940.06	939.96	946.27	946.29
	CB3-CB4	0.22	0.78	0.174	0.520	0.279	20.49	3.85	1.07	2.01	0.79	48	12	0.32	0.30	0.32	2.56	0.31	940.76	940.60	939.96	939.80	946.29	946.29
	CB4-CB5	0.22	0.78	0.172	0.740	0.450	20.80	3.82	1.72	2.01	0.79	48	12	0.32	0.30	0.32	2.56	0.31	940.60	940.45	939.80	939.65	946.29	946.29
	CB5-MH6	0.23	0.77	0.177	0.970	0.628	21.11	3.80	2.36	3.16	1.23	28	15	0.24	0.23	0.24	2.58	0.18	940.45	940.38	939.45	939.38	946.29	946.40
	MH6-EXMH	0.00	0.00	0.000	1.740	1.031	21.29	3.78	3.90	4.08	1.23	21	15	0.40	0.23	0.40	3.33	0.11	940.28	940.20	939.28	939.20	946.49	953.32
LATERAL	CB7-MH8	0.54	0.42	0.227	0.540	0.227	20.00	3.89	0.88	2.01	0.79	22	12	0.32	0.30	0.32	2.56	0.14	940.77	940.70	939.97	939.90	945.53	947.87
	MH8-CB9	0.00	0.00	0.000	0.540	0.227	20.14	3.88	0.88	2.01	0.79	47	12	0.32	0.30	0.32	2.56	0.31	940.60	940.45	939.80	939.65	947.87	946.29
	CB9-MH6	0.23	0.77	0.177	0.770	0.404	20.45	3.85	1.56	2.01	0.79	20	12	0.32	0.30	0.32	2.56	0.13	940.45	940.38	939.65	939.58	946.29	946.49
MAIN RUN	CB10-MH11	0.05	0.66	0.033	0.050	0.033	20.00	3.89	0.13	2.01	0.79	37	12	0.32	0.30	0.32	2.56	0.24	940.55	940.43	939.75	939.63	942.82	944.53

COMPOUND RUNOFF COEFFICIENT FOR AREA 1

	AREA (SF)	AREA (AC)	C	
OVERALL	2039	0.05		
CONTRIBUTING	2039	0.05		
FLOWING OFF	0	0.00		
				A x C
EX BUILDING	0		0.95	0
EX PAVEMENT	0		0.95	0
PR BUILDING	0		0.95	0
PR PAVEMENT	1272		0.95	1208.4
GRASS	380		0.35	133
TOTALS	1652			1341.4

COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}}$ = $\frac{1341.4}{2039}$ = 0.66

COMPOUND RUNOFF COEFFICIENT FOR AREA 2

	AREA (SF)	AREA (AC)	C	
OVERALL	13073	0.30		
CONTRIBUTING	13073	0.30		
FLOWING OFF	0	0.00		
				A x C
EX BUILDING	0		0.95	0
EX PAVEMENT	0		0.95	0
PR BUILDING	0		0.95	0
PR PAVEMENT	0		0.95	0
GRASS	13073		0.35	4575.55
TOTALS	13073			4575.55

COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}}$ = $\frac{4575.55}{13073}$ = 0.35

COMPOUND RUNOFF COEFFICIENT FOR AREA 3

	AREA (SF)	AREA (AC)	C	
OVERALL	9502	0.22		
CONTRIBUTING	9502	0.22		
FLOWING OFF	0	0.00		
				A x C
EX BUILDING	0		0.95	0
EX PAVEMENT	0		0.95	0
PR BUILDING	6936		0.95	6589.2
PR PAVEMENT	0		0.95	0
GRASS	2566		0.35	898.1
TOTALS	9502			7487.3

COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}}$ = $\frac{7487.3}{9502}$ = 0.79

COMPOUND RUNOFF COEFFICIENT FOR AREA 4

	AREA (SF)	AREA (AC)	C	
OVERALL	9601	0.22		
CONTRIBUTING	9601	0.22		
FLOWING OFF	0	0.00		
				A x C
EX BUILDING	0		0.95	0
EX PAVEMENT	0		0.95	0
PR BUILDING	6936		0.95	6589.2
PR PAVEMENT	0		0.95	0
GRASS	2665		0.35	932.75
TOTALS	9601			7521.95

COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}}$ = $\frac{7521.95}{9601}$ = 0.78

COMPOUND RUNOFF COEFFICIENT FOR AREA 5

	AREA (SF)	AREA (AC)	C	
OVERALL	9885	0.23		
CONTRIBUTING	9885	0.23		
FLOWING OFF	0	0.00		
				A x C
EX BUILDING	0		0.95	0
EX PAVEMENT	0		0.95	0
PR BUILDING	6936		0.95	6589.2
PR PAVEMENT	0		0.95	0
GRASS	2949		0.35	1032.15
TOTALS	9885			7621.35

COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}}$ = $\frac{7621.35}{9885}$ = 0.77

COMPOUND RUNOFF COEFFICIENT FOR AREA 6

	AREA (SF)	AREA (AC)	C	
OVERALL	9943	0.23		
CONTRIBUTING	9943	0.23		
FLOWING OFF	0	0.00		
				A x C
EX BUILDING	0		0.95	0
EX PAVEMENT	0		0.95	0
PR BUILDING	6936		0.95	6589.2
PR PAVEMENT	0		0.95	0
GRASS	3007		0.35	1052.45
TOTALS	9943			7641.65

COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}}$ = $\frac{7641.65}{9943}$ = 0.77

COMPOUND RUNOFF COEFFICIENT FOR AREA 7

	AREA (SF)	AREA (AC)	C	
OVERALL	23586	0.54		
CONTRIBUTING	23586	0.54		
FLOWING OFF	0	0.00		
				A x C
EX BUILDING	0		0.95	0
EX PAVEMENT	0		0.95	0
PR BUILDING	0		0.95	0
PR PAVEMENT	2732		0.95	2595.4
GRASS	20854		0.35	7298.9
TOTALS	23586			9894.3

COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}}$ = $\frac{9894.3}{23586}$ = 0.42

COMPOUND RUNOFF COEFFICIENT FOR ENTIRE SITE

	AREA (SF)	AREA (AC)		
OVERALL	171,916	3.95		
CONTRIBUTING	171,916	3.95		
FLOWING OFF	0	0.00		
			C	A x C
EX BUILDING	34,522		0.95	32,796
EX PAVEMENT	33,250		0.95	31,588
PR BUILDING	27,743		0.95	26,356
PR PAVEMENT	3,567		0.95	3,389
GRASS	72,834		0.35	25,492
TOTALS	171,916			119,620

COMPOUND C = $\frac{\text{TOTAL A} \times \text{C}}{\text{CONTRIBUTING AREA}}$ = $\frac{119,620}{171,916}$ = 0.70

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ON THIS DRAWING ARE ONLY APPROXIMATE
AND GUARANTEED BY THE CONTRACTOR.
IT IS THE CONTRACTOR'S RESPONSIBILITY
TO VERIFY THE COMPLETENESS AND
ACCURACY THEREOF. THE CONTRACTOR
SHALL BE EXCLUSIVELY RESPONSIBLE FOR
DETERMINING THE EXACT UTILITY LOCATIONS
AND ELEVATIONS PRIOR TO THE START OF
CONSTRUCTION.

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STORM WATER CALCULATIONS

TREK BUILDING ADDITION
46470, 46500, & 46440 DESOTO CT.
PART OF THE SW 1/4, SECTION 4, T1N-R8E
CITY OF NOVI, OAKLAND COUNTY, MI.

DATE	11/13/2023	12/27/2023				
PLAN SUBMITTALS/REVISIONS						
SITE PLAN SUBMITTAL						
REVISED SP SUBMITTAL	JSP23-0032					

ORIGINAL ISSUE DATE:
11/13/2023

PROJECT NO: 23-127

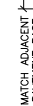
SCALE: N/A
0 1/2" 1"

FIELD: RZ
DRAWN BY: DAH
DESIGN BY: KCM
CHECK BY: MEB

C-9.1

NOT FOR CONSTRUCTION

■	
■	■
■	■



BIKE RACK DETAIL - LOOP



YARD BASIN DETAIL (2' DIA.)



TRENCH DETAIL - ADJACENT TO
DRIVING SURFACE OR STRUCTURE



TRENCH DETAIL - BELOW DRIVING SURFACE OR STRUCTURE



TRENCH DETAIL - NOT ADJACENT TO
DRIVING SURFACE OR STRUCTURE



APRON DETAIL - CONCRETE AROUND MANHOLE

APRON DETAIL - CONCRETE AROUND CATCH BASIN



UNDERDRAIN DETAIL - RADIAL





GENERAL NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE LOCAL MUNICIPALITY, THE LOCAL WATER AND/OR SEWER AUTHORITY, THE COUNTY D.P.W., THE COUNTY DRAIN COMMISSIONER, MICHIGAN DEPARTMENT OF TRANSPORTATION, MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES AND ENERGY, THE STATE OF MICHIGAN, AND THE COUNTY ROAD COMMISSION WHERE APPLICABLE.
- RULES, REGULATIONS OR LAWS OF ANY CONTROLLING GOVERNMENTAL AGENCY SHALL GOVERN, WHEN THEY ARE MORE STRINGENT THAN THE REQUIREMENTS OF THESE SPECIFICATIONS.
- SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT BETWEEN THESE PLANS AND SPECIFICATIONS, EITHER AMONG THEMSELVES OR WITH THE REQUIREMENTS OF ANY AND ALL REVIEWING AND PERMIT-ISSUING AGENCIES, CONTRACTOR SHALL SEEK CLARIFICATION IN WRITING FROM THE ENGINEER BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE THE TYPE OF WORK WHICH IS BID, IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, DETAILS AND TO THE SATISFACTION OF THE OWNER AND OWNER'S REPRESENTATIVE.
- CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
- ANY WORK WITHIN STREET OR HIGHWAY RIGHT-OF-WAYS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNMENTAL AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL PERMITS HAVE BEEN ISSUED BY THESE GOVERNING AUTHORITIES.
- ALL NECESSARY PERMITS, BONDS, INSURANCES, ETC., SHALL BE PAID FOR BY THE CONTRACTOR.
- ALL ELEVATIONS SHOWN ARE BASED ON BENCHMARKS PROVIDED BY THE LOCAL MUNICIPALITY UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ALL ITEMS OF WORK NOT SPECIFICALLY INDICATED AS PAY ITEMS ON THE DRAWINGS OR IN THE BID PACKAGE SHALL BE CONSIDERED INCIDENTAL ITEMS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL DURING THE PERIODS OF CONSTRUCTION.
- AT LEAST THREE (3) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS DIG (1-800-482-7171) TO VERIFY THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES AND SHALL NOTIFY REPRESENTATIVES OF OTHER UTILITIES IN THE VICINITY OF THE WORK.
- ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.
- MANHOLE, CATCH BASIN, GATE WELL, RIMS AND HYDRANT FINISH GRADE ELEVATIONS MUST BE AS-BUILT AND APPROVED BY THE ENGINEER BEFORE THE CONTRACTOR'S WORK IS CONSIDERED COMPLETE. AGENCY REQUIREMENTS FOR RECORD DRAWINGS ALSO APPLY.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF OFF-SITE ANY TREES, BRUSH, STUMPS, TRASH OR OTHER UNWANTED DEBRIS, AT THE OWNER'S DIRECTION, INCLUDING OLD BUILDING FOUNDATIONS AND FLOORS. THE BURNING OR BURYING OF TRASH, STUMPS OR OTHER DEBRIS WILL NOT BE ALLOWED.
- ALL REFERENCES TO M.D.O.T. SPECIFICATIONS REFER TO THE MOST CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ALL CONTRACTORS BIDDING THIS PROJECT SHALL HAVE VISITED THE SITE TO BECOME THOROUGHLY FAMILIAR WITH THE SITE AND THE CONDITIONS IN WHICH THEY WILL BE CONDUCTING THEIR OPERATIONS. ANY VARIANCE FOUND BETWEEN THE PLANS AND EXISTING CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE DESIGN ENGINEER.
- THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS FOR EXISTING UNDERGROUND FACILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION PROVIDED BY THE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES WITHOUT UNCOVERING AND MEASURING. THE DESIGN ENGINEER DOES NOT GUARANTEE THE ACCURACY OF THIS INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN.
- THE OWNER MAY EMPLOY AND PAY FOR THE SERVICES OF AN ENGINEER TO PROVIDE ON-SITE INSPECTION AND VERIFY IN THE FIELD THAT ALL BACKFILL, PAVEMENTS AND CONCRETE CURB AND GUTTER HAVE BEEN PLACED AND COMPACTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS. IF, IN THE OPINION OF THE ENGINEER, THE WORK DOES NOT MEET THE TECHNICAL OR DESIGN REQUIREMENTS STIPULATED FOR THE WORK, THE CONTRACTOR SHALL MAKE ALL NECESSARY ADJUSTMENTS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL MAKE NO DEVIATIONS FROM THE CONTRACT DOCUMENTS WITHOUT SPECIFIC WRITTEN APPROVAL OF THE OWNER.
- ALL EXCAVATED MATERIAL REMOVED FROM THE SANITARY SEWER, STORM SEWER AND WATER MAIN TRENCHES UNDER, THROUGH AND WITHIN 3 FEET OF THE 45° ZONE OF INFLUENCE LINE OF EXISTING OR PROPOSED PAVING, SIDEWALK AREAS AND PER PLANS, NOT SUITABLE FOR BACKFILL, SHALL BE REMOVED FROM THESE AREAS AND DISPOSED OF.
- THE CONTRACTOR SHALL RESTORE TO THEIR PRESENT CONDITIONS ANY PAVEMENT OR PUBLIC RIGHTS-OF-WAY THAT IS DISTURBED BY THE OPERATIONS OF THE CONTRACTOR. ALL RESTORATION WORKS IN PUBLIC RIGHTS-OF-WAY SHALL BE PERFORMED TO THE SATISFACTION OF THE GOVERNMENT AGENCIES HAVING JURISDICTION.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE AND LIGHTS TO PROTECT THE WORK AND SAFELY MAINTAIN TRAFFIC, IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
- O.S.H.A. SAFETY REQUIREMENTS – ALL WORK, WORK PRACTICE, AND MATERIALS SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL SAFETY, OCCUPATIONAL, HEALTH AND ENVIRONMENTAL REGULATIONS AND ALSO NFPA AND ANSI CODES AS APPLICABLE. ALL WORK INSIDE A CONFINED SPACE SUCH AS MANHOLES OR UNDERGROUND STRUCTURES SHALL BE COORDINATED WITH UTILITY OWNER AND ALL WORKER SAFETY REQUIREMENTS STRICTLY ENFORCED. LAND SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY.
- CONTRACTOR SHALL PROVIDE FOR THE CONTINUOUS OPERATION OF EXISTING FACILITIES WITHOUT INTERRUPTION DURING CONSTRUCTION UNLESS SPECIFICALLY AUTHORIZED OTHERWISE BY THE RESPECTIVE AUTHORITY.
- THE CONTRACTOR SHALL NOTE EXISTING UNDERGROUND UTILITIES IN THE PROJECT PLANS. TRENCH BACKFILL FOR EXISTING UTILITIES SHALL BE EXAMINED CRITICALLY. ANY TRENCH WHICH, IN THE OPINION OF THE SOILS ENGINEER ARE FOUND TO BE SOFT, UNSTABLE, OR UNSUITABLE MATERIAL SHALL BE COMPLETELY EXCAVATED AND BACKFILLED WITH SUITABLE MATERIAL. SAND BACKFILL SHALL BE USED UNDER PAVEMENT OR WITHIN 3 FEET OF THE 45° INFLUENCE LINE OF PAVEMENT OR STRUCTURES.

EROSION CONTROL STANDARDS

- ALL EROSION AND SEDIMENT CONTROL WORK SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OF THE JURISDICTIONAL AGENCY UNDER PART 91 OF ACT 451 OF 1994, AS AMENDED.
- UNDER "MICHIGAN'S PERMIT-BY-RULE FOR CONSTRUCTION ACTIVITIES", PROMULGATED UNDER ACT 245, PUBLIC ACTS OF 1929 AS AMENDED, AN NPDES STORM WATER DISCHARGE COVERAGE PERMIT IS REQUIRED FOR ANY CONSTRUCTION ACTIVITY THAT DISTURBS 1 ACRE OR MORE OF LAND. A CERTIFIED STORM WATER OPERATOR IS REQUIRED FOR THE SUPERVISION AND INSPECTION OF THE SOIL EROSION CONTROL MEASURES AT THE CONSTRUCTION SITE IN ACCORDANCE WITH THE PROVISIONS OF THESE RULES.
- DAILY INSPECTIONS SHALL BE MADE BY CONTRACTOR WHILE WORKING TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES. ANY NECESSARY REPAIRS SHALL BE PERFORMED WITHOUT DELAY. ALL SOIL EROSION CONTROL PROVISIONS SHALL BE PROPERLY MAINTAINED DURING CONSTRUCTION.
- EROSION AND ANY SEDIMENTATION FROM WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR IN WATERWAYS. WATERWAYS INCLUDE BOTH NATURAL AND MAN-MADE OPEN DITCHES, STREAMS, STORM DRAINS, LAKES, AND PONDS.
- CONTRACTOR SHALL APPLY TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES WHEN REQUIRED AND AS DIRECTED ON THESE PLANS. CONTRACTOR SHALL REMOVE TEMPORARY MEASURES AS SOON AS PERMANENT STABILIZATION OF SLOPES, DITCHES, AND OTHER EARTH CHANGE AREAS HAVE BEEN COMPLETED.

EROSION CONTROL STANDARDS
CONTINUED

- STAGING THE WORK WILL BE DONE BY THE CONTRACTOR AS DIRECTED IN THESE PLANS AND AS REQUIRED TO ENSURE PROGRESSIVE STABILIZATION OF DISTURBED EARTH.
- SOIL EROSION CONTROL PRACTICES WILL BE ESTABLISHED IN EARLY STAGES OF CONSTRUCTION BY THE CONTRACTOR. SEDIMENT CONTROL PRACTICES WILL BE APPLIED AS A PERIMETER DEFENSE AGAINST ANY TRANSPORTING OF SILT OFF THE SITE.
- DUST SHALL BE CONTROLLED BY WATERING OR BY OTHER APPROVED MEANS THROUGHOUT ALL CONSTRUCTION OPERATIONS.
- ALL WATER FROM DEWATERING OR SURFACE DRAINAGE FROM THE CONSTRUCTION SITE SHALL BE CONTROLLED TO ELIMINATE SEDIMENT CONTAMINATION OF OFF-SITE WATERWAYS OR STORM SEWERS. SUCH MEASURES SHALL BE APPROVED BY THE ENGINEER PRIOR TO ANY DEWATERING OR LAND DISTURBANCE.
- PERMANENT SOIL EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 5 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH CHANGE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH CHANGE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH CHANGE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH CHANGE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 5 CALENDAR DAYS. ALL TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED BEFORE A CERTIFICATE OF COMPLIANCE IS ISSUED.

STORM SEWER SPECIFICATIONS

- THESE SPECIFICATIONS SHALL BE USED IN CONJUNCTION WITH THE GENERAL SPECIFICATIONS AND THE SPECIFICATIONS AND DETAIL SHEETS OF THE GOVERNING AGENCIES. IF ANY CONFLICT IS FOUND BETWEEN THE SPECIFICATIONS, THE STRICTER SPECIFICATIONS SHALL BE FOLLOWED.
- CONTRACTOR SHALL FURNISH CERTIFIED EVIDENCE THAT ALL MATERIAL TESTS AND INSPECTIONS HAVE BEEN PERFORMED AND THAT THE PRODUCT HAS BEEN MANUFACTURED IN COMPLIANCE WITH THE APPLICABLE SPECIFICATIONS.
- PROPER IMPLEMENTS, TOOLS AND FACILITIES SHALL BE PROVIDED AND USED FOR UNLOADING AND DISTRIBUTING MATERIALS ALONG THE LINE OF WORK. ANY PIPE OR FITTING DAMAGED IN TRANSPORTATION OR HANDLING SHALL BE REJECTED AND IMMEDIATELY REMOVED FROM THE JOB SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFE STORAGE OF ALL MATERIAL INTENDED FOR THE WORK. HE SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO MATERIALS, EQUIPMENT AND WORK.
- PIPE BEDDING, UNLESS OTHERWISE INDICATED, SHALL BE CL. II SAND, CRUSHED STONE OR ROUNDED GRAVEL. BEDDING MATERIAL SHALL HAVE 95% PASSING A 3/4" SIEVE AND AT LEAST 50% RETAINED ON A NO. 4 SIEVE.
- POROUS FILTER MATERIAL FOR PERFORATED SUBSURFACE DRAINS SHALL BE CRUSHED ROCK OR GRAVEL GRADED BETWEEN 1-1/2" AND 3/4" OR PER PLANS AND DETAILS.
- BACKFILL, UNLESS OTHERWISE NOTED, SHALL BE COARSE SAND, FINE GRAVEL OR EARTH HAVING A LOW PLASTICITY INDEX, FREE OF ROCKS, DEBRIS AND OTHER FOREIGN MATERIALS AND DEFINED AS ALL PASSING THROUGH A 3/8" SIEVE AND NOT MORE THAN 10% BY VOLUME PASSING THROUGH A 200-MESH SIEVE.
- STORM SEWER PIPING AND FITTINGS SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS AND SHALL CONFORM TO THE FOLLOWING:
 - POLYVINYL CHLORIDE (PVC) AND ACRYLONITRILE BUTADIENE STYRENE (ABS) FOR PIPE UP TO AND INCLUDING 10" IN DIAMETER, SHALL CONFORM TO ASTM D3034, SDR 23.5 FOR PVC PIPE AND ASTM D2751 FOR ABS PIPE WITH ELASTOMETRIC GASKET JOINTS CONFORMING TO ASTM D3212 OR CHEMICALLY WELDED PIPE JOINTS CONFORMING TO ASTM F545.
 - REINFORCED CONCRETE PIPE, FOR PIPE 12" IN DIAMETER AND UP, SHALL CONFORM TO ASTM C-76, CLASS IV UNLESS MODIFIED BY THE DRAWINGS. JOINTS SHALL BE MODIFIED GROOVED TONGUE WITH RUBBER GASKET CONFORMING TO ASTM C-443.
 - PERFORATED SUBSURFACE DRAIN PIPE SHALL BE PVC CONFORMING TO ASTM D-2729 OR PERFORATED, CORRUGATED HIGH DENSITY POLYETHYLENE PIPE CONFORMING TO ASTM D-261-29C. JOINTS FOR PVC AND POLYETHYLENE PIPE SHALL BE PREFABRICATED COUPLING WITH SOLVENT WELD.
- MANHOLES, CATCH BASINS, AND INLETS SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS AND SHALL BE CONSTRUCTED OF THE FOLLOWING:
 - REINFORCED PRE-CAST CONCRETE MANHOLE SECTIONS INCLUDING CONCENTRIC OR ECCENTRIC CONES AND GRADE RINGS SHALL BE 4000 PSI CONCRETE AND CONFORM TO ASTM C-478-84T.
 - BRICK SHALL BE SOUND, HARD-BURNED THROUGHOUT AND OF UNIFORM SIZE AND QUALITY AND SHALL BE IN ACCORDANCE WITH AASHTO M 91, GRADE MS.
 - CONCRETE MASONRY SHALL BE SOLID PRE-CAST SEGMENTAL UNITS CONFORMING TO ASTM C-139.
- IRON CASTINGS SHALL CONFORM TO ASTM A-48, CLASS 30. BEARING SURFACES BETWEEN CAST IRON FRAMES, COVERS AND MATES SHALL BE MACHINED, FITTED TOGETHER AND MATCHED-MARKED TO PREVENT ROCKING. SYSTEM IDENTIFYING LETTERS 2" HIGH SHALL BE STAMPED OR CAST INTO ALL COVERS SO THAT THEY ARE PLAINLY VISIBLE. SEE MUNICIPALITY STANDARDS FOR ACTUAL WORDING.
- CASTINGS SHALL BE MANUFACTURED BY EAST JORDAN IRON WORKS, INC., NEENAH FOUNDRY COMPANY OR EQUAL.
- CONCRETE AND MASONRY MATERIALS FOR CONSTRUCTION OF STORM DRAINAGE STRUCTURES SHALL CONSIST OF THE FOLLOWING:
 - PORTLAND CEMENT SHALL BE STANDARD BRAND OF PORTLAND CEMENT CONFORMING TO ASTM C-150, TYPE I OR IA.
 - FINE AND COARSE AGGREGATES FOR CONCRETE SHALL BE PER ASTM C-33.
 - AGGREGATE FOR CEMENT MORTAR SHALL BE CLEAN, SHARP SAND CONFORMING TO ASTM C-144.
 - HYDRATED LIME SHALL COMPLY WITH ASTM C-207, TYPE S.
 - WATER SHALL MEET THE REQUIREMENTS OF MDOT SPEC SECTION 911.
 - REINFORCING STEEL FOR CONCRETE SHALL BE INTERMEDIATE-GRADE NEW BILLET STEEL CONFORMING TO ASTM A-615, GRADE 40.
- CONCRETE, UNLESS OTHERWISE NOTED, SHALL HAVE COMPRESSIVE STRENGTH AFTER 28 DAYS OF 3000 PSI MINIMUM WITH 3" MAXIMUM SLUMP.
 - CONCRETE FILL BELOW GRADE MAY BE 2500 PSI AT 28 DAYS.
 - CONCRETE, WHERE EXPOSED TO THE WEATHER, SHALL BE AIR-ENTRAINED. AIR ENTRAINMENT SHALL BE ACCOMPLISHED BY THE USE OF ADDITIVES CONFORMING TO ASTM C-260. AIR CONTENT SHALL BE 6% ± 1% ADDITIVE SHALL BE USED STRICTLY IN ACCORDANCE WITH MANUFACTURER'S PRINTED DIRECTIONS.
 - READY-MIX CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-94.

- MORTAR SHALL BE SPECIFIED HEREINAFTER. USE METHOD OF MIXING MORTAR AT JOB SO THAT SPECIFIED PROPORTIONS OF MORTAR MATERIALS CAN BE CONTROLLED AND ACCURATELY MAINTAINED DURING WORK PROGRESS. MORTAR SHALL NOT BE MIXED IN GREATER QUANTITIES THAN REQUIRED FOR IMMEDIATE USE, WITH AMOUNT OF WATER CONSISTENT WITH SATISFACTORY WORKABILITY. RE-TAMPERING OF MORTAR IS NOT PERMITTED.
 - MORTAR FOR LAYING BRICK OR CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C-270, TYPE M, AVERAGE COMPRESSIVE STRENGTH 2500 PSI MINIMUM AT 28 DAYS. MORTAR MIX SHALL BE PROPORTIONED BY VOLUME.
 - MORTAR FOR PLASTERING SHALL CONSIST OF 1 PART PORTLAND CEMENT AND 2-1/2 PARTS SAND.
 - MORTAR FOR GROUTING OF RIP-RAP SHALL CONSIST OF 1 PART PORTLAND CEMENT AND 3-1/2 PARTS SAND.
- PERFORM ALL EXCAVATING AND TRENCHING TO DIMENSIONS AND ELEVATIONS INDICATED ON DRAWINGS.

STORM SEWER SPECIFICATIONS,
CONTINUED

- OPEN NO MORE TRENCH IN ADVANCE OF PIPE LAYING THAN IS NECESSARY TO EXPEDITE THE WORK.
- CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED ON DRAWINGS. WHERE EXCESSIVE OR UNAUTHORIZED EXCAVATION TAKES PLACE, THE OVERDEPTH SHALL BE BACKFILLED TO THE PROPER GRADE WITH COMPACTED BEDDING MATERIAL, AT NO EXPENSE TO THE OWNER.
- WHERE UNSTABLE SOIL IS ENCOUNTERED, CONTRACTOR SHALL NOT PLACE PIPE UNTIL A SOLID BED HAS BEEN PROVIDED.
- EXCAVATION FOR DRAINAGE STRUCTURES SHALL EXTEND A SUFFICIENT DISTANCE FROM THE WALLS AND FOOTINGS TO ALLOW FOR FORMS, CONSTRUCTION OF WALLS, CONNECTIONS AND FOR INSPECTION.
- PROVIDE REQUIRED TIMBER SHEETING, BRACING AND SHORING TO PROTECT SIDES OF EXCAVATION. DO NOT BRACE SHEETING AGAINST PIPE. PROVIDE SUITABLE LADDERS FOR SAFE ENTRY TO AND EXIT FROM EXCAVATION.
- DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE PILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF TRENCHES TO AVOID OVERLOADING, AND TO PREVENT SLIDES OR CAVE-INS.
- WHEN WET EXCAVATION IS ENCOUNTERED, THE TRENCH SHALL BE DE-WATERED UNTIL THE PIPE HAS BEEN LAID AND BACKFILLED TO A POINT AT LEAST 1 FOOT ABOVE TOP OF PIPE.
- MANHOLES AND CATCH BASINS SHALL BE CONSTRUCTED OF BRICK, CONCRETE MASONRY UNITS OR PRE-CAST CONCRETE WITH CAST IRON FRAMES, COVERS AND MANHOLE STEPS.
- THE WALL THICKNESS OF MANHOLES AND CATCH BASINS CONSTRUCTED OF VARIOUS MATERIALS AND SET AT VARIOUS DEPTHS SHALL MEET THESE MINIMUMS. ADHERE TO REQUIREMENTS OF THE GOVERNING AGENCY IF THEY EXCEED THESE THICKNESSES:

DEPTH	BRICK	CONCRETE BLOCK	PRE-CAST CONCRETE
0' – 10'	8"	6"	6"
10' – 16'	12"	8"	8"
16' – 25'	16"	12"	12"
- WHENEVER EXISTING MANHOLES OR SEWER PIPE ARE TO BE TAPPED, DRILL HOLES 4" CENTER, TO CENTER, AROUND THE PERIPHERY OF OPENINGS TO CREATE A PLANE OF WEAKNESS JOINT BEFORE BREAKING SECTION OUT.
- MANHOLE STEPS SHALL BE BUILT INTO AND THOROUGHLY ANCHORED TO WALLS. STEPS SHALL BE FACTORY INSTALLED IN PRE-CAST STRUCTURES.
- ALL PIPING ENTERING OR LEAVING DRAINAGE STRUCTURES SHALL BE ADEQUATELY SUPPORTED BY POURED IN-PLACE CONCRETE FILL FROM PIPE CENTER TO UNDISTURBED GROUND.
- SET FRAMES IN FULL BED OF STIFF MORTAR OR BITUMINOUS MASTIC JOINTING COMPOUND AT FINAL ELEVATION.
- ALL TIMBER SHEETING BELOW A PLANE 12" ABOVE TOP OF PIPE SHALL REMAIN IN PLACE IN ORDER NOT TO DISTURB PIPE GRADING. BEFORE BACKFILLING, REMOVE ALL OTHER SHEETING BRACING AND SHORING.
- BEDDING USED FOR TRENCH BOTTOM SHALL BE EXTENDED UP THE SIDES AND CAREFULLY PLACED AROUND AND OVER PIPE IN 6" MAXIMUM LAYERS. EACH LAYER SHALL BE THOROUGHLY AND CAREFULLY COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS PER ASTM D-1557 (MODIFIED PROCTOR) UNTIL 12" OF COVER EXISTS OVER PIPE.
- REMAINDER OF TRENCH SHALL BE BACKFILLED WITH SPECIFIED BACKFILL MATERIAL TO SPECIFIED SUBGRADE ELEVATION. BACKFILLING SHALL BE COMPACTED TO 90% OF MAXIMUM DRY DENSITY PER ASTM D-1557.
- WITHIN 3' OF THE 45° INFLUENCE LINE OF THE SUBGRADE OF STREETS, DRIVES, PARKING LOTS AND OTHER AREAS TO HAVE OR HAVING IMPROVED HARD SURFACES, BACKFILL SHALL BE MATERIAL SPECIFIED AND SHALL BE DEPOSITED IN 6" LOOSE LAYERS AT OPTIMUM MOISTURE CONTENT (±2%) COMPACTED TO 95% OF MAXIMUM DRY DENSITY PER ASTM D1557. (MODIFIED PROCTOR) SUITABLE MATERIALS FOUND ON SITE MAY BE USED.
- BEFORE BACKFILLING AROUND DRAINAGE STRUCTURES, ALL FORMS, TRASH AND DEBRIS SHALL BE REMOVED AND CLEARED AWAY. SELECTED EXCAVATED MATERIAL SHALL BE PLACED SYMMETRICALLY ON ALL SIDES IN 8" MAXIMUM LAYERS; EACH LAYER SHALL BE MOISTENED AND COMPACTED WITH MECHANICAL OR HAND TAMPERS.
- AFTER INSTALLATION OF PIPES AND DRAINAGE STRUCTURES, CLEAN THEM, AND ADJUST TOPS TO FINISH GRADE. PIPE SHALL BE STRAIGHT BETWEEN STRUCTURES, WITH THE FULL INSIDE DIAMETER VISIBLE WHEN SIGHTING BETWEEN STRUCTURES.
- ENDS OF HEADWALL AND END SECTIONS FOR PIPES LARGER THAN 6 INCHES, SHALL BE FITTED WITH A #4 ROUND MINIMUM WELDED STEEL ROD GRATING. RODS SHALL BE SPACED 6" O.C. MAXIMUM. WELD ROD AT ALL INTERSECTIONS. GRATE SHALL BE REMOVABLE FOR ACCESS AND CLEANING.
- RIP-RAP SHALL BE LAID FROM THE BOTTOM UPWARD; STONES SHALL BE LAID BY HAND WITH 8" MINIMUM DIMENSION PERPENDICULAR TO GRADE WITH WELL-BROKEN JOINTS, COMPACTED AS IT GOES, TRUE TO LINE. ALL JOINTS SHALL BE FILLED WITH CEMENT MORTAR. SURFACE STONE TO BE EXPOSED. CLEAN JOINTS WITH WIRE BRUSH.
- THE CONTRACTOR SHALL DO ALL REQUIRED EXCAVATION AND TRENCHING WORK AND THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPLETION OF THE WORK HEREIN REGARDLESS OF THE NATURE OF MATERIALS ENCOUNTERED DURING THE COURSE OF THE WORK. THE OWNER WILL NOT BE LIABLE FOR ANY COSTS WHATSOEVER ASSOCIATED WITH, BUT NOT LIMITED TO, THE PRESENCE OF ROCK, PEAT, SUBTERRANEAN STREAMS, EXCESSIVE WATER OR OTHER DIFFICULT OR UNANTICIPATED SUB-SURFACE PHENOMENA.
- ALL CONNECTIONS TO EXISTING SEWERS SHALL BE PER MUNICIPAL REQUIREMENTS, AND ALL COSTS INCLUDING TESTING AND/OR VIDEO OF SEWERS SHALL BE INCIDENTAL TO THE JOB.



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THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE AND GUARANTEED. IT IS THE USER'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH OF UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT :

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SPECIFICATIONS

TREK BUILDING ADDITION
46470, 46500, & 46440 DESOTO CT.
PART OF THE SW 1/4, SECTION 4, T1N-R8E
CITY OF NOVI, OAKLAND COUNTY, MI.

DATE	11/13/2023
PLAN SUBMITTALS/REVISIONS	
SITE PLAN SUBMITTAL	12/27/2023
REVISED SP SUBMITTAL	USP23-0032

ORIGINAL ISSUE DATE:
11/13/2023

PROJECT NO: 23-127

SCALE: N/A

FIELD: RZ
DRAWN BY: DAH
DESIGN BY: KCM
CHECK BY: MEB

C-12.0

NOT FOR CONSTRUCTION



GRADING AND EARTHWORK SPECIFICATIONS

1. ALTHOUGH A SUB-SURFACE INVESTIGATION MAY HAVE BEEN MADE BY THE OWNER, THE BIDDER AND ANY SUB-CONTRACTORS SHALL MAKE A PERSONAL INVESTIGATION OF SITE AND EXISTING SURFACE AND SUB-SURFACE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE TO ACQUAINT HIMSELF WITH CONDITIONS OF THE WORK AREA. THE CONTRACTOR IS ADVISED TO DETERMINE THE SUB-SURFACE SOIL CONDITIONS AND GROUND WATER CONDITIONS TO HIS OWN SATISFACTION PRIOR TO BIDDING. NO MODIFICATIONS TO THE UNIT PRICES BID FOR ANY ITEM WILL BE MADE DUE TO VARIABLE SUB-SURFACE CONDITIONS. DEWATERING, IF DETERMINED NECESSARY BY THE CONTRACTOR, BY WELL POINTING OR DEEP WELLS WILL BE INCIDENTAL TO THE INSTALLATION COST OF THE ITEM.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING DETERMINED TO HIS SATISFACTION PRIOR TO THE SUBMISSION OF HIS BID THE CONFIRMATION OF THE GROUND, THE CHARACTER AND QUALITY OF THE SUBSTRATA, THE TYPES AND QUANTITIES OF MATERIALS TO BE ENCOUNTERED, THE NATURE OF THE GROUNDWATER CONDITIONS OF THE WORK, THE GENERAL AND LOCAL CONDITIONS INCLUDING RECENT CLIMATIC CHANGES, THE TIME OF YEAR IN WHICH CONSTRUCTION WILL TAKE PLACE AND ALL OTHER MATTERS WHICH CAN IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT.

3. PRIOR TO COMMENCING THE EXCAVATION THE CONTRACTOR SHALL SUBMIT A PLAN OF HIS PROPOSED OPERATIONS AND TIME SCHEDULE TO THE OWNER & OWNERS REPRESENTATIVE FOR THEIR APPROVAL.

4. THE CONTRACTOR SHALL CONSIDER, AND HIS PLAN FOR EXCAVATION SHALL REFLECT, THE EQUIPMENT AND METHODS TO BE EMPLOYED IN THE EXCAVATION AND WHAT METHODS WILL BE USED WHEN WET CONDITIONS ARE ENCOUNTERED REQUIRING GROUNDWATER CONTROL OR OTHER MOISTURE CONDITIONING. THE CONTRACTOR SHALL SUBMIT AN OUTLINE OF HIS EARTHWORK METHODS WHICH SHALL TAKE INTO ACCOUNT THE OVERALL CONSTRUCTION SCHEDULE. THE PRICES ESTABLISHED IN THE PROPOSAL FOR THE WORK TO BE DONE SHALL REFLECT ALL COSTS PERTAINING TO THE WORK. NO CLAIMS FOR EXTRAS BASED ON SUBSTRATA OR GROUNDWATER TABLE CONDITIONS OR MOISTURE CONDITIONING WILL BE ALLOWED.

5. THE CONTRACTOR SHALL KEEP INFORMED AND THE OWNER'S REPRESENTATIVE INFORMED AT ALL TIMES AS TO A "FILL SURPLUS OR SHORTAGE" SITUATION. SHORTAGE OR SURPLUS OF SUITABLE MATERIAL AT THE CONCLUSION OF THE GRADING AND EARTHWORK OPERATION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HE WILL BE REQUIRED TO SUPPLY THE DEFICIENCY OR DISPOSE OF THE SURPLUS WITHOUT ADDITIONAL COST TO THE OWNER.

6. THE CONTRACTOR SHALL REMOVE VEGETATION, DEBRIS, UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND OTHER DELETERIOUS MATERIALS FROM GROUND SURFACE PRIOR TO CUT OR FILL OPERATIONS. SUCH MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR TO BE DISPOSED OF IN A LEGAL MANNER OFF SITE.

7. MATERIALS FOR FILL OR BACKFILL REQUIRED TO GRADE THE SITE AND ACHIEVE DESIGN ELEVATIONS SHALL BE EITHER ON OR OFF-SITE SOILS WHICH ARE FREE OF ORGANIC MATTER AND DEBRIS. NO TOPSOIL SHALL BE USED AS ENGINEERED FILL.

8. NO FILL MAY BE PLACED UNTIL THE EXPOSED SURFACES HAVE BEEN APPROVED BY THE GEOTECHNICAL ENGINEER. ALL FILL MATERIALS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.

9. IF ANY UNKNOWN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, THEY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE AND DESIGN ENGINEER PRIOR TO PROCEEDING.

10. ALL FILL MATERIAL SHALL BE PLACED AND COMPACTED AT THE OPTIMUM MOISTURE CONTENT OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

11. NO FROZEN MATERIAL SHALL BE USED AS FILL NOR ANY FILL BE PLACED ON A FROZEN BASE.

12. NO ROCK OR SIMILAR MATERIAL GREATER THAN 6" DIAMETER SHALL BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE GEOTECHNICAL ENGINEER IN ADVANCE AND APPROVED BY THE OWNER AND OWNER'S REPRESENTATIVE.

13. COMPACT FILL MATERIAL TO AT LEAST THE FOLLOWING PERCENTAGE OF MAXIMUM DRY DENSITY, AS DETERMINED BY ASTM D-1557 (MODIFIED PROCTOR), NO DEVIATION FROM THESE COMPACTION DENSITIES WILL BE ALLOWED UNLESS SPECIFICALLY RECOMMENDED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE OWNER AND OWNER'S REPRESENTATIVE.

FILL AREAS	% OF MAXIMUM DRY DENSITY
• FILL UNDER BUILDING (EXTENDING 5' BEYOND FOOTINGS AT A SLOPE OF 1 ON 1)	98%
• FILL UNDER PAVEMENT OR SIDEWALKS	95%
• FILL PLACED UNDER OR BEHIND RETAINING WALLS	92%
• ALL OTHER FILL	90%

14. ALL FILL MATERIAL SHALL BE PLACED AND COMPACTED IN LIFTS, THAT WILL NOT EXCEED THE DEPTH IN WHICH THE COMPACTION EQUIPMENT CAN ACHIEVE THE MAXIMUM DENSITY REQUIRED FOR THE ENTIRE DEPTH OF THE MATERIAL PLACED IN THE LIFT.

15. ALL AREAS WHERE FILL HAS BEEN PLACED ON THE EXISTING SOILS HAVE BEEN DISTURBED SHALL BE SUBJECT TO COMPACTION TESTING BY THE GEOTECHNICAL ENGINEER AND SHALL BE TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER, OWNER AND OWNER'S REPRESENTATIVE.

16. FILL MATERIAL UNDER PAVEMENTS OR STRUCTURES SHALL BE FREE OF ORGANIC OR DELETERIOUS MATERIALS. IT SHALL BE SUITABLE FOR SUPPORTING PAVEMENTS AND STRUCTURES WITHOUT ADVERSE SHRINKING OR SWELLING.

17. FILL MATERIAL IN BERMS AND LANDSCAPE AREAS SHALL BE SUITABLE TO SUPPORT GROWTH OF THE LANDSCAPING MATERIALS (TYPICAL FOR THE LOCAL CLIMATE) AND AS PROPOSED BY THE LANDSCAPE ARCHITECT.

18. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF, IN A LEGAL MANNER, ANY TREES, BRUSH OR DEBRIS THAT ARE WITHIN THE DESIGNATED CUTTING AND FILLING AREAS TO BRING THE SITE TO PROPOSED GRADES.

19. THE CONTRACTOR SHALL STOCKPILE EXCAVATED MATERIAL ONLY IN DESIGNATED AREAS AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.

20. DURING THE PERFORMANCE OF SITE GRADING OPERATIONS, THE SUBGRADE SHALL BE EXAMINED CRITICALLY, AND ANY AREAS DISCOVERED WHICH, IN THE OPINION OF THE OWNER'S REPRESENTATIVE OR GEOTECHNICAL ENGINEER, ARE SOFT AND UNSTABLE SHALL BE EXCAVATED TO SUCH DEPTHS AS MAY BE NECESSARY TO INSURE SATISFACTORY SUPPORTING PROPERTIES AS DETERMINED BY THE GEOTECHNICAL ENGINEER. THESE AREAS OF EXCAVATION SHALL BE BACKFILLED IMMEDIATELY AND SHALL BE BROUGHT BACK TO THE ELEVATION OF THE SURROUNDING AREAS WITH APPROVED FILL MATERIAL AND IN ACCORDANCE WITH THE EARTH FILL CONSTRUCTION PROCEDURE.

21. NEWLY GRADED AREAS SHALL BE PROTECTED FROM THE ACTION OF THE ELEMENTS, ANY SETTLEMENT, DISPLACEMENT, PONDING OR WASHING OUT THAT MAY OCCUR PRIOR TO COMMENCING THE NEXT PHASE OF CONSTRUCTION SHALL BE REPAIRED, AND GRADES REESTABLISHED TO THE REQUIRED ELEVATIONS AND SLOPES.

22. THE FINISHED SUBGRADE SURFACE SHALL BE SHAPED TO INDICATED PROFILES AND SHALL BE REASONABLY SMOOTH AND FREE FROM IRREGULAR SURFACE CHANGES AND SHALL BE NO MORE THAN 1 INCH ABOVE OR BELOW THE INDICATED SUBGRADE ELEVATIONS.

23. THE GRADING CONTRACTOR SHALL BACKFILL ALL PARKING LOT PLANTERS AND LAWN AREAS TO WITHIN 2 INCHES OF THE TOP ADJACENT CURB GRADES. THE TOP 4 INCHES MINIMUM SHALL BE TOPSOIL, FREE FROM DEBRIS AND STONES LARGER THAN 1 INCH IN DIAMETER.

24. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PUMPS, DITCHING, WELL POINT SYSTEMS AND OTHER MEANS FOR REMOVING WATER FROM EXCAVATIONS, TRENCHES, SUBGRADES AND OTHER PARTS OF THE WORK. THE CONTRACTOR SHALL CONTINUE DE-WATERING OPERATIONS UNTIL THE WATER HAS BEEN REMOVED ENTIRELY. UPON COMPLETION OF WATER REMOVAL THE CONTRACTOR SHALL TAKE APPROPRIATE ACTION TO DRY THE SOILS, REGRADE TO PROPOSED ELEVATIONS AND COMPACT SOILS TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER AND OWNER'S REPRESENTATIVE.

25. THE CONTRACTOR SHALL DISPOSE OF WATER IN A SAFE AND SANITARY WAY TO PREVENT FLOODING OR INJURY TO PUBLIC OR PRIVATE PROPERTY AND SHALL OBTAIN APPROVAL OF THE LOCAL GOVERNING AUTHORITY BEFORE DISCHARGING ANY THIS OFF-WATER TO ANY WATER BODY. SEE EROSION CONTROL NOTES FOR ADDITIONAL REQUIREMENTS.

26. THE CONTRACTOR SHALL PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING GRADES AND NEW GRADES.

BITUMINOUS PAVING SPECIFICATIONS

1. REFERENCE SPECIFICATIONS WHERE APPLICABLE TO WORK UNDER THIS SECTION ARE REFERRED TO BY ABBREVIATION AS FOLLOWS:

- A. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).
- B. THE ASPHALT INSTITUTE (TAI)
- C. MICHIGAN DEPARTMENT OF TRANSPORTATION/ CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION (MDOT)
- D. AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)

2. AGGREGATE BASE COURSE SHALL MEET THE REQUIREMENTS OF SECTION 902 OF THE MDOT STANDARD SPECIFICATION FOR CONSTRUCTION AND SHALL CONSIST OF 21AA CRUSHED AGGREGATE. THE USE OF SLAG IS PROHIBITED.

3. TACK COAT SHALL BE EMULSIFIED ASPHALT MEETING REQUIREMENTS OF MDOT SECTION 904, GRADE CSS-IIH.

4. AGGREGATE SHALL CONSIST OF CRUSHED STONE, CRUSHED GRAVEL, A MIXTURE OF UNCRUSHED GRAVEL WITH EITHER CRUSHED STONE OR CRUSHED GRAVEL, OR OTHER INERT MATERIAL HAVING SIMILAR CHARACTERISTICS. IT SHALL BE COMPOSED OF CLEAN, TOUGH, DURABLE FRAGMENTS FROM AN EXCESS OF FLAT OR ELONGATED PIECES, AND SHALL BE FREE OF ORGANIC MATTER AND DELETERIOUS SUBSTANCES AND MEET THE REQUIREMENTS OF MDOT STANDARD SPECIFICATIONS, SECTION 902, 21AA. CONTRACTOR MAY USE CRUSHED HMA AGGREGATE SCREENED TO MEET THE REQUIREMENTS OF MDOT 21AA MATERIAL.

5. FINE AGGREGATE SHALL BE WELL GRADED FROM COARSE TO FINE AND CONSIST OF NATURAL SAND, STONE SCREENINGS, A BLEND OF NATURAL SAND AND STONE SCREENINGS. IT SHALL BE COMPOSED OF ROUGH SURFACED AND ANGULAR GRAINS OF QUARTZ OR OTHER HARD DURABLE ROCK AND MEET THE REQUIREMENTS OF MDOT STANDARD SPECIFICATIONS, SECTION 902 FOR CLASS II OR CLASS II GRANULAR MATERIAL. CONTRACTOR MAY USE CRUSHED HMA AGGREGATE SCREENED TO MEET THE REQUIREMENTS OF MDOT CLASS II OR CLASS II MATERIAL.

6. ASPHALT CEMENT SHALL COMPLY WITH THE REQUIREMENTS OF MDOT SECTION 904.

7. HOT MIXED ASPHALT (HMA) SHALL COMPLY WITH MDOT SECTION 501 OF STANDARD SPECIFICATIONS FOR CONSTRUCTION.

8. BITUMINOUS LEVELING COURSE SHALL BE MDOT HMA, 13A, UNLESS OTHERWISE REQUIRED BY THE MUNICIPALITY OR ROAD AGENCY WITH JURISDICTION.

9. BITUMINOUS WEARING COURSE SHALL BE MDOT HMA, 36A UNLESS OTHERWISE REQUIRED BY THE MUNICIPALITY OR ROAD AGENCY WITH JURISDICTION. CONTRACTOR MAY SUBSTITUTE 13A WITH THE APPROVAL OF THE OWNER AND ENGINEER.

10. THE CONTRACTOR SHALL SUBMIT, TO THE OWNER, TWO COPIES OF MATERIALS CERTIFICATES SIGNED BY MATERIAL PRODUCER AND CONTRACTOR. CERTIFICATES SHALL STATE THAT EACH MATERIAL ITEM MEETS SPECIFIED REQUIREMENTS.

11. THE CONTRACTOR SHALL SUBMIT TO THE GEOTECHNICAL ENGINEER, JOB-MIX FORMULAS FOR EACH REQUIRED ASPHALT AGGREGATE MIXTURE. MIX DESIGNS SHALL BE WITHIN ALLOWABLE TOLERANCES AS SPECIFIED BY MDOT FOR THE PARTICULAR APPLICATION.

12. SUBGRADE PREPARATIONS SHALL CONSIST OF THE FINAL MACHINING OF THE SUBGRADE IMMEDIATELY PRIOR TO PLACING THE BITUMINOUS BASE COURSE. THE SUBGRADE SHALL BE COMPACTED PER PLANS AND DETAILS. THE SUBGRADE SHALL BE TRUE TO LINE AND GRADE.

13. CRUSHED AGGREGATE BASE COURSE SHALL BE COMPACTED TO A DENSITY EQUAL TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 (MODIFIED PROCTOR).

14. BITUMINOUS CONCRETE PAVEMENT CONSTRUCTION METHODS SHALL CONFORM TO APPLICABLE PORTIONS OF SECTION 501 OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

15. THE CONTRACTOR SHALL NOT PLACE THE AGGREGATE BASE COURSE OR THE BITUMINOUS BASE COURSE PRIOR TO THE APPROVAL OF THE SUBGRADE BY THE GEOTECHNICAL ENGINEER.

16. EACH LIFT AND COURSE OF BITUMINOUS CONCRETE SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER, PRIOR TO THE PLACEMENT OF A SUCCEEDING COURSE OR LIFT.

17. APPLY BITUMINOUS TACK COATS ONLY WHEN TEMPERATURE HAS NOT BEEN BELOW 35 DEGREES F, FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION. WHEN CONSTRUCTING BITUMINOUS CONCRETE WEARING OR COMBINATION THEREOF AS REQUIRED TO MAINTAIN TEMPERATURE IS ABOVE 40-DEGREES F AND RISING, AND PROCEEDING COURSE OR LIFT IS CLEAN AND DRY, BASE COURSE MAY BE LAID WHEN TEMPERATURE IS ABOVE 35 DEGREES F, AND RISING AND APPROVED BY THE GEOTECHNICAL ENGINEER.

18. THE BITUMINOUS CONCRETE SHALL BE TRANSPORTED FROM THE MIXING PLANT TO THE POINT OF USE IN VEHICLES CONFORMING TO THE REQUIREMENTS OF SECTION 501 OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. DELIVERIES SHALL BE SCHEDULED SO THAT SPREADING AND ROLLING OF ALL BITUMINOUS CONCRETE PREPARED FOR ONE DAY'S RUN CAN BE COMPLETED DURING DAYLIGHT, UNLESS ADEQUATE ARTIFICIAL LIGHTING IS PROVIDED. HAULING OVER FRESHLY PLACED BITUMINOUS MAT SHALL NOT BE PERMITTED UNTIL THE BITUMINOUS CONCRETE HAS BEEN COMPACTED, AS SPECIFIED, AND ALLOWED TO COOL TO ATMOSPHERIC TEMPERATURE.

19. UPON ARRIVAL, THE BITUMINOUS CONCRETE SHALL BE SPREAD TO A THICKNESS NOT TO EXCEED 3-INCHES AND TO THE FULL WIDTH BY AN APPROVED BITUMINOUS PAYER. IT SHALL BE STRUCK OFF BY A 14-INCH LATERAL ROLLER.

20. THE BITUMINOUS MAT SHALL BE ROLLED TO THE THICKNESS AND CONTOUR INDICATED. THE SPEED OF THE PAYER SHALL BE REGULATED TO ELIMINATE PULLING AND TEARING OF THE BITUMINOUS MAT. UNLESS OTHERWISE DIRECTED, PLACEMENT OF THE BITUMINOUS CONCRETE SHALL BEGIN ALONG THE CENTERLINE OF A CROWNED SECTION OR ON THE HIGH SIDE OF A LOW SIDE WITH A ONE-FOOT SLOPED GROUND. BITUMINOUS CONCRETE SHALL BE PLACED IN CONSECUTIVE ADJACENT STRIPS HAVING A MINIMUM WIDTH OF 10 FEET, EXCEPT WHERE EDGE LINES REQUIRE LESS WIDTH TO COMPLETE THE AREA. TRANSVERSE JOINTS IN ADJACENT LANES SHALL BE OFFSET A MINIMUM OF 10 FEET. WHERE POSSIBLE, JOINTS SHALL BE LOCATED AT THE LANE EDGES.

21. ON AREAS WHERE IRREGULARITIES OR UNAVOIDABLE OBSTACLES MAKE THE USE OF MECHANICAL SPREADING AND FINISHING EQUIPMENT IMPRACTICAL, THE BITUMINOUS CONCRETE MAY BE SPREAD AND RAKED BY HAND TOOLS.

22. THE BITUMINOUS CONCRETE SHALL BE PLACED AT A TEMPERATURE OF NOT LESS THAN 250 NOR HIGHER THEN THE RECOMMENDED TEMPERATURE OF THE BINDER PRODUCER OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

23. THE BITUMINOUS CONCRETE MIXTURE SHALL BE THOROUGHLY AND UNIFORMLY COMPACTED BY ROLLING. THE SURFACE SHALL BE ROLLED WHEN THE BITUMINOUS MAT HAS ATTAINED SUFFICIENT STABILITY SO THAT THE ROLLING DOES NOT CAUSE UNDOE DISPLACEMENT, CRACKING AND SHOWING. THE SEQUENCE OF ROLLING OPERATIONS SHALL BE AT THE DISCRETION OF THE CONTRACTOR.

24. THE SPEED OF THE ROLLER SHALL, AT ALL TIMES, BE SUFFICIENTLY SLOW TO AVOID DISPLACEMENT OF THE HOT BITUMINOUS CONCRETE. ANY DISPLACEMENT OCCURRING AS A RESULT OF REVERSING THE DIRECTION OF THE ROLLER, OR FROM ANY OTHER CAUSE, SHALL BE CORRECTED AT ONCE.

25. SUFFICIENT ROLLERS SHALL BE FURNISHED TO HANDLE THE OUTPUT OF THE PLANT. ROLLING SHALL CONTINUE UNTIL ALL COLD SPOTS AND WEAK SPOTS ARE ELIMINATED, THE SURFACE IS OF UNIFORM TEXTURE AND TRUE TO GRADE AND CROSS-SECTION, AND THE REQUIRED FIELD DENSITY IS OBTAINED.

26. TACK COAT SHALL BE APPLIED TO THE SURFACE OF PREVIOUS LIFTS AND COURSES OF BITUMINOUS CONCRETE AND TO SURFACES ABUTTING OR PROJECTING INTO THE BITUMINOUS CONCRETE.

27. IMMEDIATELY BEFORE PLACING A SUCCEEDING LIFT OR COURSE OF BITUMINOUS CONCRETE, THE PRECEDING LIFT OR COURSE SHALL BE CLEARED OF ANY DEBRIS OR STANDING WATER BY APPROPRIATE METHODS.

28. TO PREVENT ADHESION OF THE BITUMINOUS CONCRETE TO THE ROLLER, THE WHEELS SHALL BE KEPT PROPERLY MOISTENED, BUT EXCESSIVE WATER WILL NOT BE PERMITTED.

29. IN AREAS NOT ACCESSIBLE TO THE ROLLER, THE BITUMINOUS CONCRETE SHALL BE THOROUGHLY COMPACTED WITH HOT HAND TAMPERS.

30. ANY BITUMINOUS CONCRETE THAT BECOMES LOOSE AND BROKEN, MIXED WITH DIRT, OR IN ANY WAY DEFECTIVE SHALL BE REMOVED AND REPLACED WITH FRESH HOT BITUMINOUS CONCRETE AND IMMEDIATELY COMPACTED TO CONFORM TO THE SURFACE. THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE. SKIN PATCHING SHALL NOT BE ALLOWED.

31. THE CONTRACTOR SHALL PROVIDE AT LEAST TWO ROLLERS FOR EACH PAYER OPERATING ON THE WORK. THE CONTRACTOR SHALL USE ADDITIONAL ROLLERS AS REQUIRED TO OBTAIN THE SPECIFIED PAVEMENT DENSITY.

BITUMINOUS PAVING SPECIFICATIONS, CONTINUED

32. THE CONTRACTOR SHALL CAREFULLY MAKE JOINTS BETWEEN OLD AND NEW PAVEMENTS, OR BETWEEN SUCCESSIVE DAYS' WORK, TO ENSURE A CONTINUOUS BOND BETWEEN ADJOINING WORK. CONSTRUCT JOINTS TO HAVE THE SAME TEXTURE, DENSITY AND SMOOTHNESS AS OTHER SECTIONS OF THE BITUMINOUS CONCRETE COURSE. THE CONTRACTOR SHALL CLEAN CONTACT SURFACES OF SAND, DIRT, OR OTHER OBJECTIONABLE MATERIAL AND APPLY TACK COAT BEFORE MAKING THE JOINT.

33. THE CONTRACTOR SHALL TEST THE FINISHED SURFACE OF EACH BITUMINOUS CONCRETE COURSE FOR SMOOTHNESS, USING A 10 FOOT STRAIGHTEDGE APPLIED PARALLEL WITH AND AT RIGHT ANGLES TO CENTERLINE OF PAVED AREA. SURFACE SHALL NOT BE ACCEPTABLE IF EXCEEDING THE FOLLOWING TOLERANCES FOR SMOOTHNESS.

- A. LEVELING COURSE SURFACE: 1/4 INCH, PLUS OR MINUS 1/4 INCH.
- B. SURFACE COURSE: 1/4 INCH

34. THE CONTRACTOR SHALL TEST CROWNED SURFACES WITH A CROWN TEMPLATE, CENTERED AND AT RIGHT ANGLES TO THE CROWN. SURFACES WILL NOT BE ACCEPTABLE IF THE FINISHED CROWN SURFACES VARY MORE THAN 1/4 INCH FROM THE CROWN TEMPLATE.

35. AFTER FINAL ROLLING, THE CONTRACTOR SHALL NOT PERMIT VEHICULAR TRAFFIC ON THE BITUMINOUS CONCRETE PAVEMENT UNTIL IT HAS COOLED AND HARDENED, AND IN NO CASE SOONER THAN SIX HOURS OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

36. THE AGGREGATE BASE MUST EXTEND A MINIMUM OF 1' BEHIND THE BACK-OF-CURB OR BEYOND EDGE OF PAVEMENT WHEN NO CURB IS PROPOSED.

CONCRETE CURB, SIDEWALK AND PAVEMENT SPECIFICATIONS

1. THESE SPECIFICATIONS SHALL GOVERN THE CONSTRUCTION OF ALL PAVEMENTS, CURB AND GUTTER, SIDEWALKS, SERVICE WALKS, DRIVEWAY APPROACHES, AND LOADING DOCK AREAS, AS INDICATED ON THE DRAWINGS.

2. REFERENCE SPECIFICATIONS WHERE APPLICABLE TO WORK UNDER THIS SECTION ARE REFERRED BY ABBREVIATION AS FOLLOWS:

- A. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).
- B. AMERICAN CONCRETE INSTITUTE (ACI)
- C. MICHIGAN DEPARTMENT OF TRANSPORTATION/ CURRENT STANDARD SPECIFICATIONS FOR CONSTRUCTION (MDOT)
- D. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

3. THE FINE AGGREGATE SHALL MEET ALL REQUIREMENTS OF SECTION 902 OF MDOT SPECIFICATION FOR NO. 2MS NATURAL SAND.

4. THE COARSE AGGREGATE SHALL MEET ALL REQUIREMENTS OF SECTION 902 OF M.D.O.T. SPECIFICATIONS FOR 6AA COARSE AGGREGATE.

5. THE CONTRACTOR SHALL SUBMIT, TO THE OWNER, TWO COPIES OF MATERIALS CERTIFICATES SIGNED BY MATERIAL PRODUCER AND CONTRACTOR. CERTIFICATES SHALL STATE THAT EACH MATERIAL ITEM MEETS SPECIFIED REQUIREMENTS.

6. THE CONTRACTOR SHALL SUBMIT, TO THE GEOTECHNICAL ENGINEER, JOB MIX FORMULAS FOR EACH REQUIRED CEMENT-AGGREGATE MIXTURE. MIX DESIGNS SHALL BE WITHIN ALLOWABLE TOLERANCES AS SPECIFIED FOR THE PARTICULAR APPLICATION.

7. CONCRETE MIX SHALL BE AIR-ENTRAINED AND PROPORTIONED TO PROVIDE THE FOLLOWING:

- A. COMPRESSIVE STRENGTH AT 28 DAYS: 3500 PSI MIN, OR AS INDICATED ON PLANS.
- B. TOTAL AIR CONTENT BY VOLUME: 5% TO 8%
- C. SLUMP 3 INCH MAXIMUM, OR AS INDICATED ON PLANS.

8. THE CONTRACTOR SHALL AT HIS EXPENSE FURNISH SAMPLES OF FRESH CONCRETE AND PROVIDE SAFE AND SATISFACTORY FACILITIES FOR OBTAINING THE SAMPLES.

9. CONSTRUCT CONCRETE CURBING ONLY WHEN GROUND TEMPERATURE IS ABOVE 35 DEGREES F, AND BASE IS DRY.

10. ALL CEMENT USED IN CURB CONSTRUCTION SHALL BE PORTLAND CEMENT, TYPE I OR IA ASTM C-150.

11. WATER USED IN CONCRETE SHALL MEET THE REQUIREMENTS OF MDOT SECTION 911.

12. AIR ENTRAINING ADMIXTURE SHALL BE SELECTED FROM THE MDOT QUALIFIED PRODUCTS LIST.

13. ALL READY-MIXED CONCRETE SUPPLIERS MUST BE APPROVED BY THE OWNER AND MEET THE CURRENT REQUIREMENTS OF THE NATIONAL READY MIX CONCRETE ASSOCIATION (NRMA). IF REQUESTED BY THE OWNER, SUBMIT A WRITTEN DESCRIPTION OF PROPOSED READY-MIXED CONCRETE MANUFACTURING, GIVING AREA LOCATION OF BATCHING PLANT, LIST OF PROJECTS SIMILAR IN SCOPE OF SPECIFIED WORK, AND OTHER INFORMATION AS MAY BE REQUESTED BY THE OWNER.

14. THE CONTRACTOR SHALL SUBMIT A STATEMENT OF PURCHASE FOR READY-MIXED CONCRETE. PRIOR TO ACTUAL DELIVERY OF CONCRETE, SUBMIT TO THE GEOTECHNICAL ENGINEER FOUR COPIES OF STATEMENT OF PURCHASE, GIVING THE DRY WEIGHTS OF CEMENT AND SATURATED SURFACE DRY WEIGHTS OF FINE AND COARSE AGGREGATES AND QUANTITIES, TYPE AND NAME OF ADMIXTURES (IF ANY) AND OF WATER PER C.Y.D., THAT WILL BE USED IN THE MANUFACTURE OF THE CONCRETE. THE CONTRACTOR SHALL ALSO FURNISH EVIDENCE SATISFACTORY TO THE GEOTECHNICAL ENGINEER THAT THE MATERIALS TO BE USED AND PROPORTIONS SELECTED WILL PRODUCE CONCRETE OF THE QUALITY SPECIFIED. THE DESIGNER STRENGTH AND ALLOWED QUANTITY OF CONCRETE USED SHALL NOT BE LESS THAN THE MINIMUM SPECIFIED.

15. READY-MIXED CONCRETE DELIVERY TICKETS: SUBMIT ONE COPY OF EACH DELIVERY TICKET TO THE GEOTECHNICAL ENGINEER AND CONTRACTOR IN ACCORDANCE WITH SECTION 16 OF ASTM C94.

16. READY-MIXED CONCRETE SHALL BE BATCHED, MIXED AND TRANSPORTED IN ACCORDANCE WITH ASTM C94, AND COMPLY WITH ACI 304 "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE," EXCEPT AS OTHERWISE SPECIFIED HEREIN.

17. READY-MIXED CONCRETE SHALL BE MIXED AND DELIVERED TO THE POINT OF DISCHARGE AT THE JOB BY MEANS OF A READY MIX CONCRETE TRUCK.

18. NO WATER FROM THE TRUCK WATER SYSTEM OR ELSEWHERE SHALL BE ADDED AFTER THE INITIAL INTRODUCTION OF THE MIXING WATER FOR THE BATCH. NO CIRCUMSTANCES SHALL THE APPROVED MAXIMUM WATER CONTENT BE EXCEEDED NOR SHALL THE SLUMP EXCEED THE MAXIMUM SPECIFIED.

19. DISCHARGE OF THE CONCRETE SHALL BE COMPLETED WITHIN 1-1/2 HOURS OR BEFORE THE DRUM HAS REVOLVED 300 REVOLUTIONS, WHICHEVER COMES FIRST, AFTER THE INTRODUCTION OF THE MIXING WATER TO THE CEMENT AND AGGREGATES OR THE INTRODUCTION OF THE CEMENT TO THE AGGREGATES.

20. IN HOT WEATHER (AIR TEMPERATURE 80-DEGREES F, AND ABOVE) OR UNDER CONDITIONS CONTRIBUTING TO QUICK STIFFENING OF THE CONCRETE, THE TIME SHALL BE REDUCED TO ONE HOUR.

21. CONCRETE DELIVERED IN COLD WEATHER (AIR TEMPERATURE 45-DEGREES F, AND LOWER) SHALL HAVE A TEMPERATURE NOT LESS THAN 40-DEGREES F, AT THE POINT OF DISCHARGE AT THE JOB, AND IN COMPLIANCE WITH ACI 308R "COLD WEATHER CONCRETING," CONCRETE PLACING WILL NOT BE PERMITTED WHEN THE AIR TEMPERATURE IS 35-DEGREES F, OR LOWER.

22. CONCRETE DELIVERED UNDER HOT WEATHER CONDITIONS CONTRIBUTING TO QUICK STIFFENING OF CONCRETE, OR IN AIR TEMPERATURE OF 80-DEGREES F, AND OVER, SHALL HAVE A TEMPERATURE BETWEEN 60- AND 80-DEGREES F, AT THE POINT OF DISCHARGE AT THE JOB, AND IN ACCORDANCE WITH ACI 308R "HOT WEATHER CONCRETING."

23. IN NO CASE SHALL THE MIXER OR TRUCK BE FLUSHED OUT ONTO THE STREET OR PAVEMENT, IN A CATCH BASIN OR SEWER MANHOLE, OR IN ANY PUBLIC RIGHT-OF-WAY. SEE SOI EROSION CONTROL PLAN FOR CONCRETE WASHOUT LOCATION.

24. REINFORCEMENT BARS SHALL BE PER MDOT SECTION 905.

25. TIE WIRE SHALL BE BLACK, ANNEALED STEEL WIRE, NOT LESS THAN 16 GAUGE.

CONCRETE CURB, SIDEWALK AND PAVEMENT SPECIFICATIONS, CONTINUED

26. BARS SUPPORTED SHALL CONFORM TO THE BAR SUPPORT SPECIFICATIONS CONTAINED IN CONCRETE REINFORCING STEEL INSTITUTE'S (CRS) "MANUAL OF STANDARD PRACTICE." PROVIDE CHAIRS, SPACERS AND OTHER DEVICES SUITABLE FOR PROPER SPACING SHORING AND FASTENING REINFORCING BARS.

27. WHEN FORMS ARE USED AND THE CURB RADIUS IS LESS THAN 200 FEET, THE CURVED ALIGNMENT SHALL BE PROVIDED FOR BY EITHER STANDARD STEEL FORMS EQUIPPED WITH FLEXIBLE LINES OR BY FLEXIBLE FORMS. THE FORMS SHALL BE OF THE FULL DEPTH OF THE SECTION. CURB AND GUTTER FORMS SHALL BE SO CONSTRUCTED THAT THEY SHALL BE SECURELY FASTENED TO THE OUTSIDE FORMS.

28. ALL NEW CURB SHALL BE PLACED ONLY ON A PREPARED SUBGRADE, SMOOTH AND LEVELED TO THE GRADES ESTABLISHED BY THE ENGINEER.

29. COMPACT AND CUT-TO-GRADE SUBGRADE UNDER FORMS SO THAT FORMS WHEN SET WILL BE UNIFORMLY SUPPORTED FOR THE ENTIRE LENGTH. SECURELY STAKE AND BRACE OR THE FORMS TO PREVENT LEAKAGE OF MORTAR. BRACING WITH EARTH WILL NOT BE PERMITTED.

30. COAT SURFACES OF FORMS TO BE IN CONCRETE WITH A LIGHT CLEAR PARAFFIN OIL OR PARTING COMPOUND WHICH WILL NOT STAIN THE CONCRETE.

31. THE INTERIOR SURFACES OF CONCRETE CONVEYING EQUIPMENT SHALL BE MAINTAINED FREE OF HARDENED CONCRETE, DEBRIS, WATER, SNOW, ICE AND OTHER DELETERIOUS MATERIALS.

32. CURBING MAY BE CONSTRUCTED EITHER BY USE OF FORMS OR BY A MECHANICAL CURBING MACHINE. PROVIDE THE CURB WITH A FINISH AND A CROSS SECTION, AS SHOWN ON DRAWINGS ARE OBTAINED. CONCRETE SHALL BE PLACED TO PROVIDE ONE COURSE MONOTHICK STRUCTURE WITHOUT THE USE OF MORTAR JOINTS. CONCERN ORDER OF PLACING, CURB SHALL BE SPADED OR VIBRATED SUFFICIENTLY TO ENSURE SATISFACTORY CONSOLIDATION.

33. PROVIDE REINFORCEMENT FOR CONCRETE CURB AS SHOWN ON THE DRAWINGS. REINFORCEMENT SHALL BE KEPT CLEAN AND FREE FROM OBJECTIONABLE RUST. BENDS OR KINKS IN REINFORCING BARS SHALL BE CORRECTED BEFORE PLACING. REINFORCEMENT SHALL BE ACCURATELY LOCATED IN FORMS AND SECURELY HELD IN PLACE BEFORE AND DURING CONCRETE PLACING, BY SUPPORTS ADEQUATE TO PREVENT DISPLACEMENT DURING THE COURSE OF CONSTRUCTION.

34. THE CONCRETE CURB SURFACE SHALL BE STRUCK OFF THE REQUIRED CROSS-SECTION WITH A TEMPLATE. AFTER THE CONCRETE CURB HAS BEEN FLOATED TO AN EVEN SURFACE, THE CONTRACTION JOINT SHALL BE CUT AND ALL SLAB EDGES ROUNDED WITH A 1/2 INCH RADIUS EDGING TOOL THAT WILL FINISH TO A WIDTH OF 2 INCHES. AFTER THE CONCRETE HAS SLIGHTLY SET, A BROOM SHALL BE BRUSHED LIGHTLY ACROSS THE SURFACE PARALLEL TO FORMS SO AS TO IMPART A ROUGH FINISH.

35. CONTRACTION JOINTS SHALL BE CUT IN CONCRETE CURBING AT MINIMUM 10' INTERVALS. CONTRACTION JOINTS SHALL BE CUT AT 1/3 THE DEPTH OF THE CONCRETE CURB SECTION. JOINTS SHALL ALSO BE LOCATED ADJACENT TO CURB DROPS.

36. ISOLATION JOINTS SHALL BE PLACED IN CURBING AT TANGENT POINTS IN CURB RETURNS AT INTERSECTIONS, AT BOTH SIDES OF STRUTTING 400 FEET IN THE LINE AND IN RUNS OF CURB AT INTERVALS NOT EXCEEDING 400 FEET. ISOLATION JOINTS SHALL BE 1/2 INCH PRE-APPLIED STRIPS. THE STRIPS SHALL EXTEND THE FULL DEPTH OF THE CONCRETE CURB SECTION. ISOLATION JOINTS SHALL BE PLACED IN CURB AT THE END OF EACH DAYS POUR AND WHEN ABUTTING PREVIOUSLY POURED CURB.

37. THE CURING COMPOUND SHALL BE A WHITE PARAFIN BASED COMPOUND SELECTED FROM MDOT'S QUALIFIED PRODUCTS LIST APPLIED AT 200 SQ/FT/GAL.

38. ALL CONTRACTION JOINTS IN CONCRETE CURB SECTIONS SHALL BE SEALED WITH EITHER HOT POURED JOINT SEALER OR COLD APPLIED JOINT SEALER.

39. SLIGHTLY UNDERFILL JOINT GROOVE WITH JOINT SEALER TO PREVENT EXTRUSION OF THE SEALER. REMOVE EXCESS JOINT SEALER MATERIALS AS SOON AFTER SEALING AS POSSIBLE.

40. FRESHLY PLACED CONCRETE SHALL BE PROTECTED AS REQUIRED TO MAINTAIN THE TEMPERATURE OF THE CONCRETE AT NOT LESS THAN 50 DEGREES F, NOR MORE THAN 80 DEGREES F, AND IN A MOST CONDITION CONTINUOUSLY FOR 7 DAYS. REINFORCEMENT SHALL BE NECESSARY FOR CONSTRUCTION THEREOF TO MAINTAIN THE TEMPERATURE OF THE CONCRETE AT OR ABOVE 50-DEGREES F, AND IN A MOST CONDITION CONTINUOUSLY FOR THE CONCRETE CURING PERIOD. COLD WEATHER PROTECTION SHALL MEET THE REQUIREMENTS OF ACI 308R "COLD WEATHER CONCRETING."

41. COLD WEATHER PROTECTION: WHEN THE TEMPERATURE OF THE ATMOSPHERE IS 40-DEGREES F, AND BELOW, THE CONCRETE SHALL BE PROTECTED BY HEATING, INSULATION, OR COMBINATION THEREOF AS REQUIRED TO MAINTAIN THE TEMPERATURE OF THE CONCRETE AT OR ABOVE 50-DEGREES F, AND IN A MOST CONDITION CONTINUOUSLY FOR THE CONCRETE CURING PERIOD. COLD WEATHER PROTECTION SHALL MEET THE REQUIREMENTS OF ACI 308R "HOT WEATHER CONCRETING."

42. HOT WEATHER PROTECTION: WHEN THE TEMPERATURE OF THE ATMOSPHERE IS 90-DEGREES F, AND ABOVE, OR DURING OTHER CLIMATIC CONDITIONS WHICH WILL CAUSE TOO RAPID DRYING OF THE CONCRETE, THE CONCRETE SHALL BE PROTECTED BY WINDING, INSULATION, OR COMBINATION THEREOF AS REQUIRED TO MAINTAIN THE TEMPERATURE OF THE CONCRETE BELOW 90-DEGREE F, AND IN A MOST CONDITION CONTINUOUSLY FOR THE CONCRETE CURING PERIOD. HOT WEATHER PROTECTION SHALL MEET THE REQUIREMENTS OF ACI 308R "HOT WEATHER CONCRETING"

43. ALL FORMS, RAILS AND STAKES SHALL BE REMOVED WITHIN 24 HOURS AFTER PLACING THE CURB. EXPOSED EDGES OF CONCRETE SHALL BE IMMEDIATELY BACKFILLED OR SPRAYED WITH CURING COMPOUND.

44. AFTER COMPLETION OF CONCRETE CURBING IN AN AREA, REMOVE ALL WEATHER PROTECTION MATERIALS, RUBBISH AND DEBRIS RESULTING FROM SPECIFIED WORK, SWEEP CONCRETE CURBS CLEAN, AND SEAL JOINTS.

45. ALL CEMENT USED IN SIDEWALK CONSTRUCTION SHALL BE PORTLAND CEMENT, TYPE I OR IA ASTM C-150.

46. ALL NEW WALKS AND CONCRETE PAVEMENTS SHALL BE PLACED ONLY ON A PREPARED SUBGRADE, SMOOTH AND LEVELED TO THE GRADES ESTABLISHED BY THE ENGINEER. IN CLAY SOILS THE SUBGRADE SHALL BE EXCAVATED 2-INCHES BELOW THE SIDEWALK BASE AND FILLED WITH APPROVED SAND MEETING MDOT CLASS II, SAND DESIGNATION.

47. CONTRACT CONCRETE SURFACE COURSE ONLY WHEN GROUND TEMPERATURE IS ABOVE 35 DEGREES F, AND BASE IS DRY.

48. SIDEWALKS SHALL PITCH TOWARD THE STREET OR AWAY FROM BUILDINGS WITH A MAXIMUM CROSS SLOPE OF 1/4-INCH PER FOOT OF WIDTH AND A MINIMUM CROSS SLOPE OF 1/8-INCH PER FOOT OF WIDTH. CROSS SLOPE DIRECTION TRANSITIONS SHALL BE ACCOMPLISHED IN LENGTHS OF 10 FEET OR LESS.

49. PRIOR TO PLACING THE CONCRETE, ALL DEBRIS, STONES, DIRT, ETC., SHALL BE REMOVED FROM THE SUBGRADE. THE SUBGRADE SHALL BE MOISTENED WITH WATER IN



client:
**BRIVAR
CONSTRUCTION
COMPANY**
9325 Maltby Road Brighton,
Michigan 48116

project:
**TREK
BUILDING
ADDITION**

project location:
**City of Novi,
Michigan**
46470, 46500, & 46440
Desoto Court

sheet title:
**LANDSCAPE
PLANTING
DETAIL**

job no. / issue / revision date:
LS23.115.11 PSP 11-9-2023
LS23.115.11 PSP 12-22-2023

drawn by:
JP
checked by:
FP
date:
11-5-2023

notice:
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BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171**
For true location of public utility lines

The location 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 of accuracy. contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

project no:
LS23.115.11
sheet no:

City Project No.
JSP23-0032

LS-1 of 2

landscape requirement summary

open space site	REQUIRED	PROVIDED
TOTAL ACRES OF SITE GROSS	1.56 ±	
OPEN SPACE MINIMUM 10% OF SITE GROSS (1.56 ACRES X .49366= 0.77188 SQ.FT. X 10%= 0.77188 SQ.FT.)	6,745 SQ.FT.	10,250 SQ.FT.

street trees	REQUIRED	PROVIDED
TOTAL LINFT. OF DESOTO COURT	100' ±	
ONE (1) CANOPY TREE PER 35' / 100' / 35' PER TREE= 2.8 TREES	3	3

greenbelt (not adjacent to parking)	REQUIRED	PROVIDED
TOTAL LINFT. OF DESOTO COURT	100' ±	
ONE (1) CANOPY OR EVERGREEN TREE PER 60' / 100' / 60' PER TREE= 1.66 TREES	2	2
ONE (1) ORNAMENTAL TREE PER 40' / 100' / 40' PER TREE= 2.5 TREES	3	3
ONE (1) SHRUB PER 20' / 100' / 20' PER TREE= 5 SHRUBS	5	5
EARTH BERM OR MASONARY WALL (MIN. 3' HIGH)	NA	NA

building foundation	REQUIRED	PROVIDED
TOTAL LINFT BUILDING PERIMETER	460' ±	
FOUNDATION LANDSCAPE AREA (460' X 8' = 3,744 SQ.FT.)	3,744 SQ.FT.	3,820 SQ.FT.

replacement tree	REQUIRED	PROVIDED
TOTAL NO. REPLACEMENT TREES REQUIRED	15	
NO. EXISTING REGULATED TREE REMOVE	1	
NO. EXISTING CODE COMPLIANCE TREES REMOVE	2	
NO. EXISTING DEAD CODE COMPLIANCE TREES (10 DEAD EXISTING EVERGREEN TREES LOCATED ALONG THE EAST PROPERTY LINE)	12	
TOTAL NO. REPLACEMENT TREES PROVIDED	15	

plant material list

key	quant. LS-1	botanical name	common name	size	comments
DECIDUOUS AND EVERGREEN TREES					
QP	3	QUERCUS PALUSTRIS	PIN OAK	3" BB	NATIVE (N)
TR	1	TILIA AMERICANA 'REDMOND'	REDMOND LINDEN	3" BB	NATIVE (N)
ZS	2	ZELKOVA SERRATA 'GREEN VASE'	GREENVASE ZELKOVA	3" BB	
AC	3	AMELANCHIER X 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	8" BB	MULTI-STEM (N)
PS	4	PINUS STROBUS	EASTERN WHITE PINE	8" BB	NATIVE (N)
PD	8	PICEA GLAUCA 'DENSATA'	BLACK HILLS SPRUCE	8" BB	NATIVE (N)
AW	3	ABIES CONCOLOR	CONCOLOR FIR	8" BB	NATIVE
SHRUBS					
PO	8	PHYTOCARPUS OPULIFOLIUS 'SUMMER WINE'	SUMMER WINE NINEBARK	30" CONT	48" O.C. SPACING (N)
VD	21	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	30" CONT	48" O.C. SPACING (N)
SK	30	STRYGINA P. 'MISS KIM'	MISS KIM LILAC	30" CONT	48" O.C. SPACING
PERENNIALS AND GRASSES					
PVS	15	PANICUM VIRGATUM 'SHENANDOAH'	'SHENANDOAH' SWITCH GRASS	15 CONT.	47" O.C. SPACING (N)
CKF	31	CALAMAGROSTIS X.A. 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	15 CONT.	48" O.C. SPACING

landscape plan for:

Trek Building Addition City of Novi, Michigan

note:

unless noted otherwise, numerical value on landscape quantities specified on plan take precedence over graphic representation.

scale: 0' 15' 30' 60' 90'
1" = 30'-0"

general landscape notes:

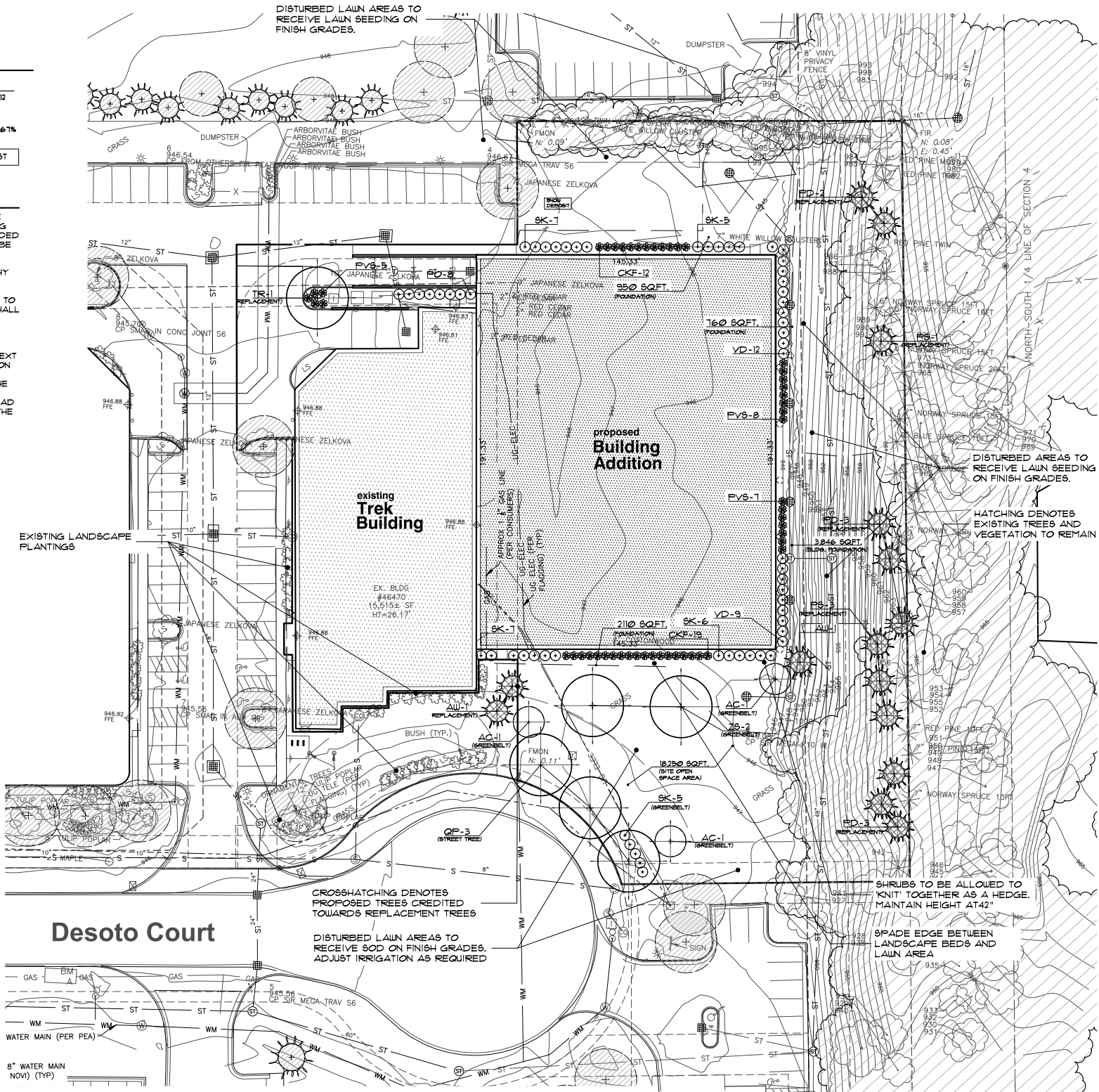
1. LANDSCAPE CONTRACTOR SHALL VISIT THE SITE, INSPECT EXISTING CONDITIONS, REVIEW PROPOSED PLANTINGS AND RELATED WORK, CONTACT THE OWNER AND/OR LANDSCAPE ARCHITECT WITH ANY CONCERNS OR DISCREPANCY BETWEEN THE PLAN, PLANT MATERIAL LIST, AND/OR SITE CONDITIONS.
2. PRIOR TO BEGINNING OF CONSTRUCTION ON ANY WORK, CONTRACTORS SHALL VERIFY LOCATIONS OF ALL ON SITE UTILITIES, GAS, ELECTRIC, TELEPHONE, CABLE TO BE LOCATED BY CONTACTING MISS DIG 1-800-482-7171. ANY DAMAGE OR INTERRUPTION OF SERVICES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE ALL RELATED WORK ACTIVITIES WITH OTHER TRADES AND REPORT ANY UNACCEPTABLE JOB CONDITIONS TO OWNER PRIOR TO COMMENCING.
3. NUMERICAL VALUE ON THE LANDSCAPE QUANTITIES SPECIFIED ON THE PLAN TAKE PRECEDENCE OVER GRAPHIC REPRESENTATION. VERIFY ANY CONCERN/DISCREPANCY WITH LANDSCAPE ARCHITECT.
4. ALL CONSTRUCTION AND PLANT MATERIAL LOCATION TO BE ADJUSTED ON SITE IF NECESSARY.
5. ALL SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED BY CITY OF NOVI AND LANDSCAPE ARCHITECT IN WRITING.
6. ALL LARGE TREES AND EVERGREENS TO BE STAKED, GUYED AND UNWRAPPED AS DETAIL SHOWN ON PLAN.
7. PLANT BEDS TO BE DRESSED WITH MIN. 4" OF FINELY DOUBLE SHREDDED HARDBARK MULCH.
8. DIG SHRUB PITS 1' LARGER THAN SHRUB ROOT BALLS AND TREE PITS 2' LARGER THAN ROOT BALL. BACK FILL WITH ONE PART TOP SOIL AND ONE PART SOIL FROM EXCAVATED PLANTING HOLE.

NATIVE PLANT PERCENTAGE	
TOTAL NO. OF PLANTS SPECIES PROVIDED	12
NO. OF NON NATIVE PLANTS SPECIES PROVIDED	4
NO. OF NATIVE PLANTS SPECIES PROVIDED	8
TOTAL % OF NATIVE PLANTS SPECIES PROVIDED (8 / 12 = 67%)	67%

(N) DENOTES NATIVE PLANT SPECIE ON THE PLANT MATERIAL LIST

landscape maintenance notes:

- LANDSCAPE MAINTENANCE PROCEDURES AND FREQUENCIES TO BE FOLLOWED SHALL BE SPECIFIED ON THE LANDSCAPE PLAN, ALONG WITH THE MANNER IN WHICH THE EFFECTIVENESS, HEALTH AND INTENDED FUNCTIONS OF THE VARIOUS LANDSCAPE AREAS ON THE SITE WILL BE ENSURED.
1. LANDSCAPING SHALL BE KEPT IN A NEAT, ORDERLY AND HEALTHY GROWING CONDITION, FREE FROM DEBRIS AND REFUSE.
 2. PRUNING SHALL BE MINIMAL AT THE TIME OF INSTALLATION, ONLY TO REMOVE DEAD OR DISEASED BRANCHES, SUBSEQUENT PRUNING SHALL ASSURE PROPER MATURATION OF PLANTS TO ACHIEVE THEIR APPROVED PURPOSE.
 3. ALL DEAD OR DISEASED PLANT MATERIAL SHALL BE REMOVED AND REPLACED WITHIN SIX (6) MONTHS AFTER IT DIES OR IN THE NEXT PLANTING SEASON, WHICHEVER OCCURS FIRST. THE PLANTING SEASON FOR DECIDUOUS PLANTS SHALL BE BETWEEN MARCH 15 AND NOVEMBER 15 OR UNTIL THE PREPARED SOIL BECOMES FROZEN. THE PLANTING SEASON FOR EVERGREEN PLANTS SHALL BE BETWEEN MARCH 1 AND JUNE 1. PLANT MATERIAL INSTALLED TO REPLACE DEAD OR DISEASED MATERIAL SHALL BE AS CLOSE AS PRACTICAL TO THE SIZE OF THE MATERIAL IT IS INTENDED TO REPLACE.



9. REMOVE ALL TWINE, WIRE AND BURLAP FROM TREE AND SHRUB EARTH BALLS, AND FROM TREE TRUNKS. 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 4" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.
10. PLANT MATERIAL QUALITY & INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT AMERICAN ASSOCIATION OF NURSERYMEN LANDSCAPE STANDARDS.
11. PROVIDE SOD FOR ALL NEW AND DISTURBED LAWN AREAS UNLESS NOTED OTHERWISE. NO PEAT SOD.
12. ALL PLANTING AREAS TO BE PREPARED WITH APPROPRIATE SOIL MIXTURES AND FERTILIZER BEFORE PLANT INSTALLATION.
13. PLANT TREES AND SHRUBS GENERALLY NO CLOSER THEN THE FOLLOWING DISTANCES FROM SIDEWALKS, CURBS AND PARKING STALLS:
a). SHADE TREES 5 FT.
b). ORNAMENTAL AND EVERGREEN TREES 10 FT.
c). SHRUBS THAT ARE LESS THAN 1 FOOT TALL AND WIDE AT MATURITY 2 FT.
14. NO TREES OR EVERGREENS TO BE INSTALLED OVER ANY PROPOSED OR EXISTING UTILITY LINES AS SHOWN ON THE OVERALL LANDSCAPE PLAN. SEE ENGINEERING PLANS FOR LOCATION AND DETAILS.
15. ALL NEW LAWN AREAS AND NEW LANDSCAPE BEDS TO BE FULLY IRRIGATED WITH A AUTOMATIC UNDERGROUND SYSTEMS. IRRIGATION SYSTEM TO HAVE SEPARATE ZONES FOR LAWN AREAS, PARKING ISLANDS, AND SHRUB BEDS WITH DIFFERENT CONTROL. MOISTURE LEVEL ADJUSTMENT PER ZONE AS REQUIRED. IRRIGATION PLAN TO BE PROVIDED DURING FINAL SITE PLAN APPROVAL.
16. UNLESS NOTED OTHERWISE, LANDSCAPE BEDS ADJACENT TO LAWN TO RECIEVE EDGING. EDGING SHALL BE 4" X 1/8" METAL (FINISH BLACK OR GREEN) OR APPROVED EQUAL AND TO BE INSTALLED WITH HORIZONTAL METAL STAKES AT 32" O.C. OR PER MANUFACTURER'S SPECIFICATION.
17. ALL NEW PARKING ISLANDS AND LANDSCAPE BEDS ADJACENT AND NEXT TO BUILDING SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND POOR SOILS A MIN. OF 16"-18" DEPTH. BACK FILL WITH GOOD, MEDIUM TEXTURED PLANTING SOILS. ADD A MIN. 4" OF TOPSOIL OVERFILL TO FINISH GRADE. PROVIDE POSITIVE DRAINAGE.
18. WATERING OF ALL PLANTS AND TREES TO BE PROVIDED IMMEDIATELY AND MULCHING WITHIN 24 HOURS AFTER INSTALLATION.
19. ALL TREE PITS TO BE TESTED FOR PROPER DRAINAGE PRIOR TO TREE PLANTING. PROVIDE APPROPRIATES DRAINAGE SYSTEM AS REQUIRED IF THE TREE PIT DOES NOT DRAIN SUFFICIENTLY.
20. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL LANDSCAPE PLANT MATERIALS AND IRRIGATION INSTALLATION FOR A PERIOD OF TWO YEAR BEGINNING AFTER THE COMPLETION OF LANDSCAPE INSTALLATION DATE APPROVED BY THE CITY OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE DURING AND AT THE END OF THE GUARANTEE PERIOD, ANY DEAD OR UNACCEPTABLE PLANTS, AS DETERMINED BY THE TOWNSHIP OR LANDSCAPE ARCHITECT, WITHOUT COST TO THE OWNER.

21. ESTIMATED INSTALLATION DATE: FALL OF 2024

22. PLANT MATERIALS SHALL NOT BE PLATED WITHIN 4' OF THE PROPERTY LINE

sheet index

LS-1 LANDSCAPE PLANTING DETAIL

LS-2 NOTES , PLANTING DETAILS & SOD,
SEEDING REFERENCE PLAN

City of Novi - landscape notes:

1. ALL PLANT MATERIALS ARE TO BE INSTALLED IN A SOUND, WORKMAN-LIKE MANNER AND IN ACCORDANCE WITH THE CURRENT CITY OF NOVI PLANTING REQUIREMENTS

2. ALL PLANT MATERIALS SHALL BE INSTALLED BETWEEN MARCH 15th AND NOVEMBER 15th

3. ALL PLANT MATERIALS ARE TO BE NORTHERN NURSERY GROWN NO.1 GRADE AND INSTALLED ACCORDING TO ACCEPTED PLANTING PROCEDURES. ALL PLANT MATERIALS SHALL CONFORM TO THE CURRENT AAN STANDARDS FOR NURSERY STOCK. THEY SHALL BE PLANTED ACCORDING TO THE CITY OF NOVI PLANTING DETAILS AND SPECIFICATIONS. THE CITY SHALL HAVE THE RIGHT TO INSPECT THE PLANT MATERIALS PRIOR TO PLANTING AND TO REJECT ANY PLANT MATERIALS DEEMED NOT TO MEET THE STANDARDS OF THE ZONING ORDINANCE.

4. ALL TREES SHALL HAVE A CENTRAL LEADER AND A RADIAL BRANCHING STRUCTURE. PARK GRADE TREES ARE NOT ACCEPTABLE. ALL TREES SHALL BE BALLED AND BURLAPPED (B4B).

5. ANY DECIDUOUS CANOPY TREES WITH BRANCHES THAT MIGHT TEND TO DEVELOP INTO "Y" CROTCHES SHALL BE SUBORDINATED SO AS NOT TO BECOME DOMINANT BRANCHES.

6. MULCH SHALL BE NATURAL COLOR FINELY SHREDDED HARDWOOD BARK FOR ALL PLANTINGS. 4" THICK FOR TREES IN 4" FOOT DIAMETER CIRCLE WITH 3" PULLED AWAY FROM TRUNK. 3" THICK FOR SHRUBS AND SHRUB BEDS AND 2" THICK BARK FOR PERENNIALS.

7. ALL PLANT MATERIAL SHALL BE WARRANTED FOR TWO (2) FULL YEARS AFTER DATE OF ACCEPTANCE BY THE CITY. IF NOVI, ALL UNHEALTHY AND DEAD MATERIAL SHALL BE REPLACED WITHIN THREE (3) MONTHS OR THE NEXT APPROPRIATE PLANTING PERIOD WHICH EVER COMES FIRST.

8. ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION, INCLUDING WATERING, CULTIVATION, WEED CONTROL, AND SOIL ENRICHMENTS AS MAY BE NECESSARY.

9. A MINIMUM OF ONE WEED CONTROL CULTIVATION PER MONTH OCCURRING IN JUNE, JULY AND AUGUST SHALL BE PERFORMED DURING THE TWO-YEAR ESTABLISHMENT PERIOD.

10. ANY SUBSTITUTIONS OR DEVIATIONS FROM THE LANDSCAPE PLAN MUST BE APPROVED IN WRITING BY THE CITY OF NOVI PRIOR TO INSTALLATION.

11. ALL TREE WRAP, STAKES, AND GUYS MUST BE REMOVED BY JULY 1ST FOLLOWING THE FIRST WINTER SEASON AFTER INSTALLATION.

12. ALL LANDSCAPE AREAS ARE TO BE MAINTAINED IN HEALTHY GROWING CONDITION FREE OF DEBRIS AND REFUSE AND IN CONFORMANCE WITH THE APPROVED LANDSCAPE PLAN.

13. ALL LANDSCAPE AREAS ARE TO BE WATERED BY A FULLY AUTOMATIC IRRIGATION SYSTEM.

14. CONTRACTOR TO REMOVE ALL CONSTRUCTION DEBRIS AND EXCESS MATERIALS FROM THE SITE PRIOR TO FINAL ACCEPTANCE.

15. PLANT MATERIALS, EXCEPT SOD, GROUND COVERS, AND CREEPING VINE TYPE PLANTINGS, SHALL NOT BE LOCATED WITHIN FOUR (4) FEET OF THE PROPERTY LINE.

16. ALL TRANSFORMERS ARE TO BE SCREENED ON THREE SIDES (MIN) IN ACCORDANCE WITH THE CITY OF NOVI ORDINANCE AND SO AS TO NOT CONFLICT WITH DTE RESTRICTIONS. (SEE DETAIL THIS SHEET).

17. ALL PERNS MUST BE PLANTED WITH A COMBINATION OF TREES, SHRUBS, SOD OR OTHER EVERGREEN GROUND COVERS.

18. THE OWNER IS RESPONSIBLE FOR REQUEST OF FINAL INSPECTION AND ACCEPTANCE OF THE LANDSCAPE AT THE END OF THE 2-YEAR GUARANTEE PERIOD.

19. THE PROVIDER OF THE FINANCIAL GUARANTEE FOR THE LANDSCAPE INSTALLATION SHALL BE FULLY RESPONSIBLE FOR COMPLETION OF THE LANDSCAPE INSTALLATION AND MAINTENANCE PER THE APPROVED LANDSCAPE PLAN AND APPLICABLE CITY ORDINANCES.

THE DETAILS AND NOTES SHOWN ON THIS PAGE ARE STANDARDS. THESE DETAILS ARE NOT ALL INCLUSIVE AND ARE NOT MET TO SUBSTITUTE FOR ANY ORDINANCE OR CODE REQUIREMENT. FOR COMPLETE LANDSCAPE REQUIREMENTS, SEE THE ZONING ORDINANCE LANDSCAPE SECTION 5.3, THE LANDSCAPE DESIGN MANUAL AND THE APPROPRIATE REFERENCES WITHIN THE APPLICABLE ZONING CLASSIFICATION AND ANY OTHER APPLICABLE CODE REQUIREMENTS.

planting landscape notes:

GENERAL NOTES:

1) PLANT MATERIALS TO BE INSTALLED ACCORDING TO THE CITY OF NOVI AND CURRENT AMERICAN ASSOCIATION OF NURSERYMEN'S STANDARDS.

2) PLANT MATERIALS TO BE GUARANTEED FOR 2 YEARS. REPLACE FALLING MATERIAL WITHIN 9 MONTHS, OR THE NEXT APPROPRIATE PLANTING PERIOD.

3) PLANT MATERIALS TO BE OF PREMIUM QUALITY, NO. 1 GRADE NORTHERN NURSERY GROWN, IN HEALTHY CONDITION, FREE OF PESTS AND DISEASES.

4) MULCH IS TO BE NATURAL COLORED, FINELY SHREDDED HARDWOOD BARK OF 4" THICK BARK MULCH FOR TREES IN 4" DIA. CIRCLE 1/4" PULLED AWAY FROM TRUNK. 3" THICK BARK MULCH FOR SHRUBS AND 2" THICK BARK MULCH FOR PERENNIALS.

5) CALL 1188 DIG AT 1-800-482-1111 PRIOR TO ANY CONSTRUCTION.

DECIDUOUS & EVERGREEN TREE:

1) TREE SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

2) DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.

3) REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNLIGHTLY AND COULD CAUSE GIRDLING.

4) REMOVE TREE STAKES, GUY WIRES AND TREE WRAP AFTER ONE WINTER SEASON.

5) SHRUB SHALL BE INSTALLED SAME RELATIONSHIP TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

6) DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.

7) REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNLIGHTLY AND COULD CAUSE GIRDLING.

TREE PROTECTION:

1) EITHER PLASTIC OR WOOD ORANGE SHAW FENCING SHALL BE INSTALLED AT OR BEYOND THE DRIPLINE, UNLESS MORE SUBSTANTIAL FENCING IS REQUIRED.

2) STAKES SHALL BE METAL T-POLES SPACED NO FURTHER THAN 5' ON CENTER.

3) FENCING SHALL NOT BE INSTALLED CLOSER TO THE TREE THAN THE DRIPLINE OF THOSE TREES TO BE SAVED. SPECIAL CIRCUMSTANCES SHALL BE REVIEWED BY THE CITY.

4) FENCING SHALL BE ERECTED PRIOR TO CONSTRUCTION. THE CITY SHALL BE NOTIFIED ONCE THE FENCING IS INSTALLED FOR INSPECTION.

5) UNDER NO CIRCUMSTANCES SHALL THE PROTECTIVE FENCING BE REMOVED WITHOUT PROPER APPROVAL FROM THE CITY.

6) NO PERSON SHALL CONDUCT ANY ACTIVITY WITHIN THE AREAS PROPOSED TO REMAIN. THIS SHALL INCLUDE, BUT NOT LIMITED TO:

a. NO SOLVENTS OR CHEMICALS WITHIN THE PROTECTED AREAS.

b. NO BUILDING MATERIALS OR CONSTRUCTION EQUIPMENT WITHIN THE PROTECTED AREAS.

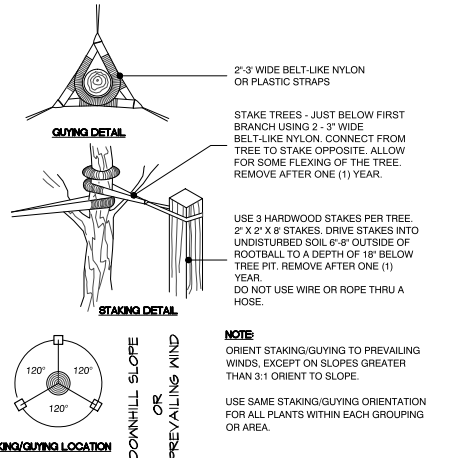
c. NO GRADE CHANGES, INCLUDING FILL, WITHIN THE PROTECTED AREAS.

d. NO REMOVAL OF VEGETATION FROM THE GROUND UP WITHOUT PERM188198 FROM THE PROPER REVIEWING AUTHORITY, INCLUDING THE WOODLANDS REVIEW BOARD.

e. ANY REQUIRED SWALE NEEDS TO BE DIRECTED AROUND THE PROTECTED AREAS. IN INSTANCES WHERE SWALES ARE APPROVED THRU A PROTECTED AREA, THE SWALES NEED TO BE HAND DUG. MACHINERY OF ANY KIND IS PROHIBITED.

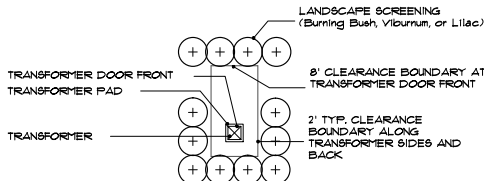
7) REGULATED WOODLANDS OR REGULATED TREES ADJACENT ADJACENT TO THE PROPERTY ARE ALSO REQUIRED TO BE PROTECTED WHETHER OR NOT THEY ARE SHOWN ON THE PLAN.

CONTRACTOR SHALL SEND PROOF OF THE SEED MIXES TO BE USED (PHOTO OF SEED BAG OR COPY OF INVOICE) TO THE CITY LANDSCAPE ARCHITECT AT R1E4D8R@CITYOFNOVI.ORG FOR APPROVAL PRIOR TO APPLYING THE SEED.



tree staking detail

no scale

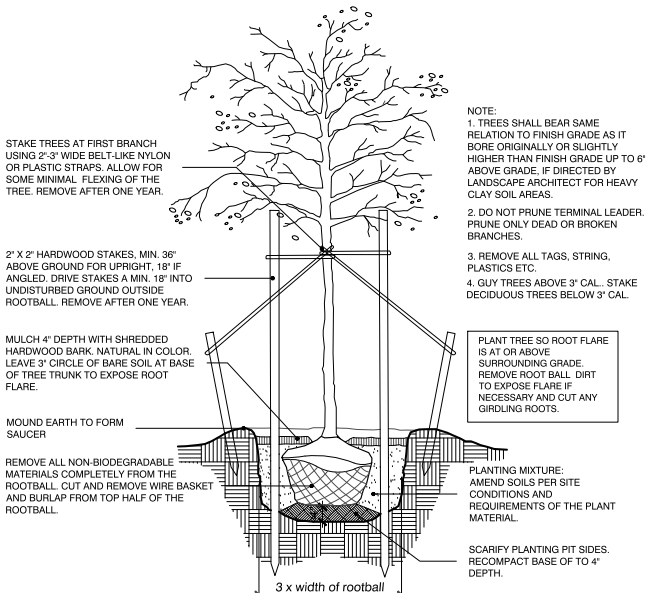


transformer pad planting detail

SCALE 1"=10'-0"

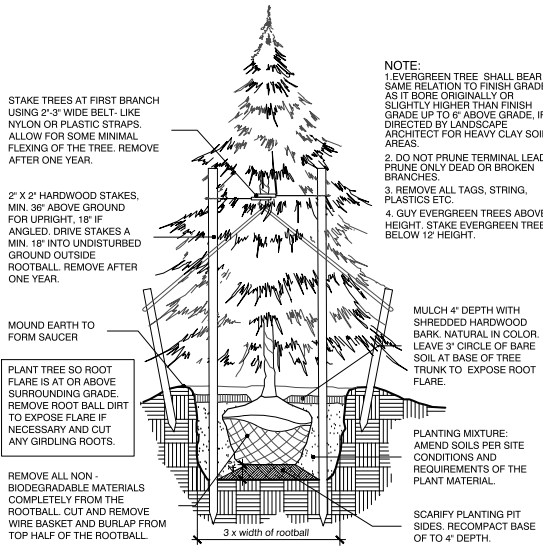
A MINIMUM OF 2' SEPARATION BETWEEN TRANSFORMER AND FULL GROWN SHRUBS AND TREES. GROUND COVERS ALLOWED UP TO TRANSFORMER PAD IF MAINTAINED BELOW 4" FULL GROWTH. IF TRANSFORMER FACES TOWARDS THE HOUSE, THEN THE SAME CONDITIONS EXIST. NO FULL GROWTH IN FRONT OF THE TRANSFORMER FOR AT LEAST A MINIMUM OF 8'. THERE ARE NO WAIVERS GRANTED TO THE ABOVE CONDITION. DETAIL PER THE DETROIT EDISON COMPANY-SERVICE PLANNING DEPARTMENT (9-11-98)

SEE ENGINEERING PLANS FOR PROPOSED LOCATIONS. TOTAL NUMBER OF TRANSFORMERS AND FINAL LOCATION PER DETROIT EDISON REQUIREMENTS.



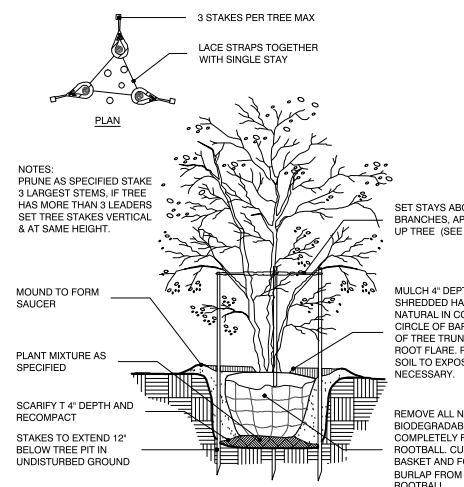
tree planting detail

no scale



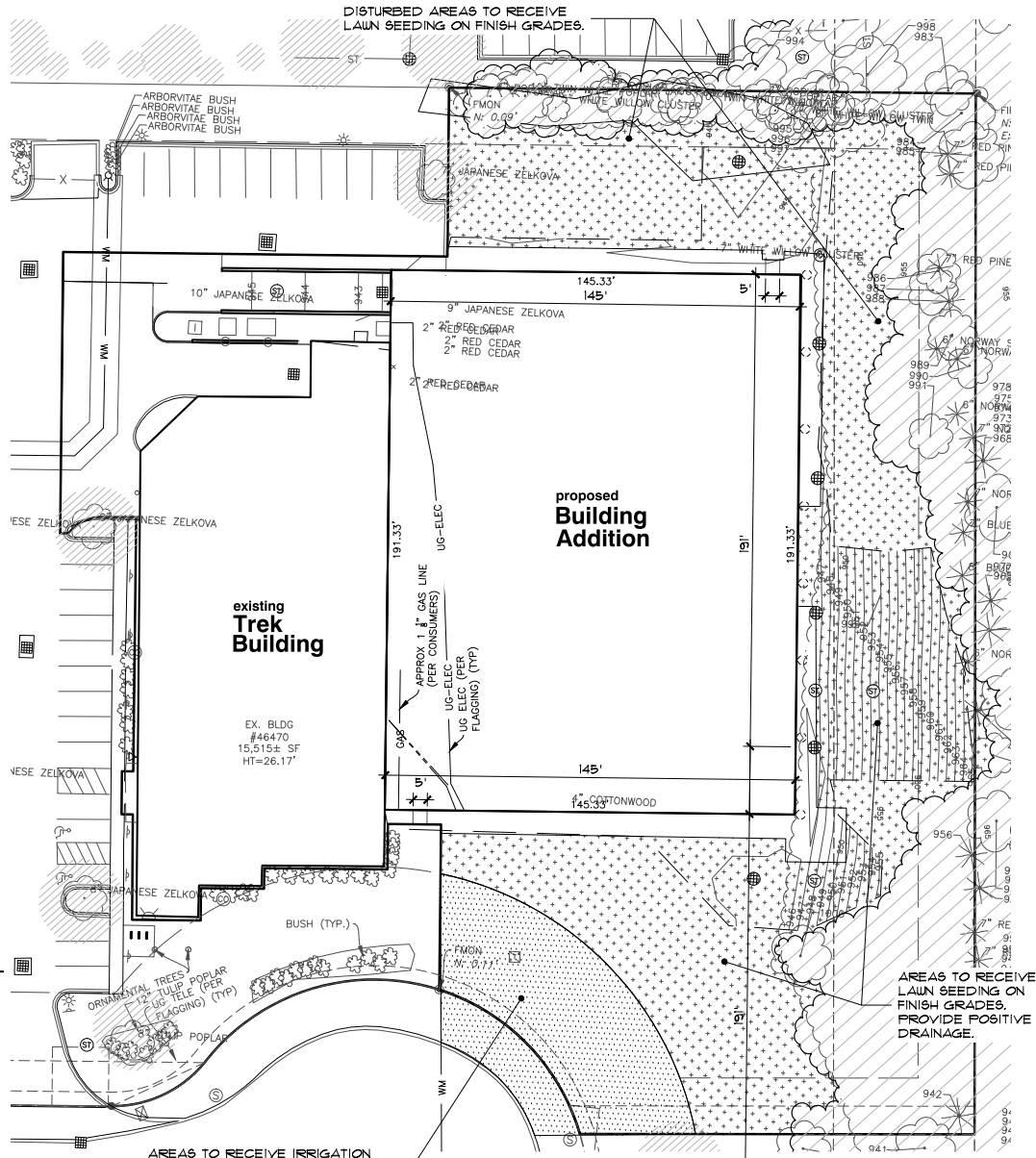
evergreen planting detail

no scale



multi-stem tree planting detail

no scale



2A sod, seeding, irrigation & area reference plan

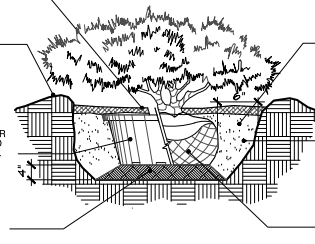
SCALE: 1"=40'-0"

hatch pattern legend

AREAS TO RECEIVE IRRIGATION AND SOD, MAINTAINED AND MOVED WEEKLY

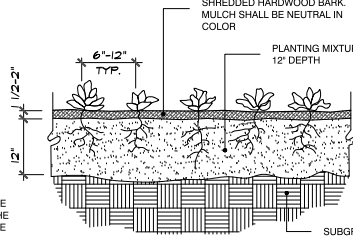
AREAS TO RECEIVE LAWN SEEDING

NOTE:
1. SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.
2. PRUNE ONLY DEAD OR BROKEN BRANCHES.
3. REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS



shrub planting detail

no scale



perennial planting detail

no scale



FELINO A. PASCUAL
and ASSOCIATES
Community Land Planner and
registered Landscape Architect
24333 Orchard Lake Rd., Suite G
Farmington Hills, Michigan 48336
phone: (248) 557-5588

seal:



client:

BRIVAR
CONSTRUCTION
COMPANY
9325 Malby Road Brighton,
Michigan 48116

project:

TREK BUILDING ADDITION

project location:

City of Novi,
Michigan

46470, 46500, & 46440
Desoto Court

sheet title:

PLANTING DETAILS AND LANDSCAPE NOTES

job no. / issue / revision date:

LS23.115.11 PSP 11-9-2023

LS23.115.11 PSP 12-22-2023

drawn by:

JP

checked by:

FP

date:

11-5-2023

notice:

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Do Not scale drawings. Use figured dimensions only



For true location of public utility lines

The location 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 of accuracy. contractor shall be exclusively responsible for determining the exact location and elevation prior to the start of construction

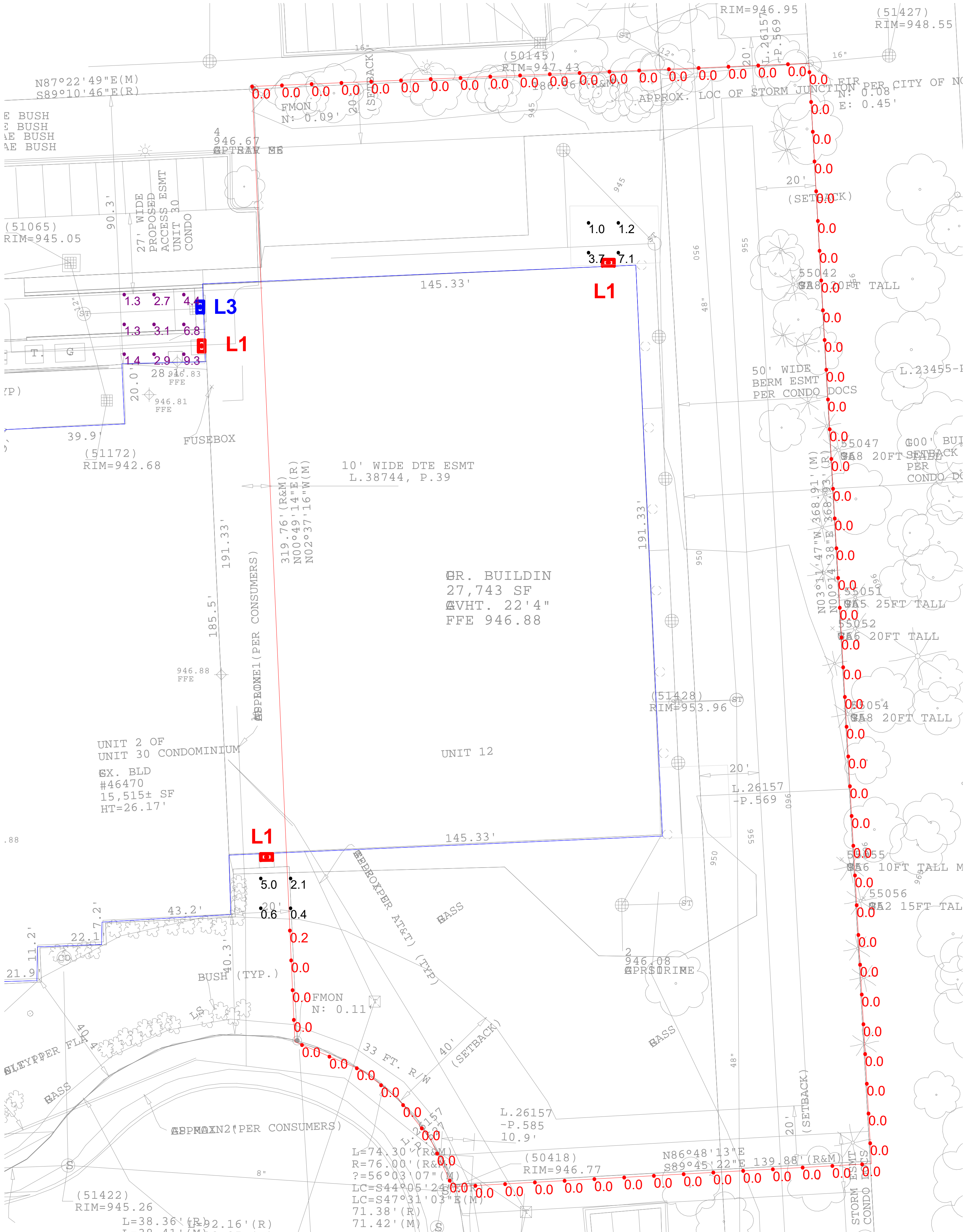
project no:

LS23.115.11



sheet no:

LS-2 of 2

City Project No.
JSP23-0032



Scale: 1 inch= 20 Ft.

Luminaire Schedule							
Symbol	Qty	Label	LLF	Description	Lum. Watts	Lum. Lumens	Mounting Height
	3	L1	0.900	LUMARK AXCS1A	13.5	1806	8
	1	L3	0.900	MCGRAW EDISON GWC-SA1C-740-U-SL4	59	7178	15.5

Calculation Summary					
Label	Units	Avg	Max	Min	Max/Min
Exit Doors	Fc	2.64	7.1	0.4	17.75
Property Line	Fc	0.00	0.2	0.0	N.A.
Truck Dock Area	Fc	3.69	9.3	1.3	7.15
East Exit Door	Fc	0.00	0.0	0.0	N.A.
North Door	Fc	3.25	7.1	1.0	7.10
West Door	Fc	4.53	9.3	1.4	6.64
					3.24

CALCULATION POINTS TAKEN AT GRADE.

NOTES:

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF LAYOUT TO EXISTING/FUTURE FIELD CONDITIONS AND ALL MANDATORY BUILDING AND LIFE SAFETY CODES AND COMPLIANCE.

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/LEDS AND OTHER VARIABLE FIELD CONDITIONS.

MOUNTING HEIGHTS INDICATED ARE FROM GRADE TO BOTTOM OF LUMINAIRE LENS OR FROM FLOOR TO BOTTOM OF LUMINAIRE LENS, UNLESS OTHERWISE NOTED.

CLARUS DOES NOT ACT AS THE ELECTRICAL, CIVIL OR STRUCTURAL ENGINEER AND DOES NOT DETERMINE BASE REQUIREMENTS AND APPLICABLE CODE COMPLIANCE. CLARUS IS NOT LIABLE FOR ANY CODE COMPLIANCE DISCREPANCY.

LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT OF RECORD IS RESPONSIBLE TO REVIEW FOR CODE COMPLIANCE, INCLUDING AND NOT LIMITED TO - NFPA 101 LIFE SAFETY CODE, MICHIGAN ENERGY CODE, MICHIGAN BUILDING CODE AND/OR IECC CODE, LIGHTING QUALITY COMPLIANCE AND LOCAL LIGHTING ORDINANCES.

FOR SITE PLAN PHOTOMETRICS, THE USE OF ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

REVISION
REVISION NO. 1
REVISION NO. 2

30775 Barrington St.
Madison Heights, MI 48071
P: 248.677.0850
F: 248.677.0512
E: info@clarus-lighting.com

CLARUS
LIGHTING & CONTROLS

PROJECT TITLE
TREK BUILDING ADDITION
NOVI, MI

SHEET TITLE
PHOTOMETRIC CALCULATION
SITE

DATE
12-21-23
PROJECT No.
CLC23-111639
SHEET No.

L201

Lumark	
Catalog #	Type
L1	
Project	Date
Comments	
Prepared by	

DESCRIPTION

The patented Lumark Crosstour™ LED Wall Pack Series of luminaires provides an architectural style with super bright, energy efficient LEDs. The low-profile, rugged die-cast aluminum construction, universal back box, stainless steel hardware along with a sealed and gasketed optical compartment make the Crosstour impervious to contaminants. The Crosstour wall luminaire is ideal for wall/surface, inverted mount for facade/canopy illumination, post/bollard, site lighting, floodlight and low level pathway illumination including stairs. Typical applications include building entrances, multi-use facilities, apartment buildings, institutions, schools, stairways and loading docks test.

SPECIFICATION FEATURES

Construction
Slim, low-profile LED design with rugged one-piece, die-cast aluminum hinged removable door and back box. Matching housing styles incorporate both a small and medium design. The small housing is available in 12W, 18W and 26W. The medium housing is available in the 38W model. Patented secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes three half-inch NPT threaded conduit entry points. The universal back box supports both the small and medium forms and mounts to standard 3/12" to 4" round and octagonal, 4" square, single gang and masonry junction boxes. Key hole gasket allows for adaptation to junction box or wall. External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Minimum 6" wide pole for site lighting application. Not recommended for car wash applications.

Optical
Silicone sealed optical LED chamber incorporates a custom engineered mirrored anodized reflector providing high-efficiency illumination. Optical assembly includes impact-resistant tempered glass and meets IESNA requirements for full cutoff compliance. Available in seven lumen packages: 5000K, 4000K, and 3000K CCT.

Electrical
LED driver is mounted to the die-cast housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 12W, 18W, 26W and 38W series operate in -40°C to 40°C (40°F to 104°F). High ambient 50°C models available. Crosstour luminaires maintain greater than 80% of initial light output after 72,000 hours of operation. Three half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized electrical wiring compartment. Integral LED electronic driver is standard 0-10V dimming. 120-277V 50/60Hz or 347V 50Hz models.

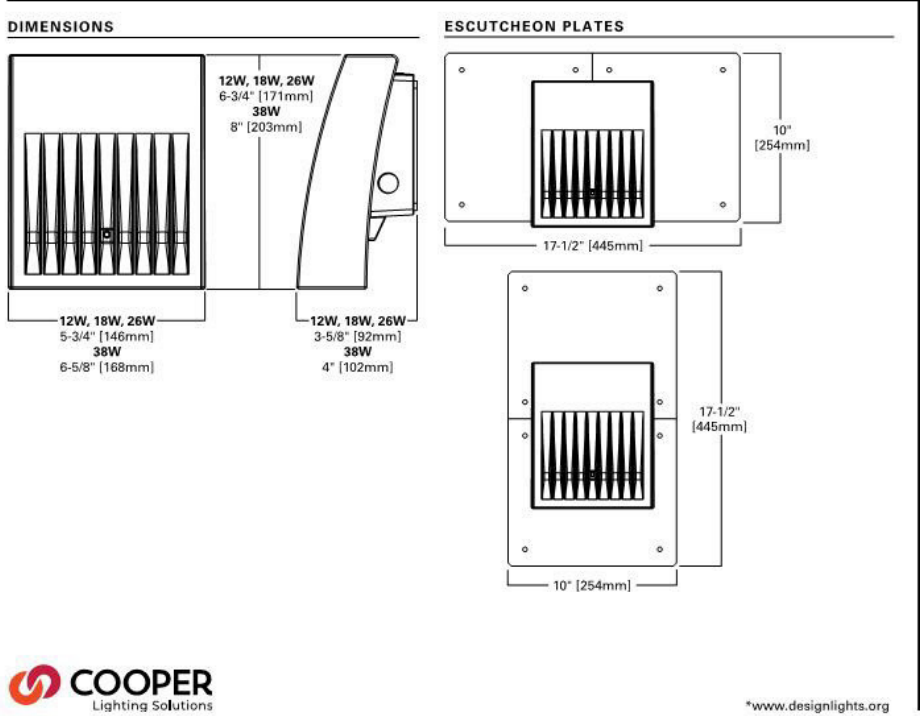
Finish
Crosstour is protected with a Super durable TGC carbon bronze or summit white polyester powder coat paint. Super durable TGC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life. Options to meet Bay American and other domestic preference requirements.

Warranty
Five-year warranty.



XTOR CROSSTOUR LED

APPLICATIONS:
WALL / SURFACE
POST / BOLLARD
LOW LEVEL
FLOODLIGHT
INVERTED
SITE LIGHTING



CERTIFICATION DATA
Dark Sky Approved (Fixed mount, Full cutoff, and 3000K CCT only)
UL-listed, Wet Location Listed
LM78 / LM81 Compliant
RoHS Compliant
ADA Compliant
NEMA Compliant Models
IP68 Approved Protection Rated
The 24 Compliant
DesignLights Consortium™ Qualified®

TECHNICAL DATA
40°C Maximum Ambient Temperature
External Supply Wiring 90°C Minimum

EPA
Effective Projected Area (Sq. Ft.):
XTOR18, XTOR26, XTOR38=0.34
XTOR48=0.45

SHIPPING DATA:
Approximate Net Weight:
3.7 - 5.25 lbs. (1.7 - 2.4 kg)

TS014810EN
December 14, 2021 12:27 PM

*www.designlights.org

Project	Catalog #	Type	L2, L3
Prepared by	Notes	Date	

McGraw-Edison

GWC Galleon Wall

Wall Mount Luminaire

Typical Applications
Exterior Wall - Walkway

Interactive Menu

- Ordering Information page 2
- Product Specifications page 3
- Optical Configurations page 3
- Energy and Performance Data page 4
- Control Options page 5

Product Certifications

DLC, ENEC, IESNA, UL, FCC, IP66, IESNA, YEAR, Light Authority

Connected Systems

- WaveLink
- Enlighted

Quick Facts

- Choice of thirteen high-efficiency, patented AccuLED Optics™
- Downward and inverted wall mounting configurations
- Eight lumen packages from 3,215 up to 17,056
- Efficacies up to 154 lumens per watt

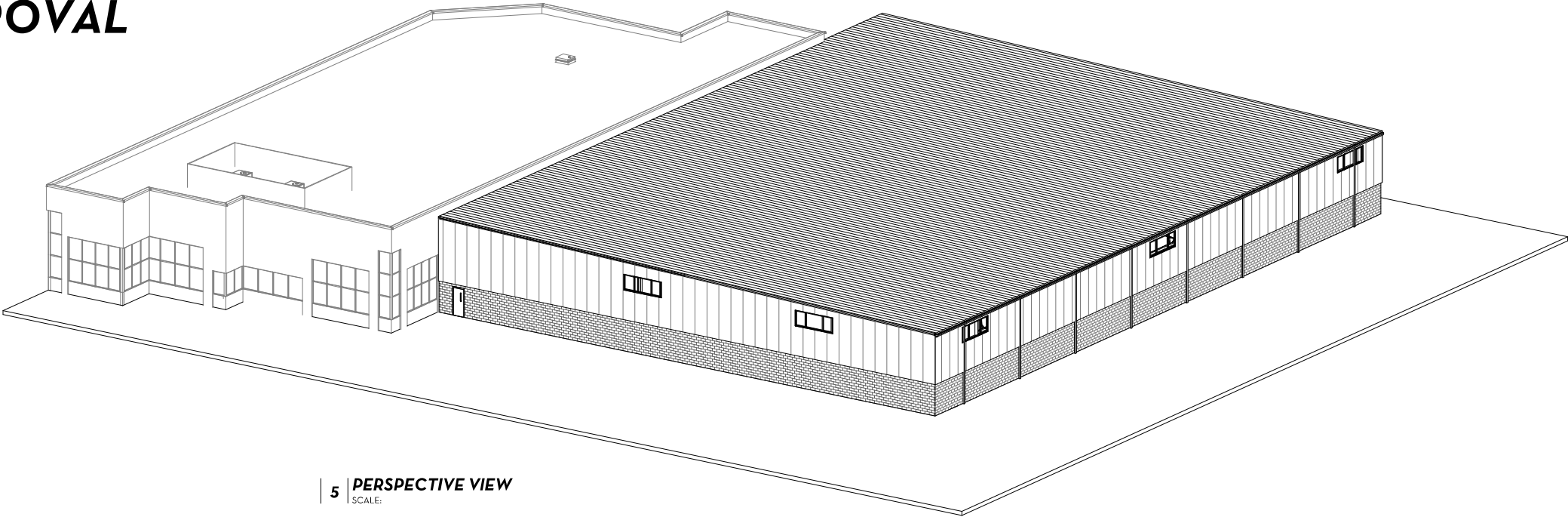
Dimensional Details

COOPER Lighting Solutions

TS0000002EN page 1
April 12, 2021 1:07 PM

TREK INC. EXPANSION PROJECT

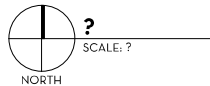
ISSUE FOR: SITE PLAN APPROVAL



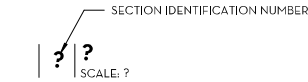
5 | PERSPECTIVE VIEW
SCALE:

REFERENCE SYMBOLS

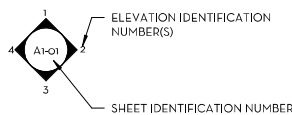
PLAN IDENTIFICATION



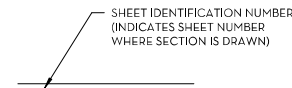
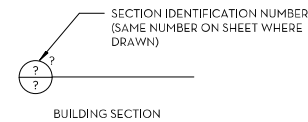
TITLE IDENTIFICATION



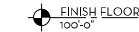
ELEVATION LOCATION IDENTIFICATION



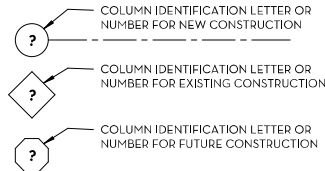
SECTION LOCATION IDENTIFICATION



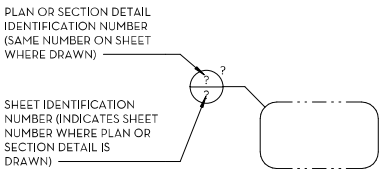
ELEVATION INDICATION



COLUMN INDICATION



DETAIL LOCATION IDENTIFICATION



WALL TYPE INDICATION



MATERIAL OR WORK DIVISION INDICATION



ROOF OR RAMP PITCH INDICATION



ROOF OR RAMP SLOPE INDICATION



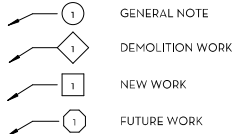
ROOM NAME AND NUMBER INDICATION



DOOR NUMBER INDICATION



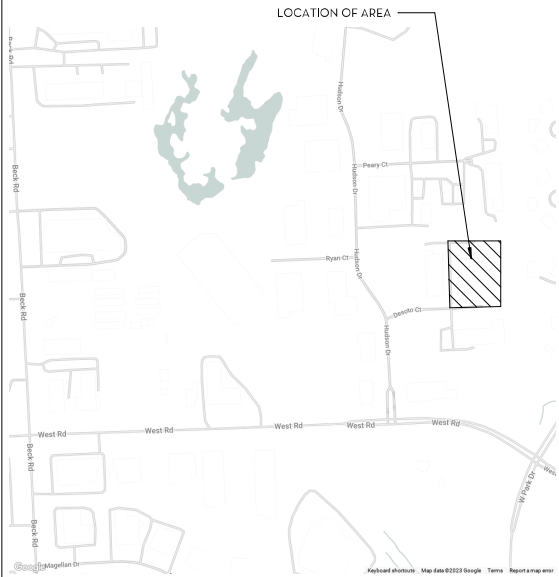
KEYED NOTE SYMBOLS



MATCH LINE - REFER TO SHEET X/XX-00

PROJECT DESCRIPTION

30,000 SF WAREHOUSE ADDITION ON THE EAST SIDE OF THE EXISTING BUILDING. THE NEW STRUCTURE WILL BE PEMB WITH MASONRY AND INSULATED METAL PANEL FACADE



LOCATION MAP
NOT TO SCALE

PROJECT TEAM

OWNER

ARCHITECT
FIKA ARCHITECTS LLC
DAVID M. MURPHY, AIA, NCARB
3411 GEDDES ROAD
ANN ARBOR, MI 48105
DAVID@BYFIKA.COM
(248) 946-1622

STRUCTURAL ENGINEER
RICHARD KOZLOWICZ, PE
RKOZLOWICZ@COMCAST.NET
(248) 892-7201

MECHANICAL ENGINEER
TBD - (DESIGN BUILD)

ELECTRICAL ENGINEER
TBD (DESIGN-BUILD)

CIVIL ENGINEER
MONUMENT ENGINEERING GROUP
ALLAN W. PRUSS, PE, PS
APRUS@MONUMENTENGINEERING.COM
(248) 240-0242

GENERAL CONTRACTOR



DRAWING INDEX - PROJECT

SHEET #	SHEET TITLE	RESPONSIBLE FIRM	30% OWNER REVIEW	SITE PLAN APPROVAL	BUILDING PERMIT	CONSTRUCTION (DATE)	REVISION 01 (DATE)
GENERAL INFORMATION							
GI-01	COVER SHEET	FIKA ARCHITECTS	•	•			
GI-02	LIFE SAFETY	FIKA ARCHITECTS	•	•			
GI-03	NOTES & MOUNTING DETAILS	FIKA ARCHITECTS	•	•			
STRUCTURAL							
S-01	FOUNDATION PLAN	FIKA ARCHITECTS	•	•			
ARCHITECTURAL							
A1-01	OVERALL FLOOR PLAN	FIKA ARCHITECTS	•	•			
A1-02	OVERALL ROOF PLAN	FIKA ARCHITECTS	•	•			
A2-01	ELEVATIONS	FIKA ARCHITECTS	•	•			
A2-02	ELEVATIONS	FIKA ARCHITECTS	•	•			
A3-01	BUILDING SECTIONS	FIKA ARCHITECTS	•	•			
A3-02	WALL SECTIONS	FIKA ARCHITECTS					
A3-03	WALL SECTIONS	FIKA ARCHITECTS					
A4-01	ENLARGED FLOOR PLANS	FIKA ARCHITECTS					
A6-01	DETAILS	FIKA ARCHITECTS					
A6-02	DETAILS	FIKA ARCHITECTS					
A7-01	SCHEDULES	FIKA ARCHITECTS					

MINIMUM INSULATION VALUES

VALUES BASED ON ASHRAE 90.1-2003 & MINCHIGAN ENERGY CODE 2015
CLIMATE ZONE - 5A

OPAQUE ASSEMBLIES:

ROOFS:

- INSULATION ENTIRELY ABOVE DECK R-30.0 C.I. (U-0.032)
- METAL BUILDING R-19 + R-11 LS (U-0.037) OR R-25 + R-8 LS
- ATTIC AND OTHER: R-49.0 (U-0.020)

WALLS, ABOVE-GRADE:

- MASS WALLS (CONCRETE, CMU) R-11.4 C.I. (U-0.090)
- METAL BUILDING R-0 + R-19 C.I. (U-0.050)
- STEEL-FRAMED R-13.0 + R-10 C.I. (U-0.055)
- WOOD-FRAMED AND OTHER R-13.0 + R-7.5 C.I. (U-0.095) OR R-19 + R-5 C.I.

WALLS, BELOW-GRADE:

- BELOW-GRADE WALLS (ALL) R-7.5 C.I. (C-0.119)
- FLOORS (EXPOSED BENEATH)
- MASS R-14.6 C.I. (U-0.057)
- STEEL-JOIST R-30.0 (U-0.038)
- WOOD-FRAMED AND OTHER R-30.0 (U-0.033)

SLAB-ON-GRADE FLOORS

UNHEATED R-15 FOR 24 IN. (F-0.520)
HEATED R-20 FOR 48 IN. (F-0.688)

OPAQUE DOORS

SWINGING & NONSWINGING (U-0.500)

FENESTRATION (INCLUDING GLAZED DOORS):

VERTICAL GLAZING, 0% - 40% OF WALL

- NONMETAL FRAMING (ALL) U-0.32 SHGC-0.40 VT/SHGC + 1.10
- METAL FRAMING
- FIXED U-0.42 SHGC-0.40 VT/SHGC + 1.10
- OPERABLE U-0.50 SHGC-0.40 VT/SHGC + 1.10
- ENTRANCE DOOR U-0.77 SHGC-0.40 VT/SHGC + 1.10

SKYLIGHT, ALL TYPES

- 0% - 3% OF ROOF UALL-0.50 SHGCALL-0.40 (NO VT/SHGC REQ'D.)

MICHIGAN BUILDING CODE 2015

SPACE/AREA	USE GROUP	AREA (SF)	CONST. TYPE	TABULAR HT. (FT)/STORIES (TABLE 504.3 & 504.4)	TABULAR AREA (SF) (TABLE 506.2)	FRONTAGE INCREASE (506.3)	ALLOWABLE AREA, TA + FRONTAGE INCREASE	OCCUPANT LOAD (1004.11)	508.2 (MBC) ACCESSORY OCCUPANCY LESS THAN 10% OF MAIN OCCUPANCY TO BE TREATED AS PART OF MAIN OCCUPANCY
EXISTING WAREHOUSE	S-1	10,991 SF	II-B	75'-0"/3	70,000 S.F.	75%	83,125 S.F.	22 OCC.	
EXISTING OFFICE	B	3,977 SF	II-B	75'-0"/4	92,000 S.F.	75%	109,250 S.F.	40 OCC.	
NEW WAREHOUSE	S-1	27,908 SF	II-B	75'-0"/3	70,000 S.F.	75%	83,125 S.F.	56 OCC.	
TOTAL BUILDING		44,269 SF						118 OCC.	
MEANS OF EGRESS WIDTH (1005.3.2)		121 OCCUPANTS X 0.15 = 18.15" PROVIDED = 204" TOTAL							
NUMBER OF EXITS (1006.3.1)		2 EXITS REQUIRED 6 PROVIDED							
MAX OCCUPANTS W/ 1 EXIT COMMON PATH OF EGRESS TRAVEL (TABLE 1006.2.1)		S-1 - 29 OCC/100'-0" PROVIDED 0'-0" B - 49 OCC/100'-0" PROVIDED 66'-4"							
EXIT ACCESS TRAVEL DISTANCE (TABLE 1017.2)		B - 300'-0" M - 250'-0" MAX. TRAVEL DISTANCE PROVIDED = 229'-3"							
FIRE ALARM AND DETECTION STM. (907)		FIRE ALARM SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH 907							
FIRE SUPPRESSION (903.2.1.2)		FIRE SUPPRESSION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH (903.2.7)							
OCCUPANCY SEPARATIONS/ FIRE BARRIERS (508.3/707)		NONSEPERATED OCCUPANCIES (508.3)							
MICHIGAN ENERGY CODE		SEE ATTACHED COM CHECK							

FIRE-RESISTANT RATINGS OF BUILDING ELEMENTS (TABLE 601) II-B

BUILDING ELEMENT	FIRE RESISTANT RATING REQUIRED/PROVIDED	ASSEMBLY CERT. (U.L. U.N.O.)
STRUCTURAL FRAME (BEAMS & TRUSSES)	oHR / oHR	NA
BEARING WALLS EXTERIOR	oHR / oHR	NA
BEARING WALLS INTERIOR	oHR / oHR	NA
NONBEARING WALLS EXTERIOR	oHR / oHR	NA
ROOF CONST. INCLUD. BEAMS & JOISTS	oHR / oHR	NA
FLOOR CONST. INCLUD. BEAMS & JOISTS	oHR / oHR	NA

BUILDING CODES APPLICABLE TO THIS PROJECT

BUILDING:	2015 MICHIGAN BUILDING CODE
ACCESSIBILITY:	MICHIGAN BARRIER FREE
DESIGN CODE:	ICC/ANSI A117.1-2009
PLUMBING:	2015 MICHIGAN PLUMBING CODE
FIRE:	2015 INTERNATIONAL FIRE CODE
MECHANICAL:	2015 MICHIGAN MECHANICAL CODE
ELECTRICAL:	2017 NEC W/PART 8 STATE OF MI AMENDMENTS
FIRE ALARM:	2015 NFPA 72
ENERGY:	2015 PART 10 MICHIGAN ENERGY CODE
SPRINKLERS	NFPA 13

MPC 2015 - PLUMBING FIXTURE COUNT									
OCC.	# OCC.	MALE WC RATIO	FEMALE WC RATIO	MALE LAV RATIO	FEMALE LAV RATIO	DRINKING F. RATIO	REQ.	RATIO	REQ.
S-1	22	1/100	0.11	1/100	0.11	1/100	0.11	1/1,000	0.02
B	40	1/25/150	0.80	1/25/150	0.80	1/40/180	0.50	1/100	0.40
S-1	59	1/100	0.28	1/100	0.28	1/100	0.28	1/1,000	0.06
TOTAL		57	EXACT ROUND	1.19	1.19	0.89	0.89	0.48	0.48
PROVIDED		3	2	2	2	2			

GENERAL CODE COMPLIANCE NOTES

1. FIRE EXTINGUISHERS - CONTRACTOR TO PROVIDE PORTABLE FIRE EXTINGUISHERS DURING CONSTRUCTION IN ACCORDANCE WITH NFPA 10 AND BEAR THE LABEL OF AN APPROVED AGENCY.

2. INTERIOR FINISH REQUIREMENTS (803.11 & 803.11) BASED ON USE GROUP
ALL INTERIOR FINISHES MUST COMPLY WITH SECTION 803.11 BASED ON USE GROUP

- CLASS A FLAME SPREAD INDEX 0-25, SMOKE DEVELOPMENT INDEX 0-450
- CLASS B FLAME SPREAD INDEX 26-75, SMOKE DEVELOPMENT INDEX 0-450
- CLASS C FLAME SPREAD INDEX 76-200, SMOKE DEVELOPMENT INDEX 0-450

- INTERIOR EXIT STAIRWAYS AND RAMPS AND EXI PASSAGEWAYS - CLASS A
- COORIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND RAMPS - CLASS B
- ROOMS AND ENCLOSED SPACES - CLASS C

3. DEFERRED SUBMITTALS (107.3.4.1)

- FIRE DETECTION & ALARM SYSTEM (MBC 907) (BY OTHERS)
- HVAC SYSTEM (BY OTHERS)
- ELECTRICAL SYSTEM (BY OTHERS)
- PLUMBING SYSTEM (BY OTHERS)

4. STATEMENT OF SPECIAL INSPECTIONS (1704.2.3)
THE FOLLOWING REQUIRE SPECIAL INSPECTIONS:

- STEEL CONSTRUCTION (1705.2)
- SOILS (1705.6)
- HELICAL PILE FOUNDATION (1705.9)
- FABRICATED ITEMS (1705.10)

ALL CONSTRUCTION SHALL BE PROTECTED AS INDICATED ON THE LIFE SAFETY DRAWINGS AND CODE SUMMARY. IF A DISCREPANCY EXISTS BETWEEN THE INFORMATION CONTAINED ON THESE SHEETS AND ON THE DETAILS, OR ELSEWHERE IN THE DOCUMENTS, CONSULT ARCHITECT.

EXIT SIGNAGE REQUIRED - BY OTHERS

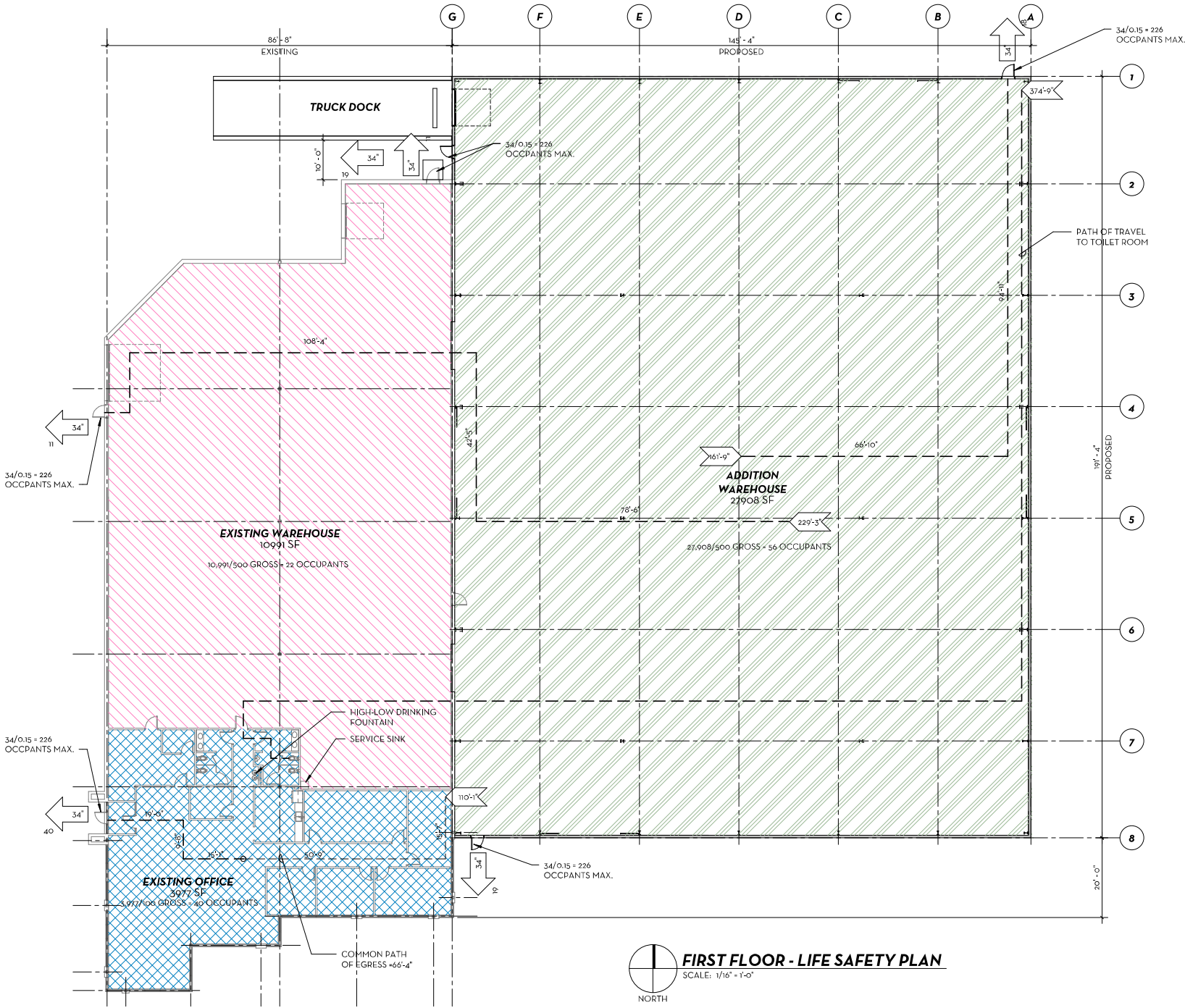
AREA LEGEND

- ADDITION WAREHOUSE
- EXISTING OFFICE
- EXISTING WAREHOUSE

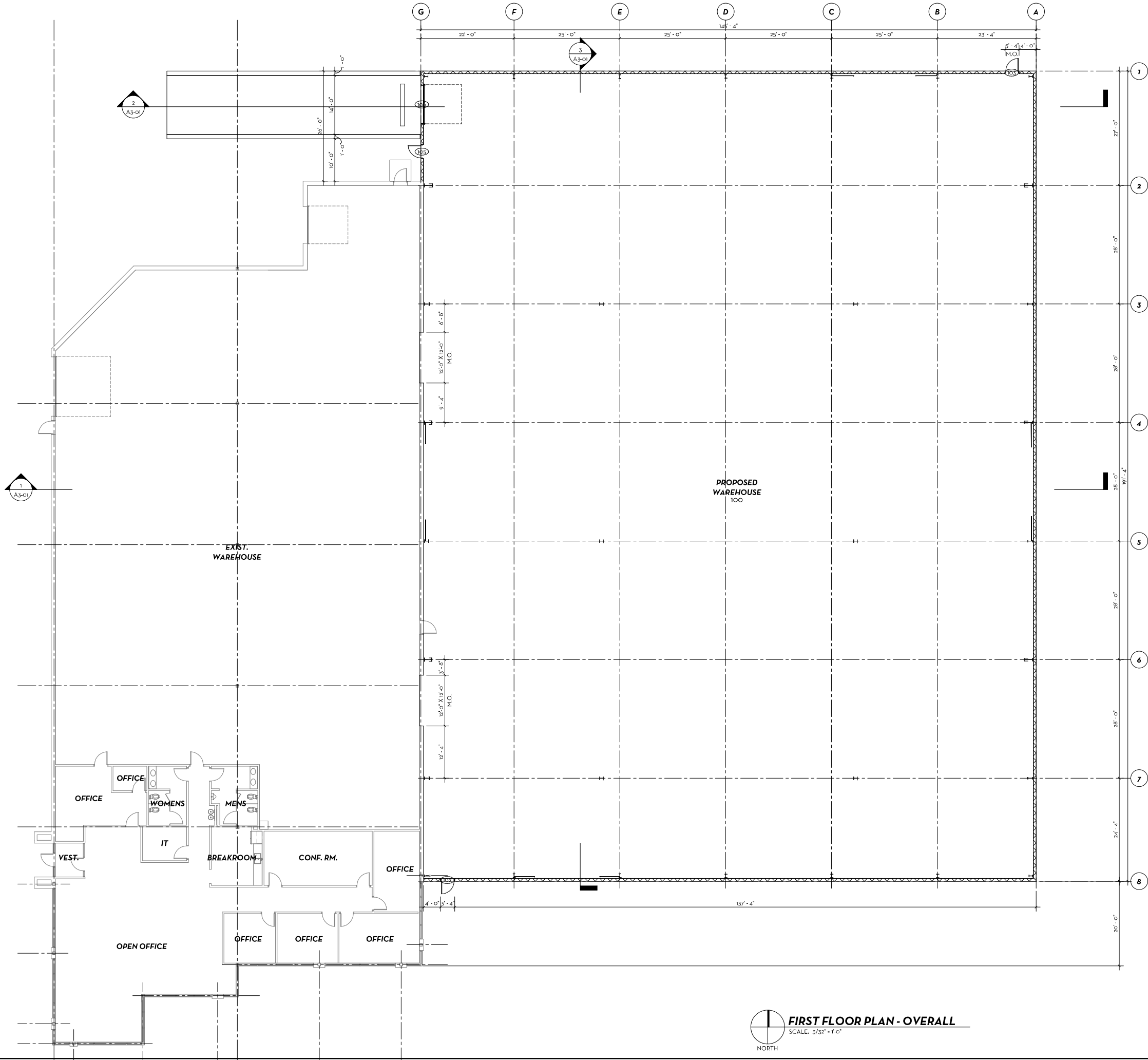
EGRESS LEGEND:

- B 18,000 SF USE GROUP AND SQUARE FOOTAGE
- AREA OF WORK
- EXISTING CONSTRUCTION TO REMAIN
- NEW CONSTRUCTION
- 1 HOUR RATED WALL
- 2 HOUR RATED WALL
- 3 HOUR RATED WALL
- 4 HOUR RATED WALL

- COMMON PATH OF EGRESS TRAVEL (OCCUPANT) EGRESS START POINT
- TRAVEL DISTANCE
- POINT WHERE 2 EGRESS PATHS
- EGRESS PATH OF TRAVEL
- DOOR EGRESS WIDTH
- # OF OCCUPANTS EXITING



FIRST FLOOR - LIFE SAFETY PLAN
SCALE: 1/16" = 1'-0"



FIRST FLOOR PLAN - OVERALL
SCALE: 3/32" = 1'-0"

REVISIONS:		DATE	DESCRIPTION
MARK			

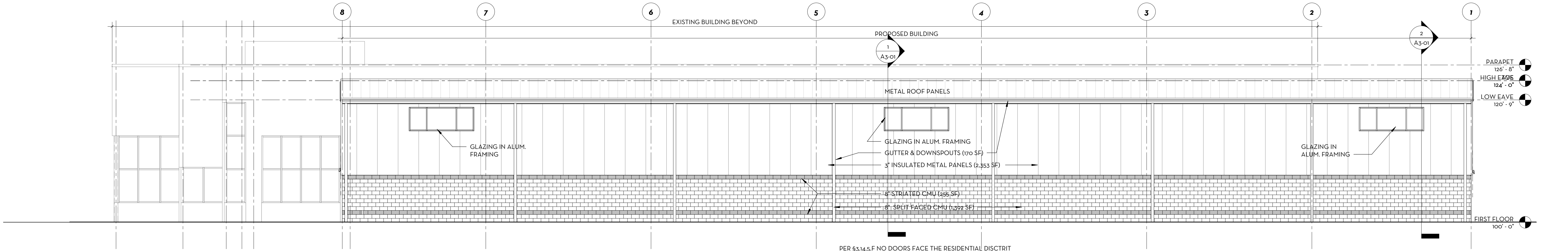


FACADE MATERIAL SCHEDULE - REGION 3 - §5.15			
WALL MATERIAL	AREA FT ²	PROPOSED %	MAX. ALLOWABLE %
NORTH ELEVATION			
FLUTED & SPLIT FACE CMU	1,038	30.4% - OK	75%
STRIATED CMU	192	5.6 % - OK	25 %
FLAT METAL PANELS	2,112	61.9 % - OK	75 %
TRIM	73	2.1% OK	15 %
TOTAL	3,415 FT ²		
EAST ELEVATION			
FLUTED & SPLIT FACE CMU	1,392	33.4% - OK	75%
STRIATED CMU	255	6.1 % - OK	25 %
FLAT METAL PANELS	2,353	56.4 % - OK	75 %
TRIM	170	4.1% - OK	15 %
TOTAL	4,170 FT ²		

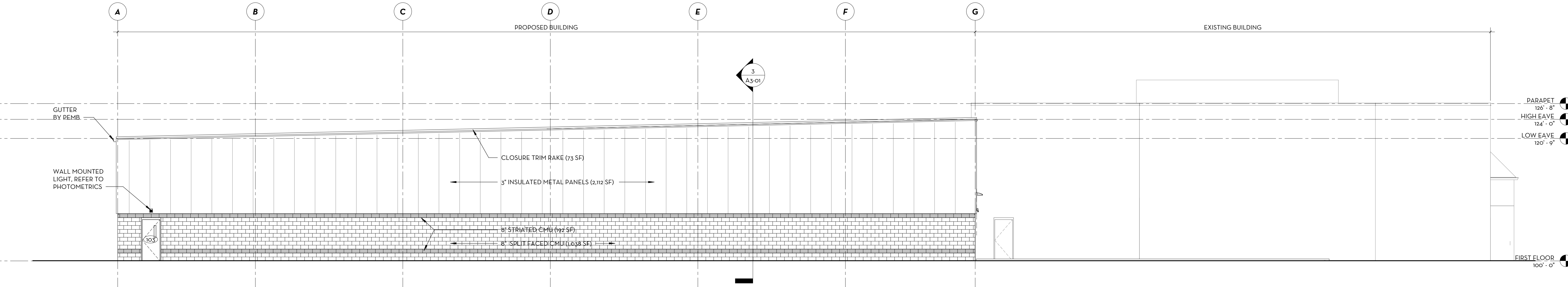
GENERAL NOTES:
1. PLAIN FACED CMU ARE NOT PERMITTED. GROUND, PLISHED, BURNISHED AND STRIATED FACED CMU ARE ONLY PERMITTED IF LAID IN A STACKED BOND PATTERN
2. THE COMBINED MAXIMUM AMOUNT OF ALL CMU SHALL NOT BE GREATER THAN 75% OF ANY ONE BUILDING AND/OR FACADE

NOTES TO THE REVIEWER:
1. ALL VISION GLASS & DOORS HAVE BEEN OMITTED FROM CALCULATION
2. ROOF AREAS ARE < 3:12 PITCH AND ARE THEREFORE NOT CALCULATED

MATERIAL SELECTIONS:
INSULATED METAL PANEL - FALK - RAL 7038 - GOOSEWING GREY
CMU - PAINTED TO MATCH EXISTING (GREY)
ALUMINUM FRAMING - CLEAR ANODIZED ALUMINUM
GLAZING - TINTED TO MATCH EXISTING



2 | EAST ELEVATION
SCALE: 1/8" = 1'-0"



1 | NORTH ELEVATION
SCALE: 1/8" = 1'-0"

FACADE MATERIAL SCHEDULE - REGION 3 - §5.15			
WALL MATERIAL	AREA FT ²	PROPOSED %	MAX. ALLOWABLE %
SOUTH ELEVATION			
FLUTED & SPLIT FACE CMU	1,039	31.4% - OK	75%
STRIATED CMU	190	5.7 % - OK	25 %
FLAT METAL PANELS	2,006	60.7 % - OK	75 %
TRIM	73	2.2% - OK	15 %
TOTAL	3,308 FT ²		
WEST ELEVATION			
FLUTED & SPLIT FACE CMU	104	19.5% - OK	75%
STRIATED CMU	20	3.7 % - OK	25 %
FLAT METAL PANELS	398	74.4 % - OK	75 %
TRIM	13	2.4% - OK	15 %
TOTAL	535 FT ²		

- GENERAL NOTES:**
- PLAIN FACED CMU ARE NOT PERMITTED. GROUND, PLISHED, BURNISHED AND STRIATED FACED CMU ARE ONLY PERMITTED IF LAID IN A STACKED BOND PATTERN
 - THE COMBINED MAXIMUM AMOUNT OF ALL CMU SHALL NOT BE GREATER THAN 75% OF ANY ONE BUILDING AND/OR FACADE
- NOTES TO THE REVIEWER:**
- ALL VISION GLASS & DOORS HAVE BEEN OMITTED FROM CALCULATION
 - ROOF AREAS ARE < 3:12 PITCH AND ARE THEREFORE NOT CALCULATED
- MATERIAL SELECTIONS:**
- INSULATED METAL PANEL - FALK - RAL 7038 - GOOSEWING GREY
CMU - PAINTED TO MATCH EXISTING (GREY)
ALUMINUM FRAMING - CLEAR ANODIZED ALUMINUM
GLAZING - TINTED TO MATCH EXISTING

SEAL:

REVISIONS:

MARK	DESCRIPTION	DATE

TREK INC. EXPANSION

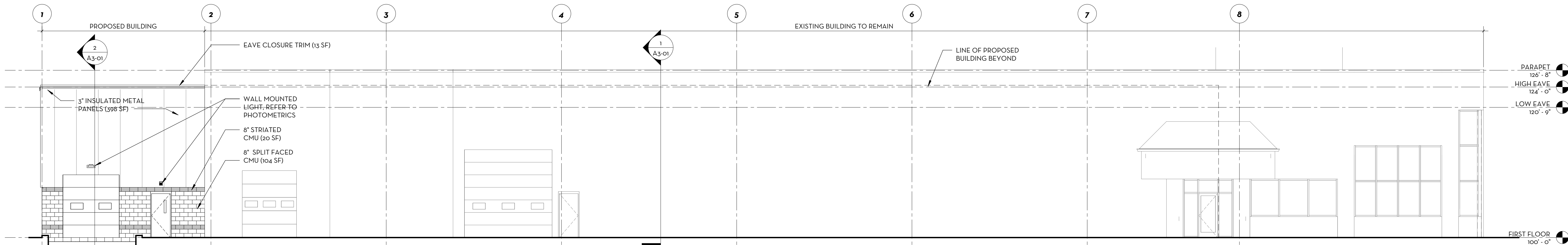
46470 DESOTO CT.
NOVI, MI 48377

ELEVATIONS

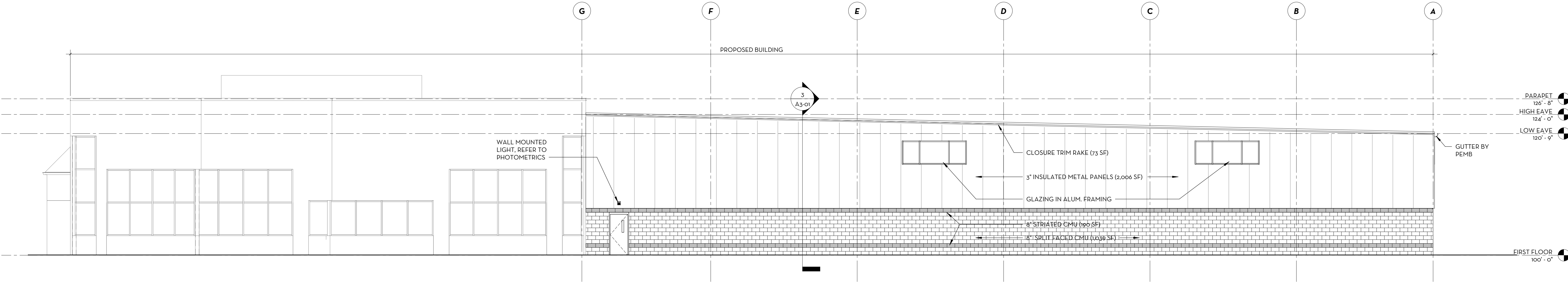
DATE:
12/26/2023

SHEET NO.

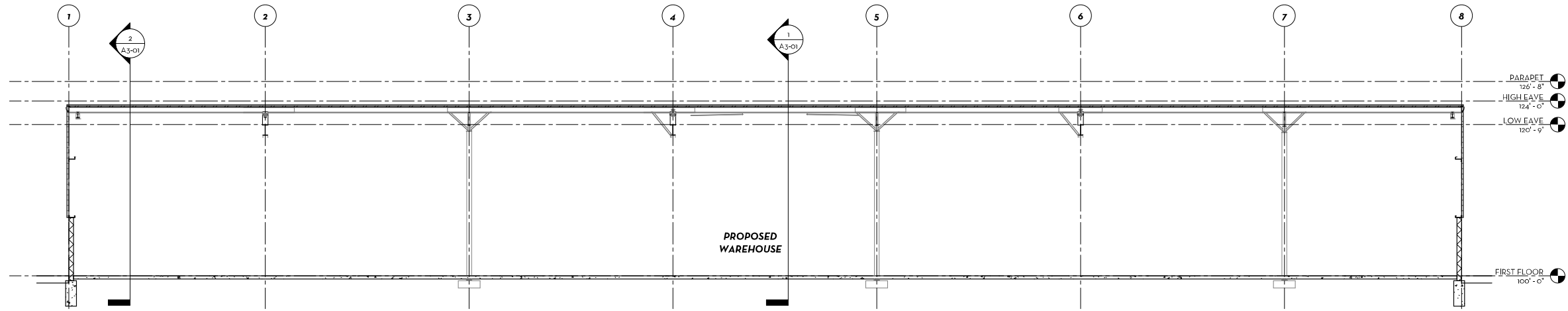
A2-02



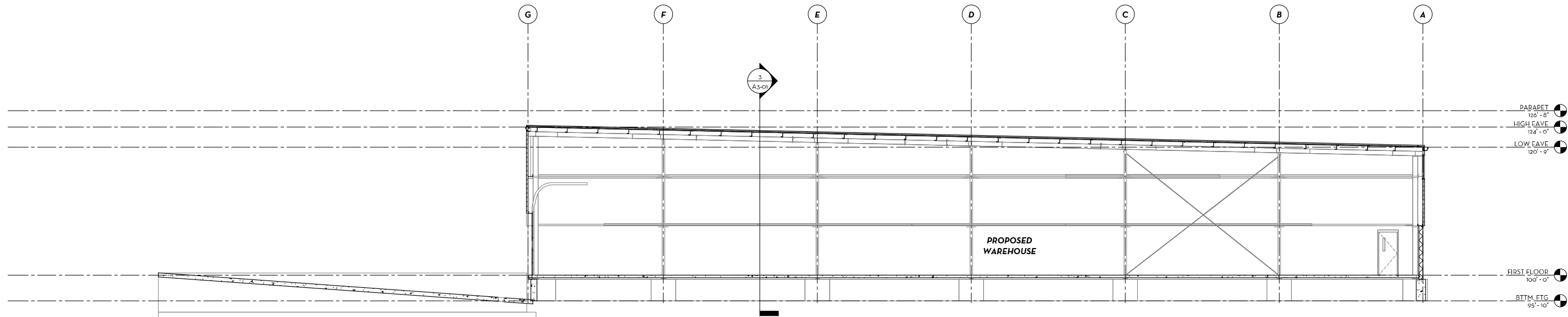
1 WEST ELEVATION
SCALE: 1/8" = 1'-0"



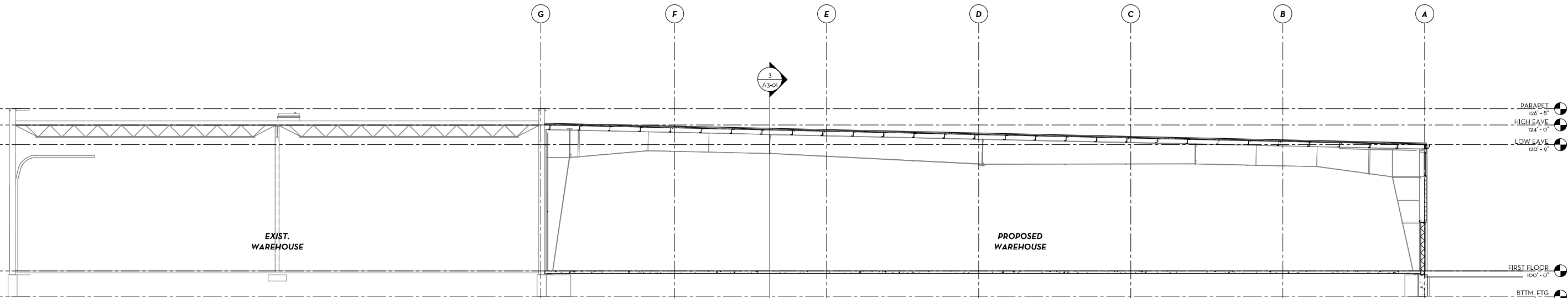
2 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



3 | **BUILDING SECTION 03**
SCALE: 1/8" = 1'-0"



2 | **BUILDING SECTION 02**
SCALE: 1/8" = 1'-0"



1 | **BUILDING SECTION 01**
SCALE: 1/8" = 1'-0"

REVISIONS:	DATE	DESCRIPTION	MARK

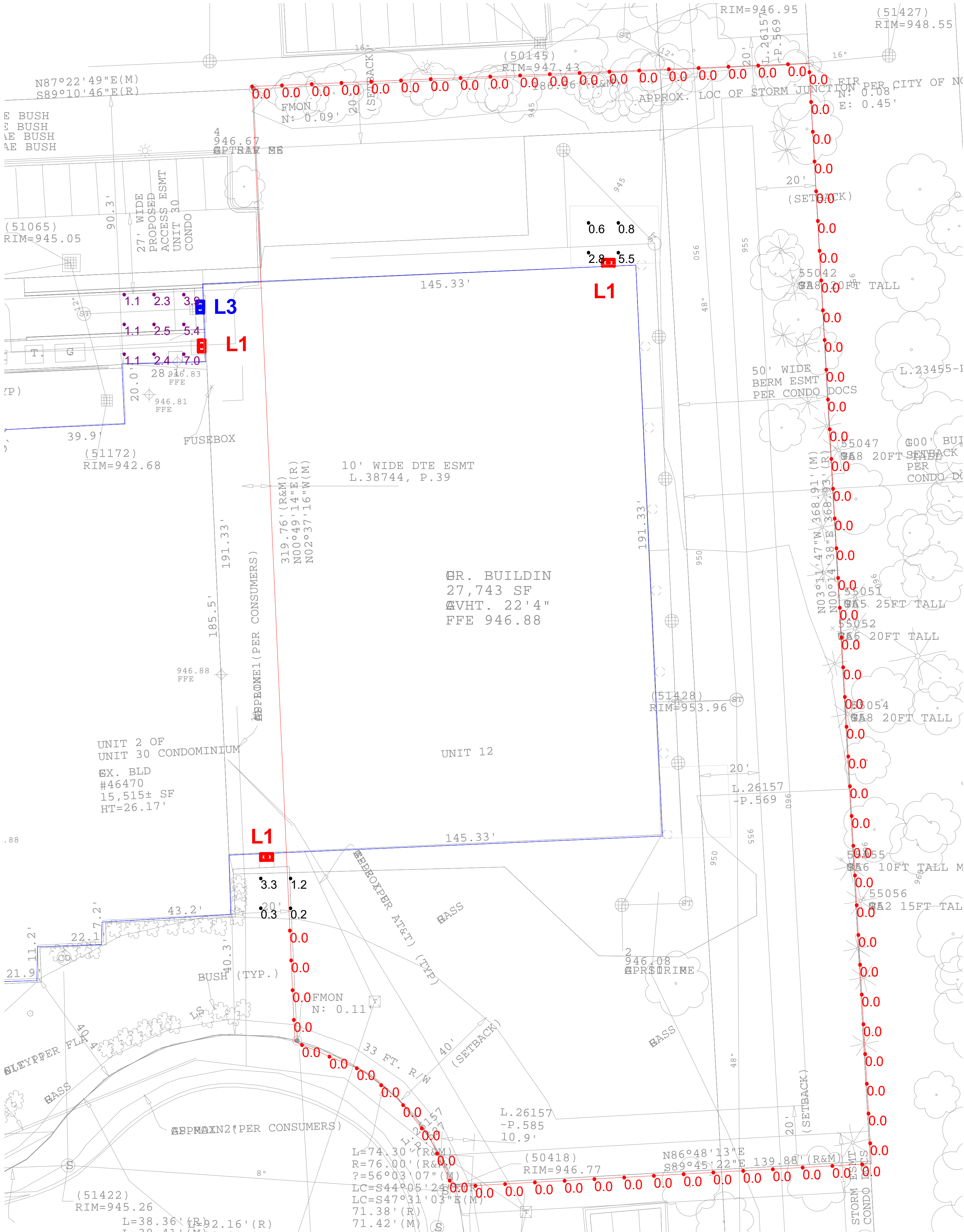
TREK INC. EXPANSION
46470 DESOTO CT.
NOVI, MI 48377

BUILDING SECTIONS

DATE:
11/09/2023

SHEET NO.

A3-01



Scale: 1 inch= 20 Ft.

NOTES:

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF LAYOUT TO EXISTING/FUTURE FIELD CONDITIONS AND ALL MANDATORY BUILDING AND LIFE SAFETY CODES AND COMPLIANCE

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/LEDS AND OTHER VARIABLE FIELD CONDITIONS.

MOUNTING HEIGHTS INDICATED ARE FROM GRADE TO BOTTOM OF LUMINAIRE LENS OR FROM FLOOR TO BOTTOM OF LUMINAIRE LENS, UNLESS OTHERWISE NOTED.

CLARUS DOES NOT ACT AS THE ELECTRICAL, CIVIL OR STRUCTURAL ENGINEER AND DOES NOT DETERMINE BASE REQUIREMENTS AND APPLICABLE CODE COMPLIANCE. CLARUS IS NOT LIABLE FOR ANY CODE COMPLIANCE DISCREPANCY.

LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT OF RECORD IS RESPONSIBLE TO REVIEW FOR CODE COMPLIANCE, INCLUDING AND NOT LIMITED TO - NFPA 101 LIFE SAFETY CODE, MICHIGAN ENERGY CODE, MICHIGAN BUILDING CODE AND/OR IECC CODE, LIGHTING QUALITY COMPLIANCE AND LOCAL LIGHTING ORDINANCES.

FOR SITE PLAN PHOTOMETRICS, THE USE OF ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

DESCRIPTION

The patented Lumark Crosstour™ LED Wall Pack Series of luminaires provides an architectural style with super bright, energy efficient LEDs. The low-profile, rugged die-cast aluminum construction, universal back box, stainless steel hardware along with a sealed and gasketed optical compartment make the Crosstour impervious to contaminants. The Crosstour wall luminaire is ideal for wall/surface, inverted mount for facade/canopy illumination, post/bollard, site lighting, floodlight and low level pathway illumination including stairs. Typical applications include building entrances, multi-use facilities, apartment buildings, institutions, schools, stairways and loading docks test.

SPECIFICATION FEATURES

Construction
Slim, low-profile LED design with rugged one-piece, die-cast aluminum hinged removable door and back box. Matching housing styles incorporate both a small and medium design. The small housing is available in 12W, 18W and 26W. The medium housing is available in the 38W model. Patented secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes three half-inch, NPT threaded conduit entry points. The universal back box supports both the small and medium forms and mounts to standard 3/12" to 4" round and octagonal, 4" square, single gang and masonry junction boxes. Key hole gasket allows for adaptation to junction box or wall. External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Minimum 6" wide pole for site lighting application. Not recommended for car wash applications.

Optical
Silicone sealed optical LED chamber incorporates a custom engineered mirrored anodized reflector providing high-efficiency illumination. Optical assembly includes impact-resistant tempered glass and meets IESNA requirements for full cutoff compliance. Available in seven lumen packages: 5000K, 4000K, and 3000K CCT.

Electrical
LED driver is mounted to the die-cast housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 12W, 18W, 26W and 38W series operate in -40°C to 40°C (40°F to 104°F). High ambient 50°C models available. Crosstour luminaires maintain greater than 80% of initial light output after 72,000 hours of operation. Three half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized electrical wiring compartment. Integral LED electronic driver is standard 0-10V dimming. 120-277V 50/60Hz or 347V 50Hz models.

Finish
Crosstour is protected with a Super durable TGC carbon bronze or summit white polyester powder coat paint. Super durable TGC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life. Options to meet Bay American and other domestic preference requirements.

Warranty
Five-year warranty.

Lumark

Catalog #	Type
L1	

Project	Date

Comments	

Prepared by	

XTOR CROSSTOUR LED

APPLICATIONS:
WALL / SURFACE
POST / BOLLARD
LOW LEVEL
FLOODLIGHT
INVERTED
SITE LIGHTING

CERTIFICATION DATA
Dark Sky Approved (Fixed mount, Full cutoff, and 3000K CCT only)
UL-listed, Wet Location Listed
LM78 / LM81 Compliant
ADA Compliant
NEMA Compliant Models
IP68 Approved Protection Rated
The 24 Compliant
DesignLights Consortium™ Qualified®

TECHNICAL DATA
40°C Maximum Ambient Temperature
External Supply Wiring 90°C Minimum

EPA
Effective Projected Area (Sq. Ft.):
XTOR18, XTOR26, XTOR38=0.34
XTOR48=0.45

SHIPPING DATA:
Approximate Net Weight:
3.7 - 5.26 lbs. (1.7 - 2.4 kg)

COOPER
Lighting Solutions

*www.designlights.org

Project

Catalog #

Type

L2, L3

Prepared by

Notes

Date

McGraw-Edison

GWC Galleon Wall

Wall Mount Luminaire

Typical Applications
Exterior Wall - Walkway

Product Certifications

Interactive Menu

- Ordering Information page 2
- Product Specifications page 3
- Optical Configurations page 3
- Energy and Performance Data page 4
- Control Options page 5

Quick Facts

- Choice of thirteen high-efficiency, patented AccuLED Optics™
- Downward and inverted wall mounting configurations
- Eight lumen packages from 3,215 up to 17,056
- Efficacies up to 154 lumens per watt

Dimensional Details

COOPER
Lighting Solutions

Connected Systems

- WaveLink
- Enlighted

Calculation Summary					
Label	Units	Avg	Max	Min	Max/Min
Exit Doors	Fc	1.84	5.5	0.2	27.50
Property Line	Fc	0.00	0.0	0.0	N.A.
Truck Dock Area	Fc	2.98	7.0	1.1	6.36
East Exit Door	Fc	0.00	0.0	0.0	N.A.
North Door	Fc	2.43	5.5	0.6	9.17
West Door	Fc	3.50	7.0	1.1	6.36

Luminaire Schedule						
Symbol	Qty	Label	LLF	Description	Lum. Watts	Lum. Lumens
L1	3	L1	0.900	LUMARK XTOR1B-Y	12.2	1327
L3	1	L3	0.900	MCGRW EDISON GWC-SA1C-730-U-SL4	59	6537

REVISION

REVISION NO. 1

REVISION NO. 2

REVISION NO. 3

30775 Barrington St.
Madison Heights, MI 48071
P: 248.677.0850
F: 248.677.0512
E: info@clarus-lighting.com

CLARUS
LIGHTING & CONTROLS

PROJECT TITLE

TREK BUILDING ADDITION

NOVI, MI

SHEET TITLE

PHOTOMETRIC CALCULATION

SITE

DATE

01-02-24

PROJECT NO.

CLC23-111639

SHEET NO.

L201

CORRESPONDENCE



CITY OF NOVI
RESPONSE FORM

RECEIVED
JAN 04 2024
CITY OF NOVI
COMMUNITY DEVELOPMENT

JSP 23-32 TREK ADDITION FOR SPECIAL LAND USE, PRELIMINARY SITE PLAN, AND STORMWATER MANAGEMENT PLAN APPROVALS.

You are invited to attend the public hearing on January 10, 2024 and voice your support or objection.

Participants may also choose to submit comments that can be read into the record if they are unable to attend. To submit a written reply, you may use this form to reply by mail, email, or fax. Returning this form by mail, email, or fax has as much validity as verbal comments. Signed comments will be added to the record of the meeting. Unsigned or anonymous comments **WILL NOT** be considered. Written comments must be received by 4:00 PM on the day of the meeting.

Return via email: dshanahan@cityofnovi.org

Return via mail or fax: Community Development Department
45175 Ten Mile Road, Novi, Michigan 48375
248-347-0475 (Main) 248-735-5633 (Fax)

Information regarding the project will be available the Saturday prior to the meeting date at:
<https://www.cityofnovi.org/Agendas-Minutes/Planning-Commission/2023.aspx>.

Plans are available for viewing during the City's regular business hours, Monday thru Friday, 8:00 AM to 5:00 PM, at the Community Development Department, or by contacting bmcbeth@cityofnovi.org.



I SUPPORT



I OBJECT

TO THE ABOVE REQUEST FOR THE FOLLOWING REASONS:

As homeowners located at 46300 W. Park Dr. Novi, MI 48377, we object to the proposed new development due to the environmental impact that this will cause immediately and directly to our home and property. Our property is located behind this building and most importantly is the lowest elevation at the North West corner of West Rd and W.Park Dr. We have already been plagued with overwhelming amounts of additional stormwater being directly dumped onto our property since 2017 when American Interiors was built at 29550 Hudson Dr. thus causing an ongoing permanent safety and financial burden to our home, property and family. I fear that this development will lead to additional stormwater being diverted directly onto our property causing the water ingress to become unmanageable and leaving our home uninhabitable.

SIGNATURE: *Randy J. Anderson* *Shelly Anderson*
PRINT NAME: RANDY J. ANDERSON Shelly Anderson
ADDRESS: 46300 WEST PARK DRIVE NOVI, MI 48377

*** IN ACCORDANCE WITH MCL 125.3103, THE MANAGER OR OWNER OF A SINGLE STRUCTURE CONTAINING MORE THAN 4 DWELLING UNITS OR OTHER DISTINCT SPATIAL AREAS OWNED OR LEASED BY DIFFERENT PERSONS, IS HEREBY REQUESTED TO POST THE NOTICE AT A PRIMARY ENTRANCE TO THE STRUCTURE(S). ***



CITY OF NOVI
RESPONSE FORM

RECEIVED
JAN 04 2024
CITY OF NOVI
COMMUNITY DEVELOPMENT

JSP 23-32 TREK ADDITION FOR SPECIAL LAND USE, PRELIMINARY SITE PLAN, AND STORMWATER MANAGEMENT PLAN APPROVALS.

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☐

I SUPPORT

☒

I OBJECT

TO THE ABOVE REQUEST FOR THE FOLLOWING REASONS:

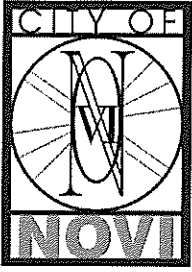
Main concern is that this is going to affect our neighborhood market value with another industrial building so close to it. That obviously, in addition to the unpleasing view with such a very close proximity to existing homes, and the potential added noise to an area that is today beneficiating of a significant distance and trees to minimize all this.

SIGNATURE:

PRINT NAME: Laurent & Valerie Curtil

ADDRESS: 29869 Martell Court

*** IN ACCORDANCE WITH MCL 125.3103, THE MANAGER OR OWNER OF A SINGLE STRUCTURE CONTAINING MORE THAN 4 DWELLING UNITS OR OTHER DISTINCT SPATIAL AREAS OWNED OR LEASED BY DIFFERENT PERSONS, IS HEREBY REQUESTED TO POST THE NOTICE AT A PRIMARY ENTRANCE TO THE STRUCTURE(S). ***



CITY OF NOVI

RESPONSE FORM

JSP 23-32 TREK ADDITION FOR SPECIAL LAND USE, PRELIMINARY SITE PLAN, AND STORMWATER MANAGEMENT PLAN APPROVALS.

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I SUPPORT



I OBJECT

TO THE ABOVE REQUEST FOR THE FOLLOWING REASONS:

SIGNATURE: _____

PRINT NAME: _____

ADDRESS: _____

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CITY OF NOVI

RESPONSE FORM

JSP 23-32 TREK ADDITION FOR SPECIAL LAND USE, PRELIMINARY SITE PLAN, AND STORMWATER MANAGEMENT PLAN APPROVALS.

You are invited to attend the public hearing on **January 10, 2024** and voice your support or objection.

Participants may also choose to submit comments that can be read into the record if they are unable to attend. To submit a written reply, you may use this form to reply by mail, email, or fax. Returning this form by mail, email, or fax has as much validity as verbal comments. Signed comments will be added to the record of the meeting. Unsigned or anonymous comments **WILL NOT** be considered. Written comments must be received by 4:00 PM on the day of the meeting.

Return via email: dshanahan@cityofnovi.org

Return via mail or fax: Community Development Department
45175 Ten Mile Road, Novi, Michigan 48375
248-347-0475 (Main) 248-735-5633 (Fax)

Information regarding the project will be available the Saturday prior to the meeting date at: <https://www.cityofnovi.org/Agendas-Minutes/Planning-Commission/2023.aspx>.

Plans are available for viewing during the City's regular business hours, Monday thru Friday, 8:00 AM to 5:00 PM, at the Community Development Department, or by contacting bmcbeth@cityofnovi.org.

☐

I SUPPORT

☒

I OBJECT

TO THE ABOVE REQUEST FOR THE FOLLOWING REASONS:

I FEEL THAT THERE WILL BE AN INCREASE IN NOISE CLOSER TO OUR PROPERTY LINE. WE CAN NOW HEAR VERY LOUDLY THE EMPTYING OF THE GARBAGE DUMPSTER BEHIND AMMPOWER BUILDING WHICH IS CLOSEST TO OUR LOT LINE. THIS OCCURS VERY EARLY IN THE MORNING BEFORE PEOPLE GET UP.

SIGNATURE: E.W. Masciulli

PRINT NAME: EZIO WALTER MASCIULLI

ADDRESS: 29839 MARTELL CT.

*** IN ACCORDANCE WITH MCL 125.3103, THE MANAGER OR OWNER OF A SINGLE STRUCTURE CONTAINING MORE THAN 4 DWELLING UNITS OR OTHER DISTINCT SPATIAL AREAS OWNED OR LEASED BY DIFFERENT PERSONS, IS HEREBY REQUESTED TO POST THE NOTICE AT A PRIMARY ENTRANCE TO THE STRUCTURE(S). ***



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I SUPPORT



I OBJECT

TO THE ABOVE REQUEST FOR THE FOLLOWING REASONS:

it's too close to my property

SIGNATURE: _____

PRINT NAME: _____

ADDRESS: _____

ANMAR MIKHO
29899 MARTELL CT NOVI MI 48377

*** IN ACCORDANCE WITH MCL 125.3103, THE MANAGER OR OWNER OF A SINGLE STRUCTURE CONTAINING MORE THAN 4 DWELLING UNITS OR OTHER DISTINCT SPATIAL AREAS OWNED OR LEASED BY DIFFERENT PERSONS, IS HEREBY REQUESTED TO POST THE NOTICE AT A PRIMARY ENTRANCE TO THE STRUCTURE(S). ***