



# COMMUNITY DEVELOPMENT DEPARTMENT

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

## ZONING BOARD OF APPEALS STAFF REPORT

FOR: City of Novi Zoning Board of Appeals

ZONING BOARD APPEALS DATE: August 14, 2018

REGARDING: Parcel # 50-22-26-300-015 (PZ18-0031)

BY: Larry Butler, Deputy Director Community Development

### I. GENERAL INFORMATION:

#### Applicant

Pulte Homes of Michigan, LLC

#### Variance Type

Dimensional Variance

#### Property Characteristics

Zoning District: Low-Density Multiple-Family  
Location: East of Novi Road and North of Nine Mile Road  
Parcel #: 50-22-26-300-015

#### Request

The applicant is requesting variances from the City of Novi Zoning Ordinance Section 3.17.D for a 40 feet building setback along north property line, 37 feet building setback along west property line, 27 feet building setback along east property line, whereas 75 feet minimum is required along all property lines. Section 3.8.2D for the perimeter building orientation to be less than the minimum required 45 degrees from all property lines. This property is zoned Low-Density Multiple-Family (RM-1).

### II. STAFF COMMENTS:

### 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. **PZ18-0031**, 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. **PZ18-0031**, 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.

Larry Butler  
Deputy Director Community Development  
City of Novi



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# ZONING BOARD OF APPEALS APPLICATION

**APPLICATION MUST BE FILLED OUT COMPLETELY**

Application Fee: \_\_\_\_\_

Meeting Date: \_\_\_\_\_

ZBA Case #: PZ \_\_\_\_\_

<b>I. PROPERTY INFORMATION (Address of subject ZBA Case)</b>			
PROJECT NAME / SUBDIVISION WOODBRIDGE PARK			
ADDRESS		LOT/SIUTE/SPACE #	
SIDWELL # 50-22-26 - 300 - 015		May be obtain from Assessing Department (248) 347-0485	
CROSS ROADS OF PROPERTY NORTHEAST CORNER OF NOVI ROAD AND NINE MILE ROAD			
IS THE PROPERTY WITHIN A HOMEOWNER'S ASSOCIATION JURISDICTION?		REQUEST IS FOR:	
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		<input type="checkbox"/> RESIDENTIAL <input type="checkbox"/> COMMERCIAL <input checked="" type="checkbox"/> VACANT PROPERTY <input type="checkbox"/> SIGNAGE	
DOES YOUR APPEAL RESULT FROM A NOTICE OF VIOLATION OR CITATION ISSUED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
<b>II. APPLICANT INFORMATION</b>			
<b>A. APPLICANT</b>		EMAIL ADDRESS	CELL PHONE NO.
NAME JOE SKORE		JOE.SKORE@PULTEGROUP.COM	
ORGANIZATION/COMPANY PULTE HOMES OF MICHIGAN, LLC		TELEPHONE NO. (248) 249-4611	
ADDRESS 100 BLOOMFIELD HILLS PARKWAY		CITY BLOOMFIELD HILLS	STATE MI
		ZIP CODE 48304	
<b>B. PROPERTY OWNER</b> <input type="checkbox"/> 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 Irwin Arkin		irwinjarkin@sbcglobal.net	
ORGANIZATION/COMPANY Arkin, LLC		TELEPHONE NO.	
ADDRESS 43100 W 9 MILE RD		CITY NOVI	STATE MI
		ZIP CODE 48375	
<b>III. ZONING INFORMATION</b>			
<b>A. ZONING DISTRICT</b>			
<input type="checkbox"/> R-A <input type="checkbox"/> R-1 <input type="checkbox"/> R-2 <input type="checkbox"/> R-3 <input type="checkbox"/> R-4 <input checked="" type="checkbox"/> RM-1 <input type="checkbox"/> RM-2 <input type="checkbox"/> MH			
<input type="checkbox"/> I-1 <input type="checkbox"/> I-2 <input type="checkbox"/> RC <input type="checkbox"/> TC <input type="checkbox"/> TC-1 <input type="checkbox"/> OTHER _____			
<b>B. VARIANCE REQUESTED</b>			
INDICATE ORDINANCE SECTION (S) AND VARIANCE REQUESTED:			
1. Section	3.17.D	Variance requested	40 FEET BUILDING SETBACK ALONG NORTH PROPERTY LINE (75 FEET MINIMUM REQUIRED)
2. Section	3.17.D	Variance requested	37 FEET BUILDING SETBACK ALONG WEST PROPERTY LINE (50 FEET MINIMUM REQUIRED)
3. Section	3.17.D	Variance requested	27 FEET BUILDING SETBACK ALONG EAST PROPERTY LINE (75 FEET MINIMUM REQUIRED)
4. Section	3.8.2.D	Variance requested	PERIMETER BUILDING ORIENTED AT ANGLES LESS THAN 45 DEGREES
<b>IV. FEES AND DRAWINGS</b>			
<b>A. FEES</b>			
<input type="checkbox"/> Single Family Residential (Existing) \$200 <input type="checkbox"/> (With Violation) \$250 <input type="checkbox"/> Single Family Residential (New) \$250			
<input checked="" type="checkbox"/> Multiple/Commercial/Industrial \$300 <input type="checkbox"/> (With Violation) \$400 <input type="checkbox"/> Signs \$300 <input type="checkbox"/> (With Violation) \$400			
<input type="checkbox"/> House Moves \$300 <input type="checkbox"/> Special Meetings (At discretion of Board) \$600			
<b>B. DRAWINGS 1-COPY &amp; 1 DIGITAL COPY SUBMITTED AS A PDF</b>			
• Dimensioned Drawings and Plans		• Existing & proposed distance to adjacent property lines	
• Site/Plot Plan		• Location of existing & proposed signs, if applicable	
• Existing or proposed buildings or addition on the property		• Floor plans & elevations	
• Number & location of all on-site parking, if applicable		• 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

5/30/18  
\_\_\_\_\_  
Date

### 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



## WOODBIDGE PARK (JSP 17-67)

ZONING BOARD OF APPEALS  
DIMENSIONAL VARIANCE REVIEW STANDARDS

### **STANDARD #1 – CIRCUMSTANCES OR PHYSICAL CONDITIONS**

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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:

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

**RESPONSE:** *A large portion of the parcel to the south is not build-able due to an existing watercourse, regulated wetlands, woodlands and very steep topography. The remaining shape of the parcel along with the required setbacks leaves insufficient area to satisfy required building separation and roadway and utility geometry requirements, without the requested setback variance. Note that these setback variances are staff supported. The proposed housing units are 3-bedroom for sale townhome condominiums, which matches the desired use for the property.*

### **STANDARD #2 – NOT SELF-CREATED**

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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).

**RESPONSE:** *A large portion of the parcel to the south is not build-able due to an existing natural features and resources. The resulting width and depth of the northern buildable area, combined with today's roadway and pedestrian design requirements/constraints, would limit actual building dimensions to a non-viable housing dimension. The minor variances to the setbacks are needed to allow for the construction and overall feasibility of the project given the current zoning.*

### **STANDARD #3 – STRICT COMPLIANCE**

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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.

**RESPONSE:** *A large portion of the parcel to the south is not build-able due to an existing natural features and resources. This would leave insufficient build-able area to allow for the feasibility of the development or a similar development in compliance with the RM-1 zoning. The setback variance would allow for proper construction of the units to satisfy building separation and road width requirements. Note that these setback variances are staff supported. In addition, a 20' wide landscape buffer is being proposed immediately adjacent on the westerly property, to provide the setback buffering intentions to the adjacent industrial zoned property.*

**STANDARD #4 – MINIMUM VARIANCE NECESSARY**

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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.

**RESPONSE:** *The proposed buildings are set at the minimum building separation allowed per the RM-1 requirements. A staff supported engineering deviation is being applied for to allow for the reduction of the road corridor width, minimizing the requested setback variance. As such, the width of the development is optimized and the requested setback variance is at the minimum necessary. The adjacent property owners have existing land uses (commercial to the west and apartment/rental attached units to the north) that are a more “intense” than the subject proposed land use; and therefore, the setback variances for the proposed property is just.*

**STANDARD #5 – ADVERSE IMPACT ON SURROUNDING AREA**

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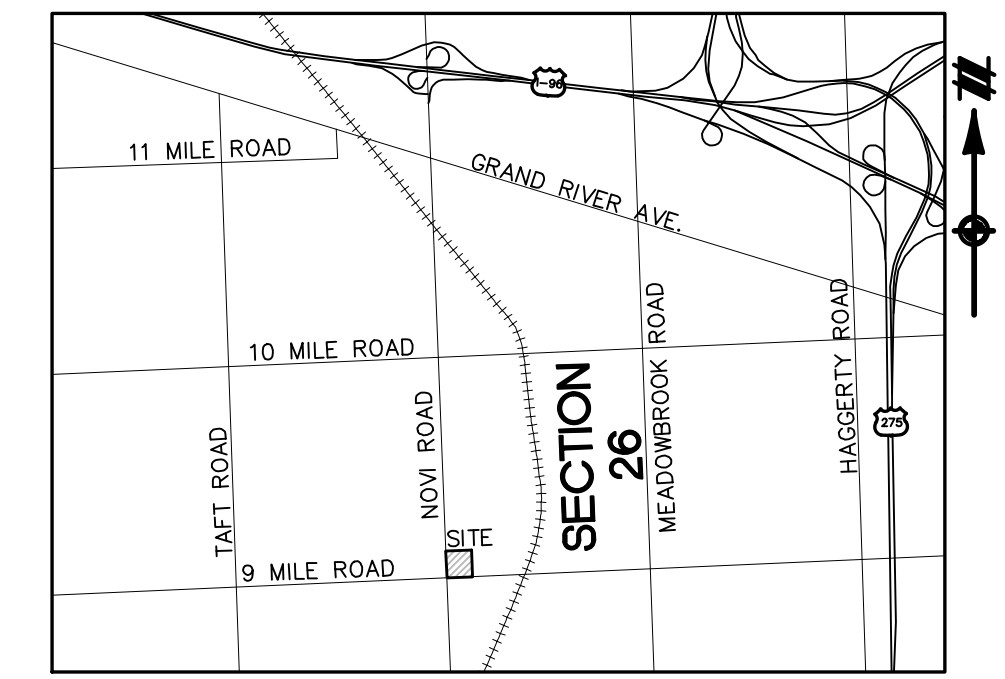
Explain how the Dimensional Variance will not cause an adverse impact on surrounding property, property values, or the use and enjoyment of property in the neighborhood or zoning district.

**RESPONSE:** *The setback variance request would not adversely impact the development and/or the existing adjacent properties. The proposed buildings would still be at least 100 feet from the closest apartment building to the north and over 60 feet from the restaurant to the east. The restaurant owner is aware and in agreement with the current development. The proposed land use is consistent with the City of Novi Land Use Master Plan, and the proposed housing product is a highly desire housing product, not readily available in the city. Importantly, the city staff, consultants and Planning Commission have supported this project and the associated land use variances.*



# PRELIMINARY SITE PLAN WOODBIDGE PARK

## A MULTI-FAMILY RESIDENTIAL DEVELOPMENT CITY OF NOVI, OAKLAND COUNTY, MICHIGAN



LOCATION MAP  
1" = 500'



Know what's below.  
Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCURRED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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

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### DEVELOPER/APPLICANT

PULTE HOMES OF MICHIGAN, LLC  
100 BLOOMFIELD HILLS PARKWAY, SUITE 150  
BLOOMFIELD HILLS, MICHIGAN 48304  
CONTACT: JOE SKORE  
PHONE: 248.249.4611

### ENGINEER

ATWELL, LLC  
311 NORTH MAIN STREET  
ANN ARBOR, MICHIGAN 48104  
CONTACT: MATTHEW W. BUSH, PE  
PHONE: (734) 994-4000

### DEVIATIONS

THE FOLLOWING DEVIATIONS REQUIRE APPROVAL BY THE CITY OF NOVI:

#### APPROVAL GRANTED BY

ZONING BOARD OF APPEALS

#### DEVIATION REQUESTED

PERIMETER SETBACK - [SECTION 3.17.D]  
40 FEET BUILDING SETBACK ALONG NORTH PROPERTY LINE  
37 FEET BUILDING SETBACK ALONG WEST PROPERTY LINE  
27 FEET BUILDING SETBACK ALONG EAST PROPERTY LINE

#### CITY COUNCIL

BUILDING ORIENTATION - [SECTION 3.8.2.D]  
PERIMETER BUILDINGS ORIENTED AT ANGLES LESS THAN 45°

SIDEWALKS - [ENGINEERING DESIGN MANUAL SECTION 7.4.2.C.1]  
12.5 FEET FROM BACK OF CURB TO OUTSIDE EDGE OF SIDEWALK

#### PLANNING COMMISSION

STUB STREETS - [NOVI SUBDIVISION ORD. APPENDIX C, SECTION 4.04]  
NO SECONDARY STUB STREET IS BEING PROVIDED

DRIVE TAPER LENGTH - [DESIGN AND CONST. STANDARDS FIGURE IX.5]  
7.5' LONG TAPER PROPOSED

DRIVE SEPARATION - [ENGINEERING DESIGN MANUAL, FIGURE IX.12]  
141 FEET BETWEEN DRIVES ON SAME SIDE OF NINE MILE  
188 FEET BETWEEN DRIVE ON OPPOSITE SIDE OF NINE MILE

LANDSCAPE GREENBELT BERM - [SEC. 5.5.3.A.(5) AND 3.21.2.A.III]  
NO BERM ON 9 MILE ROAD DUE TO PRESERVATION OF EXISTING VEGETATION. NO BERM ON NOVI ROAD SOUTH OF HERON DRIVE DUE TO TOPOGRAPHY AND PRESERVATION OF EXISTING VEGETATION.

LANDSCAPE ROW SCREENING - [SEC. 5.5.3.B.II NOTES (2) (10)]  
NO SUB CANOPY TREES ON 9 MILE DUE TO PRESERVATION OF EXISTING VEGETATION AND SPATIAL CONSTRAINTS.  
NO SUB CANOPY TREES ON NOVI ROAD DUE TO PRESERVATION OF EXISTING VEGETATION AND SPATIAL CONSTRAINTS.

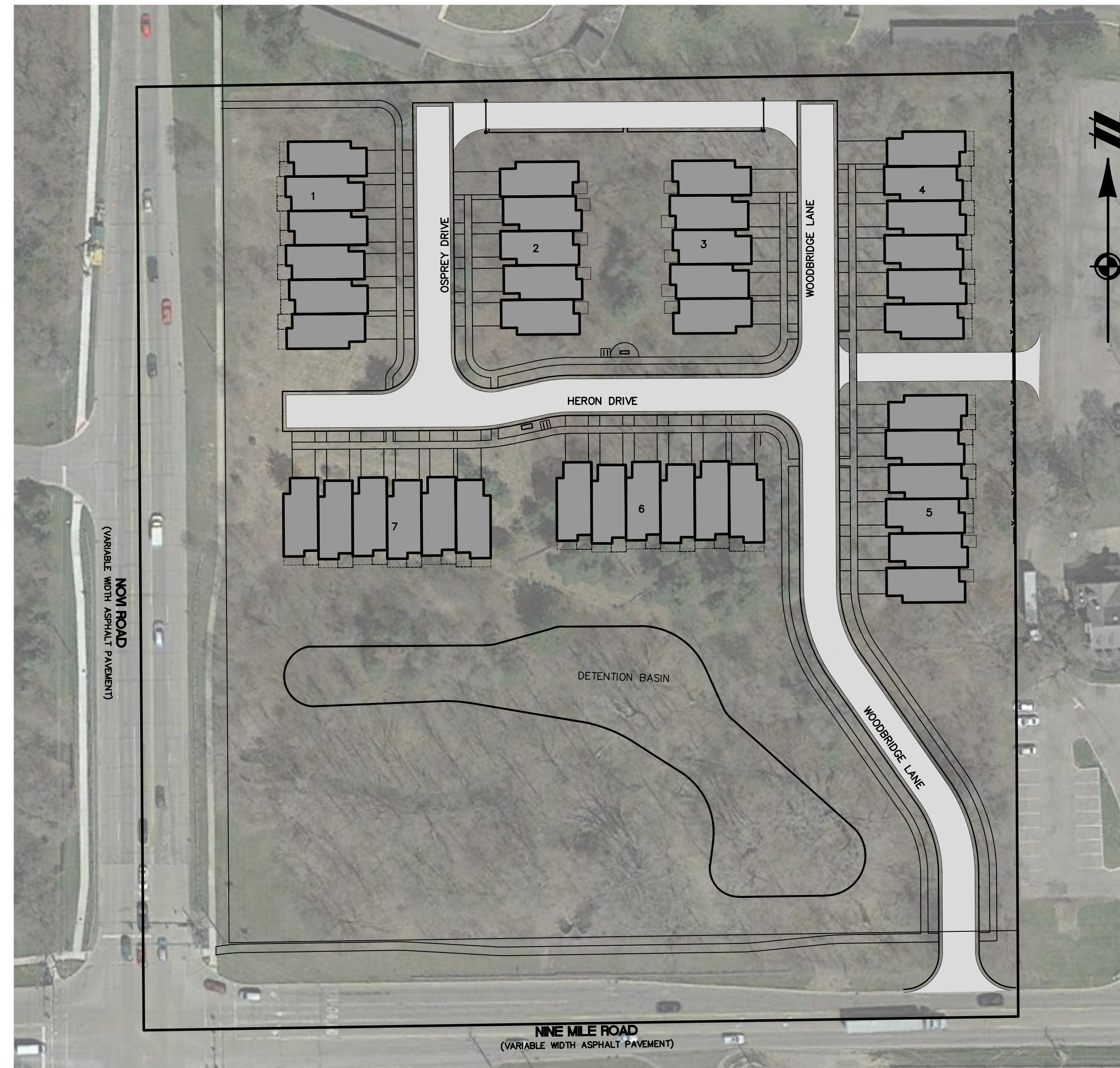
LANDSCAPE SITE - [SEC. 5.5.3.E.II.B.(1)]  
ALLOW SUB CANOPY TREES TO COMPRISE 25% OF THE REQUIRED SITE PLANTING (TOTALING 30 TREES)

### GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE CITY OF NOVI'S CURRENT STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR MUST OBTAIN A PERMIT FROM THE CITY OF NOVI FOR ANY WORK WITHIN THE RIGHT-OF-WAY OF 9 MILE ROAD AND A PERMIT FROM THE ROAD COMMISSION FOR OAKLAND COUNTY AND THE CITY OF NOVI FOR THE SANITARY SEWER CONNECTION IN THE NOVI ROAD RIGHT OF WAY.
- ALL PAVEMENT MARKINGS, TRAFFIC CONTROL SIGNS, AND PARKING SIGNS SHALL COMPLY WITH THE DESIGN AND PLACEMENT REQUIREMENTS OF THE 2011 MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

### FIRE DEPARTMENT NOTES

- ALL FIRE HYDRANTS AND WATER MAINS SHALL BE INSTALLED AND IN SERVICE PRIOR TO ABOVE FOUNDATION BUILDING CONSTRUCTION.
- ALL ROADS SHALL BE PAVED AND CAPABLE OF SUPPORTING 35 TONS PRIOR TO CONSTRUCTION ABOVE FOUNDATION.
- BUILDING ADDRESSES SHALL BE POSTED FACING THE STREET DURING ALL PHASES OF CONSTRUCTION. ADDRESSES SHALL BE A MINIMUM OF THREE INCHES IN HEIGHT ON A CONTRASTING BACKGROUND.
- PROVIDE 4"-6" DIAMETER OF CONCRETE FILLED STEEL POST 48" ABOVE FINISH GRADE AT EACH HYDRANT AS REQUIRED.
- FIRE LANES SHALL BE POSTED WITH "FIRE LANE - NO PARKING" SIGNS IN ACCORDANCE WITH ORDINANCE #85.99.02.



LOCATION MAP  
1" = 60'

### PROJECT NARRATIVE

THE DEVELOPMENT IS PROPOSED TO BE AN EXCLUSIVE MULTI-FAMILY RESIDENTIAL COMMUNITY LOCATED ON AN APPROXIMATE 9-ACRE PARCEL IN THE CITY OF NOVI, OAKLAND COUNTY, MICHIGAN. THE PROPOSED PARCEL IS LOCATED AT THE NORTHEAST CORNER OF NINE MILE ROAD AND NOVI ROAD. THE PROPERTY IS PROPOSED TO BE DEVELOPED BY HOMEBUILDER, PULTE HOMES. THE SUBJECT PARCEL IS CURRENTLY UNDEVELOPED AND CONTAINS LOW AND MEDIUM QUALITY WOODLANDS AND A STREAM FLOWS THROUGH THE SOUTH WEST CORNER OF THE SITE. THE STREAM AND HIGHER QUALITY TREES WILL BE PRESERVED.

THE DEVELOPMENT IS PROPOSED USING THE EXISTING RM-1 ZONING TO ALLOW FOR A MULTI-FAMILY HOUSING USE. LANDSCAPE BUFFERS WILL BE PROVIDED ON THE SIDES OF THE DEVELOPMENT BUFFERING THE PROPERTY FROM THE ADJACENT USES. A SIDEWALK WILL BE PROVIDED ALONG THE FRONTAGE OF NINE MILE ROAD, FROM THE PROJECT ENTRANCE OUT THE THE NOVI ROAD SIDEWALK.

THE DEVELOPMENT WILL CONTAIN PRIVATE ROADS AND IS ALSO PROPOSED TO BE SERVED BY PUBLIC SEWER AND WATER LOCATED WITHIN THE NOVI ROAD AND NINE MILE ROAD RIGHT-OF-WAYS. STORM WATER MANAGEMENT IS PROPOSED TO BE ADDRESSED THROUGH THE CONSTRUCTION OF A DETENTION BASIN IN THE SOUTHERN PORTION OF THE SITE. THE DETENTION POND WILL BE DESIGNED IN ACCORDANCE WITH THE CITY'S REQUIREMENTS FOR 100-YEAR DETENTION.

THE DEVELOPMENT IS PLANNED TO BE CONSTRUCTED IN ONE PHASE.

### SHEET INDEX

- 01 COVER SHEET
  - 02 EXISTING CONDITIONS PLAN
  - 03 WOODLANDS ANALYSIS
  - 04 TREE LIST
  - 05 LAYOUT PLAN
  - 06 UTILITY PLAN
  - 07 GRADING AND STORM WATER MANAGEMENT PLAN
  - 08 LANDSCAPE PLAN
  - 09 LANDSCAPE PLAN
  - 10 LANDSCAPE PLAN
  - 11 LANDSCAPE PLAN DETAILS
  - 12 LANDSCAPE DETAILS
  - 13 DETAIL SHEET
- 1 OF 1 PHOTOMETRIC SITE PLAN (BY OTHERS)

### SITE DATA

ZONING		
EXISTING ZONING	RM-1	
FUTURE ZONING	MULTIPLE FAMILY (9.3 DU/ACRE)	
PROPOSED ZONING	RM-1	
GROSS SITE AREA	9.23 ACRES ±	
R.O.W. AREA	1.66 ACRES ±	
WETLANDS AREA	0.09 ACRES ±	
NET SITE AREA	7.48 ACRES ±	
DENSITY		
PROPOSED UNITS	40 UNITS	
RM-1 ALLOWABLE UNIT DENSITY	5.4 DU/ACRE	(BASED ON ROOM COUNT)
DENSITY - PROPOSED (GROSS)	4.3 DU/ACRE ±	
DENSITY - PROPOSED (NET)	5.3 DU/ACRE ±	
TOTAL OPEN SPACE AREA*	177,100 SF	
USABLE OPEN SPACE AREA*	21,540 SF	(8,000 SF MIN)
MINIMUM BUILDING COVERAGE	54,102 SF	
MAXIMUM LOT AREA COVERED (NET)	17%	(25% MAX)

\* EXCLUDES STORMWATER DETENTION BASINS, WETLANDS, AND ROAD R.O.W.

#### SETBACKS

BLDG. TO BLDG.	30 FEET MIN	
BLDG. TO PROPERTY LINE (REAR - EAST)	27 FEET	(75 FEET MIN)
BLDG. TO PROPERTY LINE (SIDE - NORTH)	40 FEET	(75 FEET MIN)
BLDG. TO NOVI ROAD R.O.W.	37 FEET	(50 FEET MIN)

#### BUILDING SIZE

HEIGHT	32 FEET	(MAX)
LENGTH	144 FEET	(MAX)
STORIES	2	
FLOOR AREA PER UNIT	1,860 SF	(900 SF MIN; 3 BEDROOM)

#### PARKING

PARKING SPACES (UNITS)	160 SPACES*	
STREET PARKING NEAR MAILBOXES	5 SPACES	
PARKING SPACES (TOTAL)	165 SPACES	(100 REQUIRED, 2.5 PER UNIT)
BIKE PARKING	8 SPACES	(8 REQUIRED, 1 PER 5 UNITS)

\* TWO CAR GARAGE WITH TWO CARS IN THE DRIVEWAY

NET SITE AREA	±	7.5 ACRES	
NUMBER OF ROOMS PER UNIT	±	4 ROOMS	
PROPOSED UNITS		40 UNITS	
NUMBER OF ROOMS	±	160 ROOMS	
RM ALLOWABLE NUMBER OF ROOMS		163	(NET / 2,000 PER 3.8.1.A)

SECTION 26  
TOWN 1 NORTH, RANGE 8 EAST  
CITY OF NOVI  
OAKLAND COUNTY, MICHIGAN

PULTE HOMES OF MICHIGAN, LLC  
WOODBIDGE PARK  
PRELIMINARY SITE PLAN  
COVER SHEET

DATE  
FEBRUARY 20, 2018

2018-04-09 PER CITY

REVISIONS

SCALE: 1" = 60 FEET

DRAWN BY: KS

CHECKED BY: SS

P.M.: MB

JOB #: 17001466

FILE CODE: -

SHEET NO. 01

**SURVEYOR'S NOTES**

TITLE COMMITMENT REFERENCE NUMBER	DESCRIPTION	STATUS ON PLAT	AFFECT ON PROPERTY
1	RIGHTS OR CLAIMS OF PARTIES IN POSSESSION NOT SHOWN BY THE PUBLIC RECORDS.	NOT SHOWN	AFFECTS PARCEL
2	ANY FACTS, RIGHTS, INTERESTS OR CLAIMS NOT SHOWN BY THE PUBLIC RECORDS BUT THAT COULD BE ASCERTAINED BY AN INSPECTION OF THE LAND OR BY MAKING INQUIRY OF PERSONS IN POSSESSION THEREOF OF THE LAND.	NOT SHOWN	AFFECTS PARCEL
3	EASEMENTS, CLAIM OF EASEMENTS OR ENCUMBRANCES THAT ARE NOT SHOWN IN THE PUBLIC RECORDS AND EXISTING WATER, MINERAL, OIL AND EXPLORATION RIGHTS.	SHOWN	AFFECTS PARCEL
4	ANY ENCROACHMENT, ENCUMBRANCE, VIOLATION, VARIATION, OR ADVERSE CIRCUMSTANCE AFFECTING THE TITLE INCLUDING DISCREPANCIES, CONFLICTS IN BOUNDARY LINES, SHORTAGE IN AREA, OR ANY OTHER FACTS THAT WOULD BE DISCLOSED BY AN ACCURATE AND COMPLETE LAND SURVEY OF THE LAND, AND THAT ARE NOT SHOWN IN THE PUBLIC RECORDS.	NOT SHOWN	AFFECTS PARCEL
5	ANY LIEN OR RIGHT TO LIEN FOR SERVICES, LABOR OR MATERIAL THEREFOR OR HEREAFTER FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS.	NOT SHOWN	AFFECTS PARCEL
6	THE LIEN, IF ANY, OR REAL ESTATE TAXES, ASSESSMENTS, AND/OR WATER AND SEWER CHARGES, NOT YET DUE AND PAYABLE OR THAT ARE NOT SHOWN AS EXISTING LIENS IN THE RECORDS OF ANY TAXING AUTHORITY THAT LEVIES TAXES OR ASSESSMENTS ON REAL PROPERTY OR IN THE PUBLIC RECORDS, INCLUDING THE LIEN FOR TAXES, ASSESSMENTS, AND/OR WATER AND SEWER CHARGES, WHICH MAY BE ADDED TO THE TAX ROLLS OR TAX BILL, AFTER THE EFFECTIVE DATE. THE COMPANY ASSUMES NO LIABILITY FOR THE TAX INCREASES OCCASIONED BY THE RETROACTIVE REVALUATION OR CHANGES IN THE LAND USAGE.	NOT SHOWN	AFFECTS PARCEL
7	DEFECTS, LIENS, ENCUMBRANCES, ADVERSE CLAIMS OR OTHER MATTERS, IF ANY CREATED, FIRST APPEARING IN THE PUBLIC RECORDS OR ATTACHING SUBSEQUENT TO THE EFFECTIVE DATE HEREOF BUT PRIOR TO THE DATE THE PROPOSED INSURED ACQUIRES FOR VALUE OF RECORD THE ESTATE OR INTEREST OR MORTGAGE THEREON COVERED BY THIS COMMITMENT.	SHOWN	AFFECTS PARCEL
8	EASEMENT FOR SANITARY SEWER PURPOSES VESTED IN COUNTY OF OAKLAND BY INSTRUMENT RECORDED IN LIBER 4382, PAGE 338, OAKLAND COUNTY RECORDS.	SHOWN	AFFECTS PARCEL
9	EASEMENT GRANTED TO MICHIGAN BELL TELEPHONE COMPANY RECORDED IN LIBER 5770, PAGE 426 AND LIBER 5477, PAGE 489, OAKLAND COUNTY RECORDS.	SHOWN	AFFECTS PARCEL
10	TERMS, CONDITIONS AND PROVISION WHICH ARE RECITED IN AGREEMENT BETWEEN IRVIN, ARNIN AND JOANNE ARNIN, CERM ENTERPRISES, INC., A MICHIGAN CORPORATION AND THE CITY OF NOVI RECORDED IN LIBER 7925, PAGE 313, OAKLAND COUNTY RECORDS.	SHOWN	AFFECTS PARCEL
11	EASEMENT FOR WATER MAIN PURPOSES VESTED IN CITY OF NOVI BY INSTRUMENT RECORDED IN LIBER 11923, PAGE 584, OAKLAND COUNTY RECORDS.	SHOWN	AFFECTS PARCEL
12	EASEMENT FOR HIGHWAY AND UTILITY PURPOSES VESTED IN CITY OF NOVI BY INSTRUMENT RECORDED IN LIBER 18686, PAGE 733, OAKLAND COUNTY RECORDS.	SHOWN	AFFECTS PARCEL
13	EASEMENT FOR DRAINAGE PURPOSES VESTED IN CITY OF NOVI BY INSTRUMENT RECORDED IN LIBER 18686, PAGE 735, OAKLAND COUNTY RECORDS.	SHOWN	AFFECTS PARCEL
14	EASEMENT FOR STORM WATER AND SURFACE DRAINAGE AGREEMENT RECORDED IN LIBER 4893, PAGE 82, OAKLAND COUNTY RECORDS.	SHOWN	AFFECTS PARCEL
15	EASEMENT FOR WATER SYSTEM PURPOSES VESTED IN CITY OF NOVI BY INSTRUMENT RECORDED IN LIBER 50093, PAGE 417, OAKLAND COUNTY RECORDS.	SHOWN	AFFECTS PARCEL
16	RIGHTS, IF ANY, OF THE UNITED STATES GOVERNMENT, THE STATE OF MICHIGAN, ANY OTHER GOVERNMENTAL ENTITY, RIPARIAN OWNERS, THE PUBLIC OR PRIVATE PERSONS EXISTING IN OR WITH RESPECT TO THE PRESENT AND PAST BED, BANKS, BOTTOMLAND AND WATERS OF THORNTON CREEK.	NOT SHOWN	AFFECTS PARCEL
17	ANY ADVERSE CLAIM BASED UPON THE ASSERTION THAT SOME PORTION OF THE LAND IS BOTTOMLAND OR HAS BEEN CREATED BY ARTIFICIAL MEANS OR HAS ACCRETED TO SUCH PORTION SO CREATED.	NOT SHOWN	AFFECTS PARCEL
18	RIGHTS OF THE PUBLIC AND OF ANY GOVERNMENTAL UNIT IN ANY PART OF THE LAND TAKEN, USED OR DEEDED FOR A PUBLIC OR PRIVATE STREET, DRIVE, ROAD OR HIGHWAY PURPOSES.	NOT SHOWN	AFFECTS PARCEL

**NOTES**

- SURVEY INFORMATION PROVIDED BY DIFFIN-UMLOLR, DATED 12-14-17.
- BEARINGS ARE BASED ON MICHIGAN STATE PLANE, SOUTH ZONE NAD83
- SOILS INFORMATION REFERENCED FROM USDA NRCS WEB SOILS SURVEY, ACCESSED 2017.

**LEGAL DESCRIPTION:**

PART OF THE SOUTHWEST 1/4 SECTION 26, TOWN 1 NORTH, RANGE 8 EAST, CITY OF NOVI, OAKLAND COUNTY, MICHIGAN, BEGINNING AT SOUTHWEST SECTION CORNER; THENCE NORTH 00°26'09" WEST 658.00 FEET; THENCE NORTH 89°03'24" EAST 611.12 FEET; THENCE SOUTH 00°20'20" EAST 658.52 FEET; THENCE SOUTH 89°06'20" WEST 610.00 FEET TO BEGINNING.

**BASIS OF BEARING:**

BEARINGS SHOWN ARE BASED ON THE SOUTH LINE OF SECTION 26, AS SHOWN ON LEGAL DESCRIPTIONS OF RECORD.

**LEGEND**

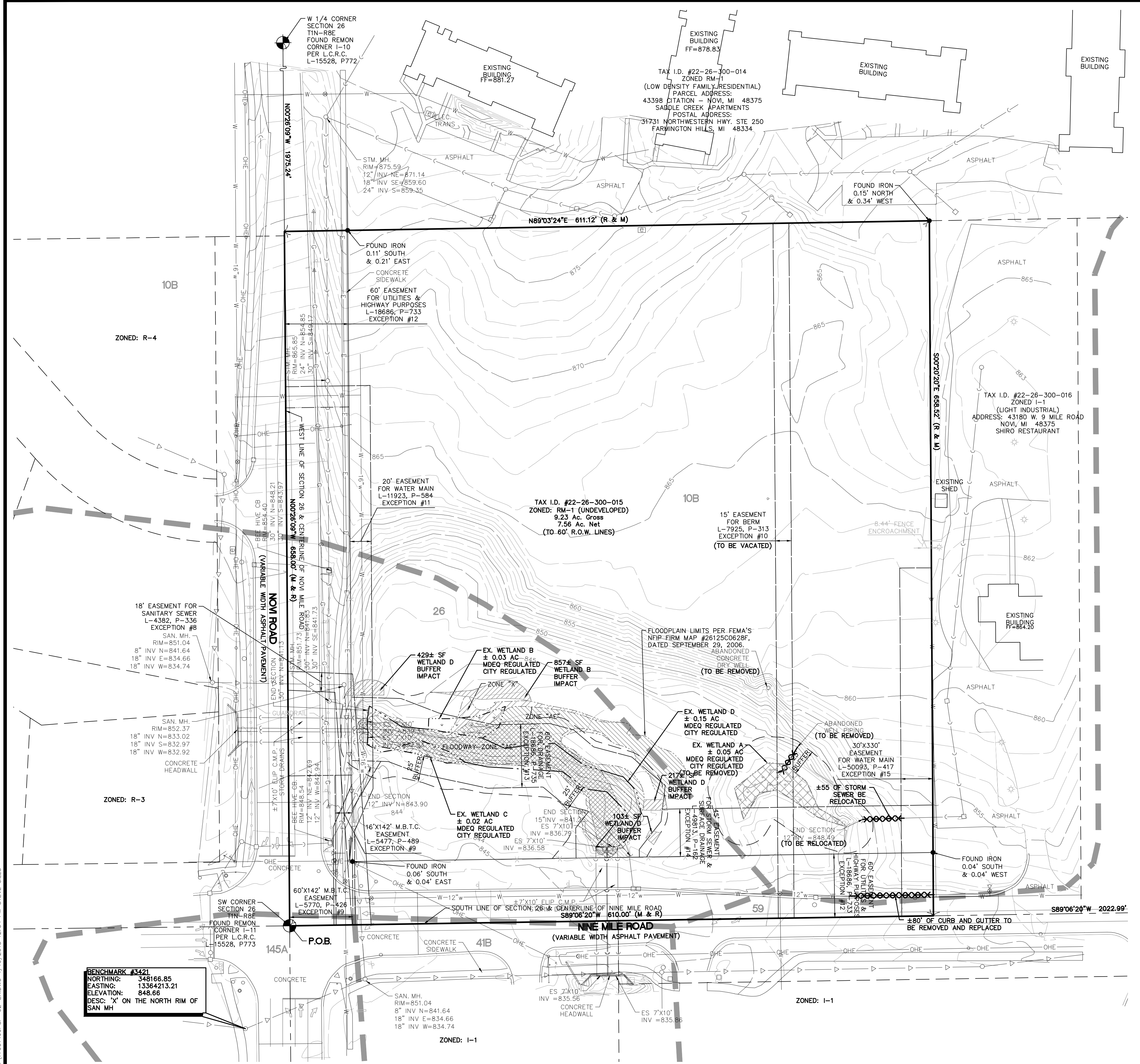
	BOUNDARY LINE
	EXIST. EASEMENT
	SECTION LINE
	BOUNDARY/PROPERTY LINE
	EXIST. SETBACK
	EXIST. CONTOUR
	EXIST. CURB AND GUTTER
	EXIST. FENCE
	EXIST. GRAVEL
	EXIST. BUILDING
	EXIST. STRUCTURE
	EXIST. WALL
	EXIST. SOIL BOUNDARY
	EXIST. SOIL TYPE
	EXIST. WATER MAIN
	EXIST. SANITARY
	EXIST. GAS
	EXIST. STORM
	EXIST. OVERHEAD ELEC. LINE
	EXIST. OVERHEAD TELE. LINE
	EXIST. CABLE LINE
	EXIST. UNSPECIFIED UTILITIES
	EXIST. CULVERT
	EXIST. CATCH BASIN/INLET
	EXIST. HYDRANT
	EXIST. VALVE
	EXIST. SANITARY SEWER
	EXIST. UNSPECIFIED UTILITY
	EXIST. SIGN
	EXIST. LIGHT POLE
	EXIST. UTILITY POLE
	EXIST. WETLAND
	EXIST. WETLAND BUFFER
	SOIL BORING LOCATION

**SOILS LEGEND**

Map Unit Symbol	Map Unit Name	Flood Frequency	Ponding Frequency
10B	Marlette sandy loam, 1 to 6 percent slopes	None	None
26	Sloan silt loam	Frequent	None
59	Urban land	None	None
145A	Blount loam, Erie- Huron Lake Plain	None	None
41B	Aquents, sandy, loamy, undulating	None	Frequent

**WETLAND IMPACT TABLE**

Wetland Area	Wetland Area (acre)	Wetland Buffer Area (acre)	Township Regulated	MDEQ Regulated	Wetland Impact Area (acre)	Estimated Cut Impact Volume (cubic yards)	Estimated Fill Impact Volume (cubic yards)	Estimated Net Impact Volume (cubic yards)	Impacts to Wetland Buffer Area (acre)
A	0.05	0.26	Yes	Yes	0.05	0	450	450	0.26
B	0.03	0.13	Yes	Yes	0.00	0	0	0	0.02
C	0.02	0.15	Yes	Yes	0.00	0	0	0	0.00
D	0.15	0.28	Yes	Yes	0.00	0	0	0	0.02
<b>Total (MDEQ)</b>	<b>0.10</b>	<b>0.54</b>	-	-	<b>0.05</b>	<b>0</b>	<b>450</b>	<b>450</b>	<b>0</b>
<b>Total (CITY)</b>	<b>0.1</b>	<b>0.54</b>	-	-	<b>0.05</b>	<b>0</b>	<b>450</b>	<b>450</b>	<b>0.30</b>



**BENCHMARK #3421**  
NORTHING: 348166.85  
EASTING: 13364213.21  
ELEVATION: 846.66  
DESC: 'X' ON THE NORTH RIM OF SAN MH







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NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NEITHER THE OWNER NOR THE ENGINEER SHALL BE RESPONSIBLE FOR SAFETY IN THE WORK OF ANY NEARBY STRUCTURES, OR OF ANY OTHER PERSONS.

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ATWELL 866.850.4200 www.atwell-group.com 311 NORTH MAIN STREET ANN ARBOR, MI 48104 734.994.4000



SECTION 26 TOWN 1 NORTH, RANGE 8 EAST CITY OF NOVI OAKLAND COUNTY, MICHIGAN TREE LIST

Table with 10 columns: Tag No., DBH, Common Name, Botanical Name, Condition, Regulated Woodland, To Be Removed, Replacement Ratio. Contains 599 rows of tree data.

Table with 10 columns: Tag No., DBH, Common Name, Botanical Name, Condition, Regulated Woodland, To Be Removed, Replacement Ratio. Contains 599 rows of tree data.

Table with 10 columns: Tag No., DBH, Common Name, Botanical Name, Condition, Regulated Woodland, To Be Removed, Replacement Ratio. Contains 599 rows of tree data.

Table with 10 columns: Tag No., DBH, Common Name, Botanical Name, Condition, Regulated Woodland, To Be Removed, Replacement Ratio. Contains 599 rows of tree data.

NOTE: TREES SHOWN WITH "\*" IN THE REPLACEMENT COLUMN HAVE GRADING PROPOSED WITHIN THE DRIP LINE OF TREE BUT ARE NOT PROPOSED TO BE REMOVED AT THIS TIME.

Summary table: Total Surveyed Trees: 479; Total Trees Removed: 384(80%); Total Regulated Trees: 425; Regulated Trees Removed: 362(85%); Regulated Trees Preserved: 63(15%).

Woodland Replacement Calculations table with columns: Tree Size (Caliper), # Trees, # Replacements, Total. Shows calculations for various tree sizes.

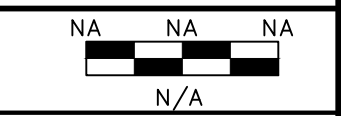
Existing Non Regulated Tree Credit table with columns: Tree Size (Caliper), # Trees, # Tree Credits, Total. Lists tree sizes and their credits.

Woodland Replacement Tree Amount: 419; Existing Tree Credit: 74; Total Replacement Trees Required: 345.

DATE: FEBRUARY 20, 2018

2018-04-09 PER CITY

REVISIONS



N/A

DRAWN BY: KS

CHECKED BY: SS

P.M.: MB

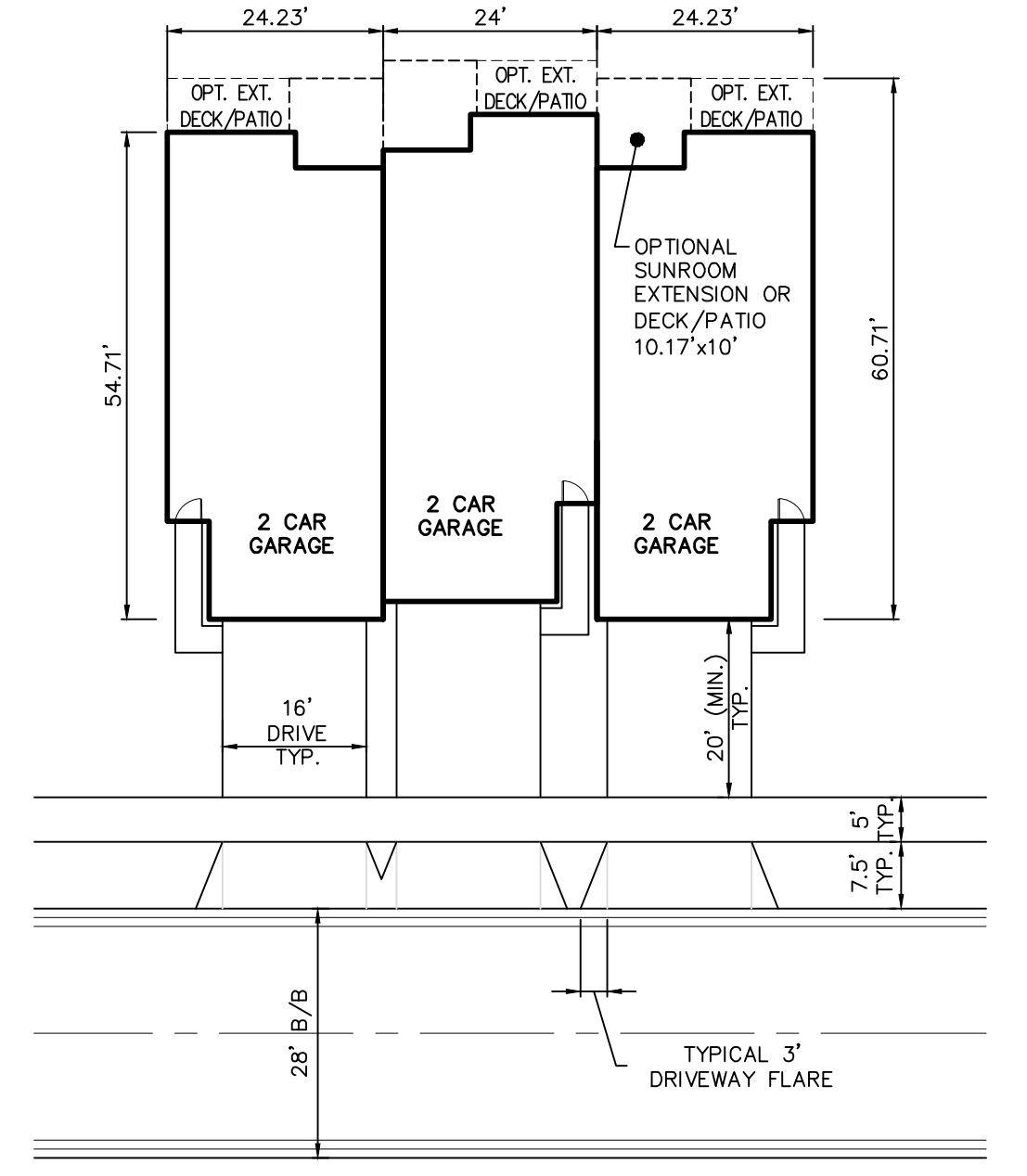
JOB #: 17001466

FILE CODE: -

SHEET NO. 04

LAYOUT NOTES

- 1. THE PROPOSED DEVELOPMENT IS PLANNED TO BE DEVELOPED USING THE CITY'S PLANNED REZONING OVERLY DEVELOPMENT OPTION TO ALLOW FOR THE MULTI-FAMILY USE.
- 2. LANDSCAPE BUFFERS WILL BE PROVIDED ON THE SIDES OF THE DEVELOPMENT AS SHOWN BUFFERING THE PROPERTY FROM THE ADJACENT USES.
- 3. THE DEVELOPMENT WILL CONTAIN PRIVATE ROADS. THE PROPOSED CONNECTION WILL BE COORDINATED WITH THE ROAD COMMISSION OF OAKLAND COUNTY.
- 4. ALL SIDEWALKS AND SIDEWALK RAMP SHALL BE ADA COMPLIANT.
- 5. SIGHT DISTANCE TRIANGLES SHOWN FOR 3.5' EYE HEIGHT IN ACCORDANCE WITH MDOT TRAFFIC AND SAFETY STANDARDS FEBRUARY 6, 2008 (2004 AASHTO, EXHIBITS 9-55, 661). SIGHT DISTANCE FOR SPEED LIMIT FOR 45 MPH AND 4 LANES OF TRAFFIC IS 530'.
- 6. ON-STREET PARKING IS PROPOSED NEAR THE MAILBOXES. UNIT GARAGE AND DRIVE WAY PARKING EXCEEDS CITY PARKING REQUIREMENTS.
- 7. PROPOSED BUILDING FACADES WILL HAVE A MINIMUM OF 30% BRICK OR STONE.
- 8. THE TOTAL PROPOSED FLOOR SQUARE FOOTAGE OF EACH DWELLING UNIT IS 1,860 SQUARE FEET.



TYPICAL UNIT DETAIL NOT TO SCALE

CITY BUILDING SEPARATION TABLE

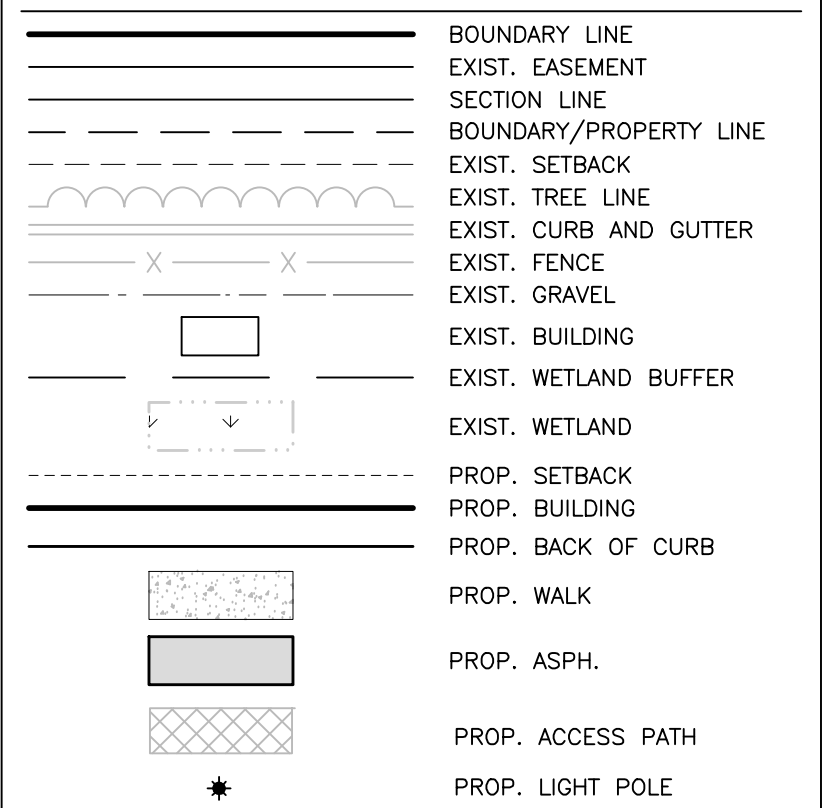
SPACE BETWEEN BUILDINGS	H <sub>a</sub> (feet)	H <sub>b</sub> (feet)	L <sub>a</sub> (feet)	L <sub>b</sub> (feet)	Required spacing (feet)	Proposed spacing (feet)
2 & 3	32	32	120.0	120.0	61.3	61.5
4 & 5	32	32	54.0	54.0	39.3	39.5
6 & 7	32	32	44.0	44.0	36.0	46.3
1&2	32	32	120.0	120.0	61.3	93.0
1&7	32	32	55.0	55.0	39.7	90.1
2&6	32	32	17.0	17.0	27.0	89.4
3&6	32	32	55.0	55.0	39.7	89.4
3&4	32	32	120.0	120.0	61.3	93.0
5&6	32	32	55.0	55.0	39.7	85.3

BUILDING ROOM COUNT TABLE

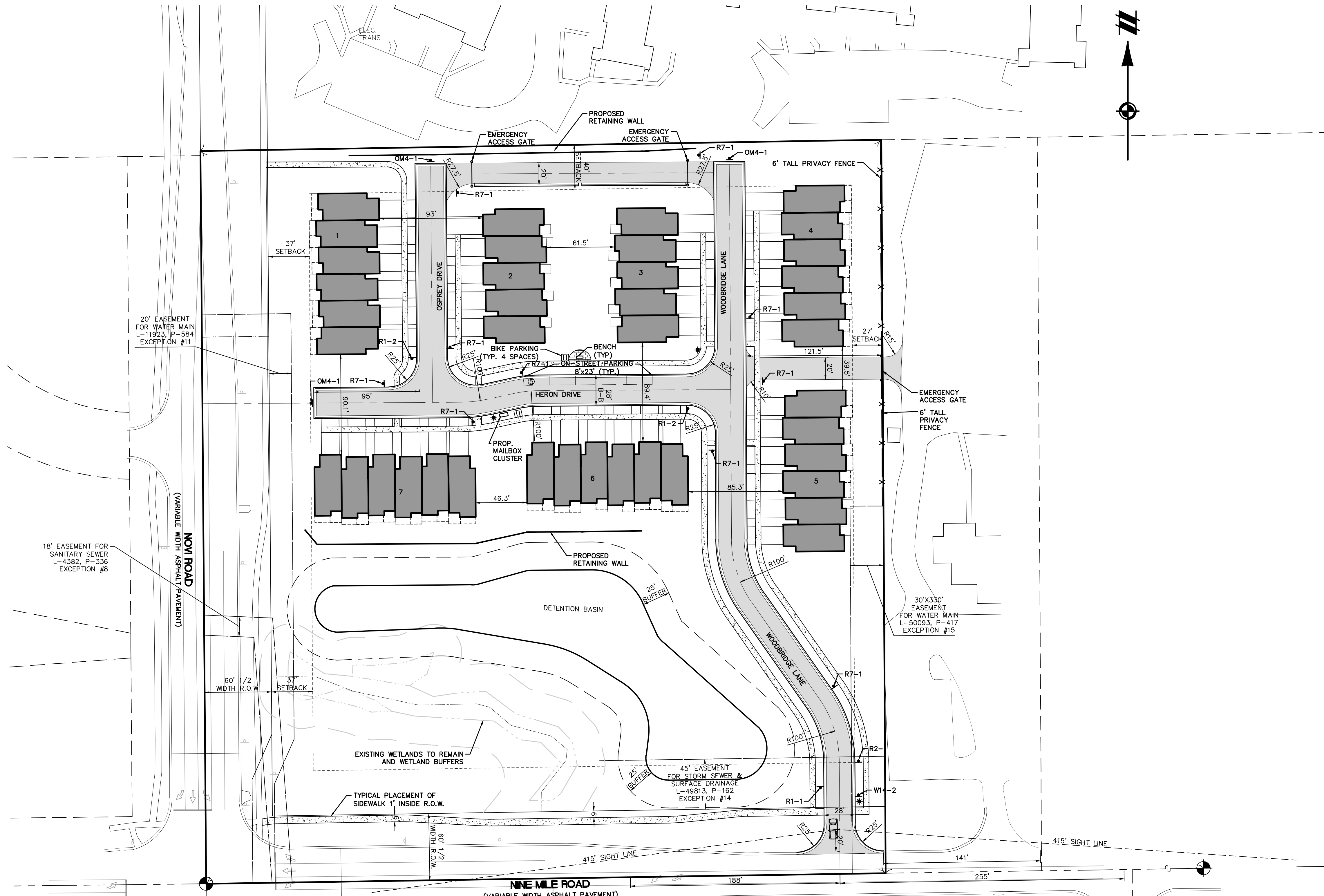
BUILDING NUMBER	LENGTH	HEIGHT	NUMBER OF THREE BEDROOM UNITS	ROOM COUNT (FOUR ROOMS PER UNIT)*
1	144	32	6	24
2	120	32	5	20
3	120	32	5	20
4	144	32	6	24
5	144	32	6	24
6	144	32	6	24
7	144	32	6	24
TOTALS			40	160
ALLOWED PER RM-1 ZONING				163

\* ROOM COUNTS SHOWN PER CITY OF NOVI ZONING ORDINANCE 3.8.1.c

LEGEND

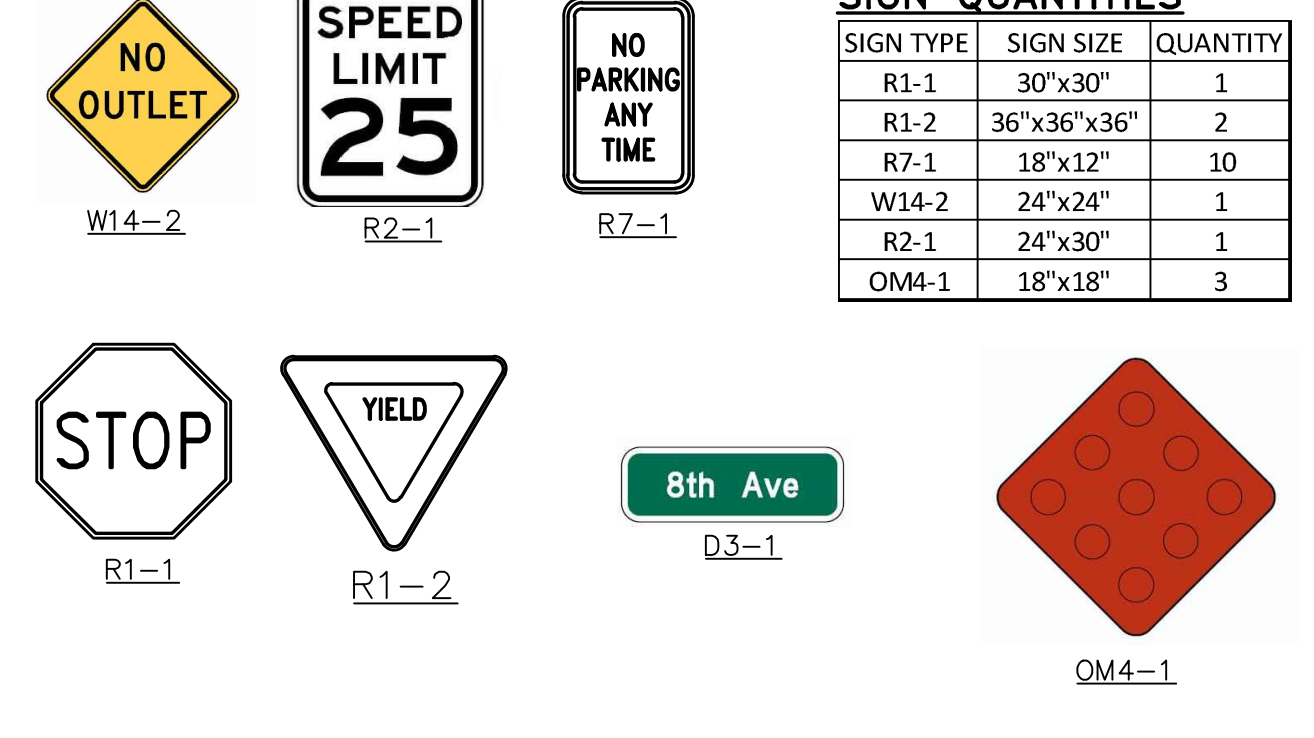


PRELIMINARY - NOT FOR CONSTRUCTION



SIGNAGE NOTES

- 1. ALL ON-SITE SIGNAGE AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE MUTCD.
- 2. ALL ROADSIDE SIGNS SHOULD BE INSTALLED TWO FEET FROM THE FACE OF THE CURB TO THE NEAR EDGE OF THE SIGN.
- 3. ALL SIGNS SHALL BE A HEIGHT OF 7 FEET FROM GRADE TO THE BOTTOM OF THE SIGN WHEN PLACED IN THE VICINITY OF A CURBED AREA.
- 4. TRAFFIC CONTROL SIGNS SHALL USE THE FHWA STANDARD ALPHABET SERIES.
- 5. TRAFFIC CONTROL SIGNS SHALL HAVE HIGH INTENSITY PRISMATIC (HIP) SHEETING TO MEET FHWA RETROREFLECTIVITY REQUIREMENTS.
- 6. STREET NAME SIGNS SHALL BE DESIGNED PER THE CITY OF NOVI TRAFFIC CONTROL SIGN STANDARDS.
- 6.1. STREET NAME SIGNS ARE REQUIRED TO HAVE A GREEN FIELD, WHITE LETTERS, AND A WHITE BORDER. TEXT SHALL CONSIST OF A CAPITALIZED FIRST LETTER WITH THE REMAINING LETTERS IN LOWERCASE FONT.
- 6.2. STREET NAME SIGNS SHALL HAVE A MINIMUM HEIGHT OF 12 INCHES AND MINIMUM LETTERING HEIGHT OF EIGHT INCHES FOR THE CAPITAL LETTERS AND SIX INCHES FOR THE LOWERCASE LETTERS, IF LOCATED ADJACENT TO A ROAD WITH A SPEED LIMIT OF 30 MPH OR GREATER, OR HAVE A MINIMUM HEIGHT OF EIGHT INCHES AND MINIMUM LETTERING HEIGHT OF 4.5 INCHES, IF LOCATED AT RESIDENTIAL STREET INTERSECTIONS.
- 6.3. STREET NAME SIGNS SHALL HAVE A LETTERING HEIGHT OF THREE INCHES FOR SUPPLEMENTARY LETTERING TO INDICATE THE STREET TYPE (IE. DRIVE, AVENUE, ETC.).
- 6.4. ALL STREET NAME SIGNS WITHIN THE CITY'S RIGHT OF WAY OR LOCATED ON PUBLIC STREETS AT THE INTERSECTION OF A PUBLIC STREET AND A PRIVATE STREET SHALL BE MOUNTED ON A 3 LB. OR GREATER U-CHANNEL POST AS DICTATED BY THE HEIGHT OF THE PROPOSED SIGNS. STREET NAME SIGNS WITH A NOMINAL HEIGHT OF 12 INCHES SHALL BE SINGLE SIDED AND SANDWICHED ON A 1 1/4" X 1 1/4" 12-GAUGE PERFORATED GALVANIZED STEEL INSERT WITH THE ENDS OF THE SIGNS BOLTED TOGETHER. THE STEEL INSERT SHALL HAVE A MINIMUM LENGTH OF 36 INCHES AND MUST EXTEND A MINIMUM OF 12 INCHES INTO THE 3 LB. OR HEAVIER U-CHANNEL POST. IN PREVIOUS EXPERIENCES, THE CITY HAS DISCOVERED THAT THE CONNECTION OFTEN MUST BE REPLACED WHEN RIVETS ARE USED TO JOIN THE ENDS OF THE SIGNS. THE BOLTS TO ADJOIN THE SIGNS ARE NOT REQUIRED ON STREET SIGNS PLACED ON PRIVATE ROADWAYS SINCE PRIVATE ROADWAY SIGNS ARE NOT MAINTAINED BY THE CITY.
- 7. SINGLE SIGNS WITH NOMINAL DIMENSIONS OF THE CITY: ROADWAY SIGNS ARE NOT MAINTAINED BY THE CITY. ROADWAY SIGNS ARE NOT MAINTAINED BY THE CITY. ROADWAY SIGNS ARE NOT MAINTAINED BY THE CITY.
- 7. SINGLE SIGNS WITH NOMINAL DIMENSIONS OF THE CITY: ROADWAY SIGNS ARE NOT MAINTAINED BY THE CITY. ROADWAY SIGNS ARE NOT MAINTAINED BY THE CITY. ROADWAY SIGNS ARE NOT MAINTAINED BY THE CITY.



SIGN QUANTITIES

SIGN TYPE	SIGN SIZE	QUANTITY
R1-1	30"x30"	1
R1-2	36"x36"x36"	2
R7-1	18"x12"	10
W14-2	24"x24"	1
R2-1	24"x30"	1
OM4-1	18"x18"	3



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SECTION 26  
TOWN 1 NORTH, RANGE 8 EAST  
CITY OF NOVI  
OAKLAND COUNTY, MICHIGAN

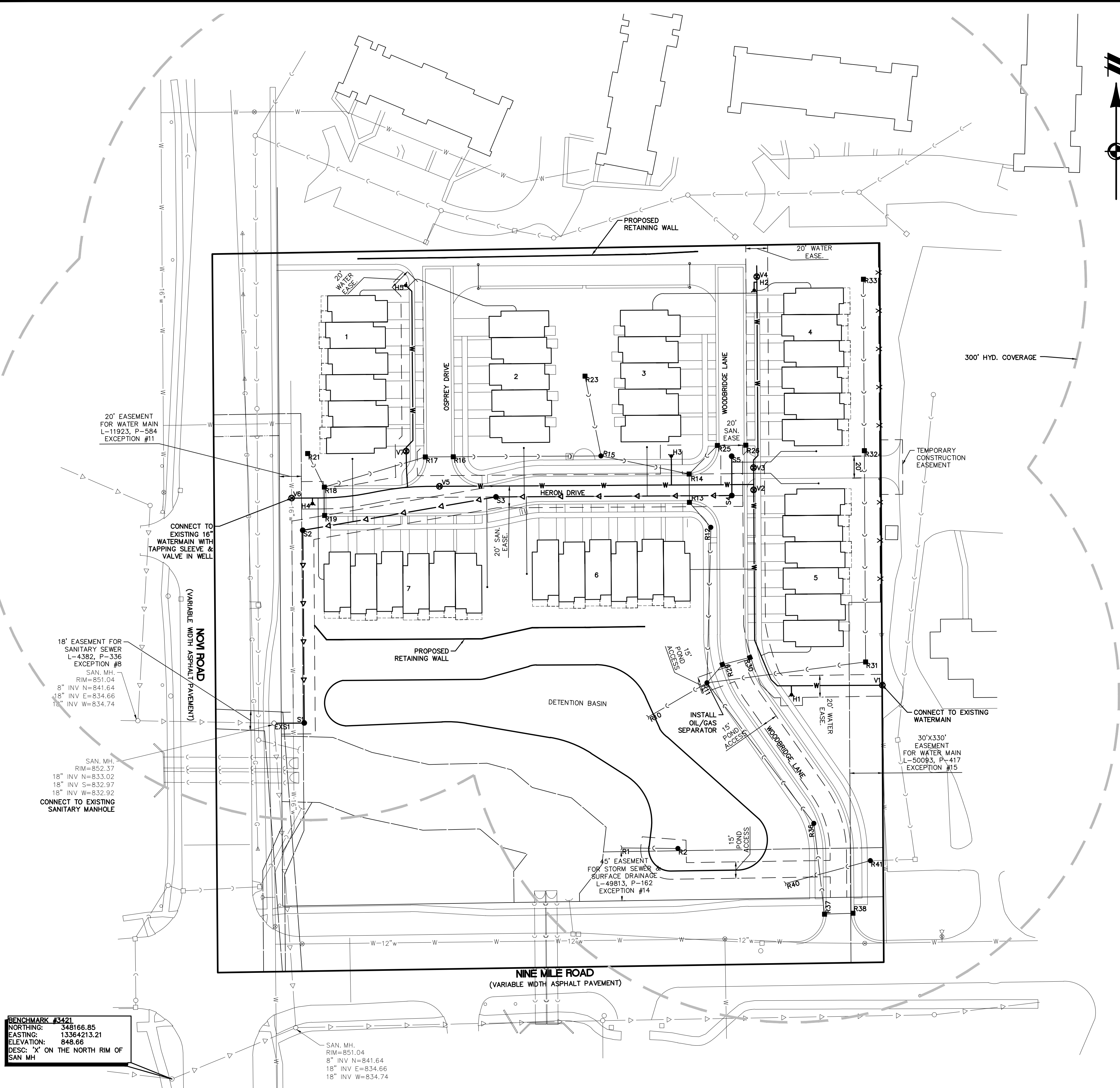
PULTE HOMES OF MICHIGAN, LLC  
WOODBRIDGE PARK  
PRELIMINARY SITE PLAN  
UTILITY PLAN

DATE  
FEBRUARY 20, 2018

2018-04-09 PER CITY

Table with 2 columns: REVISIONS, and empty rows for revision notes.

SCALE: 1" = 50 FEET  
DRAWN BY: KS  
CHECKED BY: SS  
P.M.: MB  
JOB #: 17001466  
FILE CODE: -  
SHEET NO. 06



BENCHMARK #3421  
NORTHING: 348166.85  
EASTING: 13364213.21  
ELEVATION: 848.66  
DESC: "X" ON THE NORTH RIM OF SAN MH

SAN. MH.  
RIM=851.04  
8" INV N=841.64  
18" INV E=834.66  
18" INV W=834.74

UTILITY NOTES

- 1. ALL WORK SHALL CONFORM TO THE CURRENT CITY OF NOVI STANDARDS AND SPECIFICATIONS.
2. ALL PROPOSED WATERMAIN SHALL BE 8" D.I.P. CL54, UNLESS OTHERWISE NOTED.
3. ALL PROPOSED SANITARY SEWER SHALL BE 8" PVC SDR 26, UNLESS OTHERWISE NOTED.
4. 6 INCH SANITARY LEADS SHALL BE A MINIMUM SRD 23.5.
5. SANITARY LEADS WILL BE BURIED AT LEAST 5 FEET DEEP WHERE UNDER THE INFLUENCE OF PAVEMENT.
6. COMPACTED SAND BACKFILL SHALL BE PROVIDED FOR ALL UTILITIES WITHIN A 1:1 INFLUENCE OF PAVED AREAS.
7. IF DEWATERING IS ANTICIPATED OR ENCOUNTERED DURING CONSTRUCTION A DEWATERING PLAN MUST BE SUBMITTED TO THE ENGINEERING DEPARTMENT FOR REVIEW.
8. MAXIMUM LIGHT POLE FOUNDATION DEPTH SHALL BE 48" DEEP IN ORDER TO AVOID UNDER GROUND UTILITY CONFLICTS.
9. ALL HYDRANTS ARE AT LEAST 3' FROM THE EDGE OF SIDEWALK AS SHOWN.

SANITARY BASIS OF DESIGN

Table with 2 columns: Service Areas, Number of Single Family Units, No. of Users per Unit, Total Expected Population Served, Average Daily Flow (per capita), Design Population Densities, Peaking Factor, Average Flow, Peak Flow. Values include 9.3 Acres, 40 REUs, 3.2 persons, 128 persons, 100 G.P.D., 13.8 persons/acre, 4.00 (Per Novi Code for POP), 0.0128 M.G.D., 8.89 G.P.M., 0.0198 C.F.S., 0.0512 M.G.D., 35.56 G.P.M., 0.0792 C.F.S.

LEGEND

Legend table with 3 columns: Symbol, Description, Symbol. Includes Boundary Line, Easement, Section Line, Boundary/Property Line, Setback, Contour, Tree Line, Curb and Gutter, Fence, Gravel, Building, Wetland, Wetland Buffer, Overhead Elec. Line, Overhead Tele. Line, Cable Line, Unspecified Utilities, Gas, Storm, Water Main, Sanitary, Culvert, Catch Basin/Inlet, Hydrant, Valve, Sanitary Sewer, Setback, Building, Building Interior, Wall, Parking Stripe, Back of Curb, Asphalt, Lot Line, Parking Stripe, Contour, Silt Fence, Storm Sewer, Sanitary, Water Main, End Section, Catch Basin/Inlet, Water Valve, Fire Hydrant, Manhole.

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ANN ARBOR, MI 48104  
734.994.4000



SECTION 26  
TOWN 1 NORTH, RANGE 8 EAST  
CITY OF NOVI  
OAKLAND COUNTY, MICHIGAN

PULTE HOMES OF MICHIGAN, LLC  
WOODBRIDGE PARK  
PRELIMINARY SITE PLAN  
GRADING AND STORM  
WATER MANAGEMENT PLAN

DATE  
FEBRUARY 20, 2018  
2018-04-09 PER CITY

REVISIONS

0 25 50  
SCALE: 1" = 50 FEET  
DRAWN BY: KS  
CHECKED BY: SS  
P.M.: MB  
JOB #: 17001466  
FILE CODE: -  
SHEET NO.

**MAINTENANCE SCHEDULE**

THE PROPERTY OWNER IS RESPONSIBLE FOR THE MAINTENANCE OF THE DETENTION BASIN. MAINTENANCE SHOULD BE PERFORMED FOLLOWING ANY STORM AND SHOULD INCLUDE:

- CHECKING THE DEPTH OF SEDIMENT DEPOSIT TO ENSURE THE CAPACITY OF THE BASIN IS ADEQUATE FOR STORM WATER AND SEDIMENT DEPOSITION, AND FOR THE REMOVING OF SEDIMENT.
- CHECKING THE BASIN FOR PIPING, SEEPAGE OR OTHER MECHANICAL DAMAGE.
- CHECKING FOR THE PRESENCE OF ANY SOIL CAKING, WHICH WOULD PREVENT PROPER DRAINAGE FROM THE BASIN.
- CHECKING THE OUTFALL TO ENSURE DRAINAGE IS NOT CAUSING ANY CORROSIVE VELOCITIES AND TO ENSURE THE OUTFALL IS NOT CLOGGED.
- ANY PROBLEM DISCOVERED DURING THE MAINTENANCE CHECKS SHOULD BE ADDRESSED IMMEDIATELY.
- SEDIMENT REMOVED DURING CLEANING SHOULD BE PLACED AT AN UPLAND AREA AND STABILIZED SO THAT IT DOES NOT RE-ENTER THE DRAINAGE COURSE.

**PRELIMINARY PRE-POST ANALYSIS**

Frequency	Existing Runoff		Proposed Runoff	
	Peak Rate (cfs)	Volume (cf)	Peak Rate (cfs)	Volume (cf)
100-year Storm	21.6	67,545	8.7	93,535

C-Factor Calculation

Area(SF)	C-Factor	Cx A	
Impervious Area	117842	0.95	111760
Pervious Area	138491	0.35	48472
Pond	26136	1	26136
Total Cx A			186368
Overall C			0.66

**PRELIMINARY STORM WATER CALCULATIONS**

DESIGN BASIS:  
City of Novi for 100 year detention restricted to allowable discharge rate of 0.15 cfs/acre.

Stormwater Storage Volume Requirements

Area Contributing Runoff, A	=	6.48 acre*
Developed Runoff Coefficient, C	=	0.66
Maximum Allowable Discharge, Qa	=	0.97 cfs
Qa = A * 0.15 cfs/acre		
Max. outflow per acre impervious, Qo	=	0.23 cfs/acre imperv.
Qo = Qa / (a * c)		
Max. Storage Time, T	=	186.75 minutes
T = -25 * sqrt(10312.5 / Qo)		
Max. Storage Required, Vs	=	12,833.85 cf / acre imperv.
Vs = ((16500 * T) / (1+25)) - 40QoT		
Total Storage Required, Vt	=	54,909 c.f.
Vt = Vs * a * c		
First Flush Volume (Vf) = 1815AvC	=	7,765 c.f.
Bankfull Volume (Vbf) = 5180AvC	=	22,077 c.f.

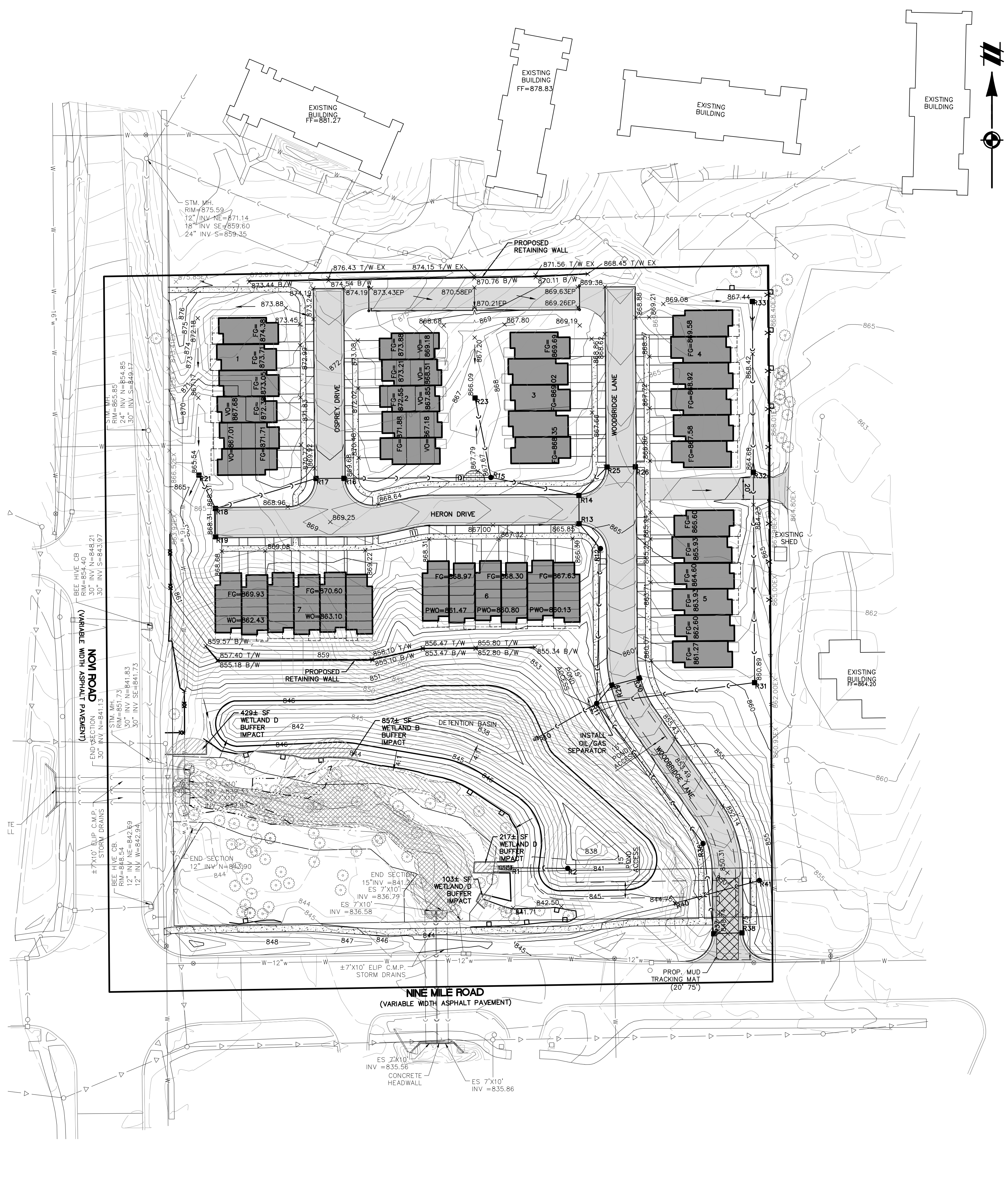
Detention Area sizing

Elevation	Area	h	Incr. V	Cum. V
839	1220		1,901	1,901
840	2677	1	1,901	1,901
840	4725	0	0	1,901
841	10190	1	7,285	9,186
842	13980	1	12,035	12,035
843	17985	1	15,941	27,976
844	22145	1	20,029	48,005
845	26290	1	24,168	72,193
846	30535	1	28,386	100,579

\*-Permanent Water Elevation

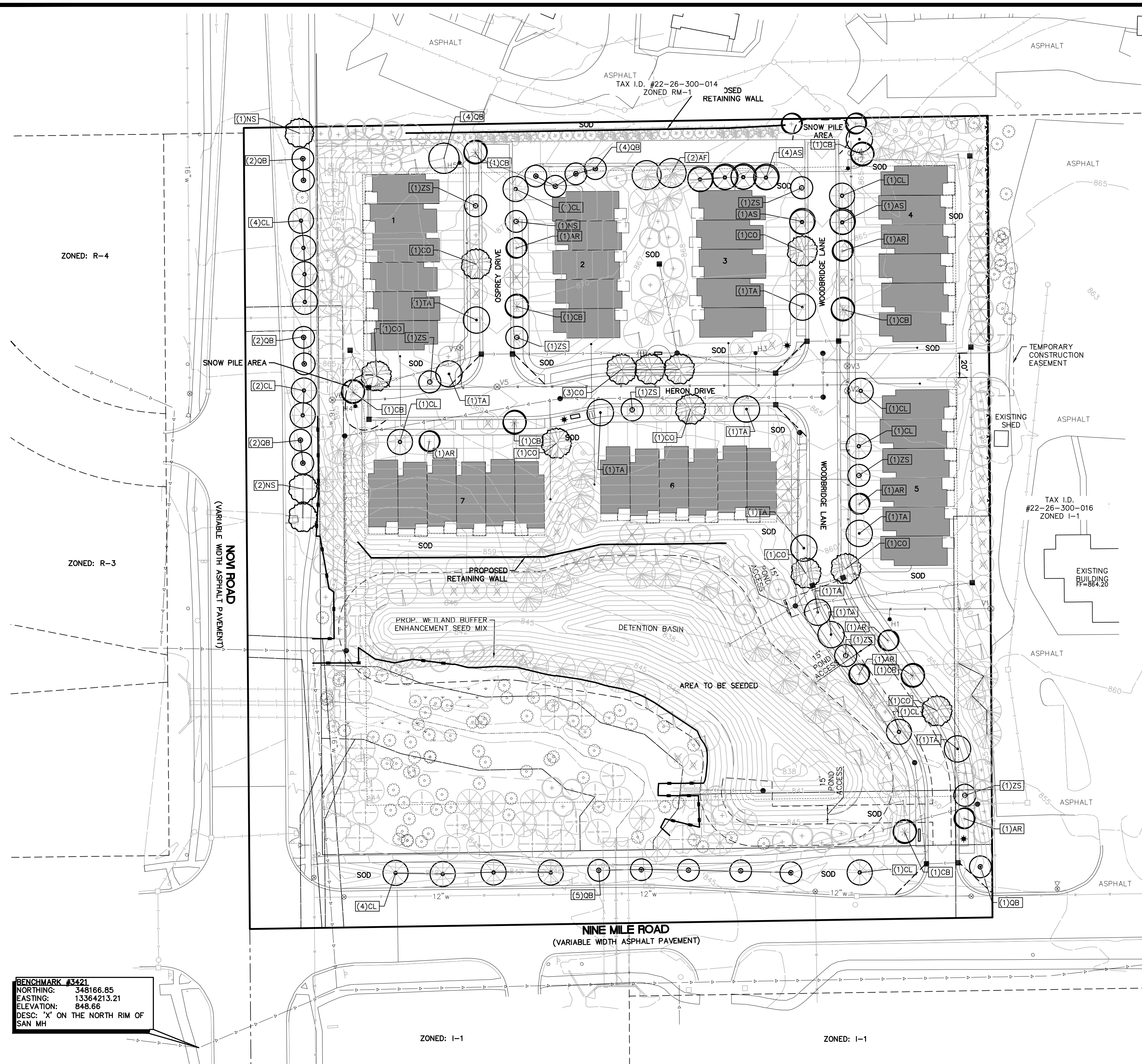
Total Basin Storage = 100,579 cf  
Vf Elev = 841.73  
Vbf Elev = 842.63  
DHW Elev. (100-yr) = 844.29  
Top of Bank Elev. = 846.00  
Freeboard = 1.71 ft  
Side slopes = 4:1

\* Net site area excluding undisturbed area south of Thorton creek



**LEGEND**

[Symbol]	BOUNDARY LINE	[Symbol]	EXIST. CULVERT
[Symbol]	EXIST. EASEMENT	[Symbol]	EXIST. CATCH BASIN/INLET
[Symbol]	SECTION LINE	[Symbol]	EXIST. HYDRANT
[Symbol]	BOUNDARY/PROPERTY LINE	[Symbol]	EXIST. VALVE
[Symbol]	EXIST. SETBACK	[Symbol]	EXIST. SANITARY SEWER
[Symbol]	EXIST. CONTOUR	[Symbol]	PROP. SETBACK
[Symbol]	EXIST. TREE LINE	[Symbol]	PROP. BUILDING
[Symbol]	EXIST. CURB AND GUTTER	[Symbol]	PROP. BUILDING INTERIOR
[Symbol]	EXIST. FENCE	[Symbol]	PROP. WALL
[Symbol]	EXIST. GRAVEL	[Symbol]	PROP. PARKING STRIPE
[Symbol]	EXIST. BUILDING	[Symbol]	PROP. BACK OF CURB
[Symbol]	EXIST. WETLAND	[Symbol]	PROP. ASPHALT
[Symbol]	EXIST. WETLAND BUFFER	[Symbol]	PROP. LOT LINE
[Symbol]	EXIST. OVERHEAD ELEC. LINE	[Symbol]	PROP. PARKING STRIPE
[Symbol]	EXIST. OVERHEAD TELE. LINE	[Symbol]	PROP. CONTOUR
[Symbol]	EXIST. CABLE LINE	[Symbol]	PROP. SILT FENCE
[Symbol]	EXIST. UNSPECIFIED UTILITIES	[Symbol]	PROP. TREE PROTECTION FENCE
[Symbol]	EXIST. GAS	[Symbol]	PROP. STORM SEWER
[Symbol]	EXIST. STORM	[Symbol]	PROP. SANITARY
[Symbol]	EXIST. WATER MAIN	[Symbol]	PROP. WATER MAIN
[Symbol]	EXIST. SANITARY	[Symbol]	PROP. END SECTION
[Symbol]		[Symbol]	PROP. CATCH BASIN/INLET
[Symbol]		[Symbol]	PROP. WATER VALVE
[Symbol]		[Symbol]	PROP. FIRE HYDRANT
[Symbol]		[Symbol]	PROP. MANHOLE

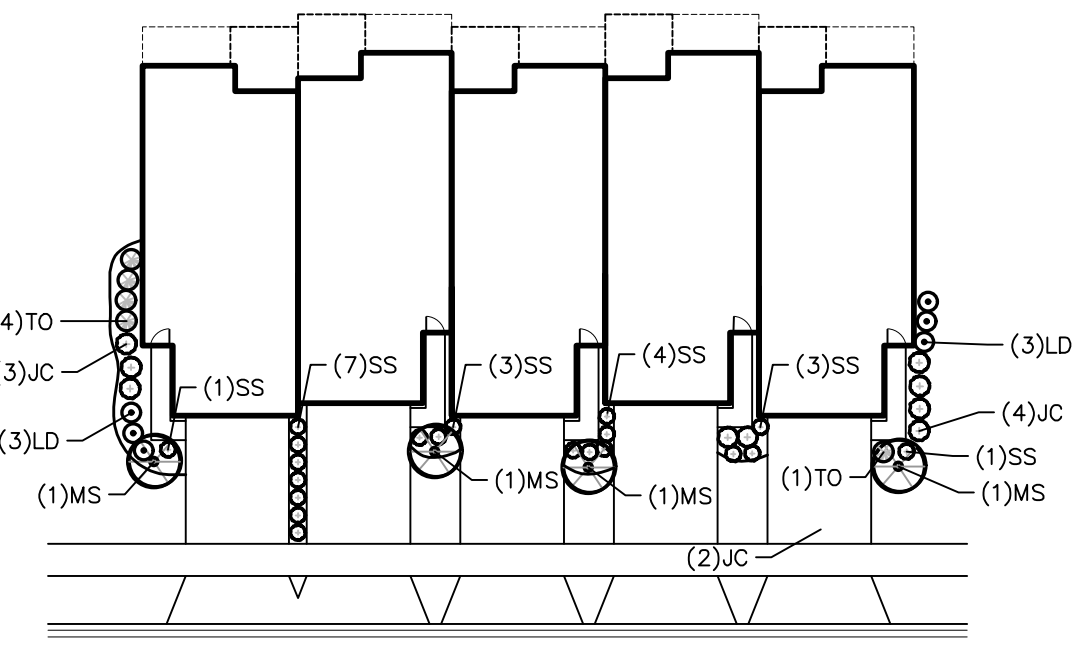


BENCHMARK #3421  
 NORTHING: 348166.85  
 EASTING: 13364213.21  
 ELEVATION: 848.66  
 DESC: "X" ON THE NORTH RIM OF SAN MH

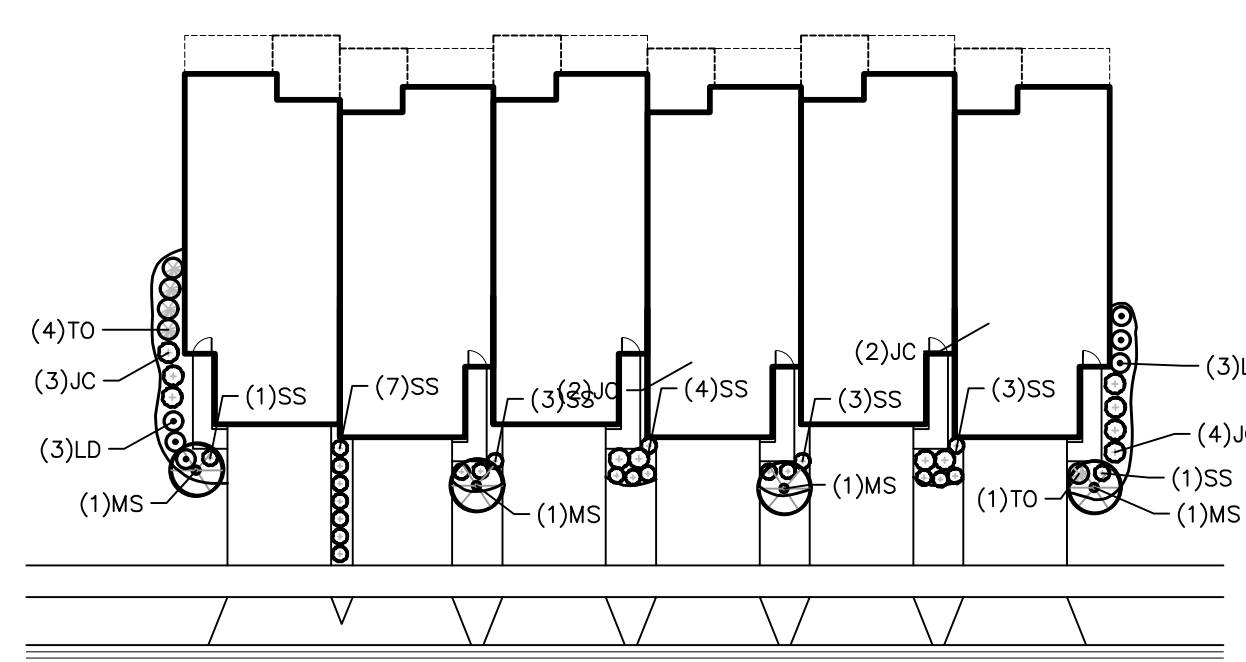
**STREET TREE LANDSCAPE PLAN**

**TREE LABEL KEY**

STREET TREE

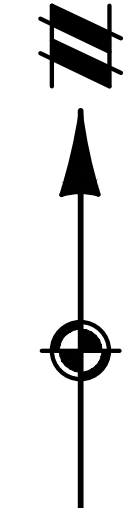


**TYPICAL 5-UNIT PLANTING DETAIL**  
 SCALE: 1" = 30'



**TYPICAL 6-UNIT PLANTING DETAIL**  
 SCALE: 1" = 30'

PREPARED BY KATE BOND, PLA 1266

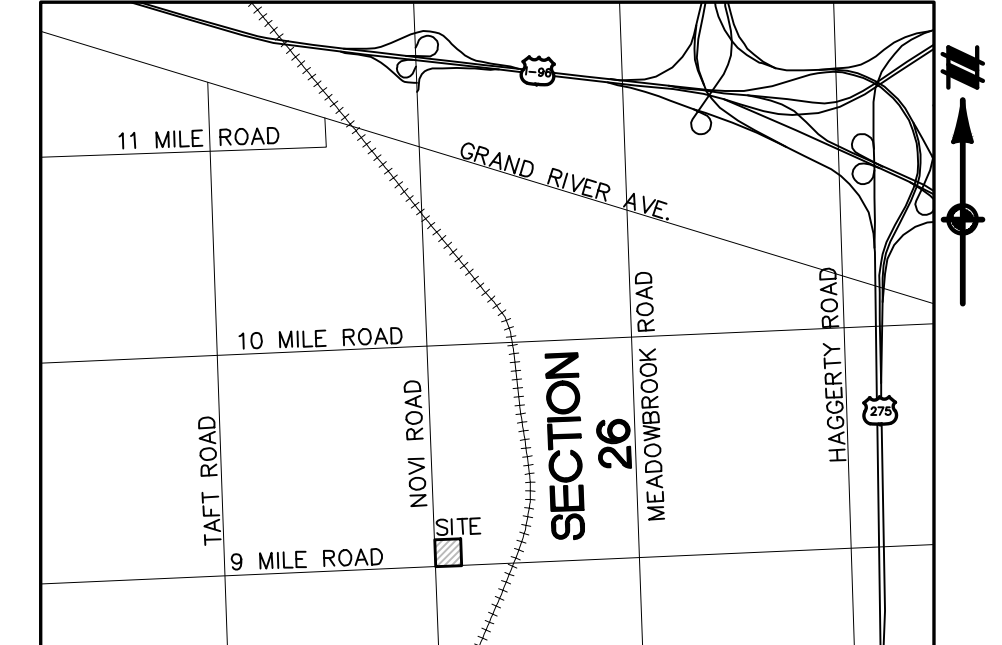


**LANDSCAPE REQUIREMENTS**

Street Tree	Required	Proposed	Notes
	1 Tree per 35 LF Interior: 681 LF - 160' driveways= 701 LF/35' = 20 trees Exterior: 1974 LF - 360' driveways= 1614 LF/35' = 47 trees	67 Trees Provided	Back of curb line utilized for loop road minus driveways (interior and exterior)
Novi Road Street Trees	Street Trees 1/35 LF - 598/35= 17 Trees	14 Trees Provided *	*Trees provided using 1.25 Deciduous Tree Credit for using 3" Caliper
9 Mile Street Trees	Street Trees 1/35 LF - 520/35= 15 Trees	12 Trees Provided *	*Trees provided using 1.25 Deciduous Tree Credit for using 3" Caliper Entrance Road Subtracted from Total

**NOTE:**

- NO EXISTING OVERHEAD UTILITIES WILL REMAIN ON THE SITE.
- THE PLACEMENT OF TREES IN AREAS WITH EXISTING TREES SHALL BE APPROVED BY THE CITY PRIOR TO PLANTING.
- ALL TREES ARE TO BE PLACED 10' FROM HYDRANTS AND UTILITY STRUCTURES, AND 5' FROM UNDERGROUND UTILITY LINES.
- TRANSFORMERS TO BE SCREENED PER CITY OF NOVI STANDARDS WHEN LOCATION IS FINALIZED. SEE DETAIL ON SHEET 13.
- PROPOSED TREE PLANTING LOCATIONS SHALL BE APPROVED BY THE CITY OF NOVI LANDSCAPE ARCHITECT PRIOR TO PLANTING.



**LOCATION MAP**  
 1" = 5000'

SEE SHEET 12 FOR MASTER PLANT LIST

**LEGEND**

	BOUNDARY LINE		PROP. SETBACK
	BOUNDARY/PROPERTY LINE		PROP. BUILDING
	EXIST. CONTOUR		PROP. WALL
	EXIST. CURB AND GUTTER		PROP. PARKING STRIPE
	EXIST. FENCE		PROP. BACK OF CURB
	EXIST. GRAVEL		PROP. CONTOUR
	EXIST. WETLAND		EXIST. TREE LINE
	EXIST. WETLAND BUFFER		PROP. STORM SEWER
	EXIST. STORM		PROP. SANITARY
	EXIST. WATER MAIN		PROP. WATER MAIN
	EXIST. SANITARY		PROP. END SECTION
	EXIST. CULVERT		PROP. CATCH BASIN/INLET
	EXIST. CATCH BASIN/INLET		PROP. WATER VALVE
	EXIST. HYDRANT		PROP. FIRE HYDRANT
	EXIST. VALVE		PROP. MANHOLE
	EXIST. SANITARY SEWER		PROP. LIGHT POLE

PRELIMINARY - NOT FOR CONSTRUCTION

Know what's below.  
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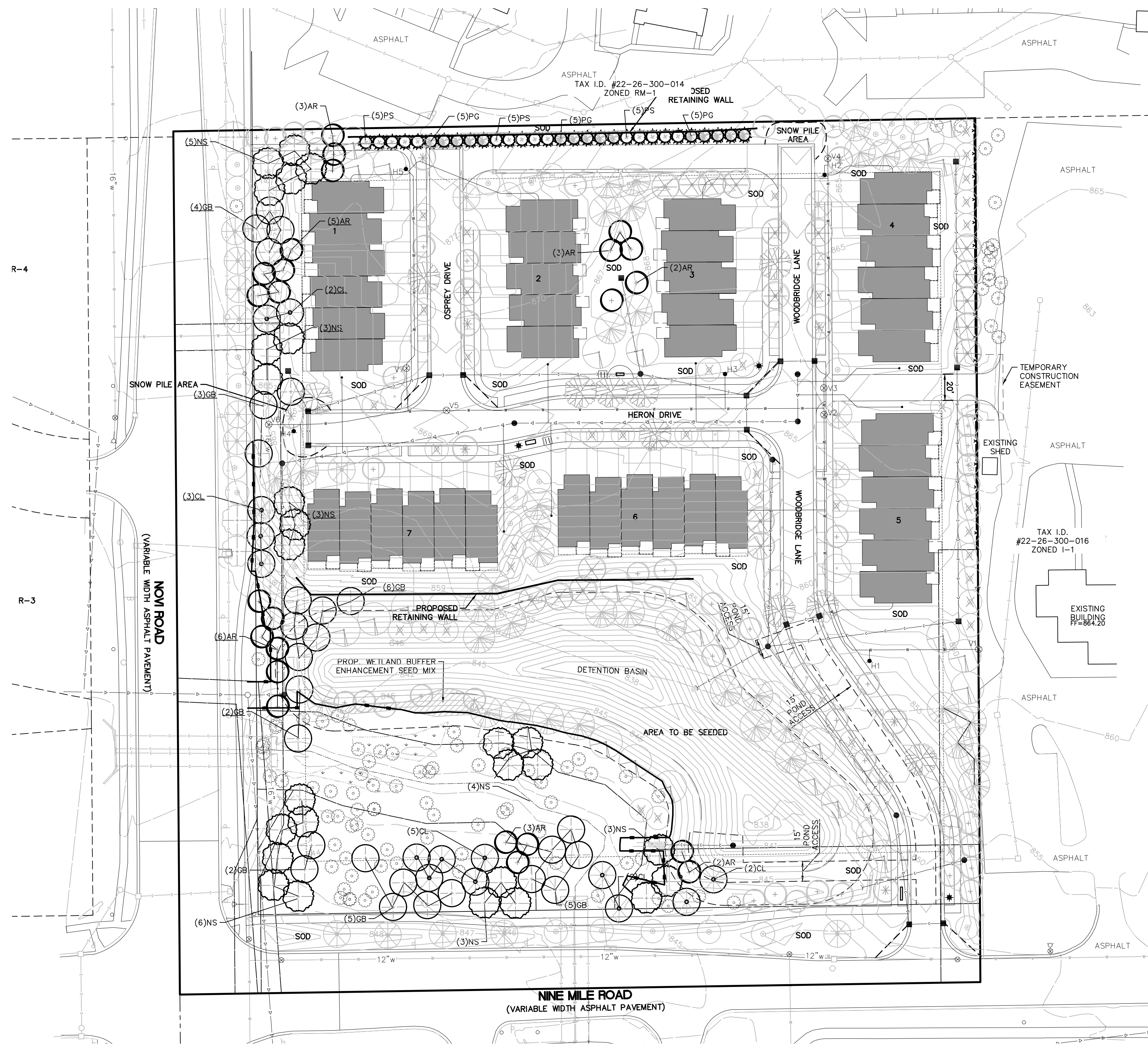
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SECTION 26	TOWN 1 NORTH, RANGE 8 EAST	CITY OF NOVI	OAKLAND COUNTY, MICHIGAN
PULTE HOMES OF MICHIGAN, LLC	WOODBRIDGE PARK	PRELIMINARY SITE PLAN	
LANDSCAPE PLAN			
DATE: FEBRUARY 20, 2018			
2018-04-09 PER CITY			
REVISIONS			
SCALE: 1" = 50 FEET			
DRAWN BY: KS			
CHECKED BY: SS			
P.M.: MB			
JOB #: 17001466			
FILE CODE: -			
SHEET NO. 08			



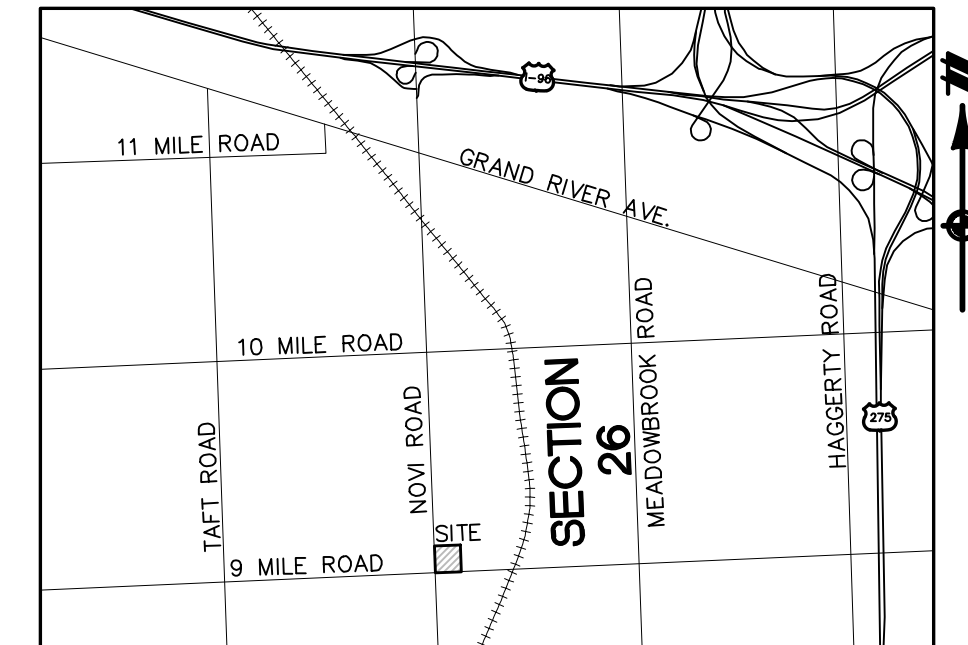
**GREENBELT AND SITE TREES LANDSCAPE PLAN**

**TREE LABEL KEY**

- XX SITE TREE
- XX GREENBELT TREE

**LANDSCAPE REQUIREMENTS**

Site Landscaping	Required	Proposed	Notes
	3 trees per ground floor dwelling unit 40 units x 3 = (120 on site, 40 at units)	80 Provided	1 understory tree at each unit within foundation planting (40 total)
<b>Right-of-Way Landscape</b>	<b>Required</b>	<b>Proposed</b>	<b>Notes</b>
Novi Road Greenbelt	50' Wide	50' Wide	
Berm	3-5' berm	±200' Long Berm Applicant seeks a waiver for remainder	ROW does not have adequate area for a berm due to existing vegetation
Novi Road Trees	Canopy Tree 1/35 LF - 598/35' = 17 Trees Sub-Canopy Tree 1/20 LF - 598/20' = 30 Trees	21 Trees*	A total of 37 existing trees used to offset total Trees placed in both Novi Rd and 9 Mile Road ROW *Trees provided using 1.25 Deciduous Tree Credit with 3" Caliper
9 Mile Trees	Canopy Tree 1/35 LF - 520/35' = 15 Trees Sub-Canopy Tree 1/20 LF - 520/20' = 26 Trees	21 Trees*	A total of 37 existing trees used to offset total Trees placed in both Novi Rd and 9 Mile Road ROW *Trees provided using 1.25 Deciduous Tree Credit 3" Caliper



**LOCATION MAP**  
1" = 5000'

SEE SHEET 12 FOR MASTER PLANT LIST

**LEGEND**

	BOUNDARY LINE		PROP. SETBACK
	BOUNDARY/PROPERTY LINE		PROP. BUILDING
	EXIST. CONTOUR		PROP. WALL
	EXIST. CURB AND GUTTER		PROP. PARKING STRIPE
	EXIST. FENCE		PROP. BACK OF CURB
	EXIST. GRAVEL		PROP. CONTOUR
	EXIST. WETLAND		EXIST. TREE LINE
	EXIST. WETLAND BUFFER		PROP. STORM SEWER
	EXIST. STORM WATER MAIN		PROP. SANITARY WATER MAIN
	EXIST. SANITARY WATER MAIN		PROP. END SECTION
	EXIST. CULVERT		PROP. CATCH BASIN/INLET
	EXIST. CATCH BASIN/INLET		PROP. WATER VALVE
	EXIST. HYDRANT		PROP. FIRE HYDRANT
	EXIST. VALVE		PROP. MANHOLE
	EXIST. SANITARY SEWER		PROP. LIGHT POLE

PREPARED BY KATE BOND, PLA 1266

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SECTION 26  
TOWN 1 NORTH, RANGE 8 EAST  
CITY OF NOVI  
OAKLAND COUNTY, MICHIGAN

PULTE HOMES OF MICHIGAN, LLC  
WOODBRIDGE PARK  
PRELIMINARY SITE PLAN  
LANDSCAPE PLAN

DATE: FEBRUARY 20, 2018

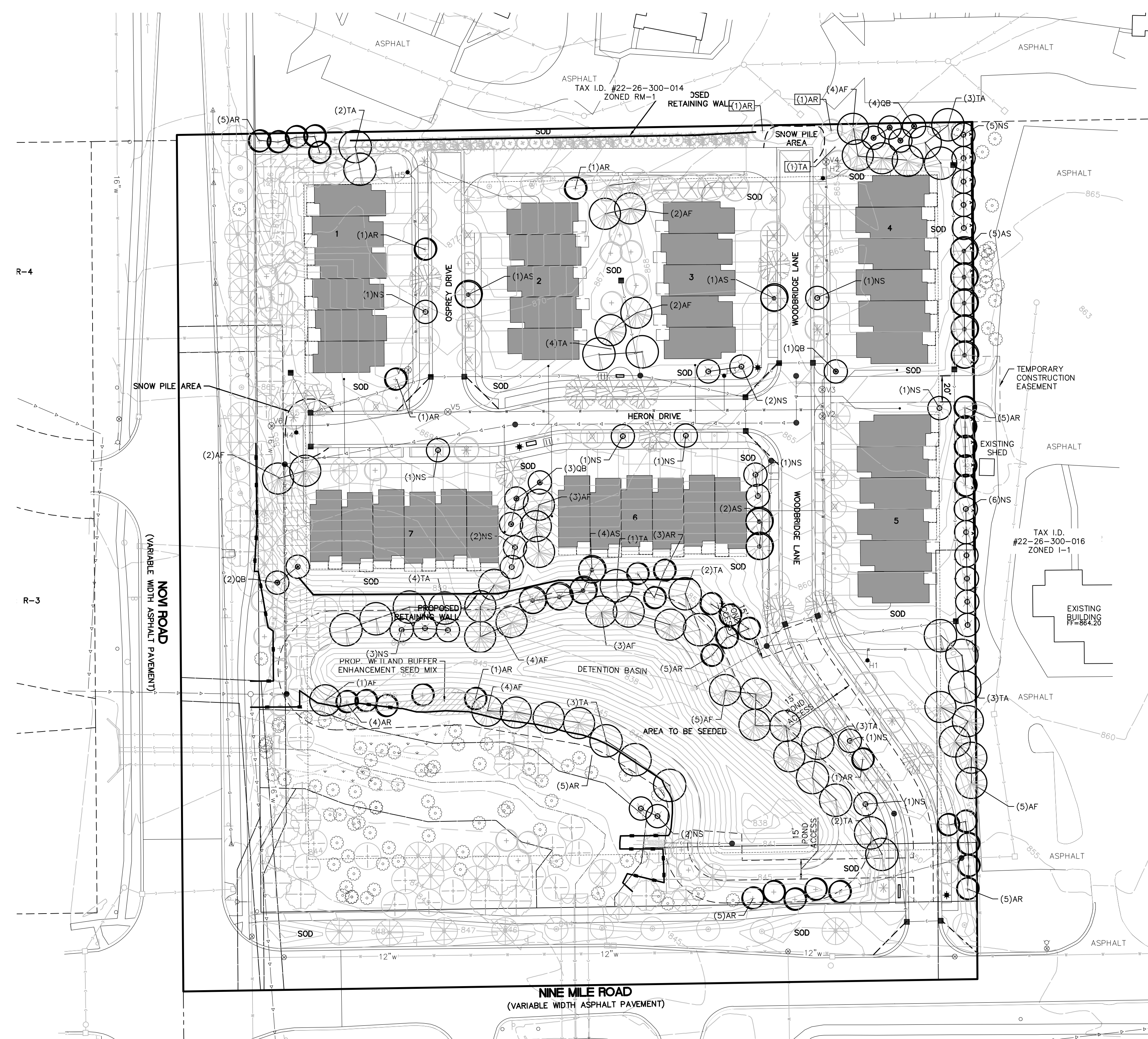
2018-04-09 PER CITY

REVISIONS

NO.	DATE	DESCRIPTION

SCALE: 1" = 50 FEET  
DRAWN BY: KS  
CHECKED BY: SS  
P.M.: MB  
JOB #: 17001466  
FILE CODE: -  
SHEET NO. **09**

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**TREE REPLACEMENT SUMMARY**

Total Surveyed Trees	479
Total Trees Removed	384(80%)
Total Regulated Trees	425
Regulated Trees Removed	362(85%)
Regulated Trees Preserved	63 (15%)

Woodland Replacement Calculations

Tree Size (Caliper)	# Trees	# Replacements	Total
0"-8"	89	0	0
8"-11"	156	1	156
11"-20"	98	2	196
20"-29"	13	3	39
30"+	7	4	28
<b>Total</b>			<b>419</b>

Existing Non Regulated Tree Credit

Tree Size (Caliper)	# Trees	# Tree Credits	Total
3" - 7"	0	0	0
7" - 12"	24	2	48
12" - 17"	5	3	15
17" - 23"	1	4	4
23" - 29"	0	0	0
29" - 36"	0	0	0
36"	1	7	7
<b>Total</b>			<b>74</b>

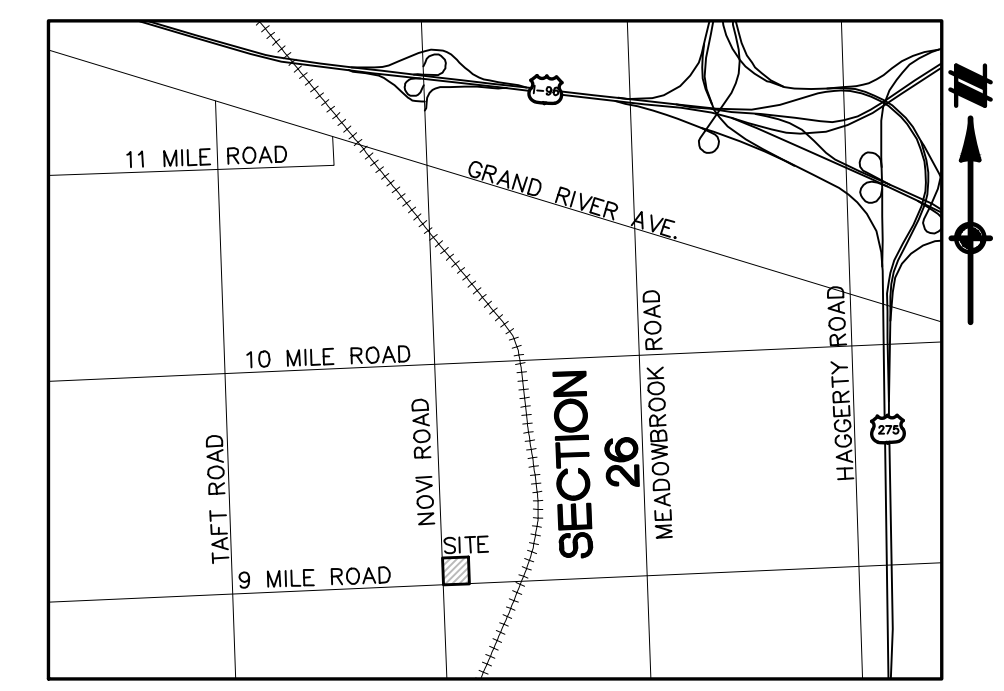
Woodland Replacement Tree Amount 419  
 Existing Tree Credit 74  
**Total Replacement Trees Required 345**

**NOTE:**

ALL TREE REPLACEMENT PLANTS TO BE LOCATED AND INSTALLED IN CONSERVATION EASEMENT AREAS (GREENBELT, PARK/OPEN SPACE, AND DETENTION POND) PER CITY STANDS AND APPROVAL.

**LANDSCAPE REQUIREMENTS**

Replacement Trees	Required	Proposed	Notes
	345 trees based on City of Novi replacement ratio	155 Provided	A deposit to a tree fund shall be made for the 190 replacement trees that cannot fit on site properly.



**LOCATION MAP**  
1" = 5000'

SEE SHEET 12 FOR MASTER PLANT LIST

**LEGEND**

(---) BOUNDARY LINE	(---) BOUNDARY/PROPERTY LINE	(---) EXIST. CONTOUR	(---) EXIST. CURB AND GUTTER	(---) EXIST. FENCE	(---) EXIST. GRAVEL	(---) EXIST. WETLAND	(---) EXIST. WETLAND BUFFER	(---) EXIST. STORM	(---) EXIST. WATER MAIN	(---) EXIST. SANITARY	(---) EXIST. CULVERT	(---) EXIST. CATCH BASIN/INLET	(---) EXIST. HYDRANT	(---) EXIST. VALVE	(---) EXIST. SANITARY SEWER	(---) PROP. SETBACK	(---) PROP. BUILDING	(---) PROP. WALL	(---) PROP. PARKING STRIPE	(---) PROP. BACK OF CURB	(---) PROP. CONTOUR	(---) EXIST. TREE LINE	(---) PROP. STORM SEWER	(---) PROP. SANITARY	(---) PROP. WATER MAIN	(---) PROP. END SECTION	(---) PROP. CATCH BASIN/INLET	(---) PROP. WATER VALVE	(---) PROP. FIRE HYDRANT	(---) PROP. MANHOLE	(---) PROP. LIGHT POLE
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PREPARED BY KATE BOND, PLA 1266

**TREE REPLACEMENT LANDSCAPE PLAN**

**TREE REPLACEMENT PLANT LIST**

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SECTION 26  
 TOWN 1 NORTH, RANGE 8 EAST  
 CITY OF NOVI  
 OAKLAND COUNTY, MICHIGAN

PULTE HOMES OF MICHIGAN, LLC  
 WOODBRIDGE PARK  
 PRELIMINARY SITE PLAN  
 LANDSCAPE PLAN

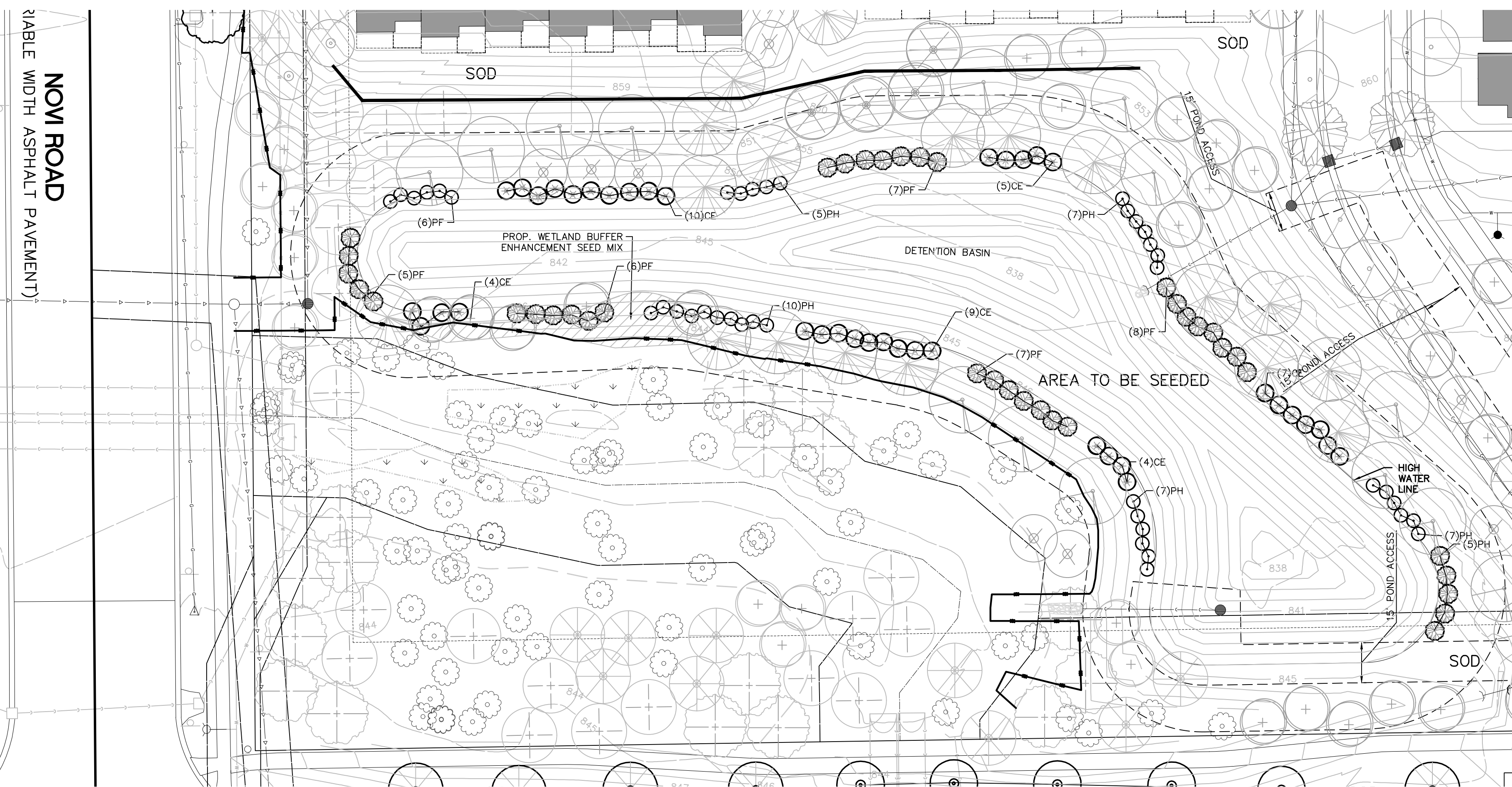
DATE: FEBRUARY 20, 2018  
 2018-04-09 PER CITY

REVISIONS

SCALE: 1" = 50 FEET  
 DRAWN BY: KS  
 CHECKED BY: SS  
 P.M.: MB  
 JOB #: 17001466  
 FILE CODE: --  
 SHEET NO. **10**

PRELIMINARY - NOT FOR CONSTRUCTION





**DETENTION PLANTING ENLARGEMENT- AREA A**  
SCALE: 1" = 30'

**DETENTION SEED MIX**

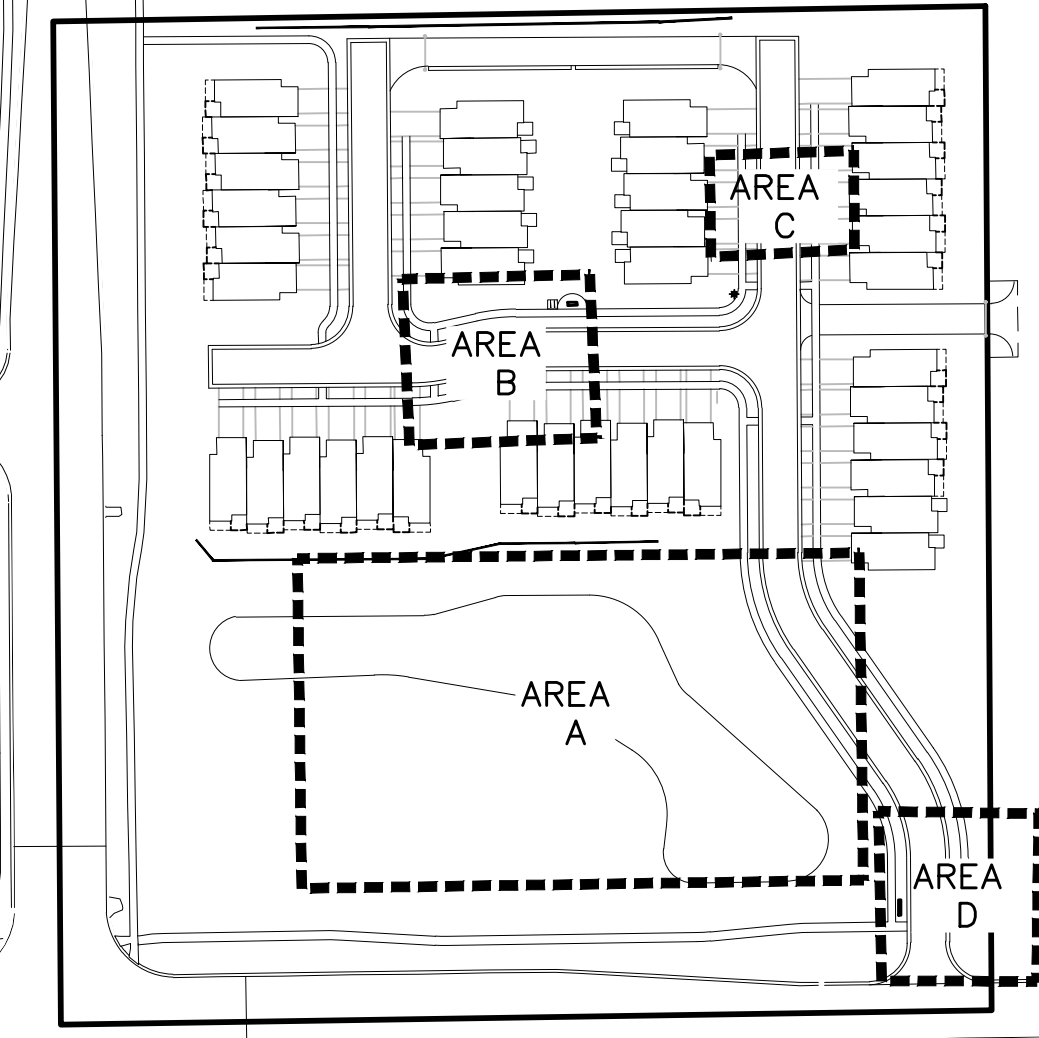
**SIDE SLOPE & BASIN BOTTOM:**  
DETENTION BASIN MIX BY PRAIRIE NURSERY (OR APPROVED EQUAL)  
WILDFLOWERS: NODDING PINK ONION, RED MILKWEED, NEW ENGLAND ASTER, WHITE FALSE INDIGO, PALE INDIAN PLANTAIN, WILD SENNA, CANADA TICK TREFOL, JOE PYE WED, BONSET, DOOTOOTH DAISY, OX EYE SUNFLOWER, WILD IRIS, BLUE FLAG IRIS, PRAIRIE BLAZINGSTAR, DENSE BLAZINGSTAR, GREAT BLUE LOBELIA, BERGAMOT, YELLOW CONEFLOWER, BLACK EYED SUSAN, SWEET BLACK EYED SUSAN, BROWN EYED SUSAN, ROSINWEED, CUPPLANT, PRAIRIE DOCK, OHIO GOLDENROD, STIFF GOLDENROD, TALL MEADOWRU, BLUE VERVAIN, IRONWEED, GOLDEN ALEXANDERS  
GRASSES: BIG BLUESTEM, BEBB'S SEDGE, BOTTLEBRUSH SEDG, PORCUPINE SEDGE, AM. FRUITED SEDGE, FOX SEDGE, CANADA WILD RYE, VIRGINIA WILD RYE, SWITCHGRASS, DARK GREEN BULRUSH, INDIANGRASS, PRAIRIE CORDGRASS, ANNUAL RYE  
PLANTING RATE PER ACRE: 10 LBS

**SOILS:**  
SOILS MUST BE AMENDED WITH A COMPOSTED ORGANIC MATERIAL. SOILS MUST BE FREE OF CONSTRUCTION DEBRIS AND SUBSOILS. A RECOMMENDED SOIL BLEND INCLUDES 20 TO 30 PERCENT COMPOST

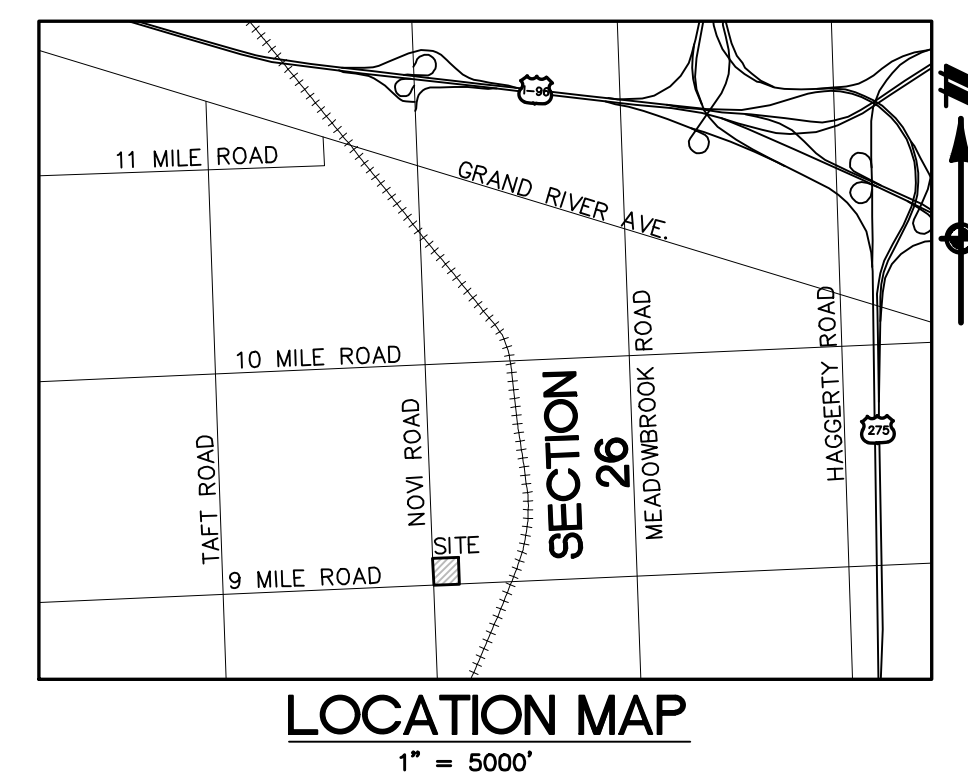
**WETLAND BUFFER ENHANCEMENT SEED MIX**

Wetland Buffer Enhancement Seed List Summary			
Seed Mix	Rate (lbs/acre)	Acreage	Required Seed (lbs)
Wetland Edge	32.88	0.03	0.99

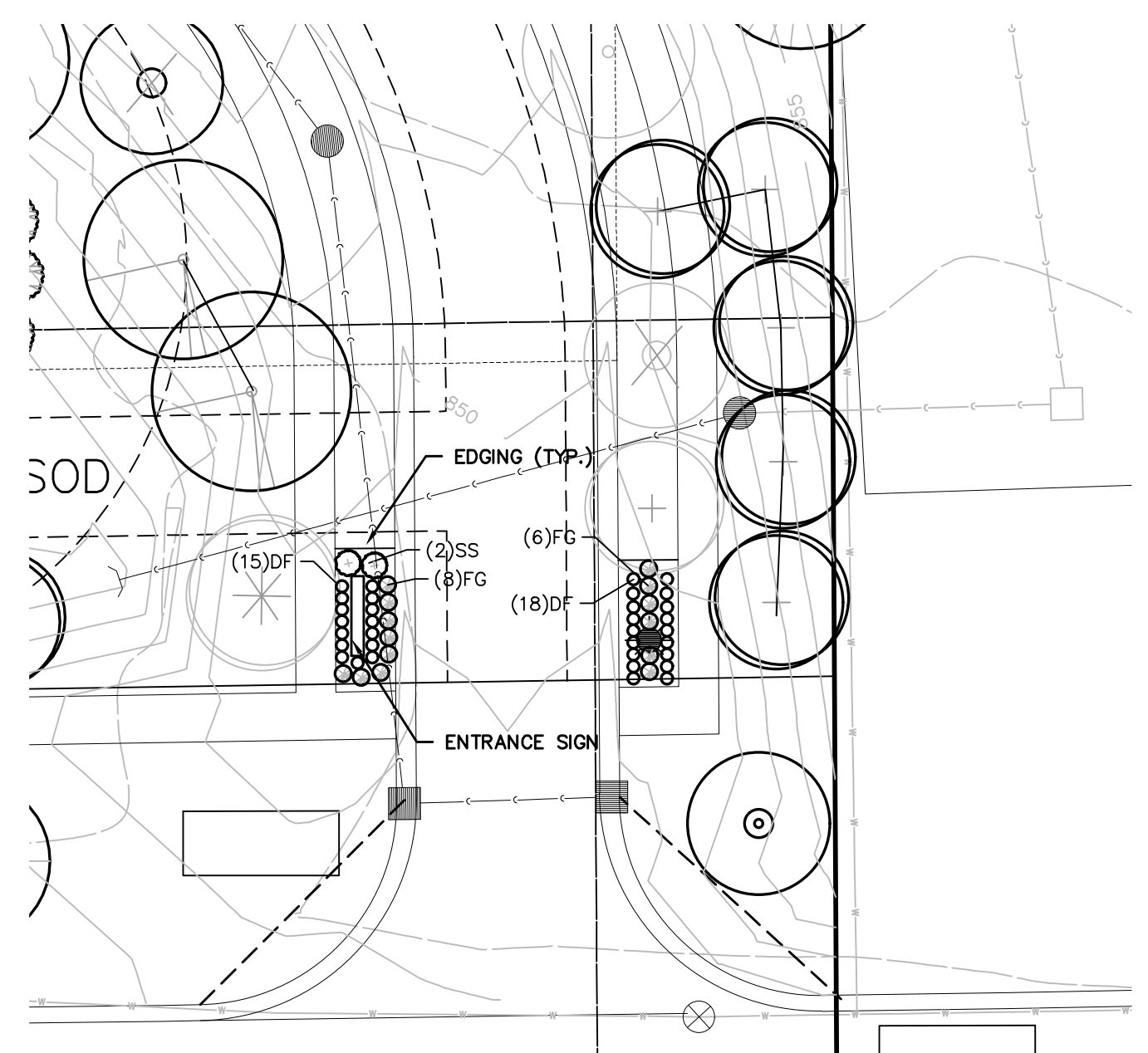
Wetland Edge Seed Mix		
Botanical Name	Common Name	Ounce/Acre
<b>Permanent Grasses/Sedges:</b>		
<i>Bolboschoenus fluviatilis</i>	River Bulrush	0.50
<i>Carex comosa</i>	Bristly Sedge	1.00
<i>Carex cristata</i>	Crested Owl Sedge	2.00
<i>Carex frankii</i>	Bristly Cattail Sedge	6.00
<i>Carex vulpinoidea</i>	Brown Fox Sedge	3.00
<i>Eleocharis palustris</i>	Great Spike Rush	0.50
<i>Elymus virginicus</i>	Virginia Wild Rye	12.00
<i>Glyceria striata</i>	Fowl Manna Grass	1.00
<i>Juncus effusus</i>	Common Rush	1.00
<i>Leersia oryzoides</i>	Rice Cut Grass	0.50
<i>Schoenoplectus americanus</i>	Chaimaker's Bulrush	1.00
<i>Schoenoplectus tabernaemontani</i>	Softstem Bulrush	2.50
<i>Scirpus atrovirens</i>	Dark Green Rush	1.00
<i>Scirpus cyperinus</i>	Wool Grass	0.75
Total 32.75 oz/acre		
<b>Temporary Cover:</b>		
<i>Avena sativa</i>	Common Oat	360.00
<i>Lolium multiflorum</i>	Annual Rye	100.00
Total 460.00 oz/acre		
<b>Forbs:</b>		
<i>Acorus americanus</i>	Sweet Flag	0.50
<i>Alisma spp.</i>	Water Plantain (Various)	2.00
<i>Asclepias incarnata</i>	Swamp Milkweed	2.00
<i>Bidens spp.</i>	Bidens (Various Mix)	2.00
<i>Dosillogenia umbellata</i>	Flat-Topped Aster	0.25
<i>Eupatorium perfoliatum</i>	Common Boneset	1.00
<i>Helenium autumnale</i>	Sneezeweed	2.00
<i>Iris virginica</i>	Blue Flag	4.00
<i>Lobelia cardinalis</i>	Cardinal Flower	0.10
<i>Lobelia spicata</i>	Great Blue Lobelia	0.25
<i>Lycopus americanus</i>	Common Water Horeh	0.25
<i>Mimulus ringens</i>	Monkey Flower	1.50
<i>Penthorum sedoides</i>	Ditch Stonecrop	0.50
<i>Polygonum spp.</i>	Plantweed (Various Mix)	0.50
<i>Rudbeckia laciniata</i>	Wild Golden Glow	0.75
<i>Sagittaria latifolia</i>	Common Arrowhead	2.00
<i>Senna hebecarpa</i>	Wild Senna	2.00
<i>Sparganium eurycarpum</i>	Common Bur Reed	4.00
<i>Symphoricarpos purpureus</i>	Swamp Aster	1.00
<i>Thalictrum dasycarpum</i>	Purple Meadow Rue	0.50
<i>Verbena hastata</i>	Blue Vervain	1.50
<i>Verbena alternifolia</i>	Wingstem	2.00
<i>Vernonia spp.</i>	Ironweed (Various Mix)	2.00
Total 32.88 lb/acre		



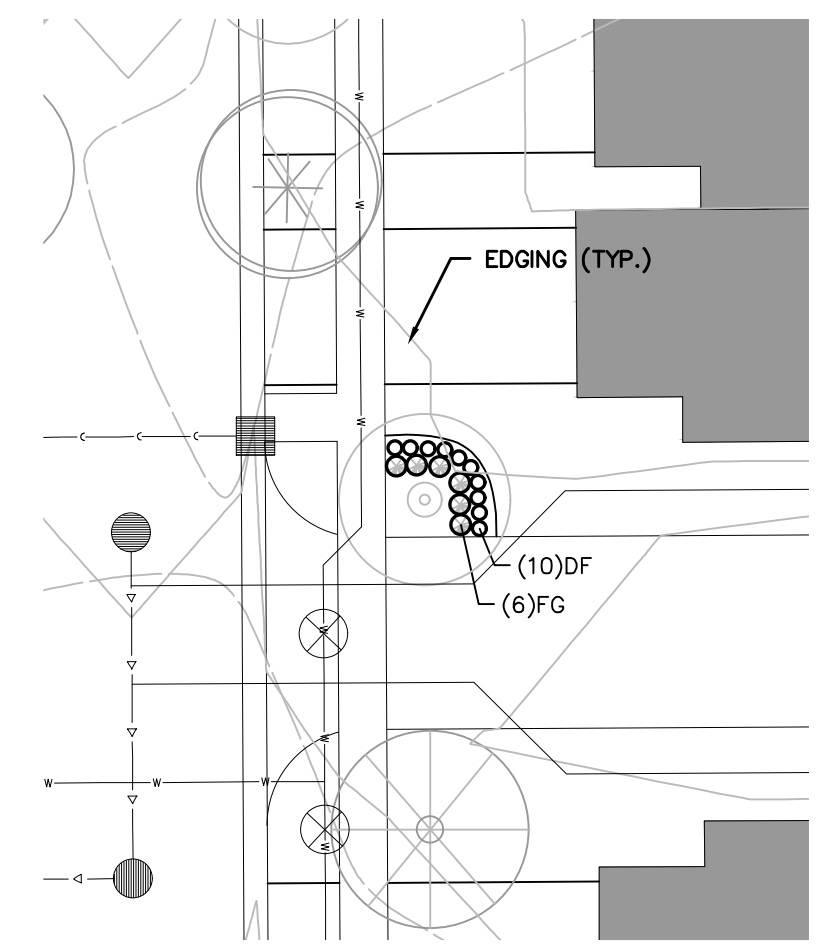
**KEY MAP**  
NO TO SCALE



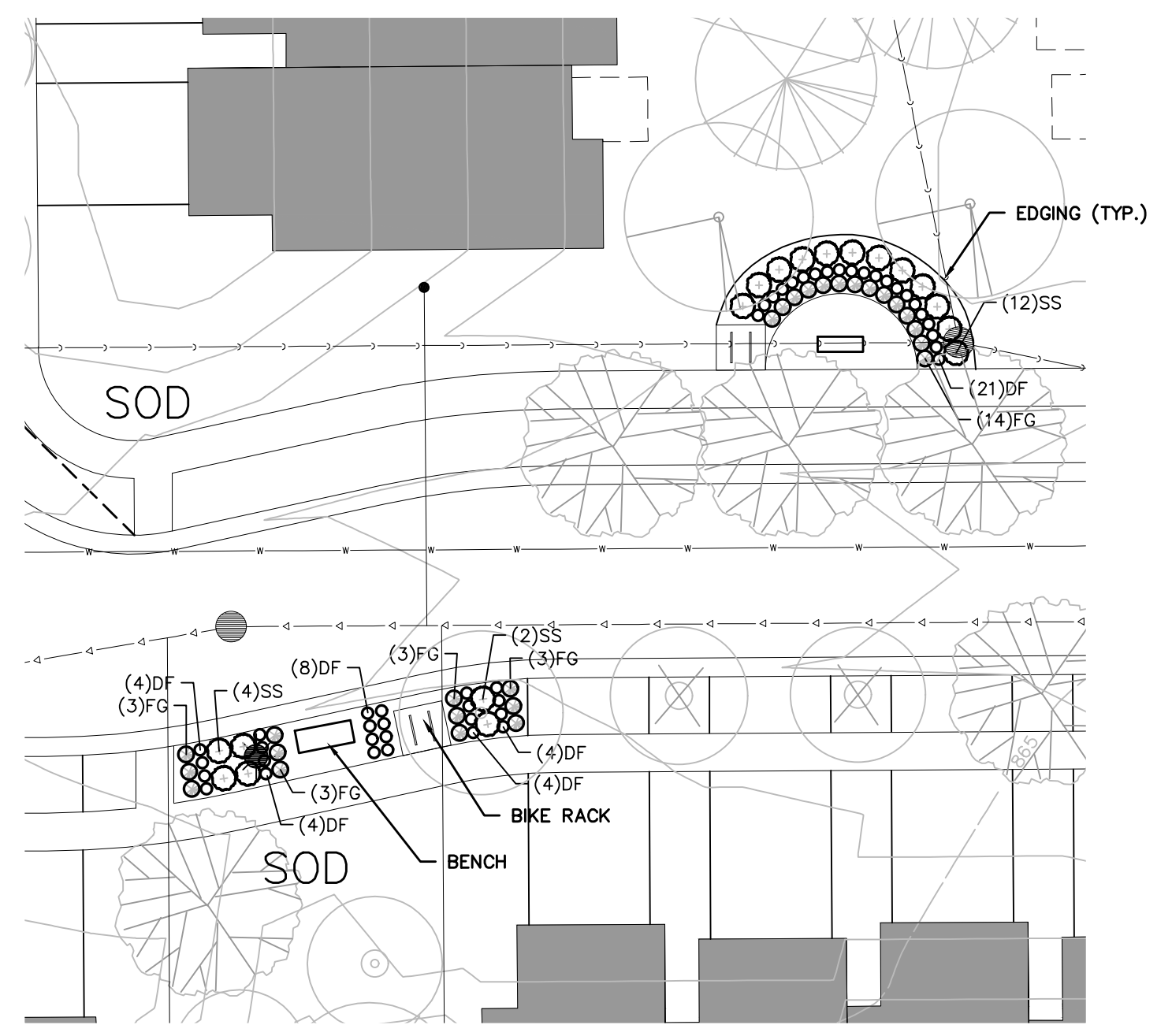
**LOCATION MAP**  
1" = 5000'



**ENTRANCE ROAD PLANTING ENLARGEMENT- AREA D**  
SCALE: 1" = 20'



**PLANTING ENLARGEMENT - AREA C**  
SCALE: 1" = 20'



**MAILBOX CLUSTER AND SEATING AREA '1'**  
**PLANTING ENLARGEMENT - AREA B**  
SCALE: 1" = 20'

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PULTE HOMES OF MICHIGAN, LLC		WOODBRIDGE PARK	
PRELIMINARY SITE PLAN		LANDSCAPE PLAN DETAILS	
DATE: FEBRUARY 20, 2018			
2018-04-09 PER CITY			
REVISIONS			
0 15 30			
SCALE: 1" = 30 FEET			
DRAWN BY: KS			
CHECKED BY: SS			
P.M.: MB			
JOB #: 17001466			
FILE CODE: -			
SHEET NO.			

K:\17001466\DWG\PLAN SETS\SITE-PRELIMINARY\17001466PSP-06-LS.DWG 4/10/2018 12:56 PM STEVE SILLIS

MASTER PLANT LIST

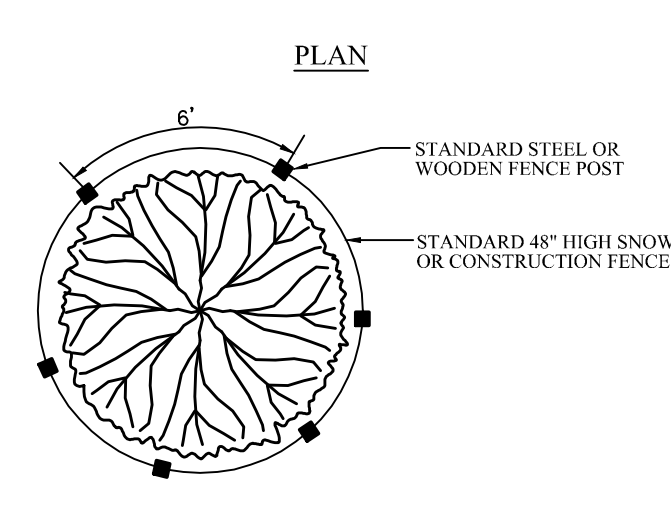
INTERIOR STREET TREE KEY	EXTERIOR STREET TREE	GREEN BELT	SITE LANDSCAPING	REPLACEMENT TREE	DETENTION AND PARKS	ENTRANCE FOUNDATION	TOTAL	BOTANICAL NAME	COMMON NAME	SIZE	UNIT COST	COST	NOTES	Genus	Species
PROPOSED DECIDUOUS TREES															
AR	10		13	37			60	<i>Acer rubrum</i>	Red Maple	2 1/2" cal B&B	\$400.00		For use as street, site and replacement trees	38%	21%
AR		11					11	<i>Acer rubrum</i>	Red Maple	3"-3.5" cal B&B	\$400.00		For use in greenbelt areas		11%
AF				37			37	<i>Acer rubrum</i>	Red Sunset Red Maple	2 1/2" cal B&B	\$400.00				11%
AS	4			15			19	<i>Acer saccharum</i>	Green Mountain Sugar Maple	2 1/2" cal B&B	\$400.00				5%
CB	8						8	<i>Carpinus betulus</i>	Pyramidal European Hornbeam	2 1/2" cal B&B	\$400.00			2%	2%
CL	6	11		9			26	<i>Crataegus laevigata</i>	'Superba' Crimson Cloud Hawthorn	2 1/2" cal B&B	\$400.00		For use as street and site trees	9%	9%
CL		5					5	<i>Crataegus laevigata</i>	'Superba' Crimson Cloud Hawthorn	3"-3.5" cal B&B	\$400.00		For use in greenbelt areas		
CO	11						12	<i>Celtis occidentalis</i>	Common Hackberry	2 1/2" cal B&B	\$400.00			3%	3%
GB			12				11	<i>Ginkgo biloba</i>	Ginkgo	2 1/2" cal B&B	\$400.00		Male only, for use as site trees	8%	8%
GB		15					15	<i>Ginkgo biloba</i>	Ginkgo	3"-3.5" cal B&B	\$400.00		Male only, for use in greenbelt areas		
TA	11			26			37	<i>Tilia americana</i>	'Boulevard' Boulevard Linden	2 1/2" cal B&B	\$400.00			11%	11%
NS		3		16			50	<i>Nyssa sylvatica</i>	Black Gum	2 1/2" cal B&B	\$400.00		For use as site and replacement trees	18%	18%
NS		11		31			11	<i>Nyssa sylvatica</i>	Black Gum	3"-3.5" cal B&B	\$400.00		For use in greenbelt areas		
QB	4	12		10			26	<i>Quercus bicolor</i>	Swamp White Oak	2 1/2" cal B&B	\$400.00			7%	7%
ZS	8						8	<i>Zelkova serrata</i>	Japanese Zelkova	2 1/2" cal B&B	\$400.00			2%	2%
	62	26	42	50			336							100%	100%
PROPOSED EVERGREEN TREES															
PG				15			15	<i>Thuja occidentalis</i>	Arborvitae	6' hgt B&B	\$200.00			100%	50%
PS				15			15	<i>Juniperus virginiana</i>	Eastern Red Cedar	6' hgt B&B	\$200.00			100%	50%
				30			30							100%	100%
PROPOSED SUB-CANOPY TREES															
MS							30	<i>Malus, Amelanchier, Cornus and Cercis</i>	Crabapple, Serviceberry, Dogwood, Redbud	2 1/2" cal B&B	\$250.00		Species provided at FSP, to be used at foundation plantings		<25% EA
PROPOSED SHRUBS															
CE					39		39	<i>Cephalanthus occidentalis</i>	Buttonbush	36" hgt B&B	\$50.00				14%
JC						63	63	<i>Juniperus chinensis</i>	'Spartan' Spartan Juniper	4' hgt B&B	\$50.00				24%
LD						42	42	<i>Physocarpus opulifolius</i>	'Little Devil' Little Devil Ninebark	36" hgt B&B	\$50.00				16%
PF					38		38	<i>Potentilla fruticosa</i>	Shrubby Cinquefoil	36" hgt B&B	\$50.00				14%
PH						40	40	<i>Physocarpus opulifolius</i>	Common Ninebark	36" hgt B&B	\$50.00				15%
TO						45	45	<i>Thuja occidentalis</i>	'Little Giant' Little Giant Dwarf Arborvitae	36" hgt B&B	\$50.00				17%
					117		150	267							
PROPOSED ORNAMENTAL GRASSES															
FG						46	46	<i>Festuca glauca</i>	Blue Fescue	No. 3 cont	\$15.00				
SS						20	148	168	<i>Schizachrium scoparium</i>	Little Bluestem	No. 3 cont	\$15.00			
						66	148	214							
PROPOSED PERENNIALS															
DF						88	88	<i>O dianthus 'Feuerhexe'</i>	Firewitch Dianthus	No. 3 cont	\$15.00				
GROUND COVER															
SEED								Area TBD					Used in detention pond and side slopes		
SOD								Area TBD					Used in all areas surrounding units, roads, entrance		

CITY OF NOVI LANDSCAPE NOTES

- ALL TREES ARE TO BE PLANTED AT LEAST 10' FROM ALL HYDRANTS AND UTILITY STRUCTURES AS WELL AS A MINIMUM OF 5' FROM UNDERGROUND UTILITY LINES WHENEVER POSSIBLE.
- ANY AREAS THAT ARE DISTURBED AND NOT INDICATED TO BE PLANTED WITH LANDSCAPE MATERIAL SHALL RECEIVE A FRESH LAYER OF TOPSOIL AND SEEDED OR SOD.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PLANT MATERIAL UPON INSTALLATION FOR A PERIOD OF TWO YEARS.
- NO TREES, SHRUBS OR PLANTINGS TALLER THAN 30" WITHIN THE 25' CORNER CLEARANCE ZONES.
- PLANT MATERIAL SHALL BE GUARANTEED FOR 2 YEARS BY LANDSCAPE CONTRACTOR AND SHALL INCLUDE ONE CULTIVATION EACH IN JUNE, JULY AND AUGUST FOR THE 2-YEAR WARRANTY PERIOD.
- PLANT SOURCE SHALL BE UPPER MIDWEST/GREAT LAKES GROWN.
- ALL PLANT MATERIALS SHALL BE NORTHERN NURSERY GROWN, NO. 1 GRADE.
- IRRIGATION WILL BE PROVIDED AT THE ENTRANCE WITHIN THE CENTRAL OPEN SPACE AND AT THE INDIVIDUAL UNITS. OTHER PLANT MATERIAL MUST BE WATERED AS NECESSARY BY THE LANDSCAPE CONTRACTOR UNTIL ESTABLISHMENT WITH A TEMPORARY SYSTEM, HOSE OR PORTABLE WATER TANKS.
- CITY MUST APPROVE ANY SUBSTITUTIONS IN WRITING PRIOR TO INSTALLATION.
- REFER TO SEED MIX ESTABLISHMENT GUIDES FOR INSTALLATION OF ANY SPECIFIED SEED MIX. AVAILABLE FROM CITY OF NOVI LANDSCAPE ARCHITECT.

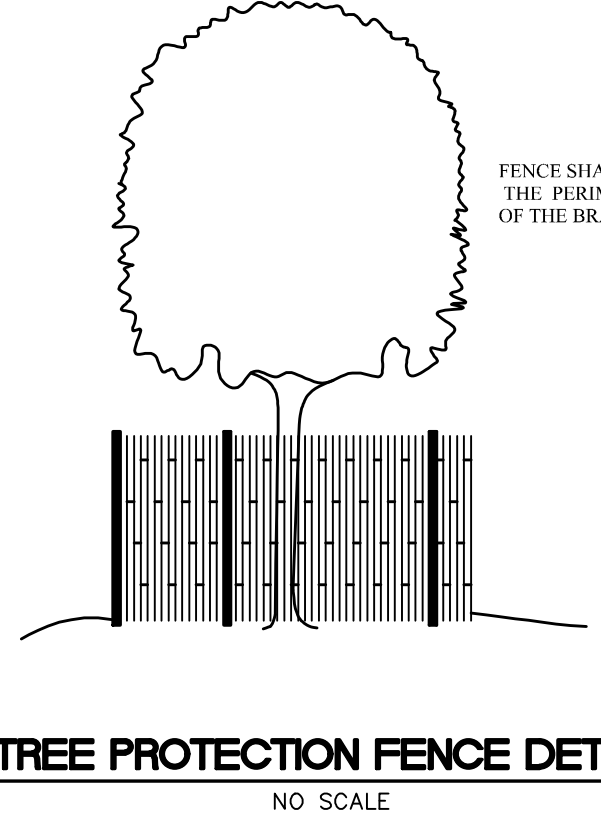
LANDSCAPE NOTES

- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES.
- LANDSCAPING OPERATIONS, INCLUDING PLANTING OF TREES AND SHRUBS, SHALL NOT DAMAGE ANY UTILITY OR INTERRUPT ANY UTILITY SERVICE, AND SHALL NOT DAMAGE OR CREATE A NUISANCE AFFECTING ADJACENT PROPERTY, PUBLIC STREETS, OR SIDEWALKS.
- PLANT AND GRASS MATERIALS SHALL BE INSTALLED ACCORDING TO THE CITY OF NOVI AND CURRENT AMERICAN ASSOCIATION OF NURSERYMAN'S STANDARDS.
- ALL BOULEVARDS, OPEN OR OTHERWISE DISTURBED AREAS THAT ARE NOT SPECIFIED WITH OTHER PLANTING, PAVING OR SEED MIXTURES SHALL BE PLANTED WITH A STANDARD PERMANENT GRASS SEED MIXTURE TO INDUSTRY STANDARDS.
- LANDSCAPING MATERIALS THAT ARE UNSIGHTLY, DEAD, DYING, OR THAT BECOME UNHEALTHY BECAUSE OF DAMAGE, NEGLIGENCE, DRAINAGE PROBLEMS, DISEASE, INSECT INFESTATION, OR OTHER CAUSES SHALL BE REPLACED WITHIN ONE YEAR, OR THE NEXT PLANTING PERIOD, WHICHEVER OCCURS FIRST. REPLACEMENT MATERIALS SHALL MEET ALL STANDARDS OF THE ORIGINAL INSTALLATION.
- ALL LANDSCAPED AREAS SHALL BE PROVIDED WITH AN ADEQUATE WATER SUPPLY. THE PROPERTY OWNER (OR ANY APPLICABLE OWNER'S ASSOCIATION) SHALL BE RESPONSIBLE TO ENSURE THE PROPER CARE AND MAINTENANCE OF LANDSCAPE AREAS, INCLUDING KEEPING ALL LANDSCAPE MATERIALS IN A HEALTHY AND GROWING STATE. ALL LANDSCAPE ELEMENTS SUCH AS, BUT NOT LIMITED TO, FENCES, SCREENS, WALLS, OR LIGHTING SHALL BE KEPT IN GOOD REPAIR.
- TOPSOIL REMOVED DURING CONSTRUCTION SHALL BE STOCKPILED IN AN APPROPRIATE MANNER TO PREVENT EROSION, AND SHALL BE REDISTRIBUTED ON RE-GRADED SURFACES TO BE LANDSCAPED, TO PROVIDE A MINIMUM OF FOUR INCHES OF EVEN COVER. THE TOPSOIL SHALL THEN BE PERMANENTLY STABILIZED BY GRASS, GROUND COVER, OR OTHER PLANTINGS.
- NO PLANT MATERIAL SHALL BE PLANTED CLOSER THAN 4 FEET FROM ANY PROPERTY LINE.
- REMOVE ALL TWINE, WIRE, NURSERY GUARDS, TAGS AND INORGANIC MATERIAL FROM ROOT BALL. PEEL BACK THE BURLAP FROM EARTH BALLS AND REMOVE ANY BURLAP, TWINE OR WIRE AROUND THE TRUNK FLARE AND ABOVE.
- ALL PLANTING AREAS ARE TO BE EXCAVATED OF ALL BUILDING / CONSTRUCTION AND FILL MATERIALS AND BACKFILLED WITH GOOD MEDIUM TEXTURED PLANTING SOIL. SEEDING AREAS ARE TO BE TREATED WITH 4" OF NEW TOPSOIL AND ROTOTILLED OR OTHERWISE SCARIFIED TO BREAK UP COMPACTION AT LEAST 8" BELOW THE TOPSOIL.
- TOPSOIL SHALL BE SCREENED AND SUITABLE FOR GROWING VEGETATION AND MEET AT A MINIMUM CITY OF NOVI OR ASTM D-5268 AND MDT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- RECOMMENDED PLANTING DATES ARE MARCH 15 TO JUNE 15 AND SEPTEMBER 15 TO NOVEMBER 15.



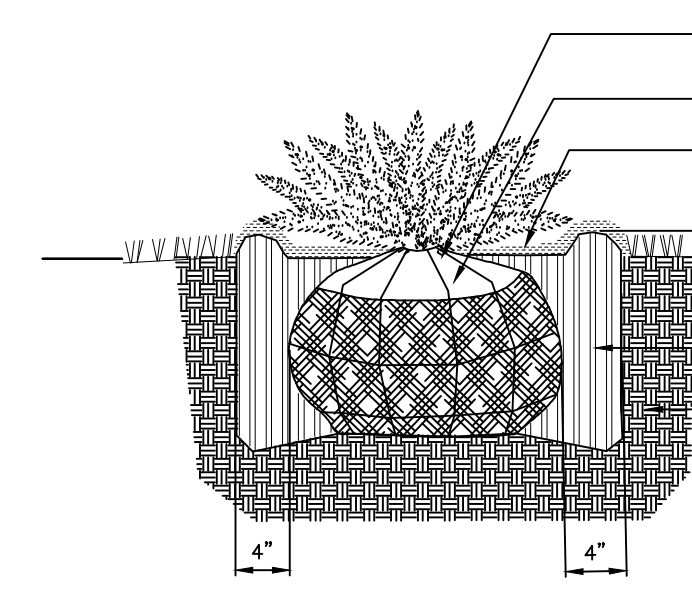
TREE PROTECTION FENCE

- TREE PROTECTION NOTES:
- ALL TREES TO BE REMOVED WILL BE IDENTIFIED BY RED TAGGING.
  - TREE PROTECTION FENCING IS TO BE ERECTED PRIOR TO ANY EARTHWORK OR CONSTRUCTION AND IS TO REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETE.
  - ALL DEBRIS, FILL EQUIPMENT OR MATERIAL IS TO BE KEPT CLEAR OF AREA WITHIN PROTECTIVE FENCE. NO CLEANING OF EQUIPMENT OR MATERIAL OR STORAGE OR DISPOSAL OF ANY MATERIAL WITHIN THE DRIP-LINE OF ANY TREES TO BE SAVED.



SHRUB PLANTING DETAIL

NO SCALE

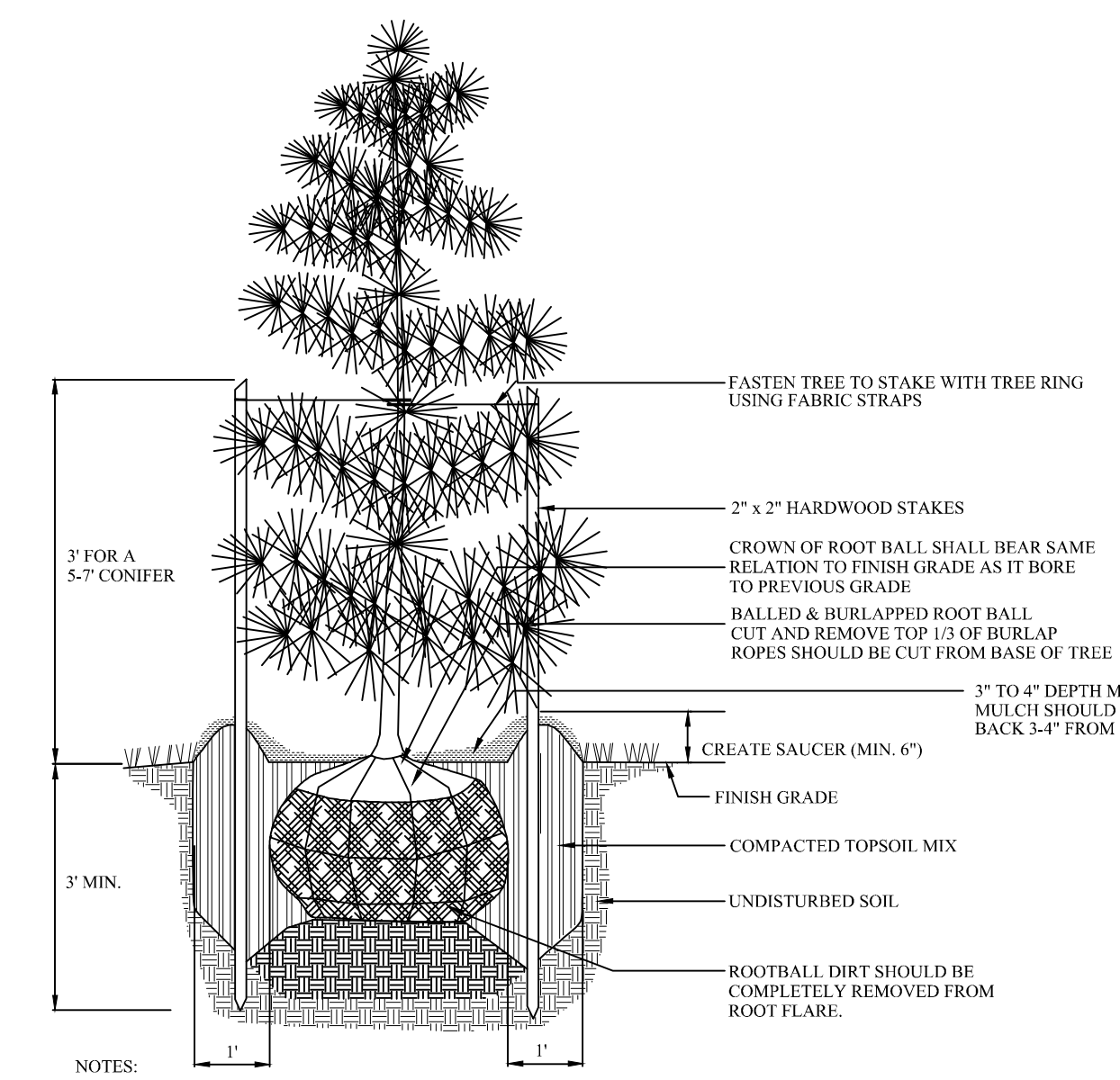


SHRUB PLANTING DETAIL

- NOTES:
- DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING
  - WATER SHRUB THOROUGHLY SUBSEQUENT TO INSTALLATION

CONIFEROUS TREE PLANTING DETAIL

NO SCALE

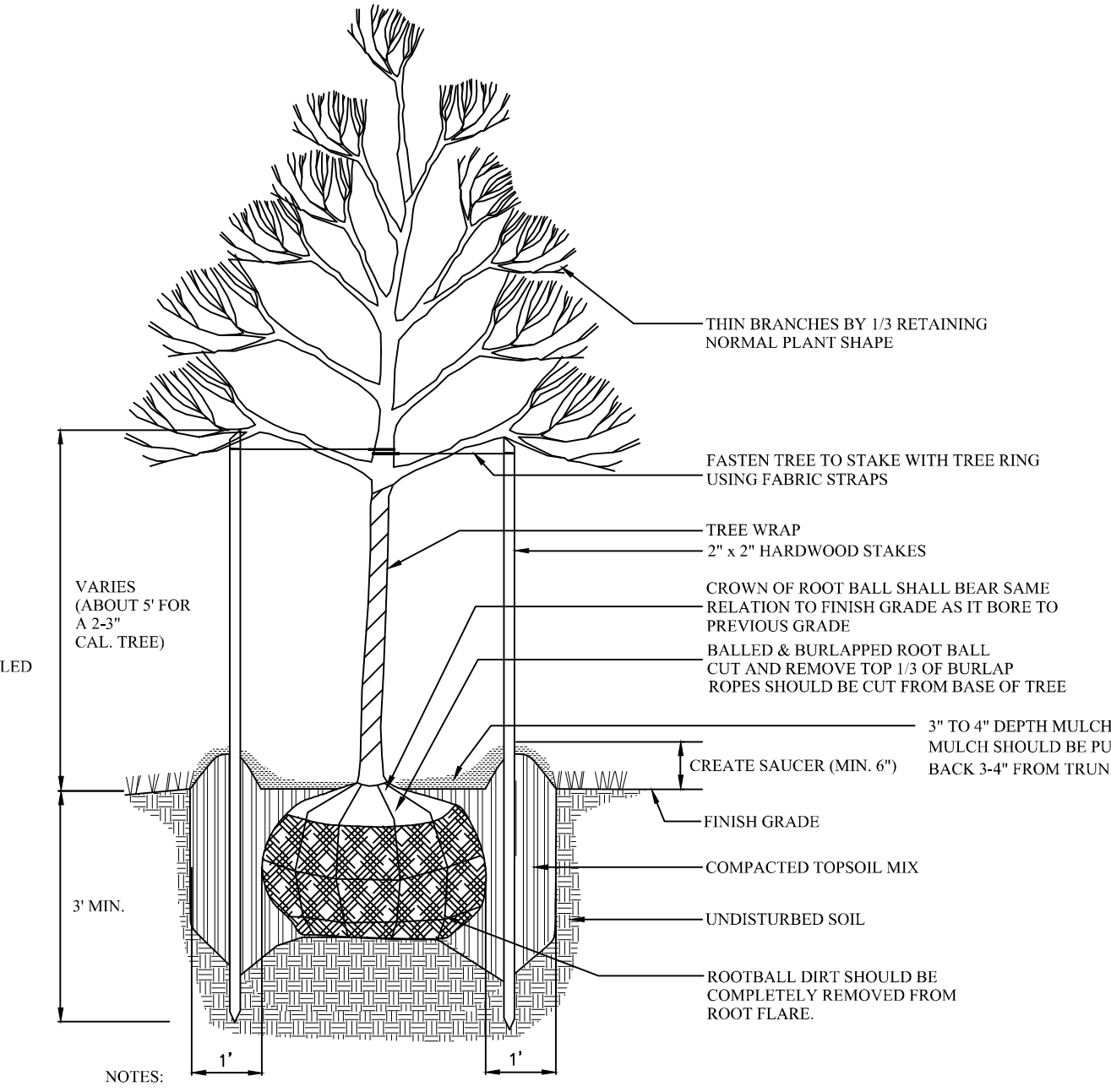


CONIFEROUS TREE PLANTING DETAIL

- NOTES:
- DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING
  - DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING TREE STAKE
  - REMOVE TREE RINGS AND STAKES ONE YEAR AFTER INSTALLATION
  - WATER TREE THOROUGHLY SUBSEQUENT TO INSTALLATION
  - GUYS & STAKES SHOULD BE REMOVED ONE YEAR AFTER PLANTING

DECIDUOUS TREE PLANTING DETAIL

NO SCALE

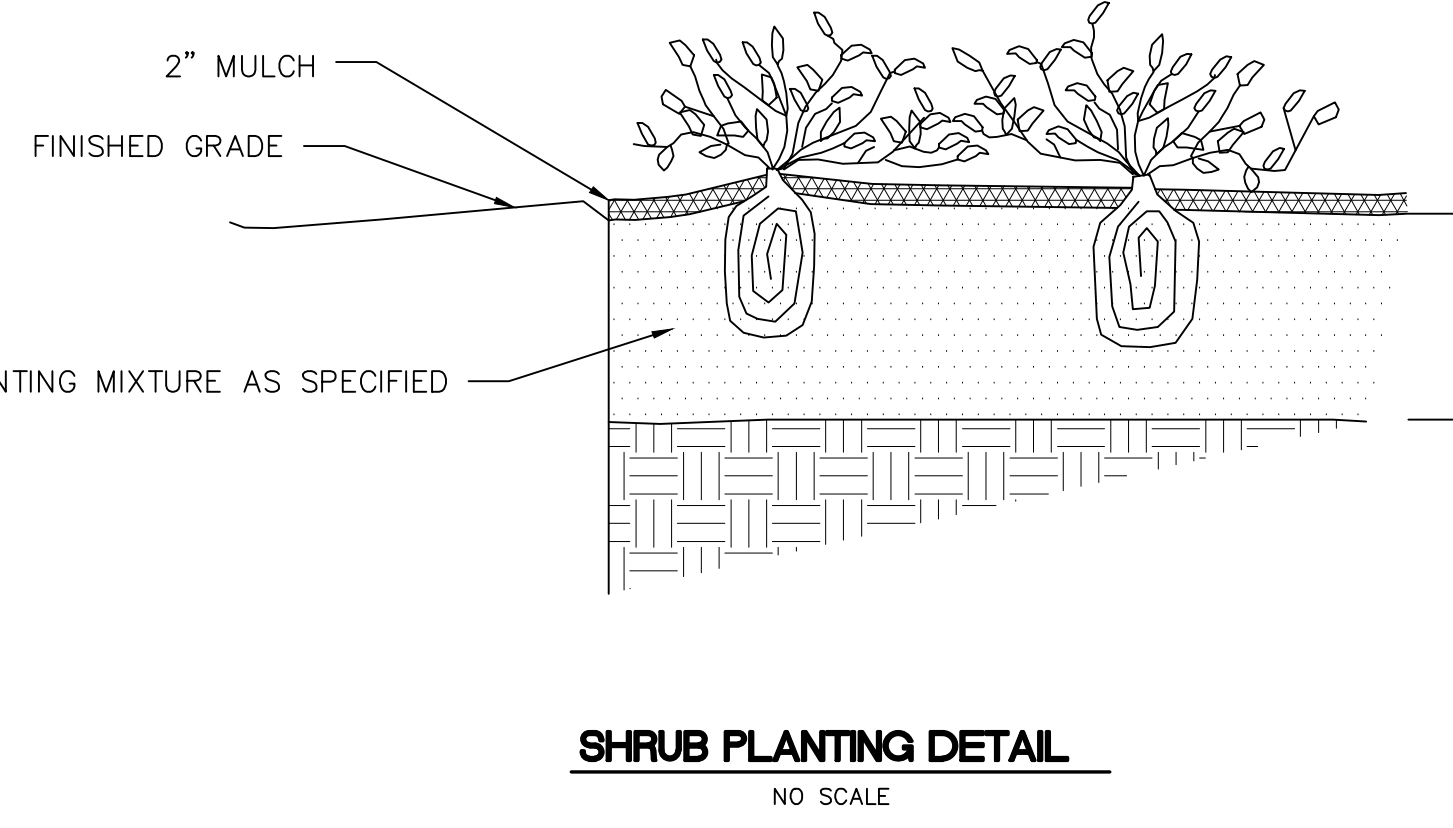


DECIDUOUS TREE PLANTING DETAIL

- NOTES:
- DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING
  - DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING TREE STAKE
  - REMOVE TREE RINGS, TREE WRAP AND STAKES ONE YEAR AFTER INSTALLATION
  - WATER TREE THOROUGHLY SUBSEQUENT TO INSTALLATION
  - GUYS & STAKES SHOULD BE REMOVED ONE YEAR AFTER PLANTING

SHRUB PLANTING DETAIL

NO SCALE

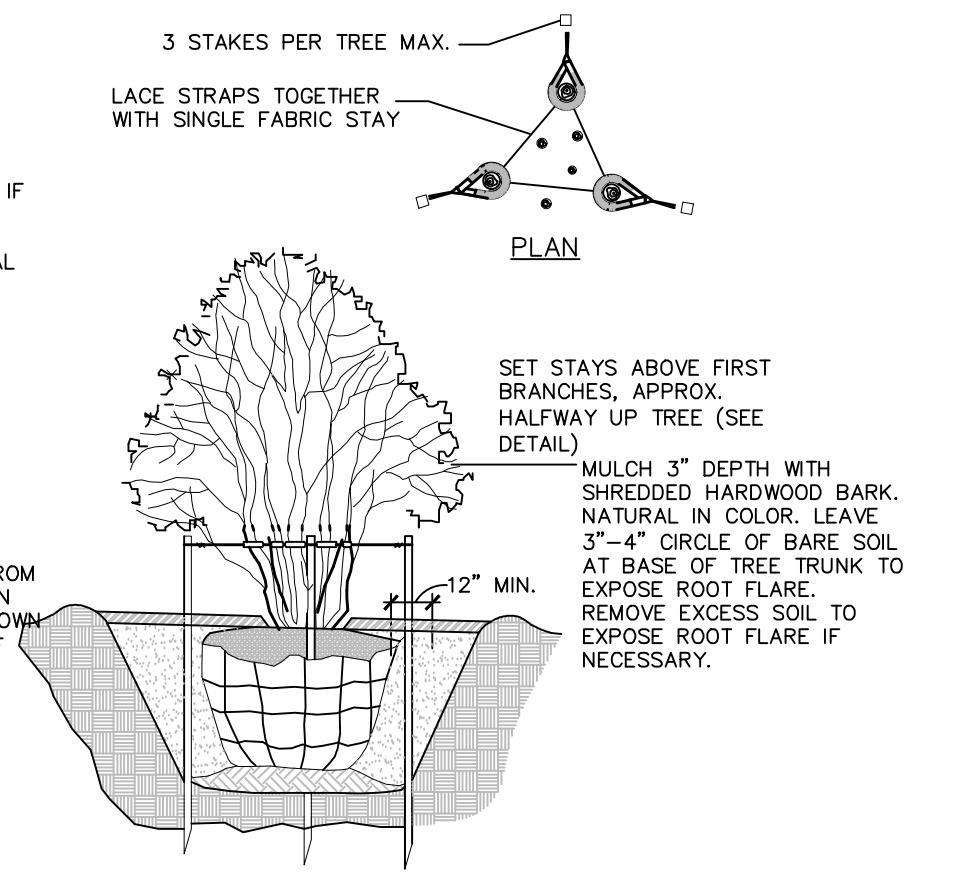


SHRUB PLANTING DETAIL

NO SCALE

MULTI-TRUNK TREE DETAIL

NO SCALE

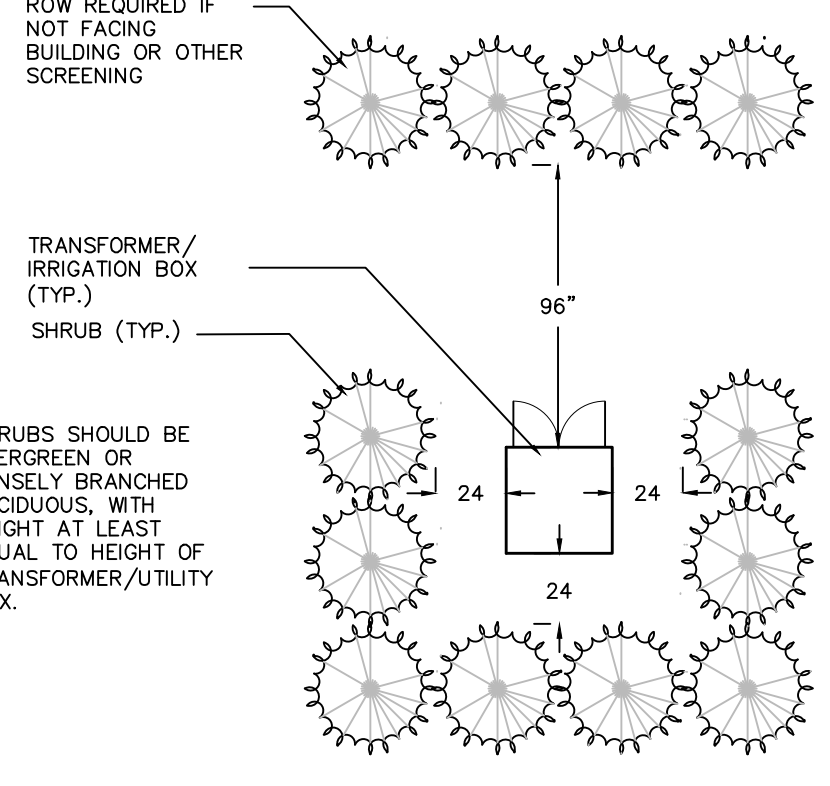


MULTI-TRUNK TREE DETAIL

NO SCALE

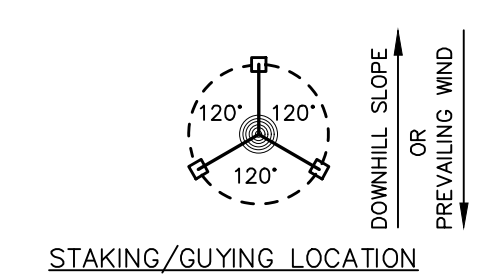
TRANSFORMER SCREENING DETAIL

NO SCALE



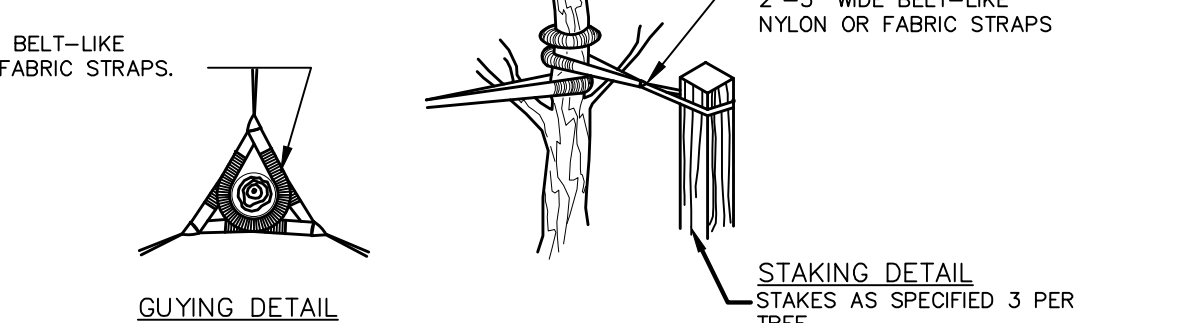
TRANSFORMER SCREENING DETAIL

NO SCALE



STAKING/GUYING LOCATION

NO SCALE



STAKING/GUYING LOCATION

NO SCALE

TREE STAKING DETAIL

NO SCALE

PREPARED BY KATE BOND, PLA 1266

PRELIMINARY - NOT FOR CONSTRUCTION



Know what's below. Call before you dig.

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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

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SECTION 26  
TOWN 1 NORTH, RANGE 8 EAST  
CITY OF NOVI  
OAKLAND COUNTY, MICHIGAN

PULTE HOMES OF MICHIGAN, LLC  
WOODBRIDGE PARK  
PRELIMINARY SITE PLAN  
LANDSCAPE DETAILS

DATE  
FEBRUARY 20, 2018

2018-04-09 PER CITY

NO.	REVISIONS

SCALE: 1" = 50 FEET

DRAWN BY: KS

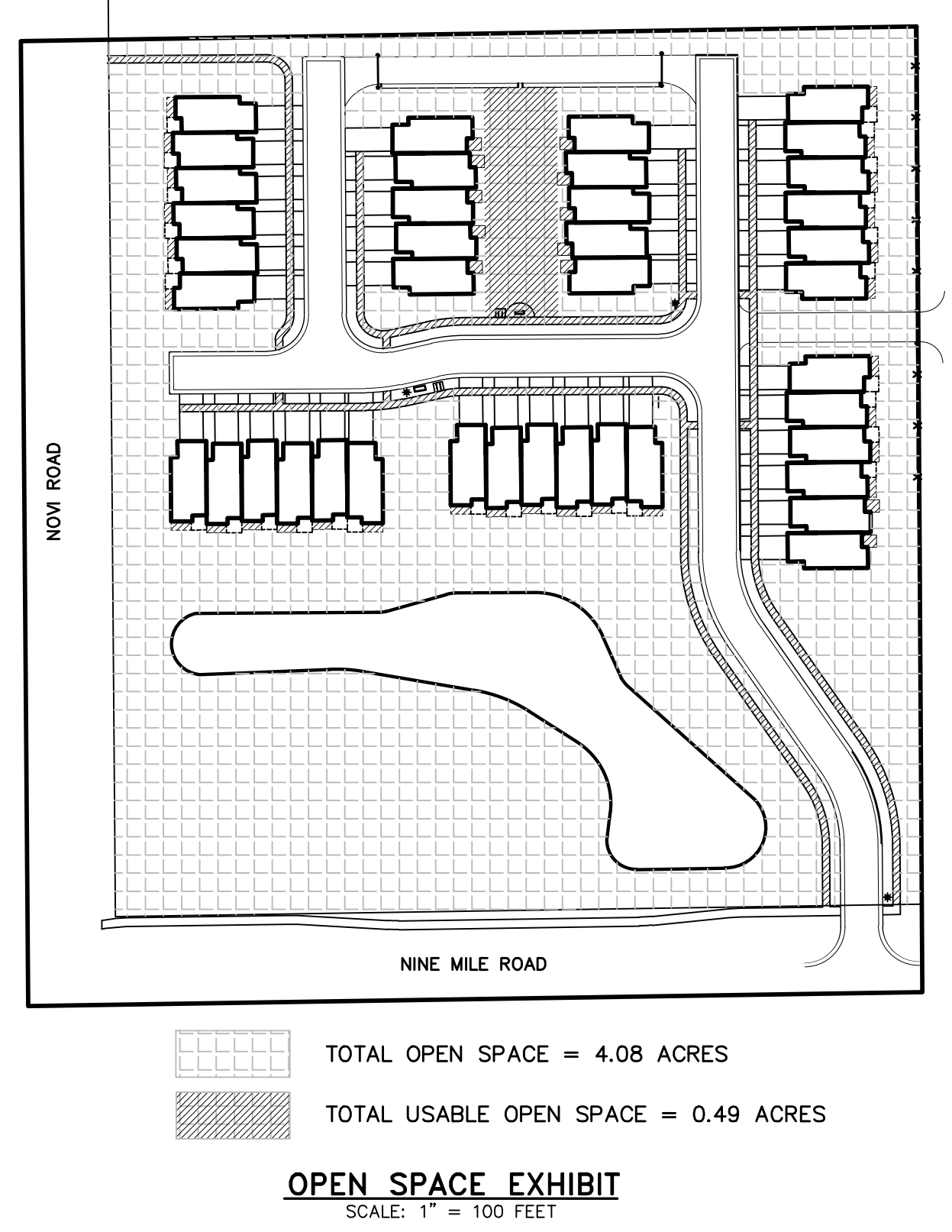
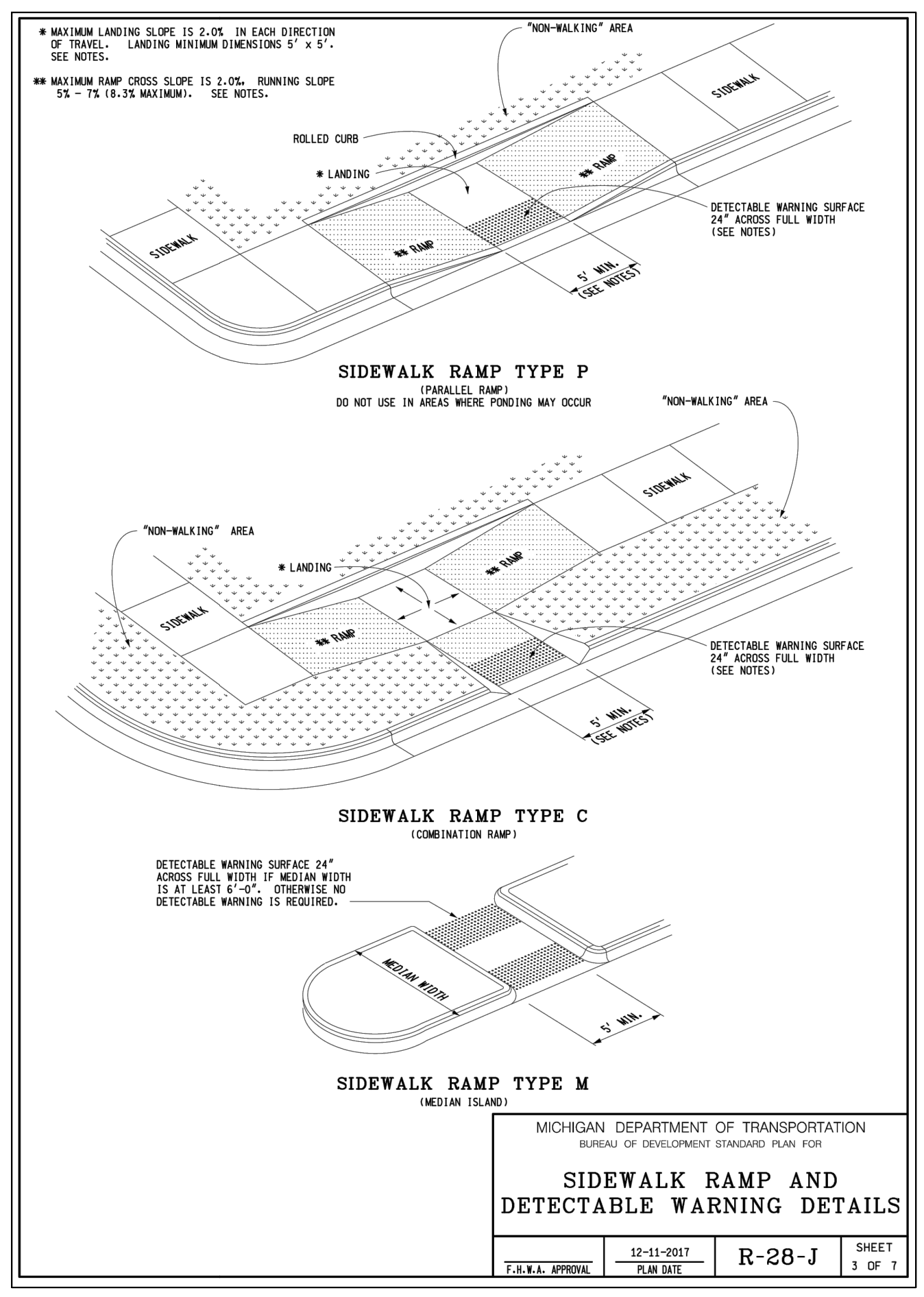
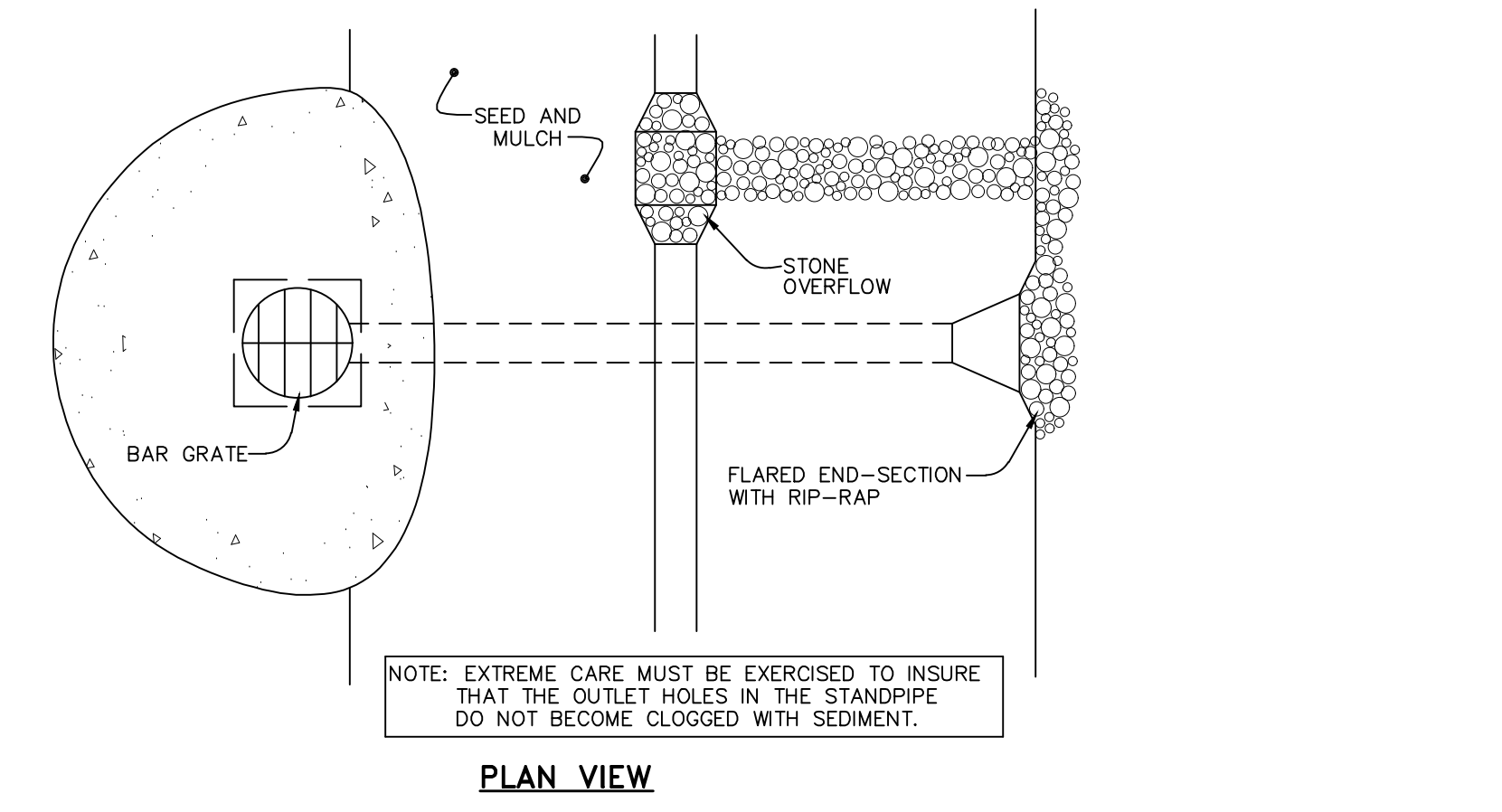
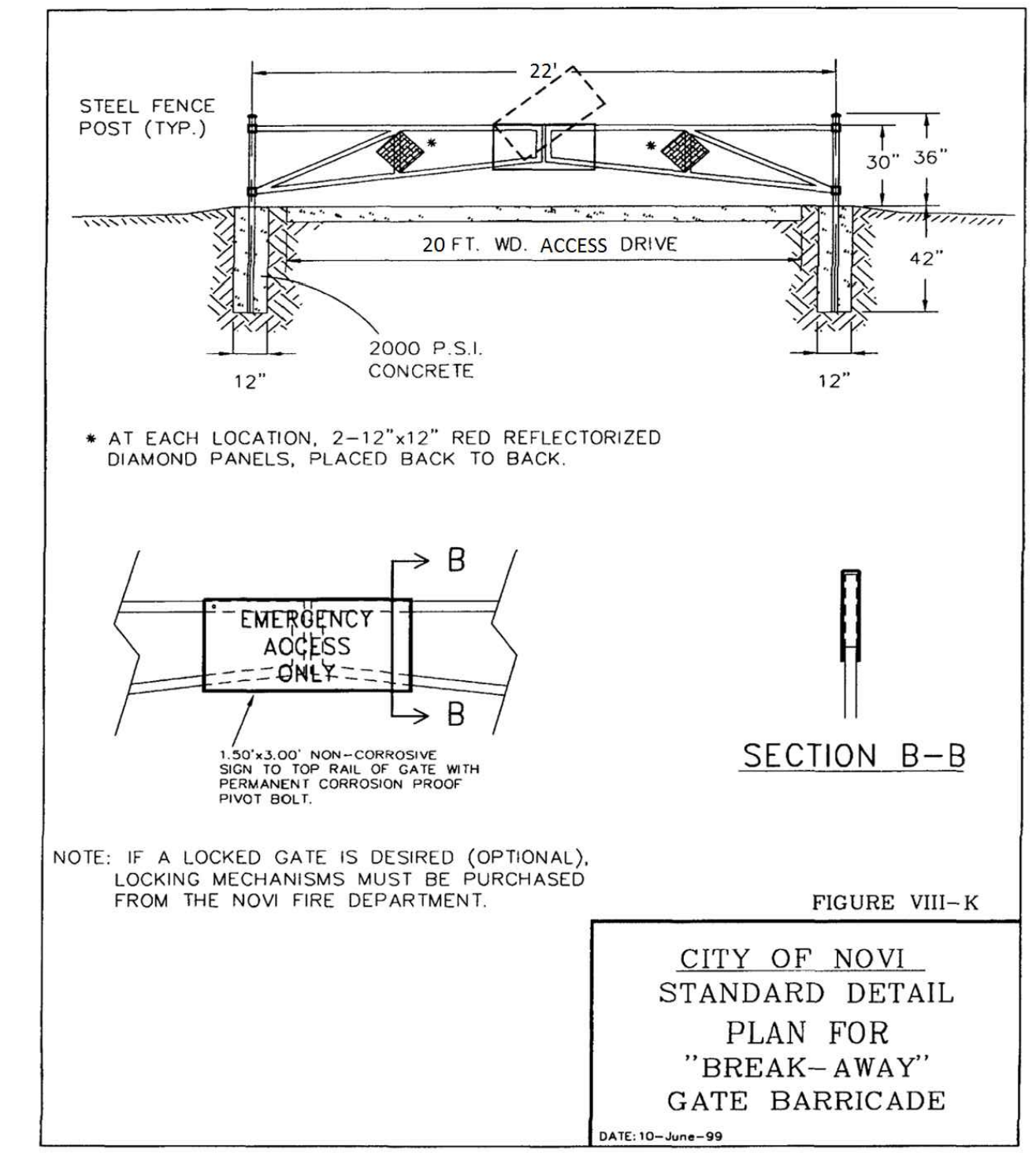
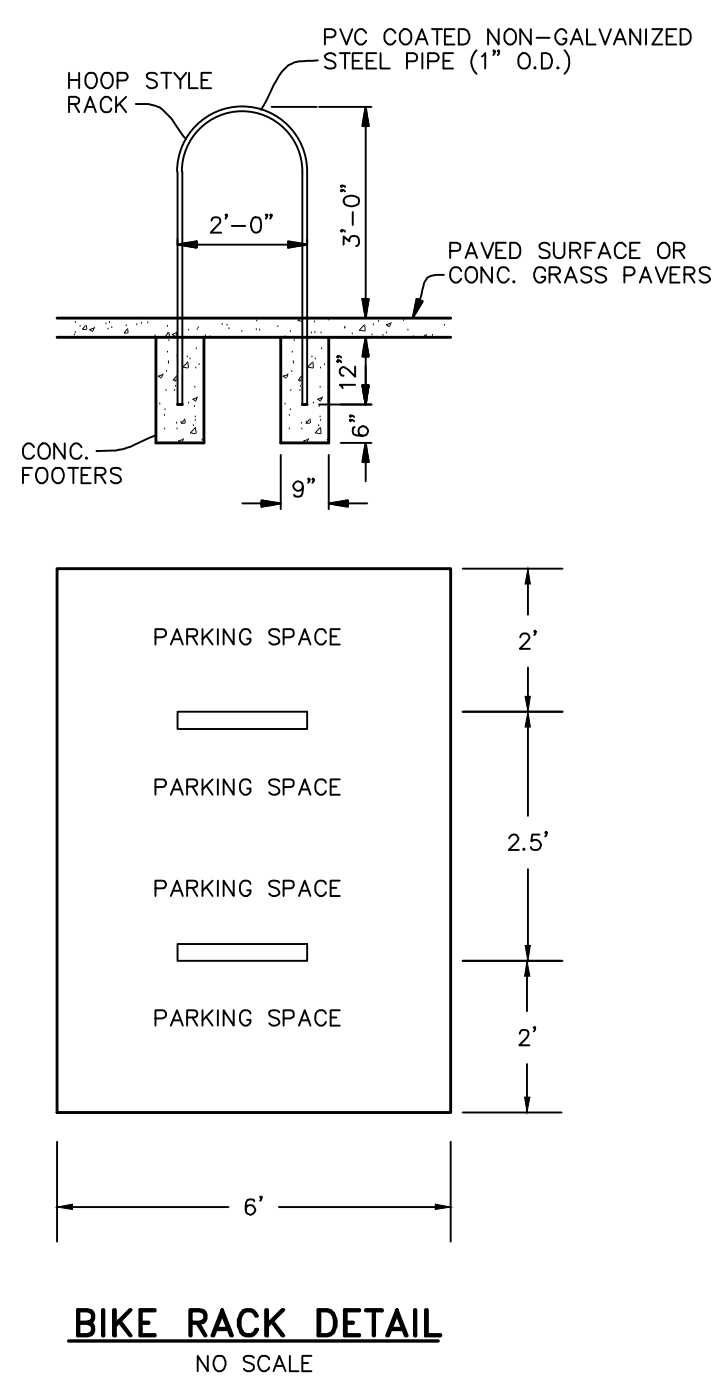
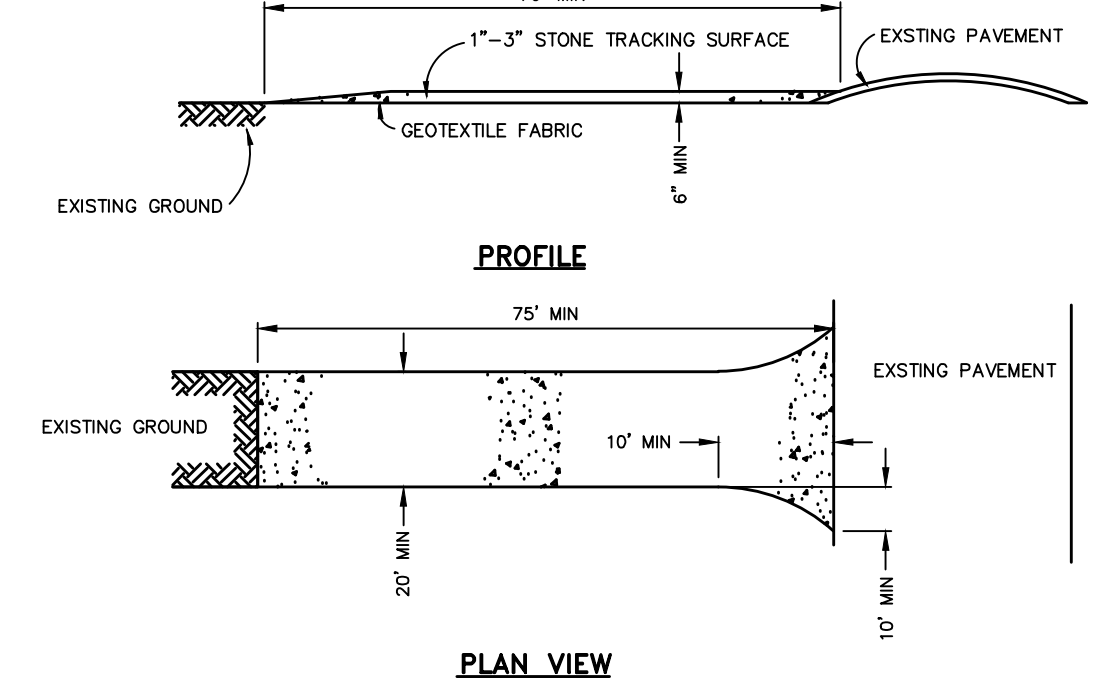
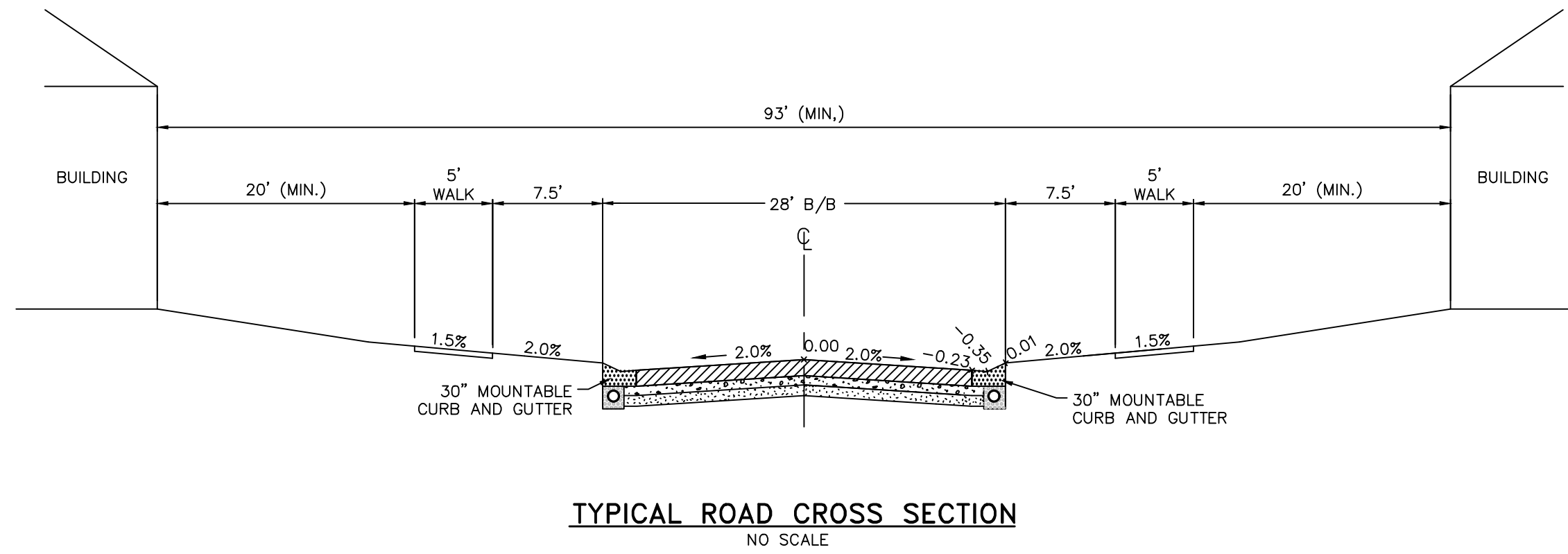
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JOB #: 17001466  
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12



**6' TALL VINYL PRIVACY FENCE**  
(FOR REPRESENTATIVE PURPOSES ONLY)



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

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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SECTION 26  
TOWN 1 NORTH, RANGE 8 EAST  
CITY OF NOVI  
OAKLAND COUNTY, MICHIGAN

PULTE HOMES OF MICHIGAN, LLC  
WOODBRIDGE PARK  
PRELIMINARY SITE PLAN  
DETAIL SHEET

DATE: FEBRUARY 20, 2018  
2018-04-09 PER CITY


REVISIONS

NA NA NA  
N/A

DRAWN BY: KS  
CHECKED BY: SS  
P.M.: MB  
JOB #: 17001466  
FILE CODE: -  
SHEET NO.

PRELIMINARY - NOT FOR CONSTRUCTION

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### D-Series Size 0 LED Area Luminaire

**Specifications**

- EPA: 0.95 ft<sup>2</sup> (0.09m<sup>2</sup>)
- Length: 26" (0.66m)
- Width: 13" (0.33m)
- Height: 7" (0.18m)
- Weight (max): 16 lbs (7.2kg)

**Capable Luminaire**

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and system-level interoperability.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency.
- This luminaire is A+ Certified when ordered with DTL controls marked by a shaded background. DTL DLL equipped luminaires meet the A+ specification for luminaire to photocell interoperability.
- This luminaire is part of an A+ Certified solution for ROAM® or XPoint™ Wireless control networks, providing out-of-the-box control compatibility with simple commissioning, when ordered with drivers and control options marked by a shaded background.

To learn more about A+, visit [www.acuitybrands.com/aplus](http://www.acuitybrands.com/aplus).

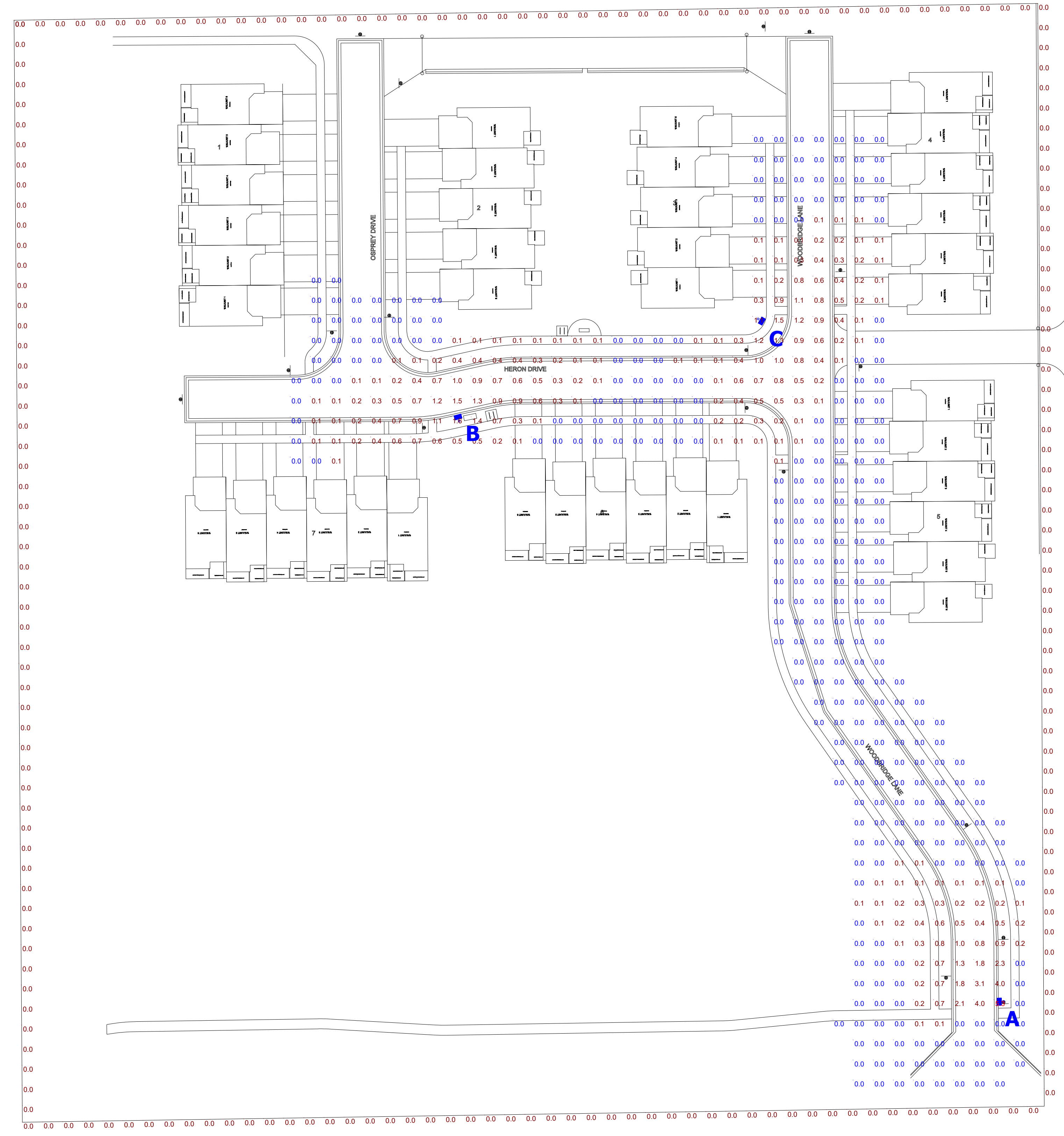
- See ordering tree for details.
- A+ Certified Solutions for ROAM require the order of one ROAM node per luminaire. Sold Separately. Link to ROAM; Link to DTL DLL.

**Ordering Information** EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA DDBXD

Series	LEDs	Color Temperature	Distribution	Voltage	Mounting	
DSX0 LED	Forward optics P1 P4 P7 P2 P5 P3 P6	30K 3000K 40K 4000K 50K 5000K	T5 Type I short T2S Type I short T2M Type I medium T3S Type I short T3M Type I medium T4M Type I medium T5M Forward throw medium T5XS Type I very short	T5S Type V short T5M Type V medium T5W Type V wide BLC Backlight control LCCO Left corner cutoff RCCO Right corner cutoff	MVOLT 48 120V 208V 240V 277V 347V 480V	<b>Shipped included</b> SPA Square pole mounting RPA Round pole mounting WBA Wall bracket SPNABA Square pole universal mounting adapter RPNABA Round pole universal mounting adapter <b>Shipped separately</b> KMAE DDBXD U Most arm mounting bracket adapter (specify model)

Control options	Other options	Finish	
<b>Shipped installed</b> WEM2 2-wire All-glass 2-wire PER LEDM (two-wire receptacle only) (control ordered separate) PER5 Two-wire receptacle only (control ordered separate) PER7 Seven-wire receptacle only (control ordered separate) DMG 0-10V dimming (remote dimming for external control) (control ordered separate) PBR 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16') PBR4 0-10V dimming (ambient sensor, 15-30' mounting height, ambient sensor enabled at 16') PBRN Network, 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16') PBRFCV 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16')	PBRFCV 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16') RL30 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16') RL50 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16') PMT003 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16') PMT003 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16') PMT003 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16') PMT003 0-10V dimming (ambient sensor, 0-15' mounting height, ambient sensor enabled at 16')	<b>Shipped installed</b> HS House-adj. shield SF Single face (120, 277, 347V) DF Double face (208, 240, 480V) L90 Left rotated optics R90 Right rotated optics D90 90-degree optics <b>Shipped separately</b> BS (not shipped) EGS External glass shield	<b>Shipped installed</b> DDBD Dark bronze SDBD Steel DNDX Natural aluminum DWDK White DDBK Dark bronze DDBK Dark bronze DNDK Natural aluminum DWDK White DDBK Dark bronze

LITHONIA LIGHTING One Lithonia Way • Conyers, Georgia 30012 • Phone: 800.279.8061 • [www.lithonia.com](http://www.lithonia.com)  
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**Statistics**

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
EAST PROPERTY LINE	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A	N/A
NORTH PROPERTY LINE	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A	N/A
SOUTH PROPERTY LINE	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A	N/A
WEST PROPERTY LINE	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A	N/A

**GENERAL NOTE**

- SEE LUMINAIRE LOCATIONS FOR MOUNTING HEIGHT.
- SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
- CALCULATIONS ARE SHOWN IN FOOTCANDLES AT GRADE.

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

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

**Plan View**  
Scale - 1" = 40'

**Schedule**

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage	Mounting Height
	A	1	Lithonia Lighting	DSX0 LED P5 30K LCCO MVOLT	DSX0 LED P5 30K LCCO MVOLT	LED	1	DSX0_LED_P5_30K_LCCO_MVOLT.ies	6614	0.9	89	20'-0"
	B	1	Lithonia Lighting	DSX0 LED P2 30K T2M MVOLT	DSX0 LED P2 30K T2M MVOLT	LED	1	DSX0_LED_P2_30K_T2M_MVOLT.ies	5564	0.9	49	20'-0"
	C	1	Lithonia Lighting	DSX0 LED P2 30K T3M MVOLT	DSX0 LED P2 30K T3M MVOLT	LED	1	DSX0_LED_P2_30K_T3M_MVOLT.ies	5416	0.9	49	20'-0"