COMMUNITY DEVELOPMENT DEPARTMENT

45175 Ten Mile Road
Novi, MI 48375
(248) 347-0415 Phone
(248) 735-5600 Facsimile
www.cityofnovi.org

ZONING BOARD OF APPEALS STAFF REPORT

FOR: City of Novi Zoning Board of Appeals **MEETINGDATE:** August 11, 2026

REGARDING: **44725 Grand River Avenue #50-22-15-376-012 & 50-22-15-376-016 (PZ26-0032)**

BY: Alan Hall, Deputy Director Community Development

I. GENERAL INFORMATION:

Applicant
Damas Building

Variance Type
Dimensional Variance

Property Characteristics

Zoning District:	this property is zoned Light Industrial (I-1)
Location:	east of Taft Road, south of Grand River Avenue
Parcel #:	50-22-15-376-012 & 50-22-15-376-016

Request
The applicant is seeking variances from the City of Novi Zoning Ordinance Section 5.2.12.D to allow a reduction in parking to 86 spaces (108 spaces required, variance of 22 spaces); and from Section 3.1.18.D to allow a reduced parking setback of 6.2 ft. along the west property line (10 ft. required, variance of 3.8 ft.).

II. STAFF COMMENTS:

The applicant is seeking (2) dimensional variances to expand an existing parking lot.

1) *A reduction of (22) parking spaces [108 spaces required, 86 spaces proposed]*
2) *A 3.8' parking setback from the western property line [10' required, 6.2' proposed]*

This tightly designed property has topography challenges and wetlands to contend with. To accommodate the proposed site plan improvements, some encroachment into the wetland buffer area has been agreed to by our Planning Department.

III. RECOMMENDATION:

The Zoning Board of Appeals may take one of the following actions:

1. I move that we ***grant*** the variance in Case No. **PZ26-0032**, sought by _____, for _____ because Petitioner has shown practical difficulty requiring _____ _____ _____.

   (a) Without the variance Petitioner will be unreasonably prevented or limited with respect to use of the property because _____ _____ _____.

   (b) The property is unique because_____ _____ _____.

   (c) Petitioner did not create the condition because_____ _____ _____.

   (d) The relief granted will not unreasonably interfere with adjacent or surrounding properties because_____ _____ _____.

   (e) The relief if consistent with the spirit and intent of the ordinance because _____ _____.

   (f) The variance granted is subject to:

      1. _____.
      2. _____.
      3. _____.
      4. _____.

2. I move that we ***deny*** the variance in Case No. **PZ26-0032** sought by _____, for _____ because Petitioner has not shown practical difficulty requiring_____ _____ _____.

   (a) The circumstances and features of the property including _____ _____ are not unique because they exist generally throughout the City.

   (b) The circumstances and features of the property relating to the variance request are self-created because _____ _____ _____.

   (c) The failure to grant relief will result in mere inconvenience or inability to attain higher economic or financial return based on Petitioners statements that _____ _____ _____.

   (d) The variance would result in interference with the adjacent and surrounding properties by _____ _____ _____.

   (e) Granting the variance would be inconsistent with the spirit and intent of the ordinance to _____ _____ _____.

Should you have any further questions with regards to the matter please feel free to contact me at (248) 347-0417.

Alan Hall – Deputy Director Community Development - City of Novi

RECEIVED

JUN 29 2026

CITY OF NOVI
COMMUNITY DEVELOPMENT

45175 Ten Mile Road
Novi, MI 48375
(248) 347-0415 Phone
(248) 735-5600 Facsimile
www.cityofnovi.org

ZONING BOARD OF APPEALS APPLICATION

APPLICATION MUST BE FILLED OUT COMPLETELY

Application Fee: $330.00

Meeting Date: 8/11/26

ZBA Case #: PZ 26-0032

I. PROPERTY INFORMATION (Address of subject ZBA Case)

PROJECT NAME / SUBDIVISION: Parking Lot Expansion

ADDRESS: 44725 W. Grand River Avenue

LOT/SIUTE/SPACE #:

SIDWELL #: 50-22-15-376-012 &016 (May be obtain from Assessing Department (248) 347-0485)

CROSS ROADS OF PROPERTY: Grand River & Taft

IS THE PROPERTY WITHIN A HOMEOWNER'S ASSOCIATION JURISDICTION? ☐ YES ☑ NO

REQUEST IS FOR: ☐ RESIDENTIAL ☑ COMMERCIAL ☐ VACANT PROPERTY ☐ SIGNAGE

DOES YOUR APPEAL RESULT FROM A NOTICE OF VIOLATION OR CITATION ISSUED? ☐ YES ☑ NO

II. APPLICANT INFORMATION

A. APPLICANT

NAME: Eric Modell	EMAIL ADDRESS:	CELL PHONE NO.:	
ORGANIZATION/COMPANY: 44725 Grand River, LLC		TELEPHONE NO.:	
ADDRESS: 29201 Telegraph Road, Suite 410	CITY: Southfield	FAX NO.:	
		STATE: MI	ZIP CODE: 48034

B. PROPERTY OWNER ☑ CHECK HERE IF APPLICANT IS ALSO THE PROPERTY OWNER

Identify the person or organization that owns the subject property:	EMAIL ADDRESS:	CELL PHONE NO.:	
NAME:		TELEPHONE NO.:	
ORGANIZATION/COMPANY:		FAX NO.:	
ADDRESS:	CITY:	STATE:	ZIP CODE:

III. ZONING INFORMATION

A. ZONING DISTRICT

☐ R-A ☐ R-1 ☐ R-2 ☐ R-3 ☐ R-4 ☐ RM-1 ☐ RM-2 ☐ MH

☑ I-1 ☐ I-2 ☐ RC ☐ TC ☐ TC-1 ☐ OTHER _____

B. VARIANCE REQUESTED

INDICATE ORDINANCE SECTION (S) AND VARIANCE REQUESTED:

1. Section 5.1.12.D Variance requested Parking space deficiency of 22 spaces (86 Pro., 108 Req.)
2. Section 3.1.18.D Variance requested 3.8' parking setback alt west prop. line (6.2' Pro., 10.0' Req.)
3. Section _____ Variance requested _____
4. Section _____ Variance requested _____

IV. FEES AND DRAWNINGS

A. FEES

☐ Single Family Residential (Existing) $220 ☐ (With Violation) $275 ☐ Single Family Residential (New) $275

☑ Multiple/Commercial/Industrial $330 ☐ (With Violation) $440 ☐ Signs $330 ☐ (With Violation) $440

☐ House Moves $330 ☐ Special Meetings (At discretion of Board) $660

B. DRAWINGS 1-COPY & 1 DIGITAL COPY SUBMITTED AS A PDF

- Dimensioned Drawings and Plans
- Site/Plot Plan
- Existing or proposed buildings or addition on the property
- Number & location of all on-site parking, if applicable
- Existing & proposed distance to adjacent property lines
- Location of existing & proposed signs, if applicable
- Floor plans & elevations
- Any other information relevant to the Variance application

ZONING BOARD OF APPEALS APPLICATION

V. VARIANCE

A. VARIANCE (S) REQUESTED

☑ DIMENSIONAL ☐ USE ☐ SIGN

There is a five-(5) hold period before work/action can be taken on variance approvals.

B. SIGN CASES (ONLY)

Your signature on this application indicates that you agree to install a **Mock-Up Sign** ten-(10) days before the schedule ZBA meeting. Failure to install a mock-up sign may result in your case not being heard by the Board, postponed to the next schedule ZBA meeting, or cancelled. A mock-up sign is **NOT** to be actual sign. Upon approval, the mock-up sign must be removed within five-(5) days of the meeting. If the case is denied, the applicant is responsible for all costs involved in the removal of the mock-up or actual sign (if erected under violation) within five-(5) days of the meeting.

C. ORDINANCE

City of Novi Ordinance, Section 3107 – Miscellaneous

No order of the Board permitting the erection of a building shall be valid for a period longer than one-(1) year, unless a building permit for such erection or alteration is obtained within such period and such erection or alteration is started and proceeds to completion in accordance with the terms of such permit.

No order of the Board permitting a use of a building or premises shall be valid for a period longer than one-hundred and eighty-(180) days unless such use is establish within such a period; provided, however, where such use permitted is dependent upon the erection or alteration or a building such order shall continue in force and effect if a building permit for such erection or alteration is obtained within one-(1) year and such erection or alteration is started and proceeds to completion in accordance with the terms of such permit.

D. APPEAL THE DETERMINATION OF THE BUILDING OFFICIAL

PLEASE TAKE NOTICE:

The undersigned hereby appeals the determination of the Building Official / Inspector or Ordinance made

☐ CONSTRUCT NEW HOME/BUILDING ☐ ADDITION TO EXISTING HOME/BUILDING ☐ SIGNAGE

☐ ACCESSORY BUILDING ☐ USE ☐ OTHER _____

VI. APPLICANT & PROPERTY SIGNATURES

A. APPLICANT

Applicant Signature _____ Date 6/18/2026

B. PROPERTY OWNER

If the applicant is not the owner, the property owner must read and sign below:

The undersigned affirms and acknowledges that he, she or they are the owner(s) of the property described in this application, and is/are aware of the contents of this application and related enclosures.

Property Owner Signature _____ Date _____

VII. FOR OFFICIAL USE ONLY

DECISION ON APPEAL:

☐ GRANTED ☐ DENIED

The Building Inspector is hereby directed to issue a permit to the Applicant upon the following and conditions:

Chairperson, Zoning Board of Appeals _____ Date _____

Community Development Department
45175 Ten Mile Road
Novi, MI 48375
(248) 347-0415 Phone
(248) 735-5600 Facsimile
www.cityofnovi.org

cityofnovi.org

REVIEW STANDARDS
DIMENSIONAL VARIANCE

The Zoning Board of Appeals (ZBA) will review the application package and determine if the proposed Dimensional Variance meets the required standards for approval. In the space below, and on additional paper if necessary, explain how the proposed project meets each of the following standards. (Increased costs associated with complying with the Zoning Ordinance will not be considered a basis for granting a Dimensional Variance.)

Standard #1. Circumstances or Physical Conditions.

Explain the circumstances or physical conditions that apply to the property that do not apply generally to other properties in the same zoning district or in the general vicinity. Circumstances or physical conditions may include:

a. **Shape of Lot.** Exceptional narrowness, shallowness or shape of a specific property in existence on the effective date of the Zoning Ordinance or amendment.
☑ Not Applicable ☐ Applicable If applicable, describe below:

and/or

b. **Environmental Conditions.** Exceptional topographic or environmental conditions or other extraordinary situations on the land, building or structure.
☐ Not Applicable ☑ Applicable If applicable, describe below:

See attached.

and/or

c. **Abutting Property.** The use or development of the property immediately adjacent to the subject property would prohibit the literal enforcement of the requirements of the Zoning Ordinance or would involve significant practical difficulties.
☐ Not Applicable ☑ Applicable If applicable, describe below:

See attached.

Standard #2. Not Self-Created.

Describe the immediate practical difficulty causing the need for the Dimensional Variance, that the need for the requested variance is not the result of actions of the property owner or previous property owners (i.e., is not self-created).

See attached.

Standard #3. Strict Compliance.

Explain how the Dimensional Variance in strict compliance with regulations governing area, setback, frontage, height, bulk, density or other dimensional requirements will unreasonably prevent the property owner from using the property for a permitted purpose, or will render conformity with those regulations unnecessarily burdensome.

See attached.

Standard #4. Minimum Variance Necessary.

Explain how the Dimensional Variance requested is the minimum variance necessary to do substantial justice to the applicant as well as to other property owners in the district.

See attached.

Standard #5. Adverse Impact on Surrounding Area.

Explain how the Dimensional Variance will not cause an adverse impact on surrounding property, property values, or the use and enjoyment of property in the neighborhood or zoning district.

See attached.

Standard #1. Circumstances or Physical Conditions.

Explain the circumstances or physical conditions that apply to the property that do not apply generally to other properties in the same zoning district or in the general vicinity. Circumstances or physical conditions may include:

a. **Shape of Lot.** Exceptional narrowness, shallowness or shape of a specific property in existence on the effective date of the Zoning Ordinance or amendment.

   Not Applicable.

b. **Environmental Conditions.** Exceptional topographic or environmental conditions or other extraordinary situations on the land, building or structure.

   Applicable. Due to the existing conditions of the property being at a higher elevation than the adjacent property and a wetland being present, the site buildable is limited. Based upon the proposed parking additions, the site will be maximized as much as the buildable area will allow. Thus, this request is for the minimum variance needed to best align with the City Ordinance.

c. **Abutting Property.** The use or development of the property immediately adjacent to the subject property would prohibit the literal enforcement of the requirements of the Zoning Ordinance or would involve significant practical difficulties.

   Applicable. The neighbor to the west of the proposed improvement area also has wetlands present. To not impede upon the shared wetland area that is present between the two properties, the request has been presented to only provide improvements within a portion of the wetland buffer area. This has been approved by the City's wetland consultant as part of the Preliminary Site Plan approval process.

Standard #2. Not Self-Created.

Describe the immediate practical difficulty causing the need for the Dimensional Variance, that the need for the requested variance is not the result of actions of the property owner or previous property owners (i.e., is not self-created).

The requested variance is not self-created or a result of actions of the property owner. To better align with the parking spaces requirement, the parking setback variance is necessary to maximize the number of parking spaces provided. The proposed number of spaces is 86,

which is deficient by 22 spaces per the City Ordinance. The dimensional variance would now allow for better utilization of available area of the site even with the difficulties of the existing site conditions that were not self-created.

Standard #3. Strict Compliance.

Explain how the Dimensional Variance in strict compliance with regulations governing area, setback, frontage, height, bulk, density or other dimensional requirements will unreasonably prevent the property owner from using the property for a permitted purpose or will render conformity with those regulations unnecessarily burdensome.

The dimensional variance in strict compliance with the parking setback requirements of 10 ft. will further reduce the number of parking spaces proposed. Thus, resulting in additional dimensional variance request for the parking spaces deficiency. To further align with the City's Ordinance on parking setback requirements that promote parking lot shade trees, two additional parking islands are proposed. These additional landscape islands will allow for tree plantings to provide shade trees as intended by the City Ordinance.

Standard #4. Minimum Variance Necessary.

Explain how the Dimensional Variance requested is the minimum variance necessary to do substantial justice to the applicant as well as to other property owners in the district.

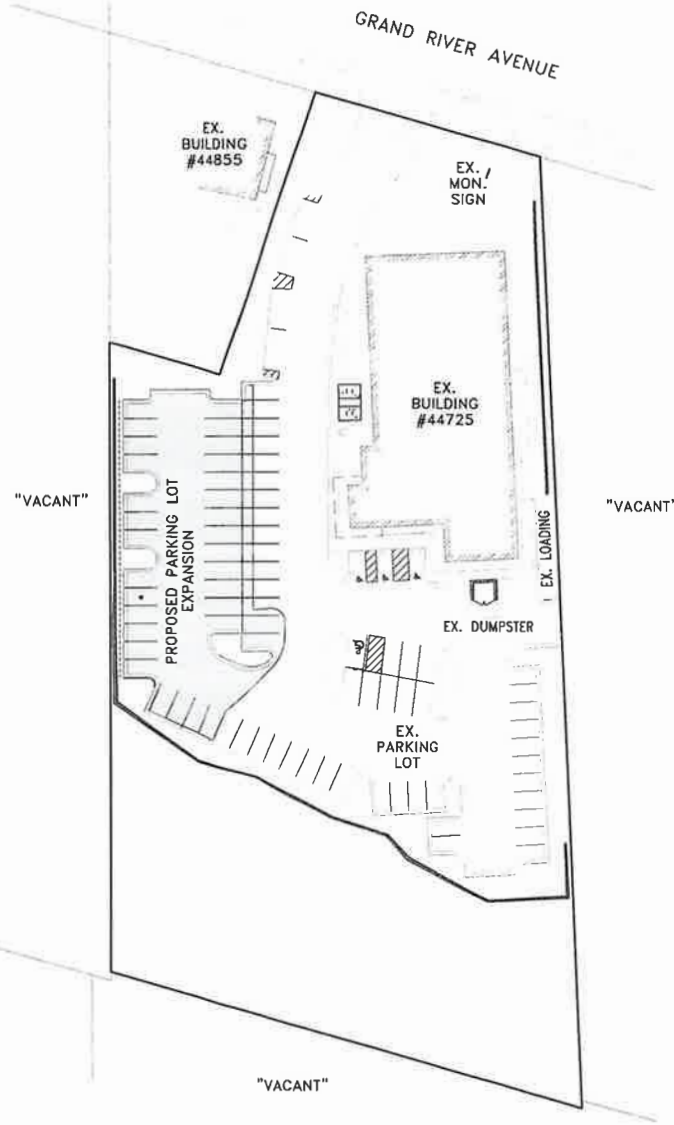
The proposed improvements require the minimum variance needed because a lesser variance would further reduce the number of parking spaces proposed. Less proposed parking spaces would result in a larger request for parking spaces deficiency.

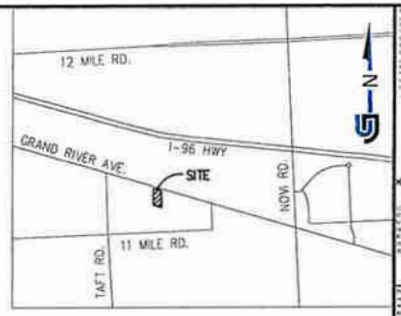
Standard #5. Adverse Impact on Surrounding Area.

Explain how the Dimensional Variance will not cause an adverse impact on surrounding property, property values, or the use and enjoyment of property in the neighborhood or zoning district.

The dimensional variance will not cause adverse impacts to the surrounding property, property values, or the use and enjoyment in the surrounding neighborhood or zoning district because the parking lot is obscured by an existing retaining wall that is proposed to be extended along the west property line to the limits of the proposed parking. Additionally, there is an existing wetland that creates a natural buffer between the proposed improvements and the neighboring property.

FINAL SITE PLAN
for
44725 GRAND RIVER AVENUE
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN





VICINITY MAP
NOT TO SCALE

SHEET INDEX:

1	COVER SHEET
2	DIMENSION & PAVING PLAN
3	PARKING PLAN
4	EXISTING CONDITIONS
5	LEGEND SHEET
6	DEMOLITION PLAN
7	GRADING AND UTILITY PLAN
8	SOIL EROSION & SEDIMENTATION CONTROL PLAN
9	IMPERVIOUS AREA PLAN
10	SITE DETAILS
L-1	LANDSCAPE PLAN
L-2	TREE PLAN
L-3	LANDSCAPE DETAILS
1 OF 2	PHOTOMETRIC PLAN
2 OF 2	PHOTOMETRIC PLAN

CITY/COUNTY STANDARDS DETAIL SHEETS:

1 OF 1	OAKLAND COUNTY WATER RESOURCES COMMISSIONER–SOIL EROSION & SEDIMENTATION CONTROL DETAILS
1 OF 2	CITY OF NOVI STORM SEWER STANDARD DETAILS
2 OF 2	CITY OF NOVI STORM SEWER STANDARD DETAILS
1 OF 2	CITY OF NOVI PAVING STANDARD DETAILS
2 OF 2	CITY OF NOVI PAVING STANDARD DETAILS
1 OF 5	CITY OF NOVI WATER MAIN STANDARD DETAILS
2 OF 5	CITY OF NOVI WATER MAIN STANDARD DETAILS
3 OF 5	CITY OF NOVI WATER MAIN STANDARD DETAILS
4 OF 5	CITY OF NOVI WATER MAIN STANDARD DETAILS
5 OF 5	CITY OF NOVI WATER MAIN STANDARD DETAILS

GENERAL NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF NOVI.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS JOB.
3. EXISTING EASEMENTS WILL BE SHOWN PER TITLE WORK, ONCE RECEIVED.
4. CONTRACTOR TO OBTAIN ALL REQUIRED APPROVALS AND PERMITS PRIOR TO THE START OF CONSTRUCTION.

GENERAL DEVELOPMENT SCHEDULE:

TASK	TIMELINE
APPROVAL/PERMITTING:	WINTER 2026
LAND DEVELOPMENT:	SPRING 2026
PARKING LOT CONSTRUCTION:	SPRING/SUMMER 2026

PROPOSED PARCEL LEGAL DESCRIPTION:

PART OF THE SOUTHWEST 1/4 OF SECTION 15, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS: *BEGINNING AT A POINT DISTANT N00°17'00"W 770.33 FEET AND N73°49'03"W 1,181.31 FEET TO THE POINT OF BEGINNING,* THENCE S02°39'19"E 477.43 FEET; THENCE N73°51'10"W 246.06 FEET; THENCE N00°01'46"W 215.71 FEET; THENCE S73°49'52"E 58.64 FEET; THENCE N00°02'11"W 100.00 FEET; THENCE N18°28'57"E 148.96 FEET; THENCE S73°49'03"E 113.44 FEET TO THE POINT OF BEGINNING

APPLICANT:

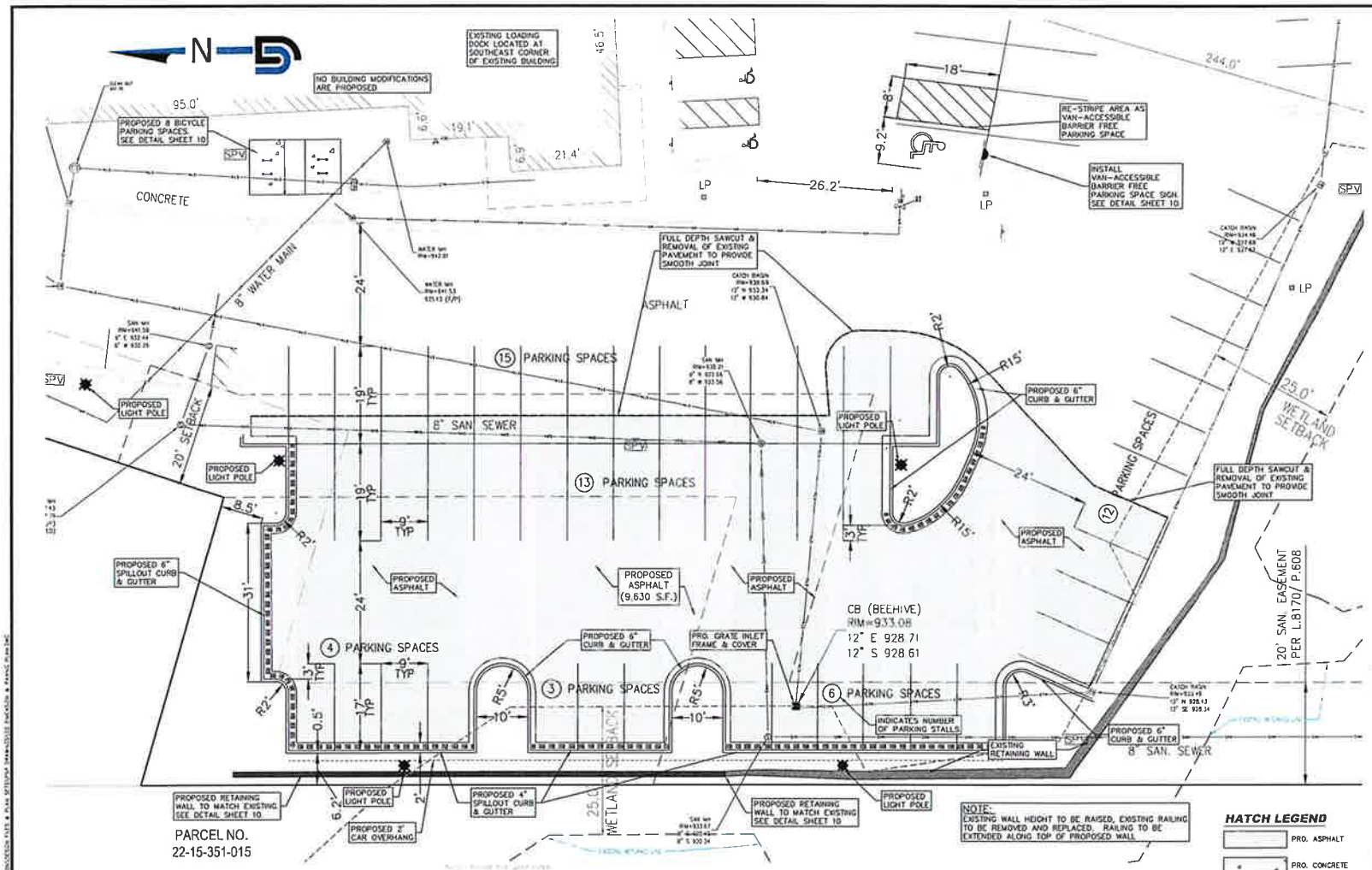
VERSA REAL ESTATE, LLC
29201 TELEGRAPH ROAD
SUITE 410
SOUTHFIELD, MI 48034
PHONE: (248) 979-6137
FAX: (248) 556-3173
CONTACT: ERIC MODELL

SITE CIVIL:

THE UMLOR GROUP
49287 WEST ROAD
WIXOM, MI 48393
PHONE: (248) 773-7856
FAX: (866) 690-4307
CONTACT: WES UMLOR, P.E.
JESSE PARKINSON

VERSA REAL ESTATE, LLC

SECTION 15



GENERAL NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.

1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED
2. REFER TO CITY OF NOVI PAVING STANDARD DETAILS FOR ADDITIONAL DETAILS.
3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF NOVI CURRENT STANDARDS AND SPECIFICATIONS.
4. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
5. ALL ON SIGHT SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH MMUTCD. PARKING STALL STRIPING SHALL BE 4" WIDE (SINGLE) AND WHITE.
6. THE ACCESSIBLE PARKING SPACE AND ASSOCIATED AISLE SHALL BE STRIPED WITH 4" BLUE STRIPES. THE STANDARD SPACE ADJACENT TO AN ACCESSIBLE SPACE, ABUTTING BLUE AND WHITE STRIPES SHALL BE INSTALLED.
7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHT-OF-WAYS SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.
9. NO BUILDING MODIFICATIONS ARE PROPOSED.

WOODLANDS NOTES:

TREES TO BE SAVED ARE TO BE PROPERLY PROTECTED, AS DESIGNATED BY THE CITY OF NOVI WOODLAND PROTECTION ORDINANCE.

ZONING:

I-1, LIGHT INDUSTRIAL DISTRICT
PER CITY OF NOVI ZONING MAP

BUILDING SETBACKS:

FRONT: 40 FEET
REAR 20 FEET
SIDES: 20 FEET
PER CITY OF NOVI ZONING ORDINANCE

OUTDOOR STORAGE:

THERE IS NO OUTDOOR STORAGE PROPOSED FOR THIS SITE. OVERNIGHT PARKING OF DELIVERY VEHICLES WILL TAKE PLACE IN DESIGNATED PARKING AREAS ON THE SOUTH AND SOUTHEAST SIDES OF THE BUILDING.

HOURS OF OPERATION:

8:00 AM – 5:00 PM (MONDAY THROUGH FRIDAY)

PROJECT PHASING:

ONE PHASE – CONSTRUCTION TO COMMENCE SPRING 2026, COMPLETION SUMMER 2026

BUILDING INFORMATION:

PROPOSED BUILDING USE:	OFFICE
1ST FLOOR BUSINESS OFFICE SPACE:	4,466 SF
1ST FLOOR MEDICAL OFFICE:	4,785 SF
2ND FLOOR MEDICAL OFFICE:	10,400 SF

PROPOSED PARKING DATA:

EXISTING PARKING: 68 SPACES, 3 BARRIER-FREE

1ST FLOOR BUSINESS OFFICE:	4,466 SF
1ST FLOOR MEDICAL OFFICE:	4,785 SF
2ND FLOOR MEDICAL OFFICE:	10,400 SF

BUSINESS OFFICE=1 SPACE PER 222 GLA
4,466 (1ST FLOOR)/222= 20 SPACES
MEDICAL OFFICE=1 SPACE PER 175 GLA
4,785 (2ND FLOOR)+10,400 (2ND FLOOR)=
15,185/175 = 87 SPACES

EXISTING PARKING TO BE REMOVED = 8 SPACES
PROPOSED PARKING: 28 SPACES (1 BARRIER-FREE SPACE)
66-8=58+28=86 SPACES PROVIDED (4 BARRIER-FREE SPACES)

TOTAL REQUIRED PARKING: 20+87 =107 SPACES
TOTAL PROVIDED PARKING: 86 SPACES (4 BARRIER-FREE SPACES)

NOTES:

ALL PAVING AND GRADING IMPROVEMENTS SHALL CONFORM TO THE CITY OF NOVI ENGINEERING DESIGN STANDARDS.

DIMENSIONS OF PARKING STALLS ABUTTING A CURB OR SIDEWALK ARE TO FACE OF CURB OR WALK. ALL OTHER DIMENSIONS ARE TO BACK OF CURB UNLESS NOTED OTHERWISE.

CURBING AND WALKS ADJACENT TO THE END OF 17-FOOT STALLS SHALL BE REDUCED TO 4-INCHES HIGH (RATHER THAN THE STANDARD 6-INCH HEIGHT TO BE PROVIDED ADJACENT TO 19-FOOT STALLS). ADDITIONALLY, 2-FOOT OVERHANG SHOULD BE PROVIDED ADJACENT TO 17-FOOT PARKING STALLS.

END ISLAND NOTE:

ALL END ISLANDS SHALL BE CONSTRUCTED 3 FT. SHORTER THAN THE ADJACENT PARKING SPACE WHEN ABUTTING A MANEUVERING AISLE.

SIDEWALK NOTE:

NO CHANGES TO THE EXISTING SIDEWALK ARE PROPOSED WITH THIS PROJECT.

SIGNAGE NOTE:

NO CHANGES TO THE EXISTING SITE SIGNAGE ARE PROPOSED WITH THIS PROJECT.

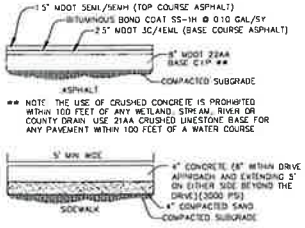
LIGHTING NOTES:

1. ALL ON-SITE POLE MOUNTED LIGHTS SHALL BE SHIELDED AND AIMED AT THE AREAS TO BE SECURED (PARKING SPACES, DRIVES, WALKS, ETC.)
2. BUILDING MOUNTED FIXTURES SHALL BE DESIGNED TO ILLUMINATE THE FACADE AND NOT ILLUMINATE THE LANDSCAPE AREAS OR PAVEMENT AREAS UNLESS SPECIFICALLY DESIGNED ON THESE PLANS.

HATCH LEGEND

- PRO. ASPHALT
- PRO. CONCRETE
- EXISTING BUILDING

ALL PROPOSED PAVEMENT CROSS-SECTIONS ARE PER CITY OF NOVI SPECIFICATIONS, TYP.



INTEGRAL SIDEWALK AND CURB

FOR USE ON PRIVATE PROPERTY ALONG THE FRONT OF PROPOSED BUILDING

ON-SITE CURB

NOT TO SCALE

PROPOSED PARCEL LEGAL DESCRIPTION:

PART OF THE SOUTHWEST 1/4 OF SECTION 15, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS: *BEGINNING* AT A POINT DISTANT N00°17'00"W 770.33 FEET AND N73°49'03"W 1,181.31 FEET TO THE *POINT OF BEGINNING* THENCE S02°39'19"E 477.43 FEET; THENCE N73°51'10"W 246.06 FEET; THENCE N00°01'48"W 215.71 FEET; THENCE S73°49'52"E 58.64 FEET; THENCE N00°02'11"W 100.00 FEET; THENCE N18°28'52"E 148.96 FEET; THENCE S73°49'03"E 115.44 FEET TO THE *POINT OF BEGINNING*

BENCHMARKS:

BM#1:
ARROW ON TOP OF THE HYDRANT ON THE SOUTH SIDE OF GRAND RIVER AVENUE IN FRONT OF 44725 GRAND RIVER AVENUE. ELEVATION: 943.95 (N.A.V.D. 88)

BM#2:
ARROW ON TOP OF THE HYDRANT IN THE REAR PARKING LOT ISLAND AT 44725 GRAND RIVER AVNEUE.
ELEVATION: 942.45 (N.A.V.D. 88)

CITY BM#1534:
X ON NORTH RIM OF GATEWELL LOCATED 3 FEET SOUTH OF BACK OF CURB OF GRAND RIVER AND AT EAST PROPERTY LINE #45033 GRAND RIVER
ELEVATION: 941.28

GENERAL NOTES:

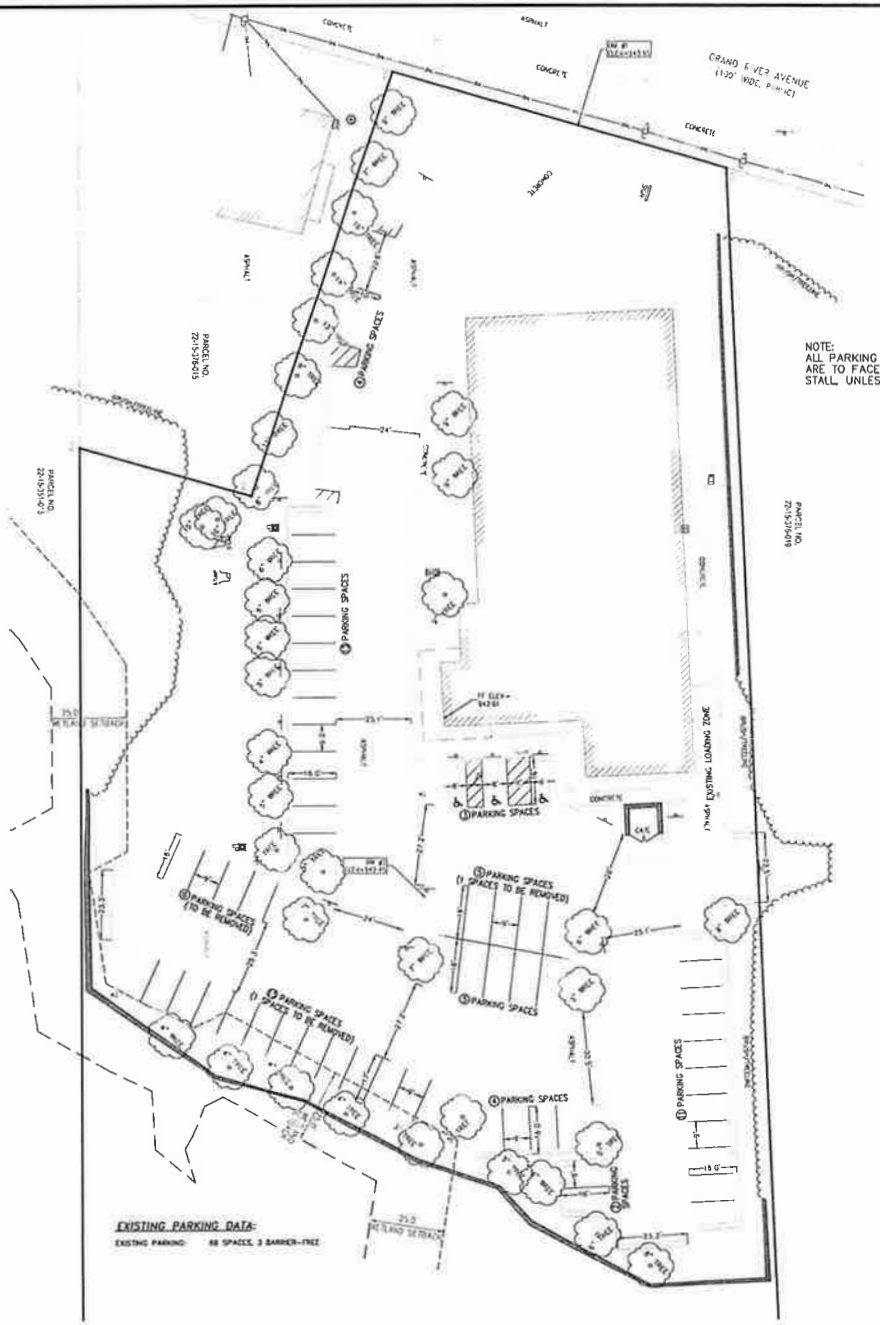
1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF NOVI.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY AND/OR OBTAIN ANY INFORMATION NECESSARY REGARDING THE PRESENCE OF UNDERGROUND UTILITIES WHICH MIGHT AFFECT THIS JOB.

* ESTIMATED CONSTRUCTION MATERIALS:	
4" CURB & GUTTER	195 LF
6" CURB & GUTTER	202 LF
ASPHALT PAVEMENT	9,630 SF
8" 21AA AGGREGATE BASE	9,630 SF

* CONTRACTOR TO EVALUATE AND DETERMINE ACTUAL QUANTITIES, ONLY USE ABOVE TABLE AS REFERENCE

SECTION 15

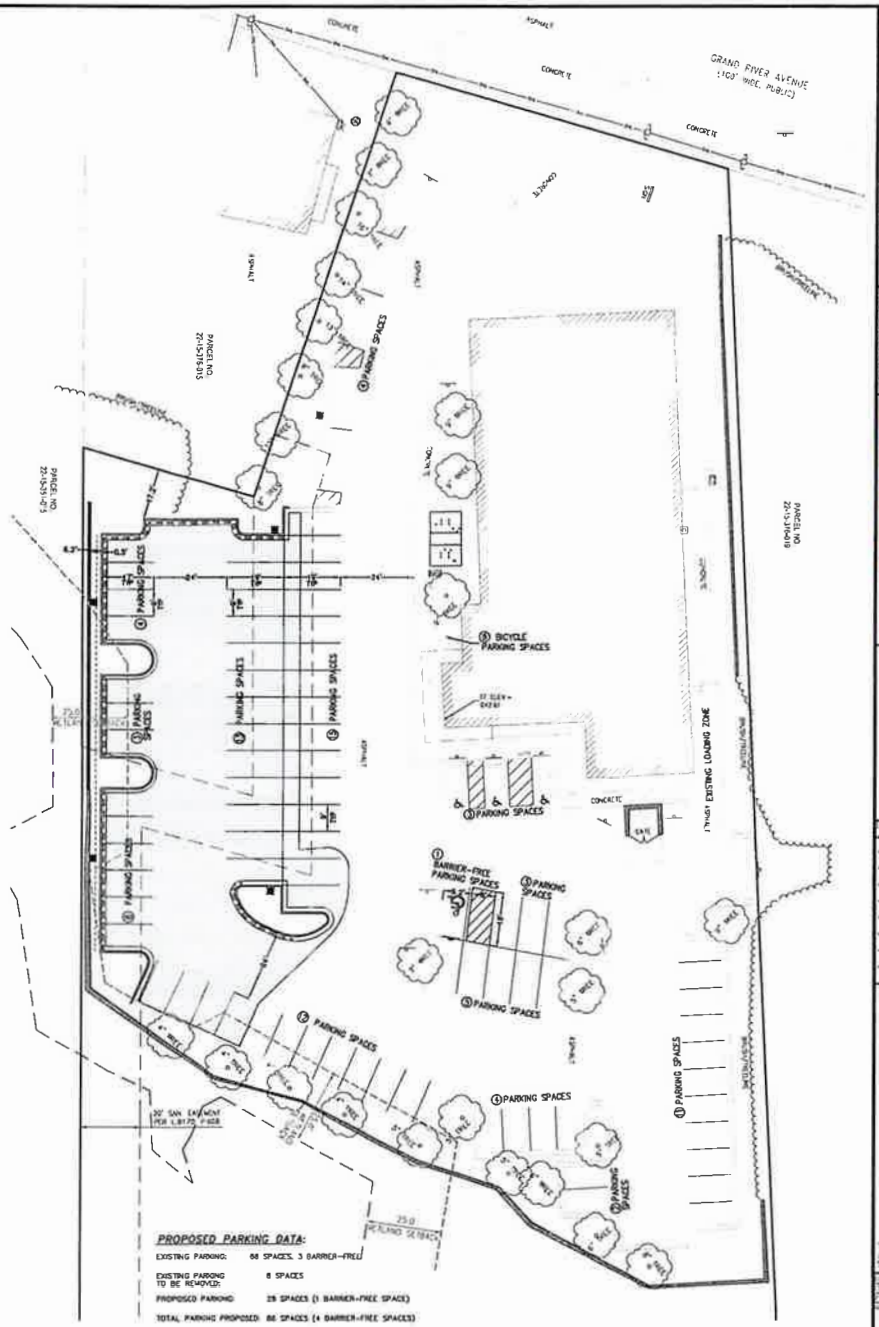
VERSA REAL ESTATE, LLC



NOTE:
ALL PARKING DIMENSIONS SHOWN ARE TO FACE OF CURB TO END OF STALL, UNLESS OTHERWISE NOTED.

EXISTING PARKING DATA:

EXISTING PARKING: 88 SPACES, 3 BARRIER-FREE



PROPOSED PARKING DATA:

EXISTING PARKING:	88 SPACES, 3 BARRIER-FREE
EXISTING PARKING TO BE REMOVED:	8 SPACES
PROPOSED PARKING:	26 SPACES (1 BARRIER-FREE SPACE)
TOTAL PARKING PROPOSED:	86 SPACES (4 BARRIER-FREE SPACES)

IMIOR

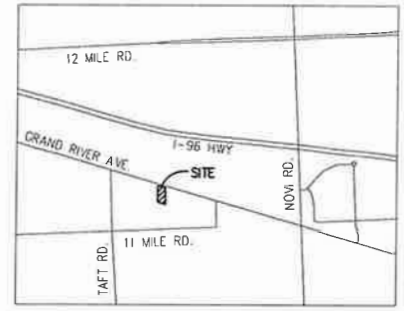
SECTION 15

VERSA REAL ESTATE, LLC

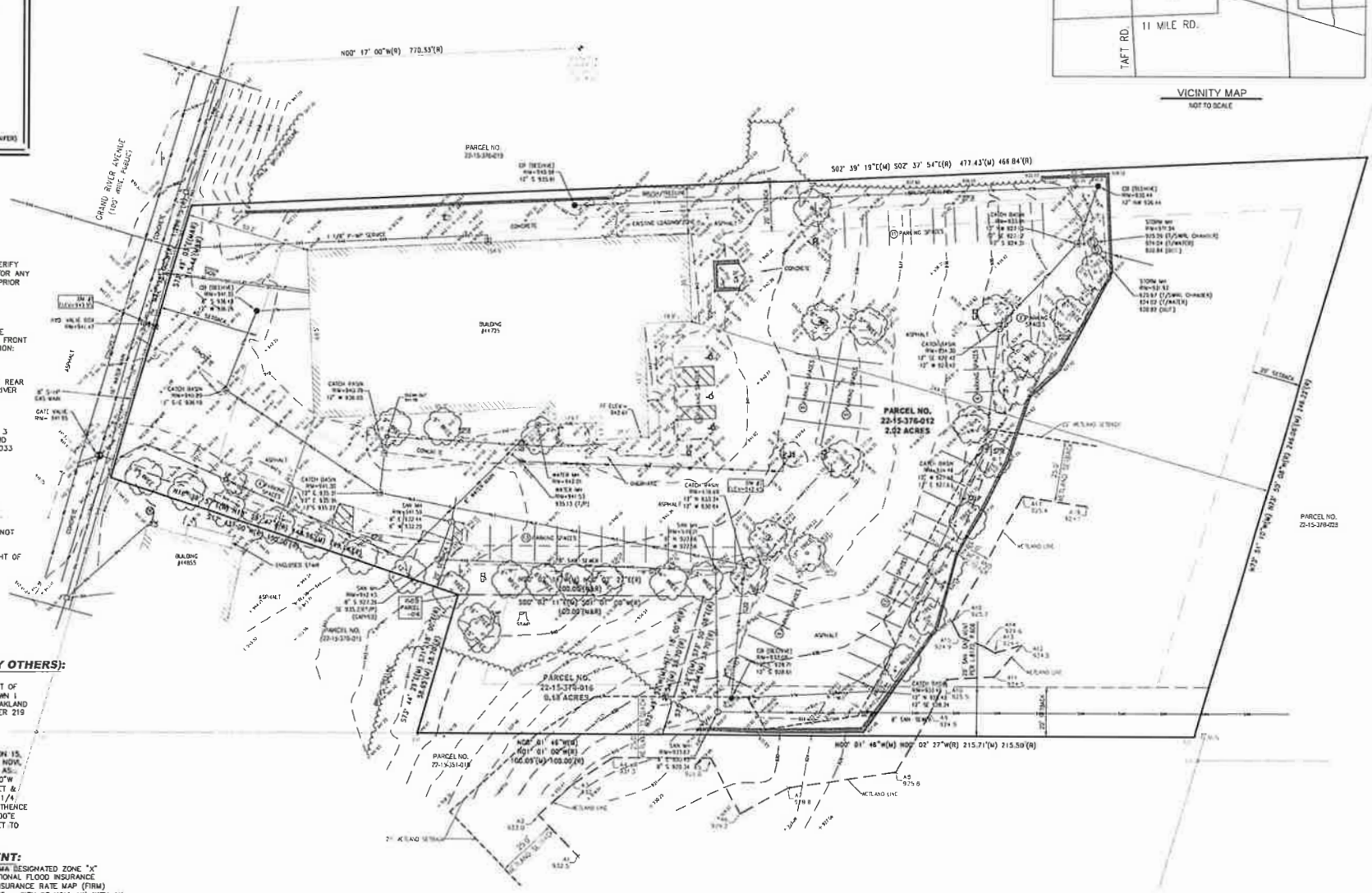
LEGEND

SYMBOL	DESCRIPTION
	FOUND MON
	FOUND CAPPED IRON
	FOUND IRON ROD
(R)	RECORDED BEARING
(M)	MEASURED BEARING
	EX. OVERHEAD ELECTRIC
	EX. SANITARY SEWER
	EX. STORM SEWER
	EX. UNDERGROUND CABLE
	EX. UNDERGROUND ELECTRIC
	EX. UNDERGROUND GAS
	EX. WATER MAIN
	EX. WALL
	EX. CATCH BASIN ROUND
	EX. STORM INLET/CATCH BASIN
	EX. CLEAN OUT
	EX. ELECTRIC METER
	EX. GAS METER
	EX. GATE VALVE IN WELL
	EX. HYDRANT
	EX. LIGHT POLE
	EX. MAILBOX
	EX. SANITARY MANHOLE
	EX. SIGN
	EX. STORM MANHOLE
	EX. TRANSFORMER
	EX. UTILITY POLE
	EX. WATER MANHOLE
	EX. WATER SHUT OFF
	EX. WATER VALVE
	EX. WELL
	EX. TREE (DECIDUOUS/CONIFER)

N



VICINITY MAP
NOT TO SCALE



ZONING:

I-1, LIGHT INDUSTRIAL DISTRICT

SETBACKS:

FRONT: 40 FEET MINIMUM
REAR: 20 FEET MINIMUM
SIDES: 20 FEET MINIMUM

*ARCHITECT OR DESIGN INDIVIDUAL TO VERIFY SETBACKS WITH THE CITY OF NOVI AND/OR ANY HOMEOWNER'S ASSOCIATION ORDINANCE PRIOR TO DESIGN.

BENCHMARKS:

BM#1:
ARROW ON TOP OF THE HYDRANT ON THE SOUTH SIDE OF GRAND RIVER AVENUE IN FRONT OF 44725 GRAND RIVER AVENUE. ELEVATION: 943.95 (N.A.V.D. 88)

BM#2:
ARROW ON TOP OF THE HYDRANT IN THE REAR PARKING LOT ISLAND AT 44725 GRAND RIVER AVNEUE.
ELEVATION: 942.45 (N.A.V.D. 88)

CITY BM#1534:
X ON NORTH RIM OF GATEWELL LOCATED 3 FEET SOUTH OF BACK OF CURB OF GRAND RIVER AND AT EAST PROPERTY LINE #45033 GRAND RIVER
ELEVATION: 941.28

SURVEY NOTES:

1. TITLE WORK WAS NOT PROVIDED. ALL EXISTING EASEMENT MAY NOT BE SHOWN.

2. A WETLAND AND TREE SURVEY WERE NOT PERFORMED AS PART OF THIS SURVEY.

3. BASIS OF BEARING IS THE SOUTH RIGHT OF WAY LINE BEING S73°49'03"E.

LEGAL DESCRIPTIONS (BY OTHERS):

PARCEL NO. 22-15-376-012:
LOT 5 OF "ASSESSOR'S PLAT NO.1", PART OF THE SOUTHWEST 1/4 OF SECTION 15, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, AS RECORDED IN LIBER 219 OF PLATS, PAGE 34, OAKLAND COUNTY RECORDS

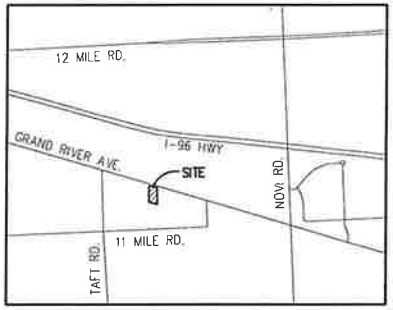
PARCEL NO. 22-15-376-016:
PART OF THE SOUTHWEST 1/4 OF SECTION 15, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS: BEGINNING AT A POINT DISTANT N00°17'00"W 770.33 FEET & N71°18'00"W 1,296.75 FEET & S17°43'00"W 150 FEET FROM THE SOUTH 1/4 CORNER, THENCE S01°01'00"W 100 FEET, THENCE N71°18'00"W 58.70 FEET, THENCE N01°01'00"E 100 FEET, THENCE S71°18'00"E 58.70 FEET TO THE POINT OF BEGINNING

FLOOD HAZARD STATEMENT:

THIS PROPERTY IS LOCATED WITHIN A FEMA DESIGNATED ZONE "X" FLOOD HAZARD AREA AS SHOWN ON NATIONAL FLOOD INSURANCE PROGRAM (NFIP) FOR MICHIGAN FLOOD INSURANCE RATE MAP (FIRM) #26125C0626F (COMMUNITY ID NO. 260175 – CITY OF NOVI, MI) WITH AN EFFECTIVE DATE OF SEPTEMBER 29, 2006. THIS STATEMENT IS BASED ON THE RESULTS OF GRAPHIC PLOTTING ONTO THE ABOVE NAMED MAP AND PANEL, WHICH IS THE CURRENT MAP FOR THE COMMUNITY IN WHICH THE PROPERTY IS LOCATED. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.

SECTION 15

VERSA REAL ESTATE, LLC



VICINITY MAP
NOT TO SCALE

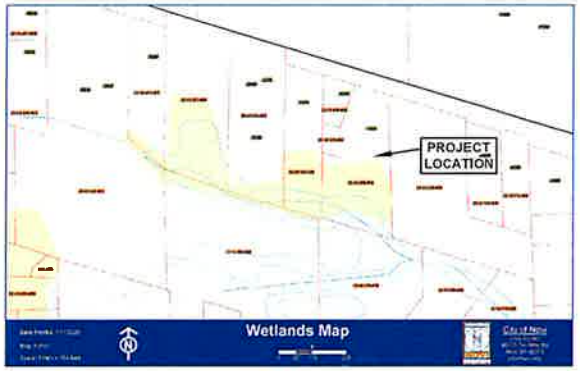
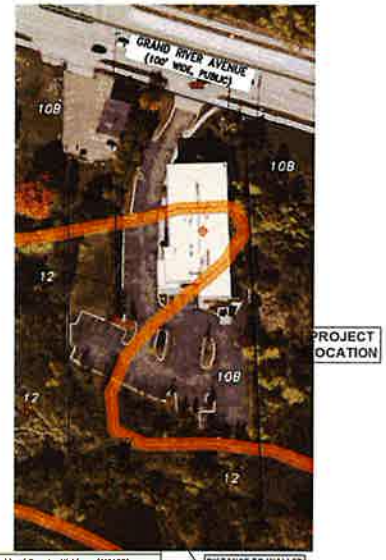


Figure 2-1. Rouge River Watershed

LEGEND	
SYMBOL	DESCRIPTION
FOUND MON	FOUND MON
FCI	FOUND CAPPED IRON
FIR	FOUND IRON ROD
(R)	RECORDED BEARING
(M)	MEASURED BEARING
	EX. OVERHEAD ELECTRIC
	EX. SANITARY SEWER
	EX. STORM SEWER
	EX. UNDERGROUND CABLE
	EX. UNDERGROUND ELECTRIC
	EX. UNDERGROUND GAS
	EX. WATER MAIN
	EX. WALL
	EX. CATCH BASIN ROUND
	EX. STORM INLET/CATCH BASIN
	EX. CLEAN OUT
	EX. ELECTRIC METER
	EX. GAS METER
	EX. GATE VALVE IN WELL
	EX. HYDRANT
	EX. LIGHT POLE
	EX. MAILBOX
	EX. SANITARY MANHOLE
	EX. SIGN
	EX. STORM MANHOLE
	EX. TRANSFORMER
	EX. UTILITY POLE
	EX. WATER MANHOLE
	EX. WATER SHUT OFF
	EX. WATER VALVE
	EX. WELL
	EX. TREE (DECIDUOUS/CONIFER)



Oakland County, Michigan (MI135)

Oakland County, Michigan (MI135)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
10B	Marlette sandy loam, 1 to 6 percent slopes	5.6	64.7%
12	Houghton and Cohoctah loams	3.1	35.2%
OnLadD	Mount loam, 0 to 4 percent slopes	0.0	0.0%
Totals for Area of Interest		8.7	100.0%

BENCHMARKS:

BM#1:
ARROW ON TOP OF THE HYDRANT ON THE SOUTH SIDE OF GRAND RIVER AVENUE IN FRONT OF 44725 GRAND RIVER AVENUE. ELEVATION 943.99 (N.A.V.D. 88)

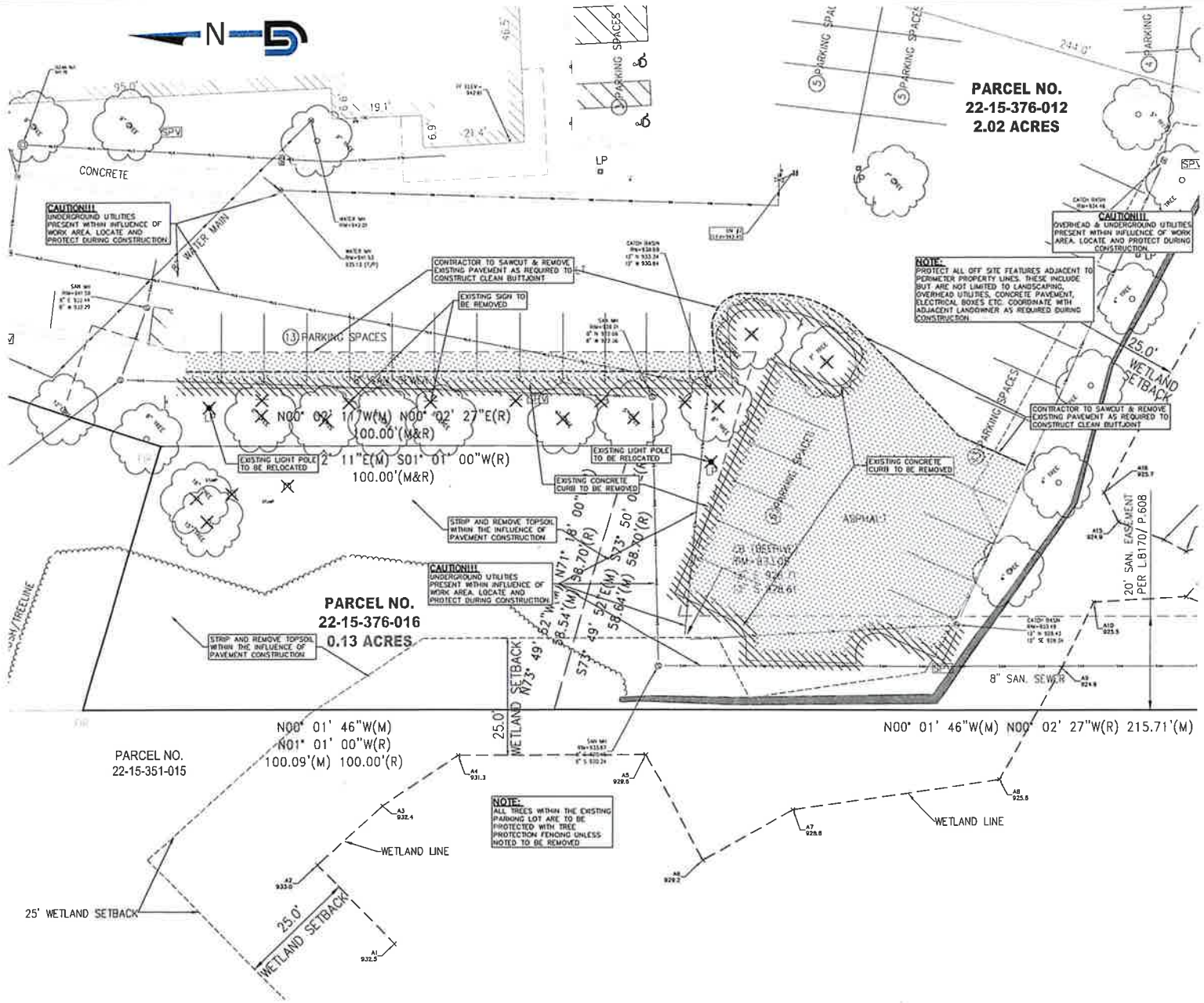
BM#2:
ARROW ON TOP OF THE HYDRANT IN THE REAR PARKING LOT ISLAND AT 44725 GRAND RIVER AVNEUE
ELEVATION 942.45 (N.A.V.D. 88)

UTILITY CONTACTS:

GAS:	CONSUMERS ENERGY 530 W. WILLOW ST LANSING, MI 48908 EMAIL: WSSDIGDESIGNTICE15@ CMSENERGY.COM
STORM DRAINAGE:	CITY OF NOVI ENGINEERING DIVISION 26300 LEE BEGOLE DR NOVI, MI 48375 (248)735-5644
WATER SERVICE:	CITY OF NOVI WATER AND SEWER DIVISION 26300 LEE BEGOLE DR NOVI, MI 48375 (248)735-5644
SANITARY SERVICE:	CITY OF NOVI WATER AND SEWER DIVISION 26300 LEE BEGOLE DR NOVI, MI 48375 (248)735-5644
SOIL EROSION PERMIT:	CITY OF NOVI ENGINEERING DIVISION 26300 LEE BEGOLE DR NOVI, MI 48375 (248)735-5644
CABLE TV:	COMCAST CABLE COMMUNICATIONS, INC 25628 TELEGRAPH RD SOUTHFIELD, MI 48034 (248)309-2715
ELECTRIC:	DTE ENERGY ONE ENERGY PLAZA, 688 SB DETROIT, MI 48226 (313)235-5632 ITC 27175 ENERGY WAY NOVI, MI 48377 (313)267-4857
TELEPHONE:	AT&T (FORMERLY SBC) 54 N. MILL ST, 4TH FLOOR PONTIAC, MI 48342 (248)456-8256

SECTION 15

VERSA REAL ESTATE, LLC



GENERAL NOTES:

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

BENCHMARKS:

BM#1:
ARROW ON TOP OF THE HYDRANT ON THE SOUTH SIDE OF GRAND RIVER AVENUE IN FRONT OF 44725 GRAND RIVER AVENUE, ELEVATION: 943.95 (N.A.V.D. 88)

BM#2:
ARROW ON TOP OF THE HYDRANT IN THE REAR PARKING LOT ISLAND AT 44725 GRAND RIVER AVNEUE.
ELEVATION: 942.45 (N.A.V.D. 88)

CITY BM#1534:
X ON NORTH RIM OF GATEWELL LOCATED 3 FEET SOUTH OF BACK OF CURB OF GRAND RIVER AND AT EAST PROPERTY LINE #45033 GRAND RIVER
ELEVATION: 941.28

GENERAL DEMOLITION NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT:

1. CONCRETE AND ASPHALT DEMOLISHED MATERIALS CAN BE MILLED, CRUSHED AND PULVERIZED TO CREATE SUBBASE MATERIAL PER GEOTECHNICAL SPECIFICATIONS RECOMMENDATIONS.

2. ALL MATERIAL TO BE REMOVED AND EXCESS MATERIAL, WHETHER SPECIFICALLY NOTED IN THE PLANS OR NOT, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A LEGAL MANNER. NO ON-SITE BURY OR BURN PITS SHALL BE ALLOWED.

3. ALL DEMOLITION WORK SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL CODES AND ORDINANCES.

4. STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND CITY OF NOVI.

5. SPECIFIC DEMOLITION ITEMS HAVE BEEN INDICATED ON THE PLANS AS A GUIDE TO THE GENERAL SCOPE OF THE WORK. IT IS THE INTENT THAT THESE ITEMS SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR ABOVE AND BELOW GROUND, UNLESS SPECIFICALLY NOTED OTHERWISE, AND THAT DEMOLITION WILL INCLUDE BUT WILL NOT NECESSARILY BE LIMITED TO THESE ITEMS. CONTRACTOR SHALL VISIT SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.

6. REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, FOOTINGS, FOUNDATION WALLS, FLOOR SLABS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, TREES, ETC.

7. REFER TO LANDSCAPE PLANS FOR TREE PROTECTION DETAILS.

8. THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15' OF CONSTRUCTION ACTIVITIES AND AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.

10. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, MARKINGS, LIGHTS AND OTHER TRAFFIC CONTROL DEVICES TO PROTECT THE WORK ZONE AND SAFELY MAINTAIN TRAFFIC PER AGENCY REQUIREMENTS AND IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) LATEST EDITION.

11. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO CONFIRM THAT UTILITY LEADS HAVE BEEN TAKEN OUT OF SERVICE PRIOR TO DEMOLITION.

12. ALL OVERHEAD AND UNDERGROUND ELECTRICAL LINES WITHIN THE AREA OF CONSTRUCTION AS SHOWN ON THE PLANS, ARE TO BE PROTECTED DURING THE CONSTRUCTION PROCESS. COORDINATE SHUTDOWNS AND REMOVALS WITH DETROIT EDISON OR THE APPROPRIATE UTILITY COMPANY. (NOTE: PHONE AND CABLE T.V. SERVICES MAY ALSO BE LOCATED ON OVERHEAD LINES.)

13. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF SIGNS AND SUPPORTS WITHIN THE WORK AREA, AS NECESSARY TO FACILITATE CONSTRUCTION. SIGNS SHALL BE PROTECTED OR STOCKPILED FOR REUSE AS SPECIFIED IN THE PLANS OR AS REQUIRED BY THE AGENCY OF JURISDICTION. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SIGNS AND SUPPORTS AT NO ADDITIONAL COST TO THE OWNER.

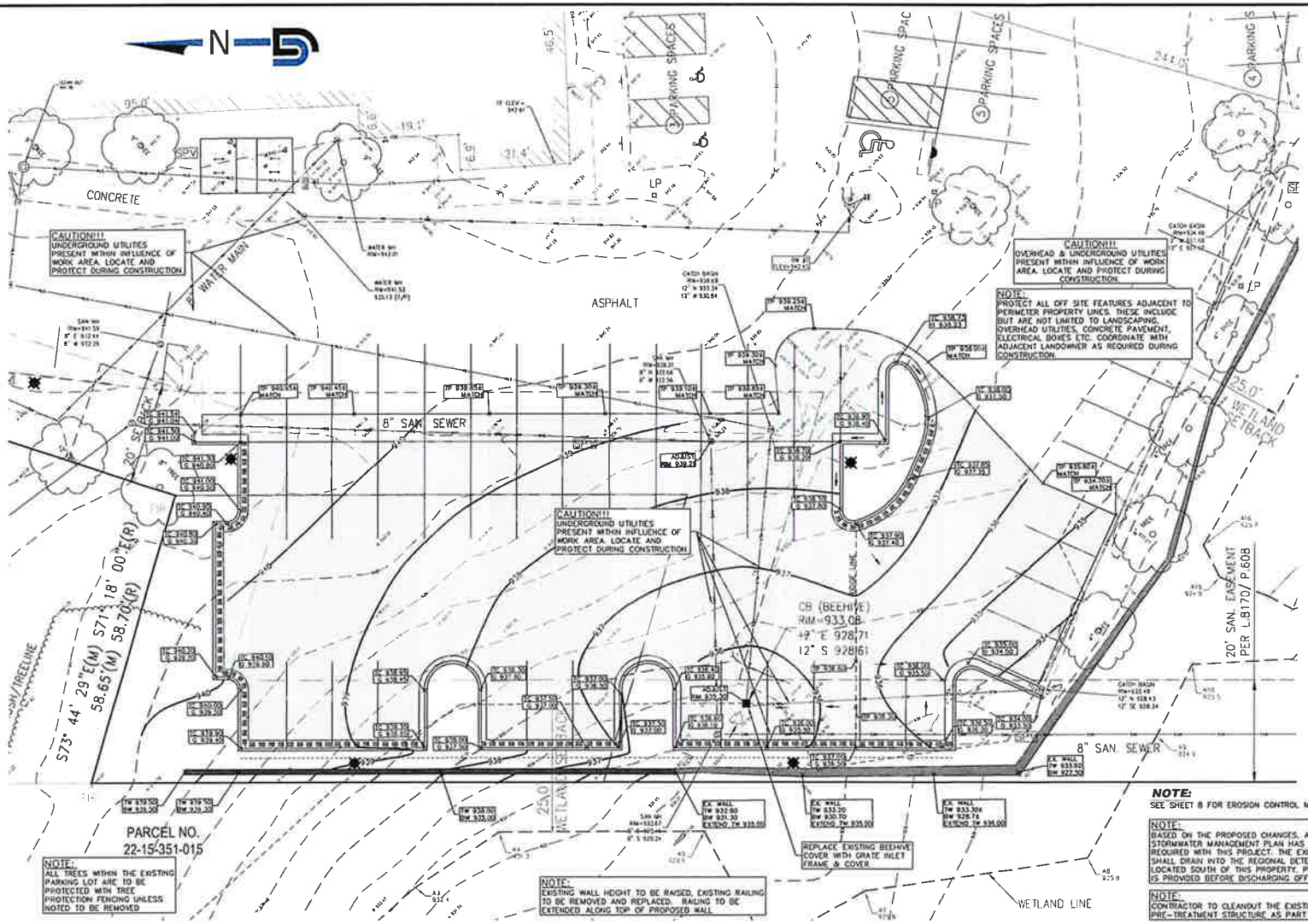
14. THE CONTRACTOR SHALL NOTIFY MISS DIG, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

DEMOLITION LEGEND:

ITEM TO BE REMOVED	
CURB REMOVAL	
ASPHALT REMOVAL	

SECTION 15

VERSA REAL ESTATE, LLC



BENCHMARKS:

BM#1:
ARROW ON TOP OF THE HYDRANT ON THE SOUTH SIDE OF GRAND RIVER AVENUE IN FRONT OF #4725 GRAND RIVER AVENUE. ELEVATION: 943.95 (N.A.V.D. 88)

BM#2:
ARROW ON TOP OF THE HYDRANT IN THE REAR PARKING LOT ISLAND AT #4725 GRAND RIVER AVNEUE.
ELEVATION: 942.45 (N.A.V.D. 88)

CITY BM#1534:
X ON NORTH RIM OF GATEWELL LOCATED 3 FEET SOUTH OF BACK OF CURB OF GRAND RIVER AND AT EAST PROPERTY LINE #45033 GRAND RIVER
ELEVATION: 941.28

LEGEND

SYMBOL	DESCRIPTION
MON	FOUND MON
FCI	FOUND CAPPED IRON
FIR	FOUND IRON ROD
(R)	RECORDED BEARING
(M)	MEASURED BEARING
	EX. OVERHEAD ELECTRIC
	EX. SANITARY SEWER
	EX. STORM SEWER
	EX. UNDERGROUND CABLE
	EX. UNDERGROUND ELECTRIC
	EX. UNDERGROUND GAS
	EX. WATER MAIN
	EX. WALL
	EX. CATCH BASIN ROUND
	EX. STORM INLET/CATCH BASIN
	EX. CLEAN OUT
	EX. ELECTRIC METER
	EX. GAS METER
	EX. GATE VALVE IN WELL
	EX. HYDRANT
	EX. LIGHT POLE
	EX. MAILBOX
	EX. SANITARY MANHOLE
	EX. SIGN
	EX. STORM MANHOLE
	EX. TRANSFORMER
	EX. UTILITY POLE
	EX. WATER MANHOLE
	EX. WATER SHUT OFF
	EX. WATER VALVE
	EX. WELL
	EX. TREE (DECIDUOUS/CONIFER)

GRADING AND DRAINAGE LEGEND:

895.00	PROPOSED SPOT GRADE ELEVATION
TP = TOP OF PAVEMENT	
TC = TOP OF CURB	
G = GUTTER	
TW = TOP OF WALL	
BW = BOTTOM OF WALL	
FG = FINISH GRADE	
→ = OVERLAND FLOW DIRECTION	

HATCH LEGEND

	PRO. ASPHALT
	PRO. CONCRETE
	EXISTING BUILDING

ALL PROPOSED PAVEMENT CROSS-SECTIONS ARE PER CITY OF NOVI SPECIFICATIONS, TYP.

NOTE:

ALL PAVING AND GRADING IMPROVEMENTS SHALL CONFORM TO THE CITY OF NOVI ENGINEERING DESIGN STANDARDS.

NOTE:

SEE SHEET 8 FOR EROSION CONTROL MEASURES.

NOTE:
BASED ON THE PROPOSED CHANGES, A NEW STORMWATER MANAGEMENT PLAN HAS NOT BEEN REQUIRED WITH THIS PROJECT. THE EXISTING SITE SHALL DRAIN INTO THE REGIONAL DETENTION BASIN LOCATED SOUTH OF THIS PROPERTY. PRE-TREATMENT IS PROVIDED BEFORE DISCHARGING OFF-SITE.

NOTE:
CONTRACTOR TO CLEANOUT THE EXISTING PRE-TREATMENT STRUCTURE AS PART OF THIS PROJECT.

GENERAL NOTES:

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

EARTHWORK BALANCING NOTE:

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

RESTORATION NOTE:

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

GRADING NOTES

1. SUBGRADE PREPARATION FOR PAVEMENT AND UTILITIES SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER.
2. ACCEPTABLE MATERIAL FROM UNDERCUTTING MAY BE USED AS ENGINEERED FILL AS APPROVED BY SOILS ENGINEER.
3. CONTRACTOR SHALL TEMPORARILY STOCKPILE TOP SOIL TO BE USED FOR FINAL GRADING.
4. REMOVE ANY EXISTING TOPSOIL, ORGANIC SOILS, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREES SHOULD BE COMPLETELY REMOVED OR AS DIRECTED BY OWNER.
5. THE TOP 12 INCHES OF THE EXPOSED SUBGRADE AS WELL AS INDIVIDUAL FILL LAYERS SHOULD BE COMPACTED TO ACHIEVE A 95% COMPACTION LEVEL. (MODIFIED PROCTOR – ASTM D1557)
6. THE FINAL SUBGRADE SHOULD BE THOROUGHLY PROOFROLLED USING A FULLY LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/ PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CAN NOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
7. THE AGGREGATE BASE SHOULD BE COMPACTED TO ACHIEVE A 95 PERCENT COMPACTION LEVEL (MODIFIED PROCTOR – ASTM D1557). THE BASE AND SUBGRADE COMPACTION SHOULD EXTEND A MINIMUM OF 1 FOOT BEYOND THE PAVED EDGE.
8. ALL BITUMINOUS MATERIAL SHOULD BE COMPACTED TO A DENSITY OF 97% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MARSHALL METHOD.
9. SEE CITY OF NOVI PAVING STANDARD DETAIL SHEET 2 OF 2 FOR PAVEMENT SECTIONS AND CURB DETAILS.

GRADING NOTES:

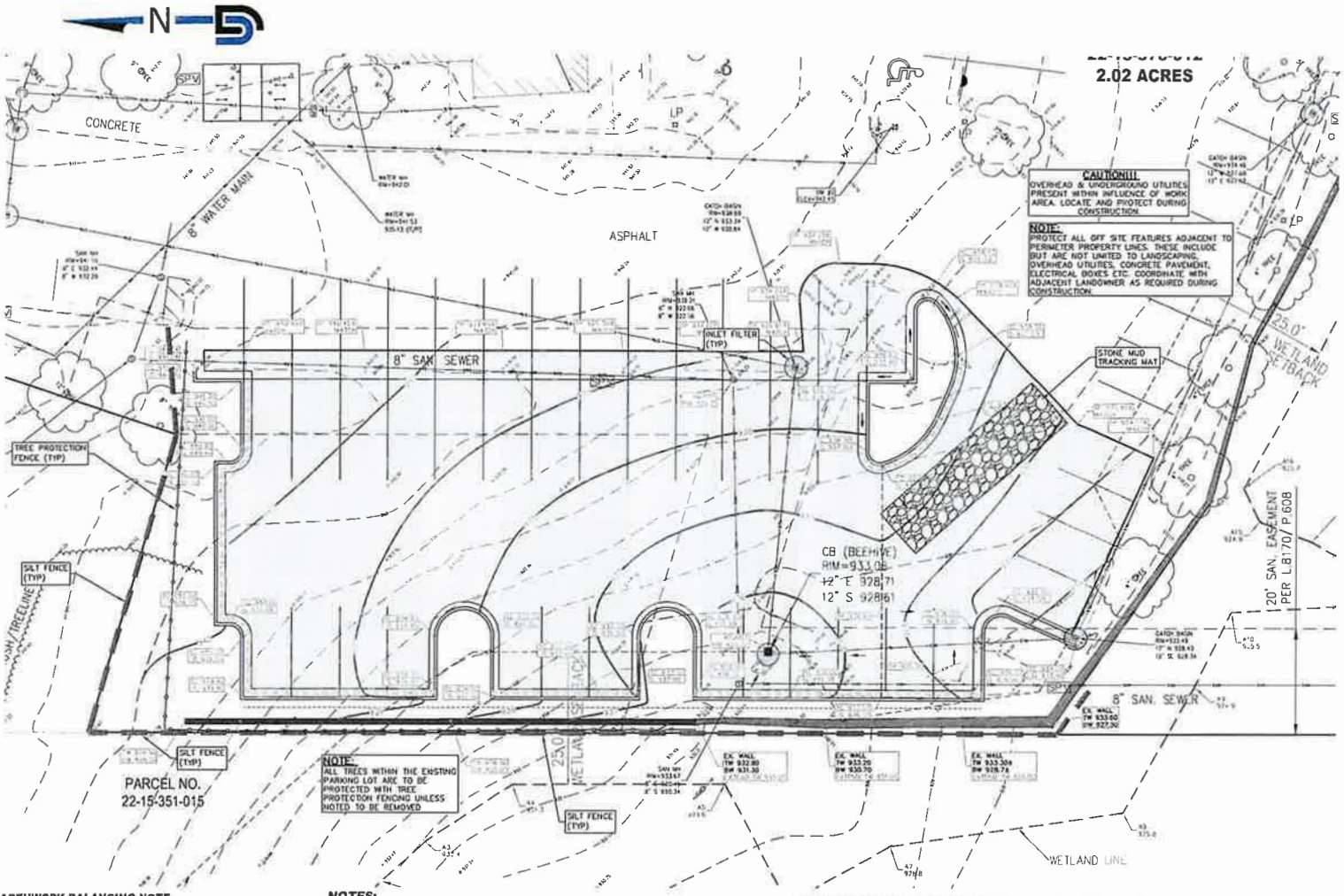
1. ALL PAVING AND GRADING IMPROVEMENTS SHALL CONFORM TO THE CITY OF NOVI ENGINEERING DESIGN STANDARDS.
2. SAWCUT AND REMOVE EXISTING CURBS AND PAVEMENT AS NECESSARY FOR CONSTRUCTION.
3. FIELD VERIFY EXISTING PAVEMENT AND CURB ELEVATIONS WHERE PROPOSED PAVEMENT AND CURB MEETS EXISTING PAVEMENT AND CURB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

UTILITY NOTES:

1. ELECTRICAL SERVICE TO LIGHT FIXTURES TO BE UNDERGROUND.
2. NO FLASHING LIGHT PERMITTED.
3. COMPACTED SAND BACKFILL (MDOT SAND CLASS II) SHALL BE PROVIDED FOR ALL UTILITIES WITHIN THE INFLUENCE OF PAVED AREAS.

VERSA REAL ESTATE, LLC

SECTION 15



BENCHMARKS:

BM#1:
ARROW ON TOP OF THE HYDRANT ON THE SOUTH SIDE OF GRAND RIVER AVENUE IN FRONT OF 44725 GRAND RIVER AVENUE. ELEVATION: 943.95 (N.A.V.D. 88)

BM#2:
ARROW ON TOP OF THE HYDRANT IN THE REAR PARKING LOT ISLAND AT 44725 GRAND RIVER AVNEUE.
ELEVATION: 942.45 (N.A.V.D. 88)

SOIL EROSION LEGEND

- INLET FILTER
- SILT FENCE
- TREE PROTECTION FENCE

HATCH LEGEND

- PRO. ASPHALT
- PRO. CONCRETE
- EXISTING BUILDING

ALL PROPOSED PAVEMENT CROSS-SECTIONS ARE PER CITY OF NOVI SPECIFICATIONS. TYP.

NOTE:
ALL PAVING AND GRADING IMPROVEMENTS SHALL CONFORM TO THE CITY OF NOVI ENGINEERING DESIGN STANDARDS.

CLEANING SCHEDULE:

OPERATIONS TO BE PERFORMED BY CONTRACTOR	DAILY	WEEKLY	AS NEEDED
SCRAPE, CLEAN OR SWEET STREETS	X		X
DUST CONTROL MEASURES		X	X
INLET FILTERS		X	X
SILT FENCE		X	X

DISTURBED AREA NOTE:

ALL DISTURBED AREAS WILL BE STABILIZED WITHIN 30 DAYS OF GRADING

LIMITS OF DISTURBANCE

TOTAL AREA OF DISTURBANCE = 1.30 ACs

GRADING AND DRAINAGE LEGEND:

- 935.00 PROPOSED SPOT GRADE ELEVATION
- TP = TOP OF PAVEMENT
- TC = TOP OF CURB
- G = GUTTER
- FG = FINISH GRADE
- = OVERLAND FLOW DIRECTION

EARTHWORK BALANCING NOTE:

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

GENERAL NOTES:

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

RESTORATION NOTE:

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

NOTES:

1.) THIS SITE WILL BE CLEARED, GRUBBED, GRADED & LAND BALANCED IN ONE (1) PHASE.
2.) IF DE-WATERING IS ANTICIPATED OR ENCOUNTERED DURING CONSTRUCTION, A DE-WATERING PLAN MUST BE SUBMITTED TO THE ENGINEERING DIVISION FOR REVIEW.
3.) IT IS THE DEVELOPERS RESPONSIBILITY TO GRADE AND STABILIZE DISTURBANCE DUE TO THE INSTALLATION OF PUBLIC UTILITIES.
4.) ALL CULVERT END SECTIONS MUST CONTAIN GROUTED RIP-RAP IN ACCORDANCE WITH ORDINANCE SPECIFICATIONS.
6.) PER OAKLAND COUNTY/CITY OF NOVI, PERMANENT SOIL EROSION CONTROLS ARE REQUIRED TO BE INSTALLED WITHIN FIVE (5) DAYS AFTER FINAL GRADING OR FINAL EARTH CHANGE.
7.) CONTRACTOR SHALL BE RESPONSIBLE FOR THE INTERNAL AND EXTERNAL STREETS SHALL BE CLEANED OF ANY TRACKED MUD IMMEDIATELY FOLLOWING EACH MUD-TRACKING OCCURRENCE.
8.) PRELIMINARY APPROVAL OF THE THE STORMWATER MANAGEMENT PLANS WILL BE REQUIRED BY THE CITY OF NOVI PRIOR TO APPROVAL.
9.) SLOPES STEEPER THAN 1V:6H (16%) SHALL BE STABILIZED WITH EROSION CONTROL BLANKET.
10.) CONTRACTOR TO INSTALL UP TO TWO MUD TRACKING MATS, AS REQUIRED, TO CONSTRUCT IMPROVEMENTS. MUD MAT LOCATION TO BE APPROVED BY THE CITY OF NOVI PRIOR TO INSTALLATION.
11.) THE EXISTING ON SITE PRE-TREATMENT STRUCTURE SHALL BE CLEANED OUT AS PART OF THIS PROJECT.

MAINTENANCE REQUIREMENTS (EROSION CONTROL)

INSPECTION & MAINTENANCE OF SOIL EROSION CONTROL MEASURES TO BE CONDUCTED ON A WEEKLY BASIS OR AS INDICATED BELOW, WHICHEVER IS SOONER.

SILT FENCE:
SILT FENCES SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED RAINFALLS. IF THE FENCE IS SAGGING OR THE SOIL HAS REACHED ONE HALF THE HEIGHT OF THE FABRIC, THE SOIL BEHIND THE FABRIC MUST BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE. THE SOIL CAN BE ADDED TO THE SPOIL PILE. IF THE FABRIC IS BEING UNDERCUT (I.E. IF THE WATER IS SEEPING UNDER THE FENCE), THE FENCE SHOULD BE REMOVED AND REINSTALLED FOLLOWING THE GIVEN PROCEDURES. FABRIC WHICH DECOMPOSES OR OTHERWISE BECOMES INEFFECTIVE SHOULD BE REMOVED AND SAVED WITH NEW FILTER FABRIC IMMEDIATELY. FILTER FENCES SHOULD BE REMOVED ONCE VEGETATION IS WELL ESTABLISHED AND THE UP-SLOPE IS FULLY STABILIZED OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

INLET FILTERS:
INLET FILTERS SHOULD BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND SEVERAL TIMES DURING PROLONGED RAINFALLS. IF THE INLET FILTER IS DAMAGED OR THE SOIL HAS REACHED ONE HALF THE HEIGHT OF THE FABRIC, THE SOIL WITHIN THE FABRIC MUST BE REMOVED AND DISPOSED OF IN A STABLE UPLAND SITE. THE SOIL CAN BE ADDED TO THE SPOIL PILE. IF THE INLET FILTER IS BEING DAMAGED, THE FILTER FABRIC SHOULD BE REMOVED AND REINSTALLED PER OAKLAND COUNTY, CITY OF NOVI OR AS DIRECTED BY THE CITY ENGINEER. INLET FILTERS SHOULD BE REMOVED ONCE VEGETATION IS WELL ESTABLISHED AND THE UP-SLOPE IS FULLY STABILIZED OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

ACCESS ROADS (HAUL ROADS):
PROPER MAINTENANCE MAY INCLUDE ADDING ADDITIONAL LAYERS OF STONE WHEN THE ORIGINAL STONE BECOMES COVERED WITH MUD. AFTER EACH STORM EVENT, INSPECT THE ROAD FOR EROSION AND MAKE ANY NECESSARY REPAIRS. IT IS ALSO IMPORTANT TO CHECK AND MAINTAIN ANY BMP'S WHICH ARE USED IN CONJUNCTION WITH THIS BMP, ESPECIALLY THOSE FOR DRAINAGE. ALL SEDIMENT DROPPED OR ERODED ONTO PUBLIC RIGHT-OF-WAYS SHOULD BE REMOVED IMMEDIATELY BY SWEEPING.

SEEDING, SODDING & MULCHING:
SEEDED, SODDED OR MULCHED AREAS SHOULD BE CHECKED FOLLOWING EACH RAIN TO ENSURE THE MATERIAL IS STAYING IN PLACE. ADDITIONAL TACKING MATERIALS OR NETTING MAY NEED TO BE APPLIED TO HOLD THE AFOREMENTIONED MATERIALS IN PLACE. MAINTENANCE PROCEDURES SHOULD ALSO BE FOLLOWED FOR THE BMP'S WHICH WERE IMPLEMENTED TO KEEP ERODED SOIL OR CONCENTRATED RUNOFF AWAY FROM THESE TARGET AREAS. SHALL BE COMPLETED WITHIN 5 DAYS OF FINAL GRADING OR WHENEVER DISTURBED AREAS HAVE REMAINED UNCHANGED FOR GREATER THAN 30 DAYS OR GREATER. 3"-4" OF TOPSOIL REQUIRED.

TIMING AND SEQUENCE OF CONSTRUCTION:

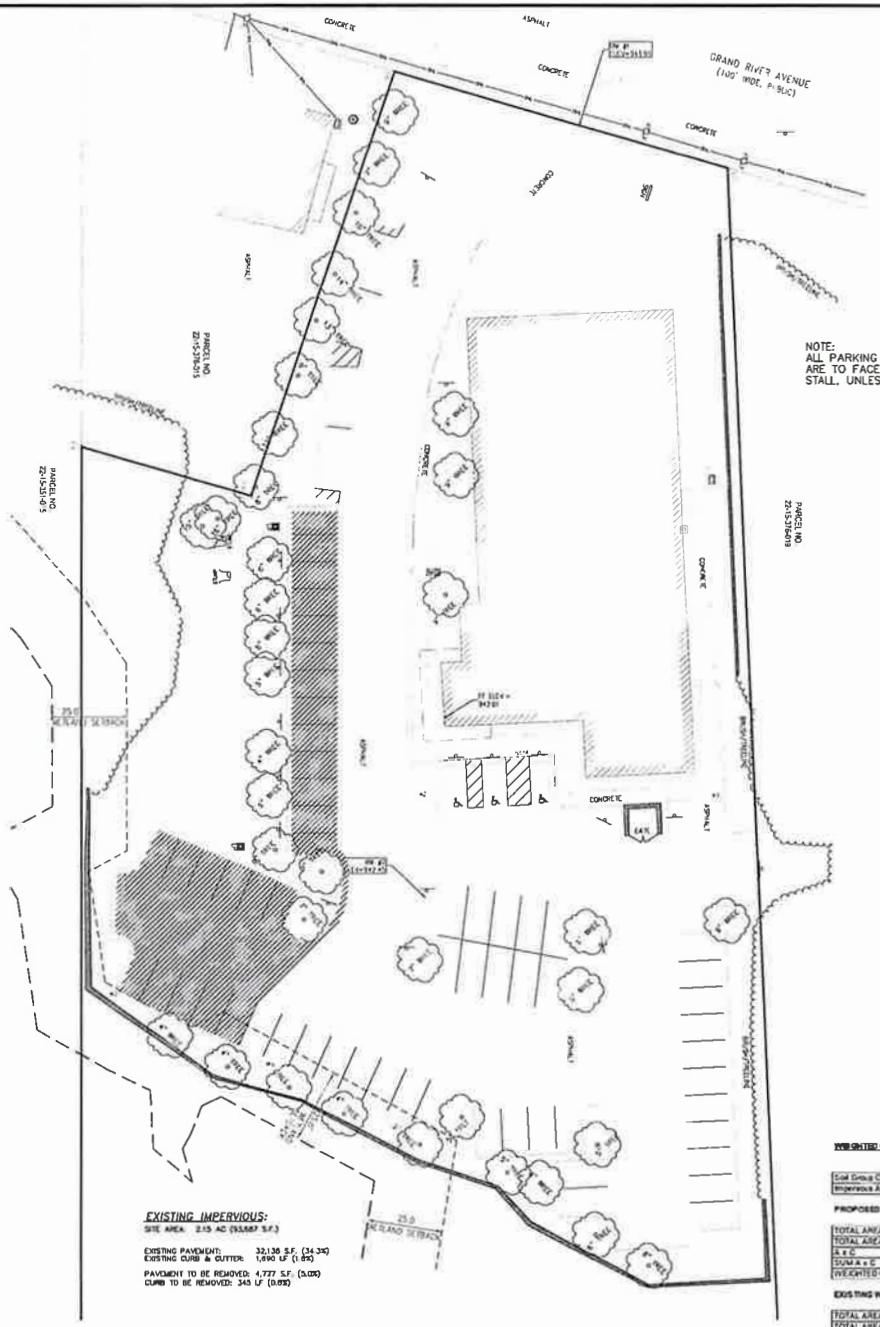
1. SOIL EROSION AND SEDIMENTATION CONTROL PRE-GRADING MEETING.
2. INSTALL SILT FENCE AND MUD TRACKING MAT.
3. INSTALL STORM SEWER SYSTEM WITH INLET FILTER CONTROLS.
4. PERFORM MASS GRADING AND PROOF ROLLING.
5. INSTALL OTHER UTILITIES.
6. INSTALL CURBING AND SUB-BASE OF AREAS TO BE PAVED, THEN INSTALL BASE COARSE OF ASPHALT.
7. FINAL GRADE SITE AND REDISTRIBUTE TOPSOIL. STABILIZE ALL DISTURBED WITH SOD, HYDROSEED APPLICATION, OR SEEDING UNDER A CRIMPED STRAW MULCH. PROVIDE LANDSCAPING AND SIGNAGE.
8. INSTALL REAR COARSE STRIPE PAVEMENTS.
9. MONITOR AND MAINTAIN ALL EROSION CONTROLS THROUGH CONSTRUCTION SEQUENCE.

NOTE: SCHEDULE SUBJECT TO CITY OF NOVI APPROVAL AND WEATHER.

NOTE: THE INSTALLATION OF SILT FENCING OR TREE PROTECTION FENCING SHALL NOT OCCUR PRIOR TO THE INITIAL CITY PRE-CONSTRUCTION MEETING. WHEN NATURAL FEATURES EXIST ON THE SITE, INSPECTION OF STAKING MAY BE REQUIRED PRIOR TO INSTALLATION OF THE FENCING.

SECTION 15

VERSA REAL ESTATE, LLC



NOTE:
ALL PARKING DIMENSIONS SHOWN ARE TO FACE OF CURB TO END OF STALL, UNLESS OTHERWISE NOTED.

WEIGHTED C CALCULATIONS

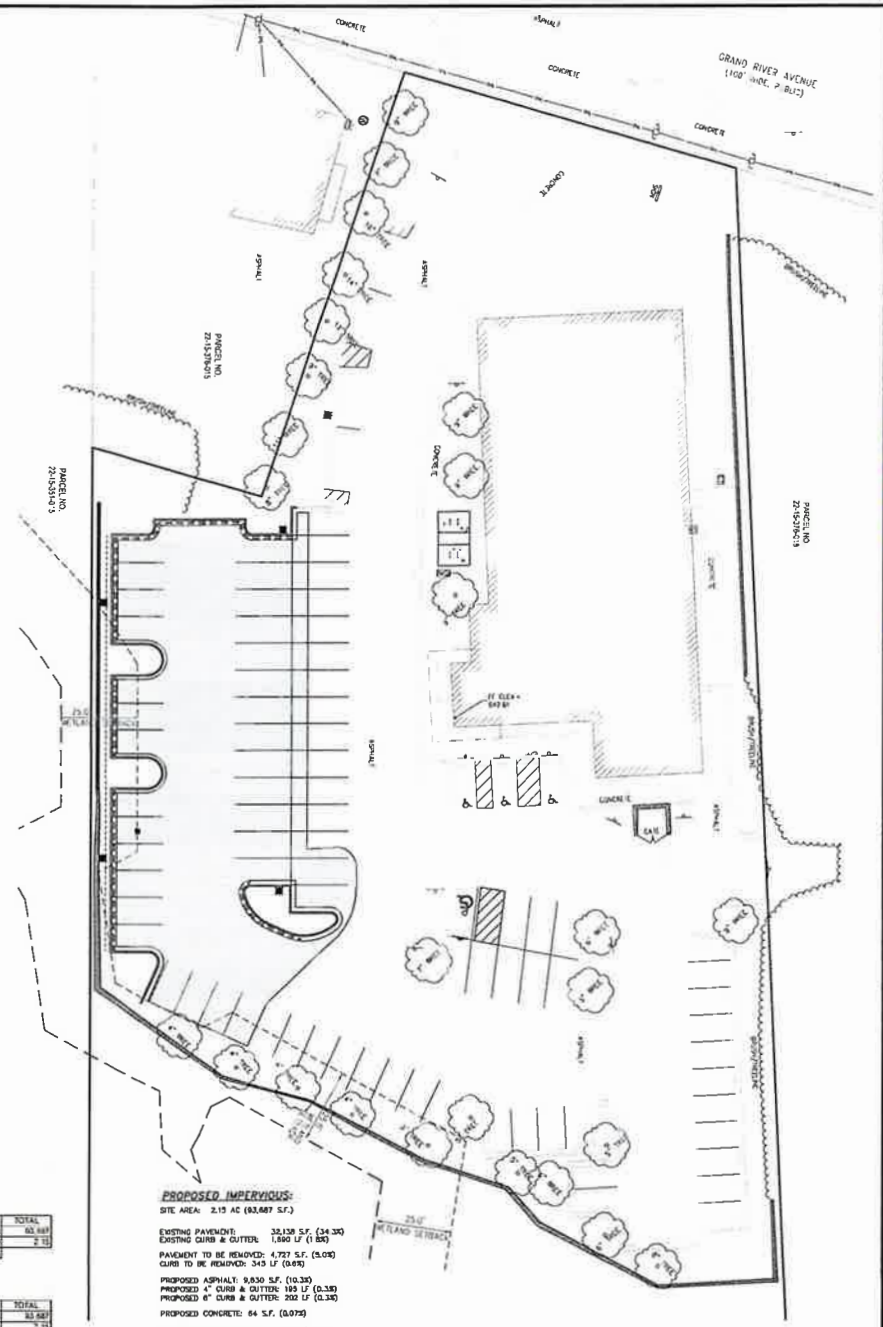
	C Factor
Soil Group C +4%	0.30
Impervious Area	0.95

PROPOSED WEIGHTED C CALCULATIONS

	PERVIOUS	IMPERVIOUS	TOTAL
TOTAL AREA (SF)	46,187	47,500	93,687
TOTAL AREA (AC)	1.06	1.09	2.15
A x C	0.32	1.04	
SUM A x C	1.35		
WEIGHTED C	0.63		

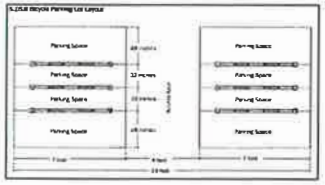
EXISTING WEIGHTED C CALCULATIONS

	PERVIOUS	IMPERVIOUS	TOTAL
TOTAL AREA (SF)	51,149	42,538	93,687
TOTAL AREA (AC)	1.17	0.98	2.15
A x C	0.35	0.93	
SUM A x C	1.29		
WEIGHTED C	0.60		



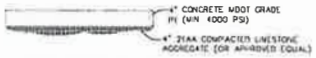
SECTION 15

VERSA REAL ESTATE, LLC

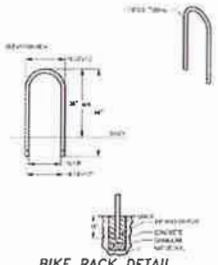


PROPOSED BIKE RACK DETAIL
NO SCALE

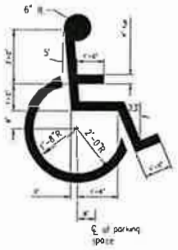
ALL BICYCLE PARKING SPACES SHALL BE PAVED AND ADJACENT TO A BICYCLE RACK OF THE INVERTED "U" DESIGN, THAT IS SOLID, CANNOT BE EASILY REMOVED WITH COMMON TOOLS, PROVIDES AT LEAST TWO (2) CONTACT POINTS FOR A BICYCLE, IS AT LEAST THREE (3) FEET IN HEIGHT, AND PERMITS THE LOCKING OF A BICYCLE THROUGH THE FRAME AND ONE (1) WHEEL WITH A STANDARD U-LOCK OR CABLE IN AN UPRIGHT POSITION. THE RACK SHALL BE SECURELY ANCHORED IN CONCRETE OR ASPHALT. ALTERNATIVE INSTALLATIONS AND DESIGNS MAY BE CONSIDERED IF THE PROPOSED RACK DESIGN FUNCTIONS SIMILAR TO THE INVERTED "U" DESIGN. C. ALL BICYCLE PARKING FACILITIES SHALL BE ACCESSIBLE FROM ADJACENT STREET(S) AND PATHWAY(S) VIA A PAVED ROUTE THAT HAS A MINIMUM WIDTH OF SIX (5) FEET. PROVIDE A MINIMUM OF EIGHT (8) BICYCLE PARKING SPACES PER CITY OF NOM REQUIREMENTS FOR THIS PROJECT.



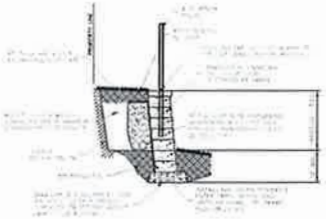
PROPOSED BIKE CONCRETE PAD CROSS-SECTION
NO SCALE



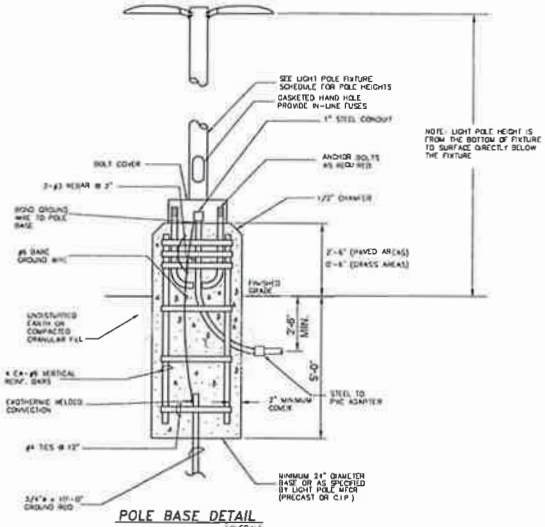
BIKE RACK DETAIL
NO SCALE



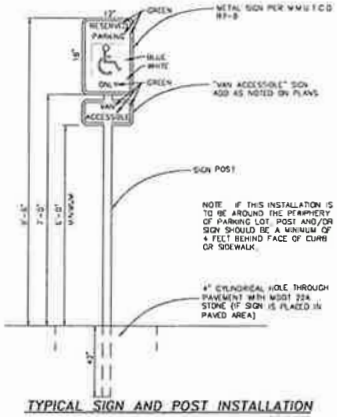
INTERNATIONAL SYMBOL FOR ACCESSIBLE PARKING
NOT TO SCALE



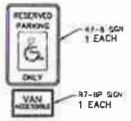
ILLUSTRATIVE BLOCK RETAINING WALL CROSS SECTION
NOT TO SCALE



POLE BASE DETAIL
NO SCALE

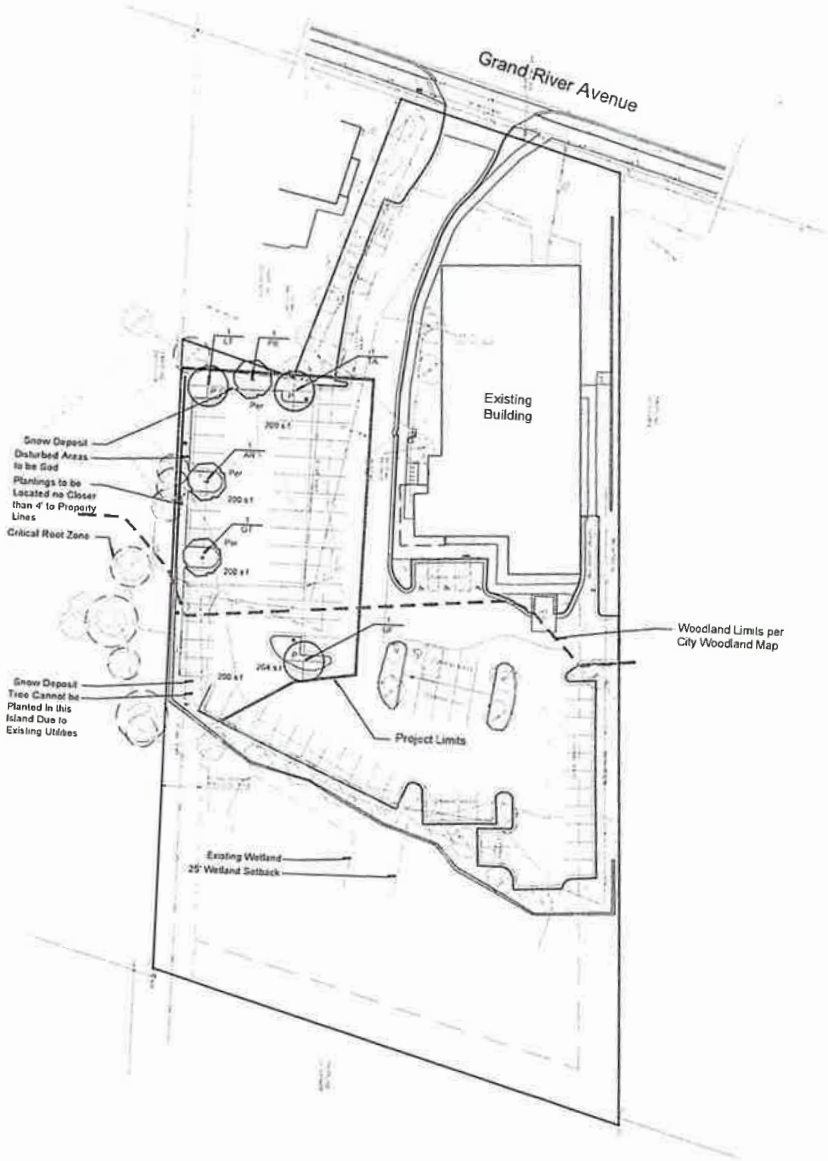


TYPICAL SIGN AND POST INSTALLATION



VAN ACCESSIBLE PARKING SIGN DETAIL

VERSA REAL ESTATE, LLC



Location Map

North
No Scale

Landscape Summary

Existing Zoning	I-1
Parking Lot Landscaping	
"P" Vehicular Use Area	8,580 s.f.
Landscape Area Required	644 s.f. (8,580 s.f. x 7.5%)
Landscape Area Provided	1,064 s.f.
Canopy Trees Required	3.2 Trees (644 / 200)
Canopy Trees Provided	3 Trees
Parking Lot Perimeter	
"PER" Perimeter	219 LF
Trees Required	6.2 Trees (219 LF / 35)
Trees Provided	3 Trees
Woodland Replacement	
Required Replacement	0 Trees

Notes:

1. No Overhead Lines Exist Along the South and West Property Lines.
2. Trees Shall be Planted no Closer than 10' to Sanitary Sewer, Utility Structures Including Hydrants and 5' from Utility Lines.
3. Trees Shall not be Planted within 4' of Property Lines.
4. Utility Boxes are not Proposed.
5. Soils Information is Found on Sheet-S.
6. No Phragmites or Japanese Knotweed Exist On-Site.
7. Existing Irrigation System to be Extended to New Development.
8. Any Landscaping Missing from the Original Approved Plans Shall be Replaced. If the Plantings are Significantly Different from What was Originally Proposed, Fill Inconsistent Gaps and Provide an as-built for the Revised Landscaping.

Plant List

Sym.	Qty.	Botanical Name	Cultivar Name	Caliper	Spacing	Root	Height	Price	Total	Comments	Quota	Native	Total
										Site Plan	25% Max		
AS	1	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	3.5"	as shown	B&B		$ 400.00	$ 400.00	17%	17%	1	1
GT	1	Gleditsia triacanthos var. inermis	Honey Locust	3.5"	as shown	B&B		$ 400.00	$ 400.00	17%	17%	1	1
LT	1	Liriodendron tulipifera	Tulip Tree	3.5"	as shown	B&B		$ 400.00	$ 400.00	17%	17%	1	1
PE	1	Platanus x acerifolia 'Exclamation'	Exclamation London Planetree	3.5"	as shown	B&B		$ 400.00	$ 400.00	17%	17%	1	1
RC	1	Thuja occidentalis 'Nigra'	Redmond Arborvitae	3.5"	as shown	B&B		$ 400.00	$ 400.00	17%	17%	1	1
UF	1	Ulmus x 'Frontier'	Frontier Elm	3.5"	as shown	B&B		$ 400.00	$ 400.00	17%	17%	1	1
	6	Total Trees						$ 400.00	$ 400.00	17%	17%	1	1
											Total	6	6
											% Native	67%	
	6	4" Deep Shredded Hardwood Bark Mulch						$25/c.y.	$ 150.00				
	250	Sod						$3/s.y.	$ 750.00				
		Irrigation							$ 10,000.00				
								Total	$ 13,250.00				

ALLENDE

Seal:

Title:
Landscape Pl
Parking Lot Expansion

Project:
44725 Grand Riv
Novi, Michigan

Prepared for:
Versa Real Estate
29201 Telegraph, Suite 410
Southfield, Michigan 48034
Eric Modell 248-970-1637

Revision: 1st

Job Number:

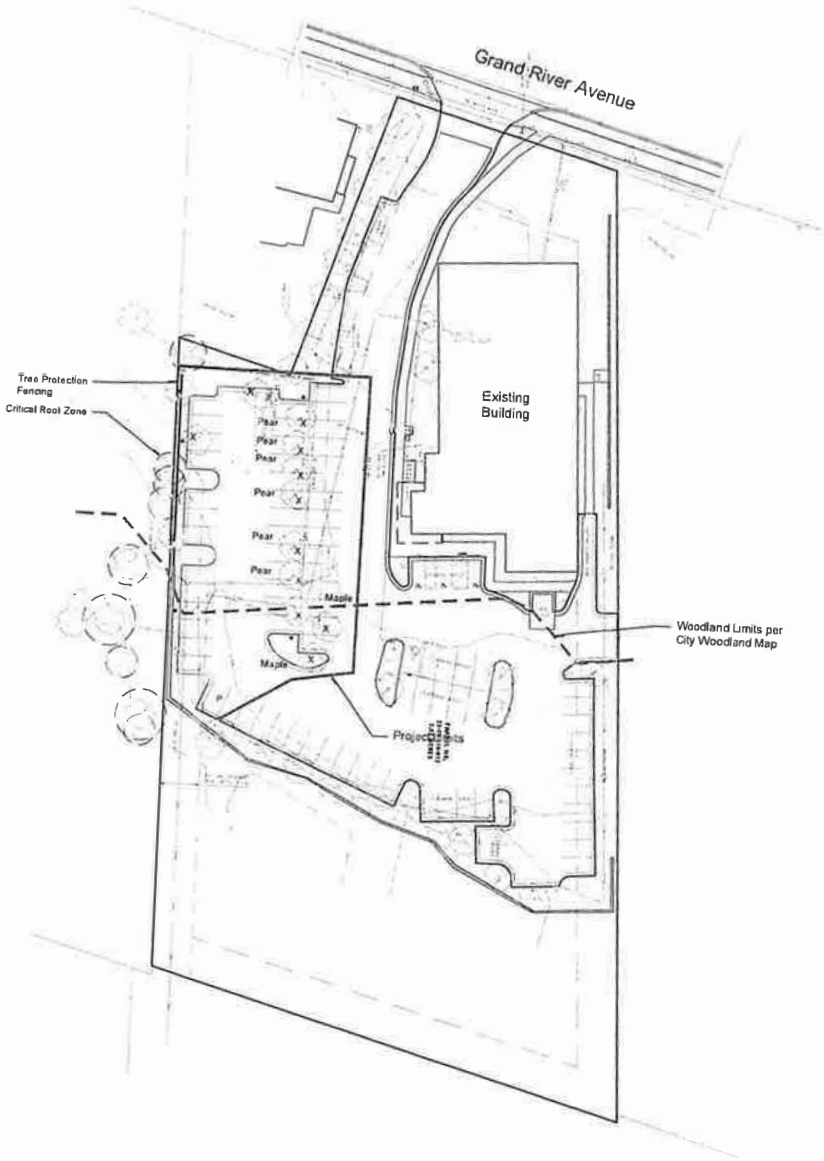
Drawn By: Ch

0' 15' 30' NC
1"

Sheet No.
L-1

© 2026 Allen Design L.L.C.

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



Woodland Summary

Total Trees	24 Trees
Less Non-Regulated Trees	
Non-Regulated Trees	24 Trees
Regulated Trees Removed	0 Trees
Replacement Required	
Trees 8" - 11" 0 trees x 1=	0 Trees
Trees 11" - 20" 0 trees x 2=	0 Trees
Trees 20" - 30" 0 trees x 3=	0 Trees
Trees 30"+ 0 trees x 4=	0 Trees
Multi-Stemmed Trees (5 Trees)	0 Trees
Replacement Required	0 Trees

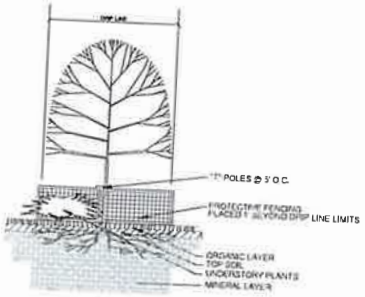
"X" Denotes Tree to be Removed

Tree Fence Installation and Removal: $330.00 (1.55 x $213.)

Tree List

TAG #	SCIENTIFIC NAME	COMMON NAME	DBH	CONDITION	STATUS	REPLACEMENTS
3125	Ulmus spp	ELM	9"	GOOD	Save	
3126	Ulmus spp	ELM	12"	GOOD	Save	
3127	Ulmus spp	ELM	10"	GOOD	Save	
3128	Acer spp	MAPLE	7"	GOOD	Save	
3129	Aesculus glabra	BUCKEYE	10"	GOOD	Save	
3129	Populus deltoides	COTTONWOOD	8"	GOOD	Save	
3130	Populus deltoides	COTTONWOOD	8"	GOOD	Remove	X
3131	Populus deltoides	COTTONWOOD	9"	GOOD	Save	
3132	Ulmus spp	ELM	11"	GOOD	Remove	X
3133	Ulmus spp	ELM	12"	GOOD	Remove	X
3134	Populus deltoides	COTTONWOOD	14"	GOOD	Remove	X
3135	Populus deltoides	COTTONWOOD	8", 7"	GOOD	Save	
3136	Populus deltoides	COTTONWOOD	8"	GOOD	Save	
3137	Populus deltoides	COTTONWOOD	8"	GOOD	Save	
3138	Acer negundo	BOX ELDER	8"	POOR	Remove	X
3139	Salix spp	WILLOW	20", 6"	GOOD	Save	
3140	Ulmus spp	ELM	24"	GOOD	Save	
3141	Salix spp	WILLOW	17", 12", 11", 8"	GOOD	Save	
3142	Malus ioensis	AMERICAN CRABAPPLE	8"	GOOD	Save	
3143	Malus ioensis	AMERICAN CRABAPPLE	8", 6", 6"	POOR	Save	
3144	Morus spp	MULBERRY	8"	GOOD	Save	
3145	Salix spp	WILLOW	13"	GOOD	Save	
3146	Ulmus spp	ELM	8"	POOR	Save	
3147	Acer spp	MAPLE	20"	GOOD	Save	
			8"	GOOD	Remove	X

Tree Identification Performed by Umior Group



1. Install Plastic or Wood Orange Snow Fencing (Shall be Installed at or Beyond the Drip Line Unless Noted Otherwise on the Plans).
2. Install Protective Fencing Around Trees to be Preserved Prior to Any Site Work Including Clearing, Grubbing, Stripping, Grading, Excavation, Demolition, Or Construction Activity Of Any Kind.
3. Fencing Shall be Placed Where Required by the City.
4. Signs to Consist of Wood and Fluorescent Orange Ink. Shall be Posted Along the Fencing Adjacent to Excavation.
5. No Fence Shall Contain any Sharp Edges Which Could Cut Or Puncture Tree Bark and Wood Chipper Approved Plastic are Ok.
6. No Storage or Placing of Chemicals Allowed Within Areas Protected Fencing. This Shall Include but not Limited to Fuel, Oil, Paint, Solvents, Stone, Rubble, Debris.
7. No Buildings, Trailers or Structures Shall Be Placed within Protected Areas.
8. No Grade Changes or Excavation Shall Occur within Protected Areas.
9. No Pedestrian or Equipment Traffic Shall Be Allowed within Protected Areas.
10. Authority Shall Be the Woodland Inspector Or Other Qualified Representative Appointed by the City.
11. Any Proposed Grade Changes to be Discussed Prior to the Protected Areas. Alterations Shall Not be Approved Through a Professional Arborist. No Grade Changes to be Made.
12. Supervise Excavation of Any Kind in Proximity of Trees. Any Damaged Trees to be Treated Immediately.
13. Replacement Trees or Regulated Trees Adjacent to the Property are Also Required.
14. Protected Whether or Not they are Shown on the Plan.

TREE PROTECTION DETAIL

NO SCALE

© 2026 Allen Design L.L.C.

Know what's below. Call before you dig.

ALLENDE

Seal:

Title:

Tree Plan

Parking Lot Expansion

Project:

44725 Grand Riv

Novi, Michigan

Prepared for:

Versa Real Estate
29201 Telegraph, Suite 410
Southfield, Michigan 48034
Eric Modell 248-979-1637

Revision: Is

Revised Fe

Revised Ap

Job Number:

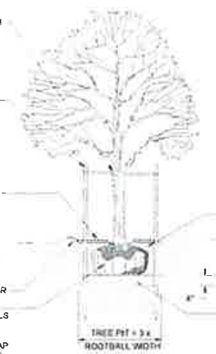
26-016

Drawn By: Ch

0' 15' 30' NC

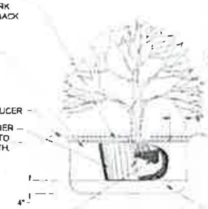
Sheet No.

L-2



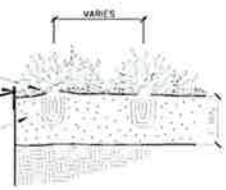
DECIDUOUS TREE PLANTING DETAIL

EVERGREEN TREE PLANTING DETAIL



SHRUB PLANTING DETAIL

NOT TO SCALE

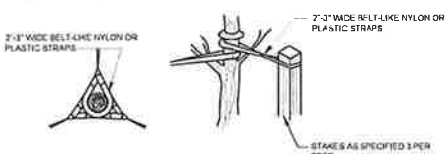


PERENNIAL PLANTING DETAIL

Not to scale

STAKING/GUYING LOCATION

NOTE
ORIENT STAKING/GUYING TO PREVAILING WINDS, EXCEPT ON SLOPES GREATER THAN 3:1 ORIENT TO SLOPE.
USE SAME STAKING/GUYING ORIENTATION FOR ALL PLANTS WITHIN EACH GROUPING OR AREA.



GUYING DETAIL

STAKING DETAIL

TREE STAKING DETAIL

Not to scale

LANDSCAPE NOTES

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

CITY OF NOVI NOTES

1. All landscape islands shall be backfilled with a sand mixture to facilitate drainage.
2. All proposed landscape islands shall be curbed.
3. All landscape areas shall be irrigated.
4. Overhead utility lines and poles to be relocated as directed by utility company of record.
5. Evergreen and canopy trees shall be planted a minimum of 10' from a fire hydrant, and manhole, 15' from overhead wires.
6. All plant material shall be guaranteed for two (2) years after City Approval and shall be installed and maintained according to City of Novi standards. Replace Failing Material within 3 Months of Discovering the Need for Replacement. One cultivation per month shall occur in July-August.
7. All proposed street trees shall be planted a minimum of 4' from both the back of curb and proposed walks.
8. All tree and shrub planting beds shall be mulched with shredded hardwood bark, spread to minimum depth of 4". All lawn area trees shall have a 4' diameter circle of shredded hardwood mulch 3" away from trunk. All perennial, annual and ground cover beds shall receive 2" of dark colored bark mulch as indicated on the plant list. Mulch is to be free from debris and foreign material, and shall contain no pieces of inconsistent size.
9. All Substitutions or Deviations from the Landscape Plan Must be Approved in Writing by the City of Novi Prior to their Installation.

NOTES
THE APPROXIMATE DATE OF INSTALLATION FOR THE PROPOSED LANDSCAPE WILL BE BETWEEN MARCH-NOVEMBER.

THE SITE WILL BE MAINTAINED BY THE DEVELOPER IN ACCORDANCE WITH THE STANDARDS SET FORTH IN THE CITY OF NOVI ZONING ORDINANCE. THIS INCLUDES WEEDING AND WATERING AS REQUIRED BY NORMAL MAINTENANCE PRACTICES.

DEVELOPER SHALL BE RESPONSIBLE FOR REPLACING ANY TREES WITHIN UTILITY EASEMENTS THAT ARE DAMAGED THROUGH NORMAL MAINTENANCE OR REPAIRS.

PLANT MATERIALS SHALL BE GUARANTEED FOR 2 YEARS AND SHALL BE MAINTAINED IN ACCORDANCE WITH CITY ORDINANCES. WARRENTY PERIOD BEGINS AT THE TIME OF CITY APPROVAL. WATERING AS NECESSARY SHALL OCCUR DURING THIS WARRANTY PERIOD.

Know what's below. Call before you dig.

© 2026 Allen Design L.L.C.

ALLENDE[S]
LAND PLANNING / LANDSCAPE

Seal:

Title:
Landscape D[…]
Parking Lot Expansion

Project:
44725 Grand Riv[…]
Pontiac, Michigan

Prepared for:
Varsa Real Estate
29201 Telegraph, Suite 410
Southfield, Michigan 48034
Eric Modell, 248-979-6137

Revision:	Is[…]
Review	Fe[…]
Revised	Ap[…]

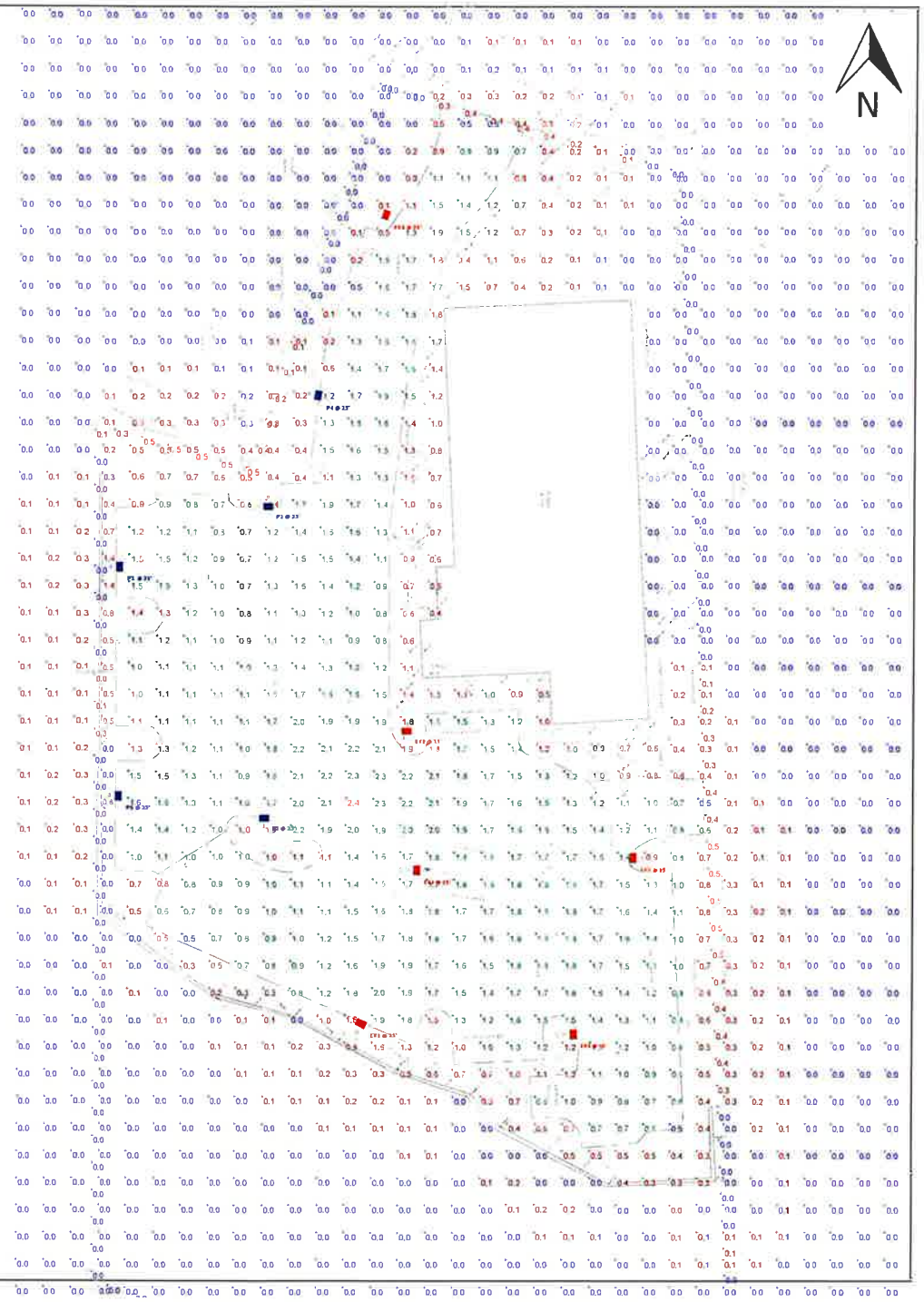
Job Number:
26-016

Drawn By:	Ch[…]
jca	jca

Sheet No.
L-3

Plan View

Scale - 1" = 20ft



Schedule

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	LLF	Wattage
	P1	2	Lithonia Lighting	DSX0 LED P4 30K 80CRI TFTM HS	D-Series Size 0 Area Luminaire P4 Performance Package 3000K CCT 80 CRI Forward Throw Houseside Shield	0.9	93.04
	P2	1	Lithonia Lighting	DSX0 LED P1 30K 80CRI RCCO EGS	D-Series Size 0 Area Luminaire P1 Performance Package 3000K CCT 80 CRI Right Corner Cutoff Extreme Backlight Control External Glare Shield	0.9	33.21
	P3	1	Lithonia Lighting	DSX0 LED P1 30K 80CRI LCCO EGS	D-Series Size 0 Area Luminaire P1 Performance Package 3000K CCT 80 CRI Left Corner Cutoff Extreme Backlight Control External Glare Shield	0.9	33.21
	P4	1	Lithonia Lighting	DSX0 LED P4 30K 80CRI BLC3 EGS	D-Series Size 0 Area Luminaire P4 Performance Package 3000K CCT 80 CRI Type 3 Extreme Backlight Control External Glare Shield	0.9	93.04
	EX1	1	EXISTING	TO BE CONFIMRED BY OWNER	TO BE CONFIMRED BY OWNER	0.9	93.04
	EX2	4	EXISTING	TO BE CONFIMRED BY OWNER	TO BE CONFIMRED BY OWNER	0.9	93.04
	EX3	1	EXISTING	TO BE CONFIMRED BY OWNER	TO BE CONFIMRED BY OWNER	0.9	93.04

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Overall/Grade	+	0.4 fc	2.4 fc	0.0 fc	N/A	N/A
Parking & Drive Lanes	✱	1.4 fc	2.4 fc	0.5 fc	4.8:1	2.8:1
Property Line	+	0.1 fc	0.5 fc	0.0 fc	N/A	N/A

General Note

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
3. CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: GRADE
4. ELECTRICAL SERVICE TO SERVICE TO BE UNDERGROUND
5. NO FLASHING LIGHT(S) WILL BE PERMITTED WITHIN SITE
6. ONLY NECESSARY LIGHTING FOR SECURITY PURPOSES SHALL BE PERMITTED AFTER HOURS

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

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

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

Alternates Note

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

Ordering Note

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

Drawing Note

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

Mounting Height Note

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

d^series

D-Series Size 0

LED Area Luminaire

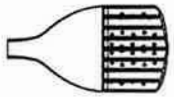
Catalog Number

Notes

Type

Specifications

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



Design Select options indicated by this color background.

Introduction

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

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

design select

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

Ordering Information

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

DSX0 LED

Series

DSX0 LED

LEDs

Forward optics

P1 P5
P2 P6
P3 P7
P4

Rotated optics

P10[1] P12[1]
P11[1] P13[1]

Color temperature[2]

(this section 70CRI only)

30K 3000K
40K 4000K
50K 5000K

27K 2700K
30K 3000K
35K 3500K
40K 4000K
50K 5000K

Color Rendering Index[3]

70CRI
70CRI
70CRI

80CRI
80CRI
80CRI
80CRI
80CRI

Distribution

AFR Automotive front row
T15 Type 15 short
T2M Type II medium
T3M Type III medium
T3LG Type III low glare[1]
T4M Type IV medium
T4LG Type IV low glare[1]
TFTM Forward throw medium
T5M Type V medium
T5LG Type V low glare
T5W Type V wide
BLC3 Type III backlight control[1]
BLC4 Type IV backlight control[1]
LCCO Left corner cutoff[1]
RCCO Right corner cutoff[1]

Voltage

MVOLT (120V-277V)[1]
HVOLT (347V-480V)[1,4]
XVOLT (277V-480V)[1,4]
120[1,4,5]
208[1,4,5]
240[1,4,5]
277[1,4,5]
347[1,4,5]
480[1,4,5]

Mounting

Shipped included

SPA Square pole mounting (4@ drilling, 3.5" min. SQ pole)
RPA Round pole mounting (4@ drilling, 3" min. RND pole)
SPA5 Square pole mounting (4@ drilling, 3" min. SQ pole)[1]
RPA5 Round pole mounting (4@ drilling, 3" min. RND pole)[1]
SPANW Square narrow pole mounting (4@ drilling, 3" min. SQ pole)
WBA Wall bracket[1]
MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options

Shipped installed

NLTAIR2 PIRHN Nlight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 25fc[1,5,6,7,8,9]
PIR High face motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 25fc[5,6,7,8,9]
PER NEMA twist-lock receptacle only (controls ordered separately)[7]
PER5 Five-pin receptacle only (controls ordered separately)[7,8]
PER7 Seven-pin receptacle only (controls ordered separately)[7,8]
FAO Field adjustable output[1,7,8]
BL30 Bi-level switched dimming, 30%[7,8]
BL50 Bi-level switched dimming, 50%[7,8]
DMG 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)[7]

Other options

Shipped installed

HS Houseside shield (black finish standard)[8] (2-5)
L90 Left rotated optics[1]
R90 Right rotated optics[1]
CCE Coastal Construction[7]
HA 50°C ambient operation[12]
BAA Buy America(n) Act and/or Build America Buy America Qualified
SF Single fuse (120, 277, 347V)[4]
DF Double fuse (208, 240, 480V)[4]

Shipped separately

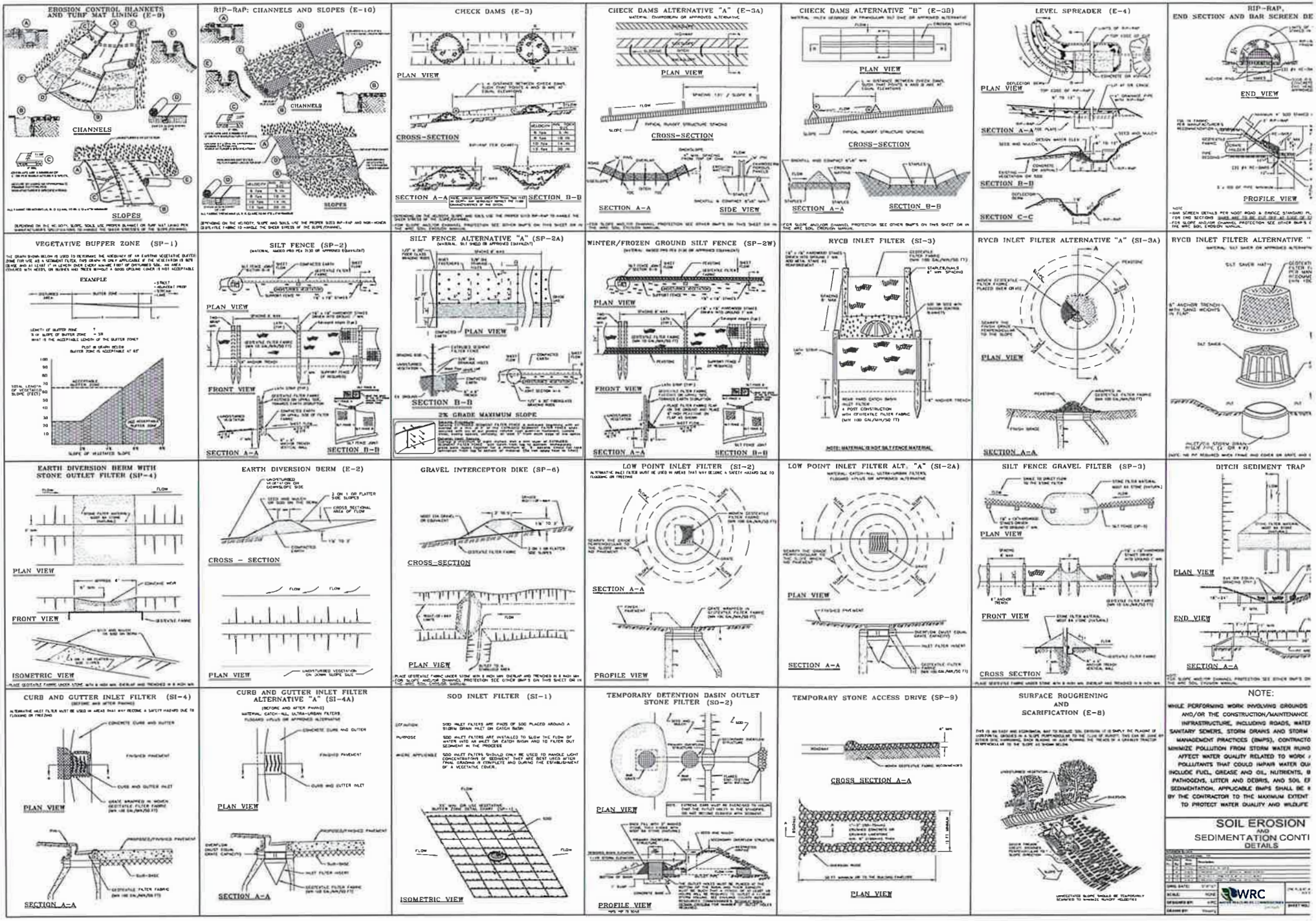
BLSR External Glare Shield (reversible, field install required, matches housing finish)
BS20 Bird Spikes (field install required)

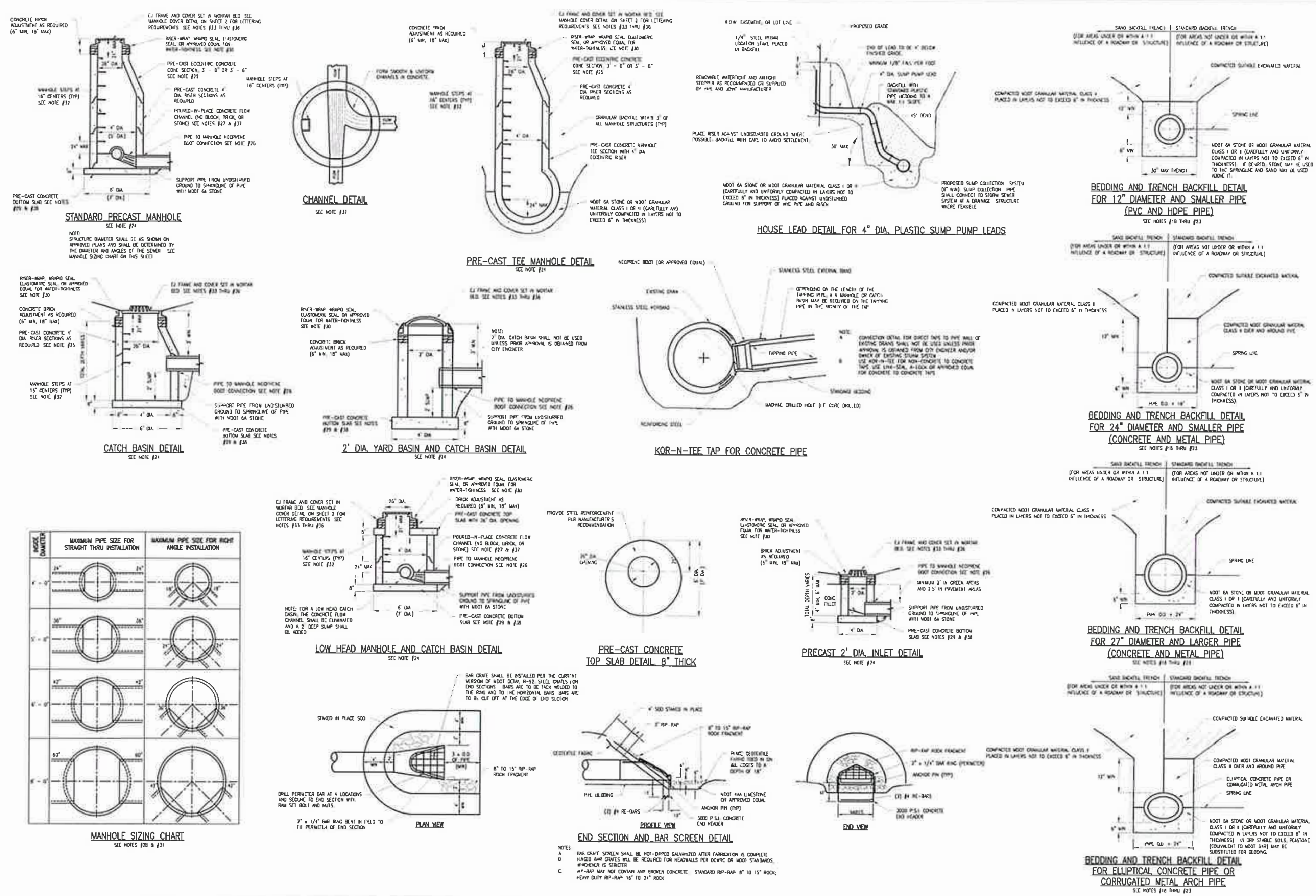
Finish (required)

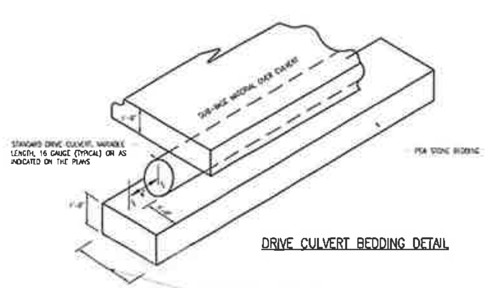
DDBXD Dark Bronze
DBLXD Black
DNAXD Natural Aluminum
DWHXD White
DDBTXD Textured dark bronze
DBLTXD Textured black
DNATXD Textured natural aluminum
DWHGXD Textured white

1 Acuity Way • Decatur, Georgia 30035 • Phone: 1-800-705-SERV (7378) •

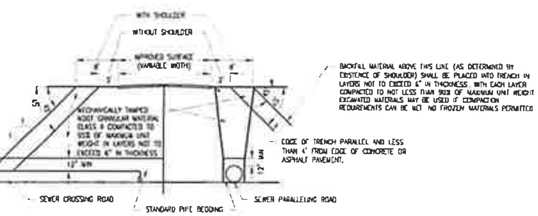
© 2011-2025 Acuity Brands Lighting, Inc. All rights reserved


EROSION CONTROL BLANKETS AND TURF MAT LINING (E-9)
CHANNELS
SLOPES
RIP-RAP: CHANNELS AND SLOPES (E-10)
CHANNELS
SLOPES
CHECK DAMS (E-3)
PLAN VIEW
CROSS-SECTION
SECTION A-A
SECTION B-B
CHECK DAMS ALTERNATIVE "A" (E-3A)
PLAN VIEW
CROSS-SECTION
SECTION A-A
SIDE VIEW
CHECK DAMS ALTERNATIVE "B" (E-3B)
PLAN VIEW
CROSS-SECTION
SECTION A-A
SECTION B-B
LEVEL SPREADER (E-4)
PLAN VIEW
SECTION A-A
SECTION B-B
SECTION C-C
RIP-RAP, END SECTION AND BAR SCREEN DE
END VIEW
PROFILE VIEW
VEGETATIVE BUFFER ZONE (SP-1)
EXAMPLE
SILT FENCE (SP-2)
PLAN VIEW
FRONT VIEW
SECTION A-A
SECTION B-B
SILT FENCE ALTERNATIVE "A" (SP-2A)
PLAN VIEW
SECTION B-B
2% GRADE MAXIMUM SLOPE
WINTER/FROZEN GROUND SILT FENCE (SP-2W)
PLAN VIEW
FRONT VIEW
SECTION A-A
SECTION B-B
RYCB INLET FILTER (SI-3)
RYCB INLET FILTER ALTERNATIVE "A" (SI-3A)
PLAN VIEW
SECTION A-A
RYCB INLET FILTER ALTERNATIVE "
EARTH DIVERSION BERM WITH STONE OUTLET FILTER (SP-4)
PLAN VIEW
FRONT VIEW
ISOMETRIC VIEW
EARTH DIVERSION BERM (E-2)
CROSS - SECTION
PLAN VIEW
GRAVEL INTERCEPTOR DIKE (SP-6)
CROSS-SECTION
PLAN VIEW
LOW POINT INLET FILTER (SI-2)
SECTION A-A
PROFILE VIEW
LOW POINT INLET FILTER ALT. "A" (SI-2A)
PLAN VIEW
SECTION A-A
SILT FENCE GRAVEL FILTER (SP-3)
PLAN VIEW
FRONT VIEW
CROSS SECTION
DITCH SEDIMENT TRAP
PLAN VIEW
END VIEW
SECTION A-A
CURB AND GUTTER INLET FILTER (SI-4)
PLAN VIEW
SECTION A-A
CURB AND GUTTER INLET FILTER ALTERNATIVE "A" (SI-4A)
PLAN VIEW
SECTION A-A
SOD INLET FILTER (SI-1)
ISOMETRIC VIEW
TEMPORARY DETENTION BASIN OUTLET STONE FILTER (SO-2)
PLAN VIEW
PROFILE VIEW
TEMPORARY STONE ACCESS DRIVE (SP-9)
CROSS SECTION A-A
PLAN VIEW
SURFACE ROUGHENING AND SCARIFICATION (E-8)
NOTE:
SOIL EROSION AND SEDIMENTATION CONTI DETAILS
WRC

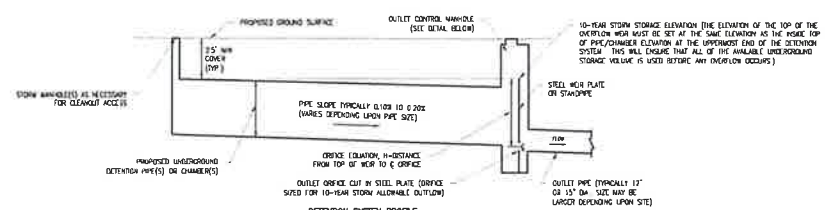

STANDARD PRECAST MANHOLE
SEE NOTE #24
NOTE:
STRUCTURE DIAMETER SHALL BE AS SHOWN ON APPROVED PLANS AND SHALL BE DETERMINED BY THE DIAMETER AND ANGLES OF THE SEWER. SEE MANHOLE SIZING CHART ON THIS SHEET
CHANNEL DETAIL
SEE NOTE #37
FORM SMOOTH & UNIFORM CHANNELS IN CONCRETE
PRE-CAST TEE MANHOLE DETAIL
SEE NOTE #24
HOUSE LEAD DETAIL FOR 4" DIA. PLASTIC SUMP PUMP LEADS
PROPOSED GRADE
30" MAX
45° BEND
BEDDING AND TRENCH BACKFILL DETAIL
FOR 12" DIAMETER AND SMALLER PIPE
(PVC AND HDPE PIPE)
SEE NOTES #18 THRU #23
CATCH BASIN DETAIL
SEE NOTE #24
2' DIA. YARD BASIN AND CATCH BASIN DETAIL
SEE NOTE #24
NOTE:
2' DIA. CATCH BASIN SHALL NOT BE USED UNLESS PRIOR APPROVAL IS OBTAINED FROM CITY ENGINEER
KOR-N-TEE TAP FOR CONCRETE PIPE
NEOPRENE BOOT (OR APPROVED EQUAL)
STAINLESS STEEL EXTERNAL BAND
TAPPING PIPE
BEDDING AND TRENCH BACKFILL DETAIL
FOR 24" DIAMETER AND SMALLER PIPE
(CONCRETE AND METAL PIPE)
SEE NOTES #18 THRU #23
LOW HEAD MANHOLE AND CATCH BASIN DETAIL
SEE NOTE #24
NOTE: FOR A LOW HEAD CATCH BASIN, THE CONCRETE FLOW CHANNEL SHALL BE ELIMINATED AND A 2' DEEP SUMP SHALL BE ADDED
PRE-CAST CONCRETE
TOP SLAB DETAIL, 8" THICK
PRECAST 2' DIA. INLET DETAIL
SEE NOTE #24
BEDDING AND TRENCH BACKFILL DETAIL
FOR 27" DIAMETER AND LARGER PIPE
(CONCRETE AND METAL PIPE)
SEE NOTES #18 THRU #23
MANHOLE SIZING CHART
SEE NOTES #28 & #31
INSIDE DIAMETER
MAXIMUM PIPE SIZE FOR STRAIGHT THRU INSTALLATION
MAXIMUM PIPE SIZE FOR RIGHT ANGLE INSTALLATION
PLAN VIEW
PROFILE VIEW
END VIEW
END SECTION AND BAR SCREEN DETAIL
NOTES
A BAR GRATE SCREEN SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION IS COMPLETE
B HINGED BAR GRATES WILL BE REQUIRED FOR HEADWALLS PER DCWRC OR MDOT STANDARDS, WHICHEVER IS STRICTER
C RIP-RAP MAY NOT CONTAIN ANY BROKEN CONCRETE. STANDARD RIP-RAP: 8" TO 15" ROCK; HEAVY DUTY RIP-RAP: 16" TO 24" ROCK
BEDDING AND TRENCH BACKFILL DETAIL
FOR ELLIPTICAL CONCRETE PIPE OR
CORRUGATED METAL ARCH PIPE
SEE NOTES #18 THRU #23



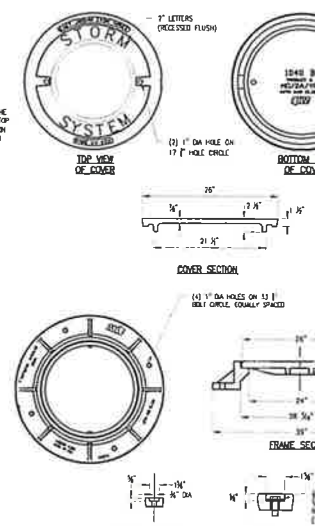
DRIVE CULVERT BEDDING DETAIL



SAND OR GRAVEL BACKFILL DETAILS FOR SEWERS UNDER GRAVEL, CONCRETE OR ASPHALT PAVEMENTS, SIDEWALKS, DRIVEWAYS AND PARKING AREAS

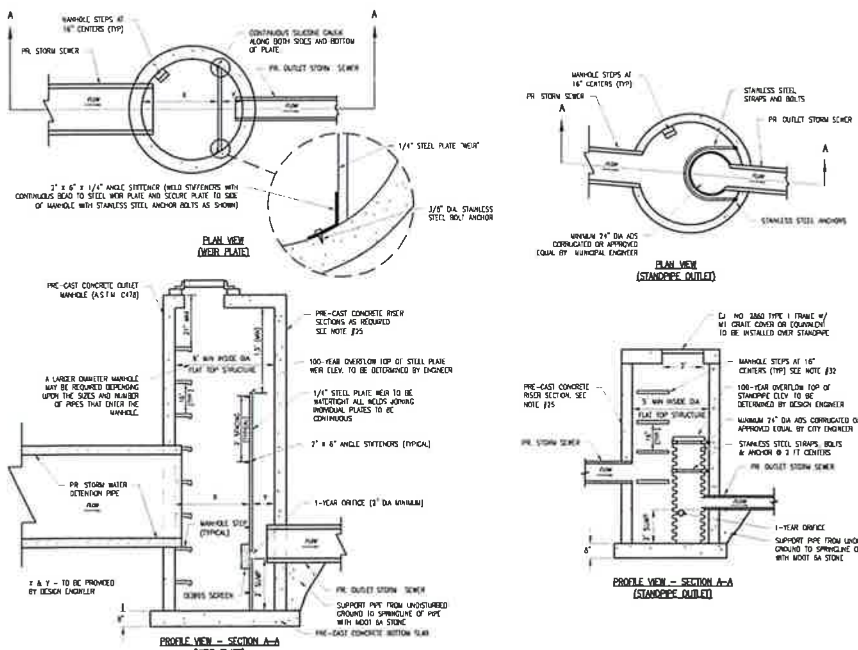


DETENTION SYSTEM PROFILE



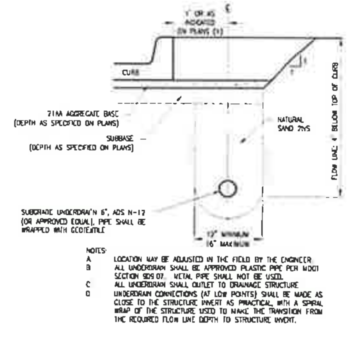
CAST IRON MANHOLE COVER

SEE NOTE #33

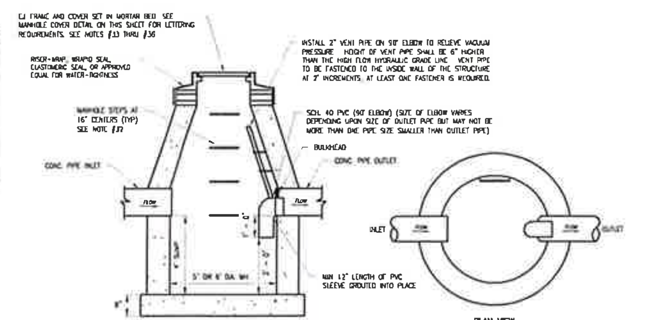


TYPICAL UNDERGROUND DETENTION AND OUTLET MANHOLE DETAILS

SEE NOTE #24



SUBGRADE UNDERDRAIN, 6"



OIL/GAS SEPARATOR DETAIL FOR 18" DIAMETER AND SMALLER OUTLET PIPE

(FOR OUTLET PIPES LARGER THAN 18" IN DIAMETER AN ALTERNATE DESIGN MUST BE APPROVED BY THE CITY ENGINEER)

SEE NOTE #41

STORM SEWER CONSTRUCTION NOTES

GENERAL NOTES:

1. All materials and workmanship shall be in accordance with the standards and specifications of the City of Novi.
2. No storm sewer is to be installed without the City's inspector present.
3. Three (3) working days prior to construction, the Contractor shall telephone MISS DIG (811 or 1-800-482-7171) for underground facilities locations and shall also notify representatives of other utilities located in the vicinity of the work.
4. Trenches that are to be left open overnight shall be enclosed with suitable fencing and lighted barricades.
5. The materials specified below may be substituted with an approved equal as determined by the City. It is at the sole discretion of the City to determine if a material is acceptable and can be utilized. Written authorization must be obtained prior to ordering or installing the approved equal.

STORM SEWER NOTES:

6. Type and class of pipe shall be as specified on plans.

Concrete Pipe Requirements

7. All round reinforced concrete pipe (RCP) shall meet the requirements of ASTM C76 with modified tongue and groove joints with rubber gaskets manufactured to meet the requirements of ASTM C443. Catch basin sewers shall be Class IV RCP.
8. The inside joint of pipe over 36" diameter shall be pointed with mortar upon completion of backfilling operations.
9. All elliptical reinforced concrete pipe shall meet the requirements of ASTM C507 with tongue and groove joints with bituminous [illegible] joint material meeting the requirements of C443. Elliptical concrete pipe joints shall also be wrapped per ASTM C877. In addition, elliptical concrete pipe of 42" equivalent size and larger shall require inside concrete pointing.
10. Video of the interior of storm sewer 12" or greater in diameter shall be submitted to the City prior to final acceptance. Said video shall be obtained a minimum of 30 days after construction is completed. Typical items to be reviewed on the video will include pipe deflections, pipe settlement, bad connections, joints and pipe cleanliness. If the videotape review reveals unsatisfactory conditions, the Contractor shall correct the condition at his own cost and shall then re-video the affected sewer for review by the City.

Plastic Pipe Requirements

11. Per City standards, the maximum allowable pipe size for plastic storm sewer is 12" diameter. Larger diameter plastic storm sewer may be approved by the City, depending on site conditions.
12. All plastic storm sewer pipe shall have a smooth interior.
13. PVC pipe shall meet the requirements of ASTM D3034 and F949 with push-on type joints meeting the requirements of ASTM D3212 and F477.
14. ABS Truss pipe shall meet the requirements of ASTM D2680 with push-on type joints meeting the requirements of ASTM D3212 and F477.
15. HDPE pipe shall meet the requirements of AASHTO M294 and ASTM D3350 with push-on type joints meeting the requirements of ASTM D3212 and F477.
16. The completed installation of all plastic pipe shall at no point have out-of-round pipe deflections greater than 5% of nominal diameter of pipe. Deflection testing shall be performed with a nine point mandrel a minimum of 30 days after installation and again 1 year after installation. Video of the interior of the storm sewer will also be required at these time intervals. A proving ring to verify the mandrel must be provided prior to testing.
17. Plastic pipe will not be permitted under roadways.

Bedding Requirements

18. Bedding shall be used as called for on the details.
19. Where unstable ground conditions are encountered, stone bedding shall be used as directed by the Engineer in order to provide a stable foundation for pipe and manholes.

Backfill Requirements

20. Backfill shall be compacted above pipe or as indicated on construction drawings. Trench backfill shall be of a suitable material and shall be free of any organic materials and stones larger than 3" in size. Backfill shall be rammed into trench and compacted with a small dozer or other approved method.
21. Where trench is within a 1:1 influence of streets, alleys, sidewalks, driveways, parking areas and structures, sand backfill shall be used which shall consist of MDOT granular material Class II compacted in layers not to exceed 6" in thickness to a density of 95% as determined by AASHTO T99.
22. When backfilling trench of PVC pipe, manufacturer's specifications must be strictly adhered to.
23. No frozen material shall be buried more than 4' below the final elevation of the ground.

DRAINAGE STRUCTURE REQUIREMENTS:

24. Shop drawings shall be submitted to and approved by the City for each proposed structure prior to installation.
25. Precast reinforced concrete sections with modified tongue and groove joint and rubber gaskets shall conform to ASTM C-478. Cone section shall be eccentric and have steel inserts cast in place with a flush top surface.
26. All storm structures shall have ECWRC/City of Novi approved flexible, watertight seals where pipes pass through walls. Flexible rubber manhole joints shall be Kor-Seal, Press-Wedge, Link-Seal, Kor-N-Seal boot (with stainless steel bands), or approved equal.
27. Pipe shall be flush with the inside wall of structure and shall not protrude more than 1" into the structure. Pipe shall be pointed up with a smooth finish at its intersection with the structure wall.
28. No openings shall be made in precast units which would leave less than 12" of undisturbed precast structure wall between pipes (as measured between outside pipe walls) or would remove more than 40% of the circumference along any horizontal plane.
29. Precast riser placed on the concrete base shall be set in a full bed of mortar. All joints & liftholes shall be pointed up with mortar on the outside and inside.
30. Plaster all outside masonry surfaces with 1:2½ masonry cement (type II) 1/2" thick.
31. All manholes and catch basins shall be 4' or 5' in diameter unless otherwise indicated on construction drawings. Larger diameter drainage structures (6', 7', 8', 10', and 12' diameter) may be needed for large storm sewer pipe or for situations where the angles between entering pipes require a larger diameter structure in order to maintain at least 1' of structure wall between the pipes. 2' diameter catch basins and inlets may be used where approved by the City Engineer.
32. Structure steps are to be installed at the plant by the manufacturer of the structure. The steps are to be 16 inches on center located 90° from the centerline of the main sewer line. The steps shall be made of No. 4 deformed steel rod encased with copolymer polypropylene plastic and meet the requirements of ASTM D4101, Type II, Grade 49108 or approved equal.
33. Manhole frame and cover shall be EJ 1040, type "B" solid cover or as per construction drawings. Lettering shall be used only for public storm system. All others shall have no lettering.
34. Catch Basin and Inlet frame and cover shall be:
    - 34.1. EJ 7045, type "M1" cover and type "T1" back set (with "Dump No Waste" logo) with straight face curb and gutter.
    - 34.2. EJ 7065, type "M1" cover and 7060 "T1" back set (with "Dump No Waste" Logo) with mountable curb and gutter and integral curb and gutter.
    - 34.3. EJ 1040, type "D2" cover (beehive grate) to be used on structures located in ditches, swales and rear yard catch basins. If within 6' of road, type "H" cover (oval grate) shall be used.
    - 34.4. EJ 1030, type "A" cover to be used on all 2' cleanouts and structures not located at storm water collection points. EJ 1070, type "A" cover may also be used on sump pump cleanout structures.
    - 34.5. EJ 1030, type "01" cover (beehive grate) to be used on all 2' structures located in ditches, swales and rear yard catch basins.
35. The City reserves the right to require a change in structure covers upon final grade and walk-through inspection if deemed necessary due to site conditions.
36. Frames shall be set in full bed of mortar and the side shall be overlapped to prevent leakage.
37. A proper channel shall be constructed within the existing manhole or other structure at which the connection is to be made to direct the flow to the existing outlet in a manner that will tend to create the least amount of turbulence. The channel shall be constructed to the same size as the inside diameter of the existing pipes, and shall be built to height of 1/2 the existing pipe diameter with a minimum of 2% slope on the benches.
38. Concrete base for manhole, catch basin, and inlet shall be MDOT grade 30P, 8" thick, 3000 psi.
39. When tapping into an existing structure a brick collar shall be placed 12" thick around the pipe and extended 12" beyond the opening. If pre-cast section is tapped, band mesh and use as reinforcement with brick collar. Taps through structure joints or cone sections are prohibited unless approved by the City.
40. The final accessible structure prior to discharge into a forebay or detention basin shall contain a permanent 4' deep sump.
41. A 4' diameter Oil/Gas Separator Structure shall be installed prior to discharge into a forebay, detention basin or open drainage course as directed by the City.

SUMP PUMP LEAD REQUIREMENTS:

42. All sump pump leads connected to a drain shall be pre-manufactured.
43. Sump pump leads shall be (1) SDR 35, non-perforated, solid wall PVC, (2) ARMCO Truss Pipe, or (3) approved equal, with premium joints.
44. Sump collection system pipes shall be connected at drainage structures and shall be cored and booted, however, if approved by the engineer, taps to 12" storm sewer may be made with a Fernco CE Tap or approved equal. Taps to other size storm sewer may be made with a Romac saddle, KOR-N-TEE [illegible] connector for concrete pipe, or approved equal.
45. Ends of all 4" sump pump leads shall be temporarily capped and their location staked, witnessed and recorded.
46. All sump pump leads are to be taken to the property line, easement line or as indicated on the plan.
47. Sump pump cleanouts shall be a minimum inside diameter of 2' and be constructed at changes of alignment ends of sump pump mains or as indicated on