

COMBINED PARCEL DESCRIPTION:

PROPOSED PARCEL:
PART OF THE SOUTHWEST 1/4 OF SECTION 30, TOWN 3 NORTH, RANGE 11 EAST, CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:
COMMENCING AT THE SOUTHWEST CORNER OF SECTION 30; THENCE ALONG THE WEST LINE OF SAID SECTION N02°44' 00"W 1,346.22 FEET; THENCE N83°20'24"E 57.52 FEET TO THE POINT OF BEGINNING; THENCE N02°50'39"W 17.03 FEET; THENCE ALONG A CURVE TO THE RIGHT 580.37 FEET, RADIUS 760.00 FEET, CHORD BEARS N19°01'58"E 566.37 FEET, AND DELTA IS 43°45'14"; THENCE N84°51'10"E 128.61 FEET; THENCE S02°39'10"E 525.26 FEET; THENCE S83°20'24"W 70.00 FEET; THENCE S02°50'39"E 105.00 FEET; THENCE S83°20'24"W 268.55 FEET; THENCE N02°50'39"W 105.00 FEET TO THE POINT OF BEGINNING, CONTAINING 3.99 ACRES MORE OR LESS.

PERMIT TABLE

RCOC RIGHT-OF-WAY PERMIT
ROCOC RIGHT-OF-WAY PERMIT
ROCOC RIGHT-OF-WAY PERMIT
ROCOC RIGHT-OF-WAY PERMIT
OCWRC SOIL EROSION AND SEDIMENTATION CONTROL PERMIT
AUBURN HILLS DPW SANITARY PERMIT

SITE PLANS for: PENELOPE'S PLACE

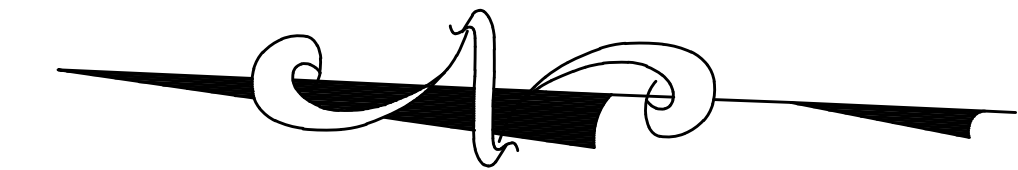
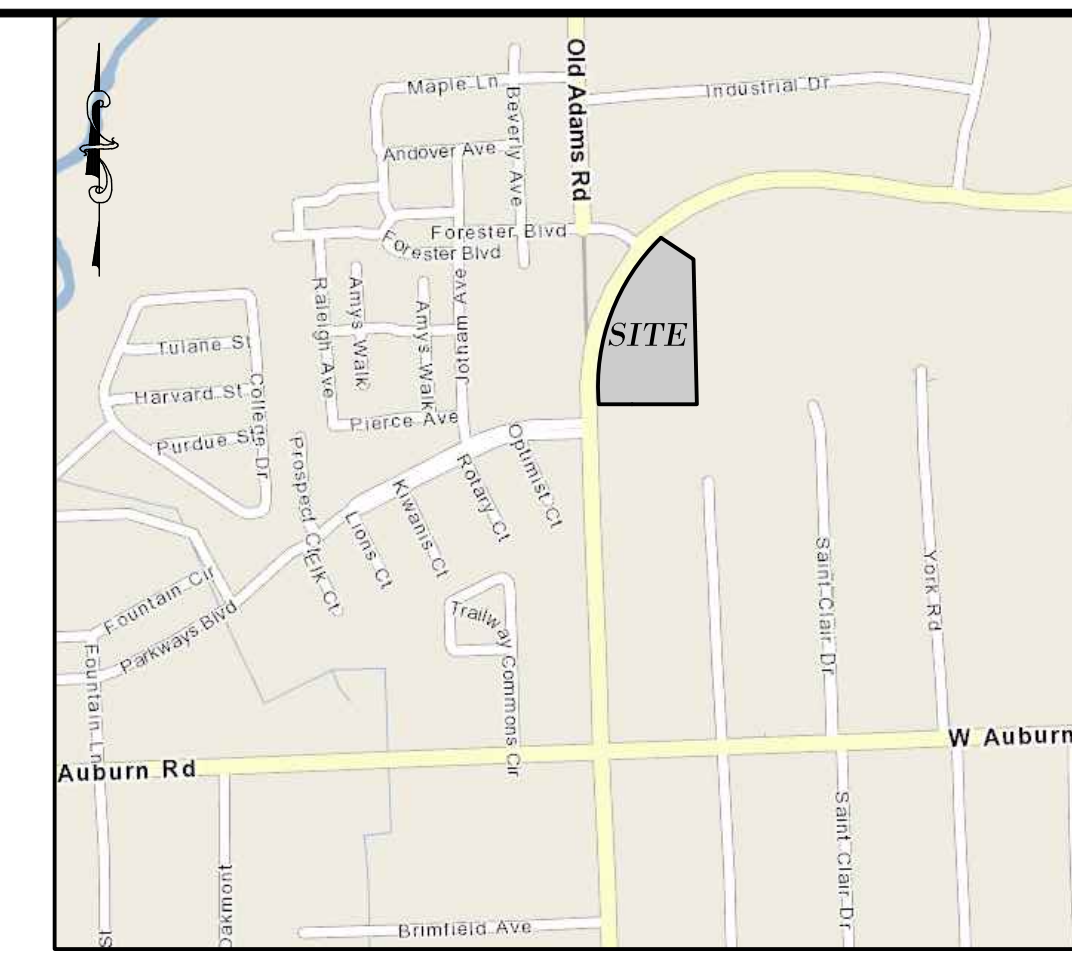
PARCEL NO.'S 15-30-302-034 & -036
CITY OF ROCHESTER HILLS,
OAKLAND COUNTY, MICHIGAN

LEGEND

- FIP FOUND IRON PIPE
- FIB FOUND IRON BAR
- FCI FOUND CAPPED IRON
- (M) MEASURED RECORD
- (R) EX. FENCE
- SITE BOUNDARY
- - - SECTION LINE

HATCH LEGEND

- ASPHALT
- CONCRETE
- PROPOSED BUILDING
- EXISTING BUILDING



SHEET INDEX

- 1 COVER SHEET
- 2 LAYOUT & DIMENSION PLAN
- 3 EXISTING CONDITIONS PLAN
- 4 TREE LIST
- 5 DEMOLITION PLAN
- 6 GRADING PLAN
- 7 GRADING ENLARGEMENTS
- 8 UTILITY PLAN
- 9 TRUCK TURNING PLAN
- 10 SITE DETAILS - 1
- 11 SITE DETAILS - 2
- L-1 LANDSCAPE PLAN
- L-2 LANDSCAPE PLAN
- L-3 SITE FURNISHINGS

- 1 of 2 PHOTOMETRIC PLAN
- 2 of 2 PHOTOMETRIC DETAILS

ARCHITECTURAL PLANS:

- T.001 TITLE SHEET, LOCATION MAP & SHEET INDEX
- T.002 CONCEPTUAL RENDERINGS
- T.003 CONCEPTUAL RENDERINGS
- A.101a BLDG 1 FLOOR PLAN
- A.101b ENLARGED TYP. APARTMENT PLANS
- A.102a BLDG 2 1ST FLOOR PLAN
- A.102b BLDG 2 2ND & 3RD FLOOR PLAN
- A.103a BLDG 1 ROOF PLAN
- A.103b BLDG 2 ROOF PLAN
- A.201 3 STORY ELEVATIONS - BUILDING 1
- A.202 3 STORY ELEVATIONS - BUILDING 2
- A.203 LIGHTING CUTSHEETS
- A.301 COLORED ELEVATIONS & FINISH SPECIFICATIONS
- SP.101 DUMPSTER & GAZEBO DETAILS
- SP.102 MONUMENT SIGN DETAILS

CITY DETAILS

- 1 of 2 SANITARY SEWER STANDARD DETAILS
- 2 of 2 SANITARY SEWER STANDARD DETAILS
- 1 of 1 STORM SEWER SYSTEM STANDARD DETAILS
- 1 of 2 WATER MAIN STANDARD DETAILS
- 2 of 2 WATER MAIN STANDARD DETAILS
- 1 of 1 WATER MAIN SPECIAL DETAILS

OWNER/APPLICANT

PENELOPE'S PLACE LLC
1701 NORTHFIELD DRIVE
ROCHESTER HILLS, MI 48309
PHONE: (248) 755-7397
CONTACT: ZIAD KASSAB

ARCHITECT

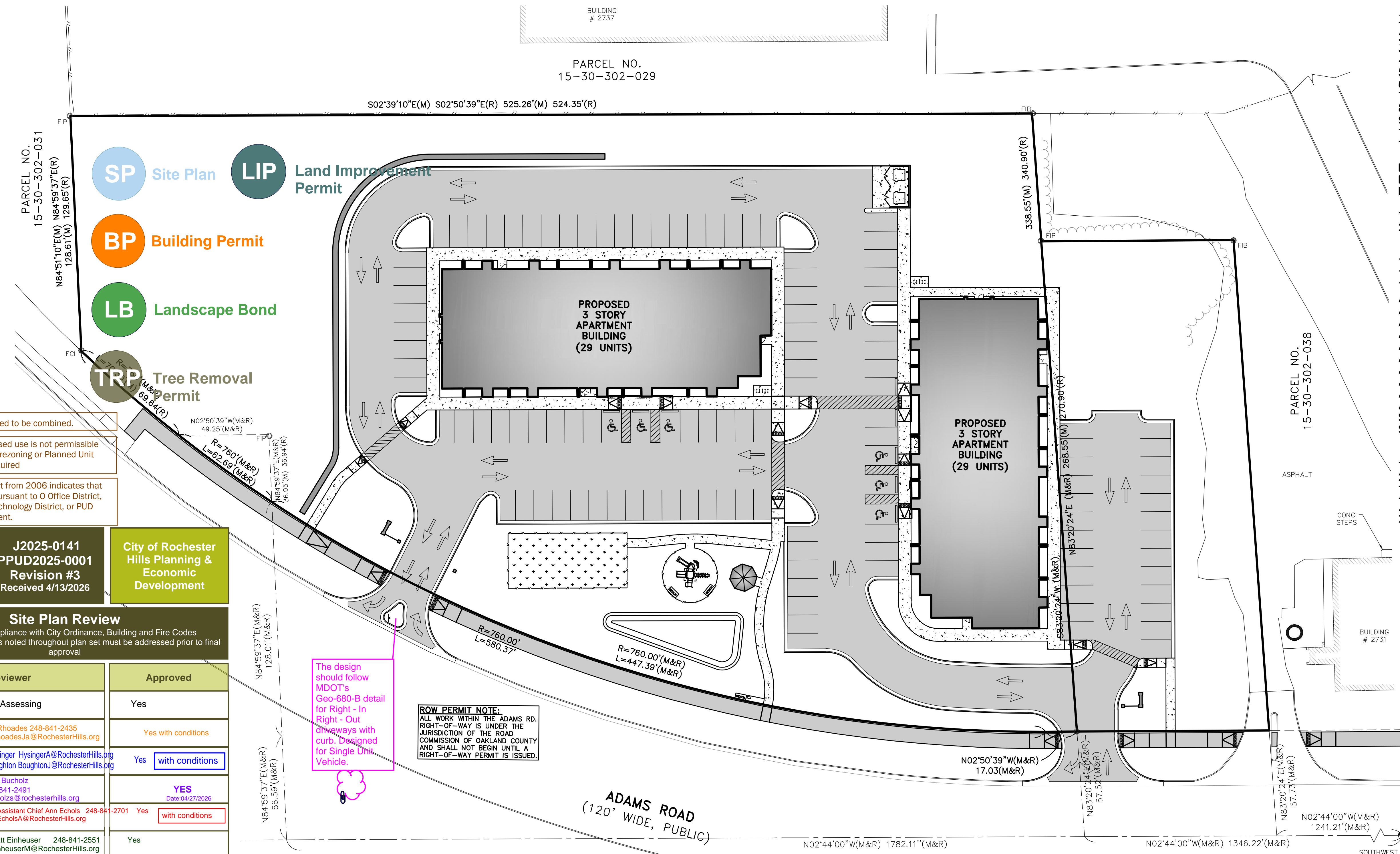
GAV ASSOCIATES, INC.
24001 ORCHARD LAKE ROAD
SUITE 180A
FARMINGTON, MI 48336
PHONE: (248) 985-9101
CONTACT: GHASSAN ABDELNOUR

CIVIL ENGINEER

UMLOR GROUP
49287 WEST ROAD
WIXOM, MI 48393
PHONE: (248) 773-7656
CONTACT: CHAD HOLDWICK
JESSE PARKINSON



CITY FILE #24-0001 SECTION #30
NOT TO BE USED AS CONSTRUCTION DRAWINGS



SP Site Plan

LIP Land Improvement Permit

BP Building Permit

LB Landscape Bond

TRP Tree Removal Permit

Properties will be required to be combined.

Zoned - O - Office Proposed use is not permissible under current zoning. A rezoning or Planned Unit Development will be required.

Development Agreement from 2006 indicates that property is to be developed pursuant to O Office District, ORT Office Research Technology District, or PUD Planned Unit Development.

J2025-0141
PPUD2025-0001
Revision #3
Received 4/13/2026

City of Rochester Hills Planning & Economic Development

Site Plan Review
Reviewed for compliance with City Ordinance, Building and Fire Codes
Conditions and mark-ups noted throughout plan set must be addressed prior to final approval

Department	Reviewer	Approved
Assessing	Assessing	Yes
Building	J Rhoades 248-841-2435 RhoadesJa@RochesterHills.org	Yes with conditions
Engineering - Utilities	A Hysinger HysingerA@RochesterHills.org J Boughnon BoughnonJ@RochesterHills.org	Yes with conditions
Engineering - Legal	Seth Bucholz 248-841-2491 bucholzS@rochesterhills.org	YES Date: 04/27/2026
Fire	Assistant Chief Ann Echols 248-841-2701 EcholsA@RochesterHills.org	Yes with conditions
Natural Resources	Matt Einheuser 248-841-2551 EinheuserM@RochesterHills.org	Yes
Planning	Chris McLeod 248-841-2572 mcleodC@RochesterHills.org	Yes
Traffic	Keith Depp deppk@rochesterhills.org Mira Barrette barrette@rochesterhills.org	Yes

The design should follow MDOT's Geo-680-B detail for Right - In Right - Out driveways with curb. Designed for Single Unit Vehicle.

ROW PERMIT NOTE:
ALL WORK WITHIN THE ADAMS RD. RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE ROAD COMMISSION OF OAKLAND COUNTY AND SHALL NOT BEGIN UNTIL A RIGHT-OF-WAY PERMIT IS ISSUED.

ADAMS ROAD
(120' WIDE, PUBLIC)

Next Steps: Planning Commission meeting of May 19, 2026.



49287 WEST ROAD
WIXOM, MI 48393
TEL: 248-773-7659
FAX: 866-690-4307



G.A.V. & ASSOCIATES, INC.

COVER SHEET

MULTIPLE PARCELS - PARCEL NO.'S 15-30-302-034 & -036
SECTION: 30
CITY OF ROCHESTER HILLS
OAKLAND COUNTY
MICHIGAN

REVISED

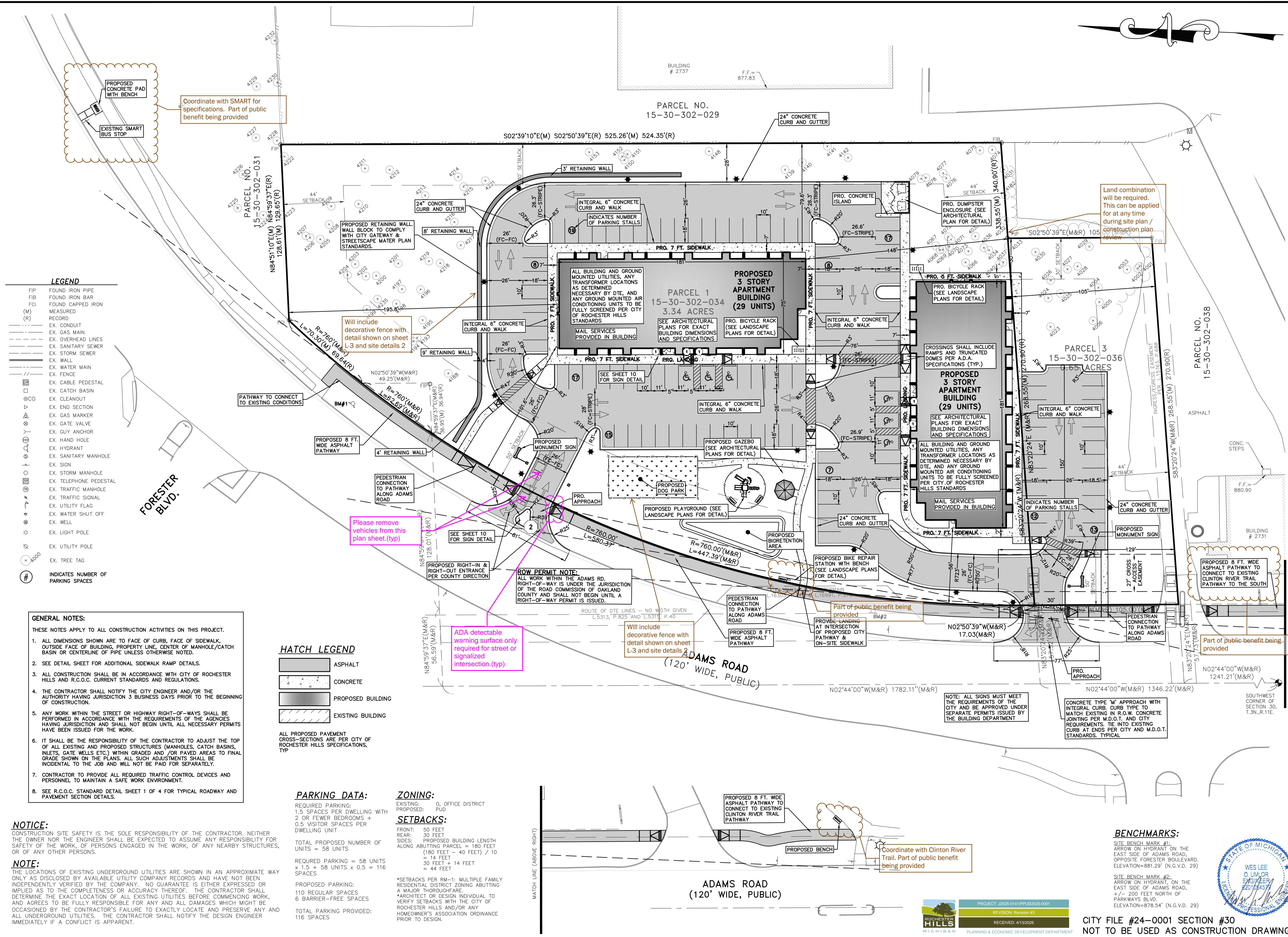
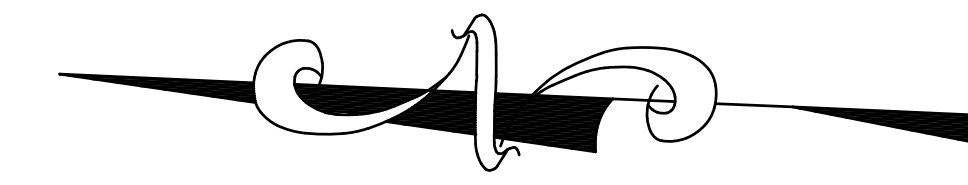
2025-10-31	PER REVIEW
2026-2-16	PER REVIEW
2026-4-13	PER REVIEW

DATE: 4-25-2025

DRAWN BY: RMS/CEH/MRG

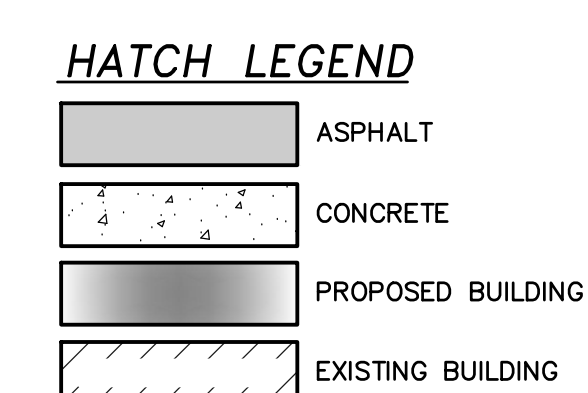
CHECKED BY: JPP/CEH

DATE: 4-25-2025	1
SCALE: HOR 1" = 30 FT. VER 1" = 10 FT.	23-426



- LEGEND**
- FIP FOUND IRON PIPE
 - FIB FOUND IRON BAR
 - FCI FOUND CAPPED IRON
 - (M) MEASURED
 - (R) RECORD
 - EX. CONDUIT
 - EX. GAS MAIN
 - EX. OVERHEAD LINES
 - EX. SANITARY SEWER
 - EX. STORM SEWER
 - EX. WALL
 - EX. WATER MAIN
 - EX. FENCE
 - EX. CABLE PEDESTAL
 - EX. CATCH BASIN
 - EX. CLEANOUT
 - EX. END SECTION
 - EX. GAS MARKER
 - EX. GATE VALVE
 - EX. GUY ANCHOR
 - EX. HAND HOLE
 - EX. HYDRANT
 - EX. SANITARY MANHOLE
 - EX. SIGN
 - EX. STORM MANHOLE
 - EX. TELEPHONE PEDESTAL
 - EX. TRAFFIC MANHOLE
 - EX. TRAFFIC SIGNAL
 - EX. UTILITY FLAG
 - EX. WATER SHUT OFF
 - EX. WELL
 - EX. LIGHT POLE
 - EX. UTILITY POLE
 - EX. TREE TAG
 - # INDICATES NUMBER OF PARKING SPACES

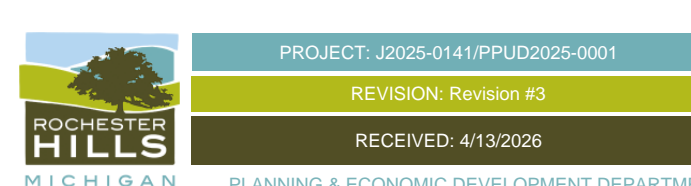
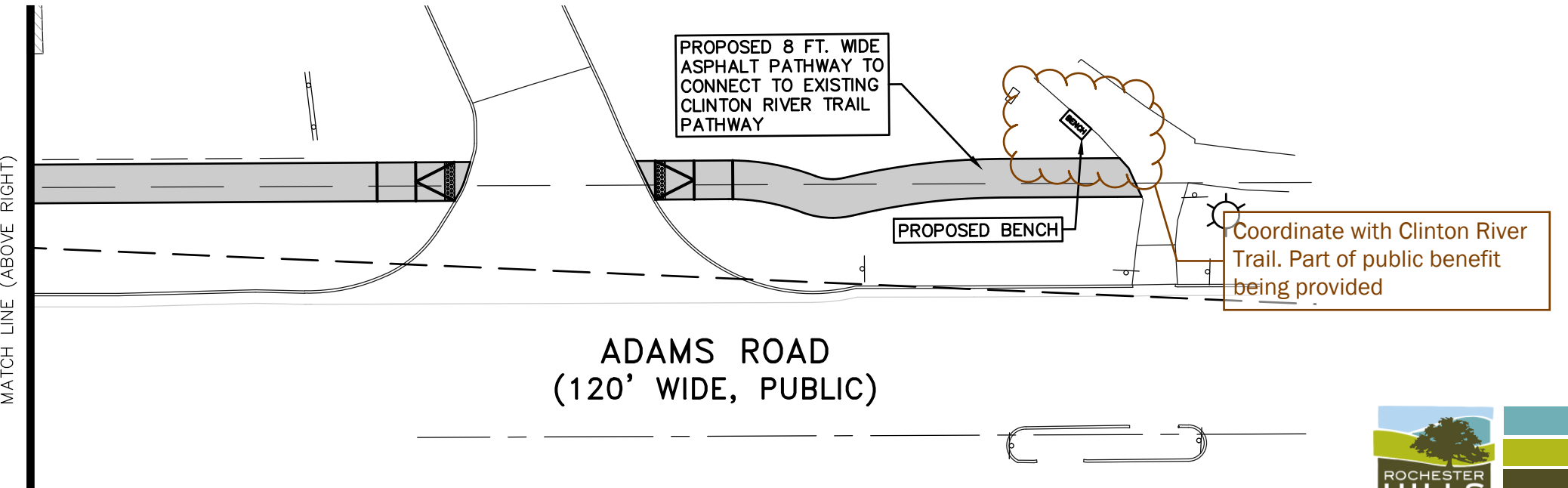
- GENERAL NOTES:**
- THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.
- ALL DIMENSIONS SHOWN ARE TO FACE OF CURB, FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING, PROPERTY LINE, CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
 - SEE DETAIL SHEET FOR ADDITIONAL SIDEWALK RAMP DETAILS.
 - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF ROCHESTER HILLS AND R.C.O.C. CURRENT STANDARDS AND REGULATIONS.
 - THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
 - 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.
 - 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.
 - CONTRACTOR TO PROVIDE ALL REQUIRED TRAFFIC CONTROL DEVICES AND PERSONNEL TO MAINTAIN A SAFE WORK ENVIRONMENT.
 - SEE R.C.O.C. STANDARD DETAIL SHEET 1 OF 4 FOR TYPICAL ROADWAY AND PAVEMENT SECTION DETAILS.



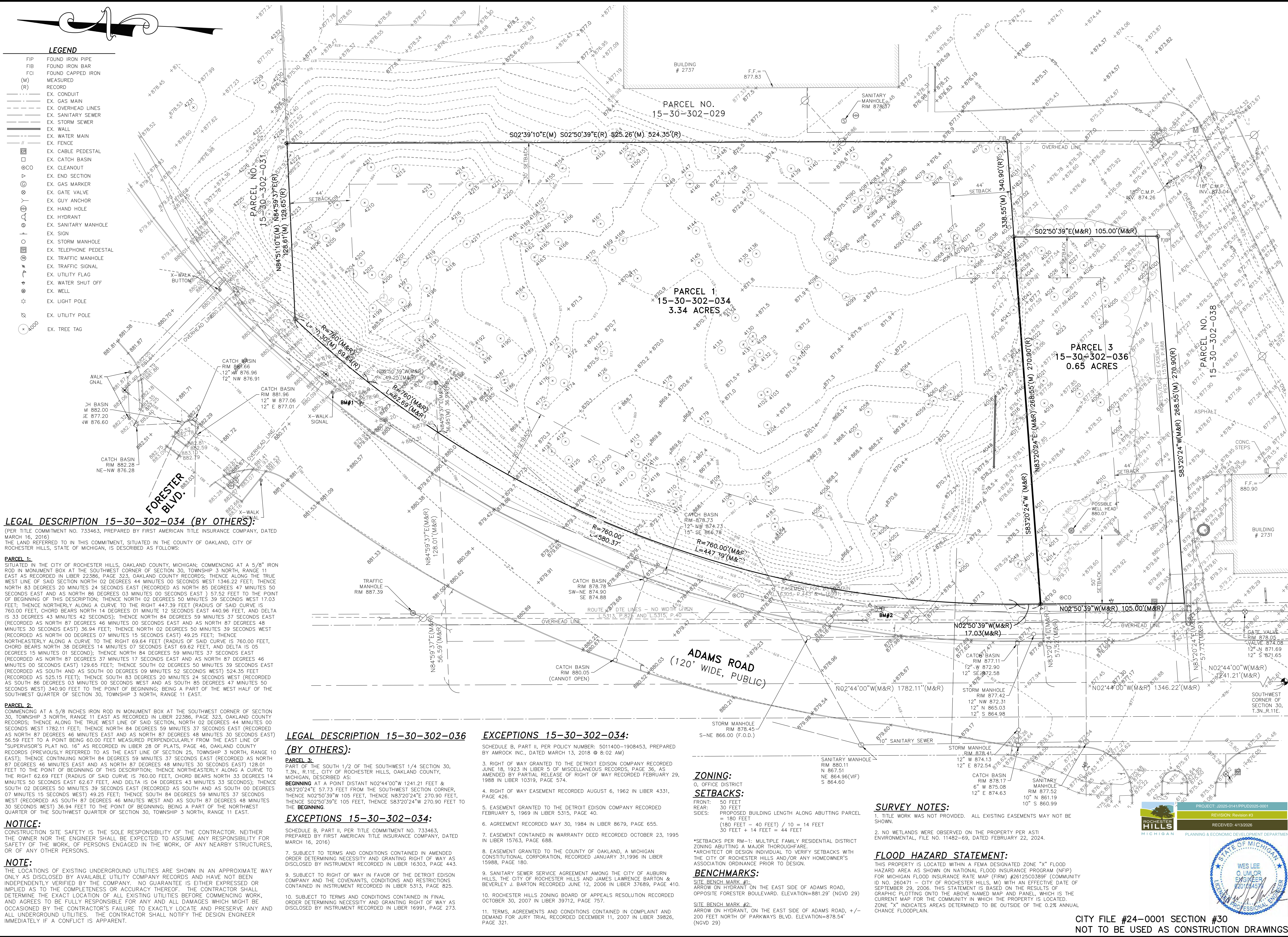
- PARKING DATA:**
- REQUIRED PARKING:
1.5 SPACES PER DWELLING UNIT +
2 OR FEWER BEDROOMS +
0.5 VISITOR SPACES PER
DWELLING UNIT
- TOTAL PROPOSED NUMBER OF
UNITS = 58 UNITS
- REQUIRED PARKING = 58 UNITS
x 1.5 + 58 UNITS x 0.5 = 116
SPACES
- PROPOSED PARKING:
110 REGULAR SPACES
6 BARRIER-FREE SPACES
- TOTAL PARKING PROVIDED:
116 SPACES
- ZONING:**
EXISTING: O, OFFICE DISTRICT
PROPOSED: PUD
- SETBACKS:**
- FRONT: 50 FEET
REAR: 30 FEET
SIDES: PROPOSED BUILDING LENGTH
ALONG ABUTTING PARCEL = 180 FEET
(180 FEET - 40 FEET) / 10
= 14 FEET
30 FEET + 14 FEET
= 44 FEET
- *SETBACKS PER RM-1: MULTIPLE FAMILY
RESIDENTIAL DISTRICT ZONING ADJUSTING
A MAJOR THOROUGHFARE.
*ARCHITECT OR DESIGN INDIVIDUAL TO
VERIFY SETBACKS WITH THE CITY OF
ROCHESTER HILLS AND/OR ANY
HOMEOWNER'S ASSOCIATION ORDINANCE
PRIOR TO DESIGN.

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

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



CITY FILE #24-0001 SECTION #30
NOT TO BE USED AS CONSTRUCTION DRAWINGS



LEGEND

- FIP FOUND IRON PIPE
- FIB FOUND IRON BAR
- FCI FOUND CAPPED IRON
- (M) MEASURED
- (R) RECORD
- EX. CONDUIT
- EX. GAS MAIN
- EX. OVERHEAD LINES
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. WALL
- EX. WATER MAIN
- EX. FENCE
- EX. CABLE PEDESTAL
- EX. CATCH BASIN
- EX. CLEANOUT
- EX. END SECTION
- EX. GAS MARKER
- EX. GATE VALVE
- EX. GUY ANCHOR
- EX. HAND HOLE
- EX. HYDRANT
- EX. SANITARY MANHOLE
- EX. SIGN
- EX. STORM MANHOLE
- EX. TELEPHONE PEDESTAL
- EX. TRAFFIC MANHOLE
- EX. TRAFFIC SIGNAL
- EX. UTILITY FLAG
- EX. WATER SHUT OFF
- EX. WELL
- EX. LIGHT POLE
- EX. UTILITY POLE
- EX. TREE TAG

LEGAL DESCRIPTION 15-30-302-034 (BY OTHERS):

PER TITLE COMMITMENT NO. 733463, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED MARCH 16, 2016)
THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF OAKLAND, CITY OF ROCHESTER HILLS, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

PARCEL 1:
SITUATED IN THE CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN; COMMENCING AT A 5/8" IRON ROD IN MONUMENT BOX AT THE SOUTHWEST CORNER OF SECTION 30, TOWNSHIP 3 NORTH, RANGE 11 EAST AS RECORDED IN LIBER 22386, PAGE 323, OAKLAND COUNTY RECORDS; THENCE ALONG THE TRUE WEST LINE OF SAID SECTION NORTH 02 DEGREES 44 MINUTES 00 SECONDS WEST 1346.22 FEET; THENCE NORTH 83 DEGREES 20 MINUTES 24 SECONDS EAST (RECORDED AS NORTH 85 DEGREES 47 MINUTES 50 SECONDS EAST AND AS NORTH 86 DEGREES 03 MINUTES 00 SECONDS EAST) 57.52 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE NORTH 02 DEGREES 50 MINUTES 39 SECONDS WEST 17.03 FEET; THENCE NORTHERLY ALONG A CURVE TO THE RIGHT 447.39 FEET (RADIUS OF SAID CURVE IS 760.00 FEET, CHORD BEARS NORTH 14 DEGREES 01 MINUTE 12 SECONDS EAST 440.96 FEET, AND DELTA IS 33 DEGREES 43 MINUTES 42 SECONDS); THENCE NORTH 84 DEGREES 59 MINUTES 37 SECONDS EAST (RECORDED AS NORTH 87 DEGREES 46 MINUTES 00 SECONDS EAST AND AS NORTH 87 DEGREES 49 MINUTES 30 SECONDS EAST) 36.94 FEET; THENCE NORTH 02 DEGREES 50 MINUTES 39 SECONDS WEST (RECORDED AS NORTH 00 DEGREES 07 MINUTES 15 SECONDS EAST) 49.25 FEET; THENCE NORTHEASTERLY ALONG A CURVE TO THE RIGHT 69.64 FEET (RADIUS OF SAID CURVE IS 760.00 FEET, CHORD BEARS NORTH 14 DEGREES 14 MINUTES 12 SECONDS EAST 69.62 FEET, AND DELTA IS 05 DEGREES 15 MINUTES 01 SECOND); THENCE NORTH 84 DEGREES 59 MINUTES 37 SECONDS EAST (RECORDED AS NORTH 87 DEGREES 37 MINUTES 17 SECONDS EAST AND AS NORTH 87 DEGREES 46 MINUTES 00 SECONDS EAST) 129.65 FEET; THENCE SOUTH 02 DEGREES 50 MINUTES 39 SECONDS EAST (RECORDED AS SOUTH AND AS SOUTH 00 DEGREES 09 MINUTES 52 SECONDS WEST) 524.35 FEET (RECORDED AS 525.15 FEET); THENCE SOUTH 83 DEGREES 20 MINUTES 24 SECONDS WEST (RECORDED AS SOUTH 86 DEGREES 03 MINUTES 00 SECONDS WEST AND AS SOUTH 85 DEGREES 47 MINUTES 50 SECONDS WEST) 340.90 FEET TO THE POINT OF BEGINNING; BEING A PART OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION 30, TOWNSHIP 3 NORTH, RANGE 11 EAST.

PARCEL 2:
COMMENCING AT A 5/8" IRON ROD IN MONUMENT BOX AT THE SOUTHWEST CORNER OF SECTION 30, TOWNSHIP 3 NORTH, RANGE 11 EAST AS RECORDED IN LIBER 22386, PAGE 323, OAKLAND COUNTY RECORDS; THENCE ALONG THE TRUE WEST LINE OF SAID SECTION NORTH 02 DEGREES 44 MINUTES 00 SECONDS WEST 1782.11 FEET; THENCE NORTH 84 DEGREES 59 MINUTES 37 SECONDS EAST (RECORDED AS NORTH 87 DEGREES 46 MINUTES 00 SECONDS EAST AND AS NORTH 87 DEGREES 48 MINUTES 30 SECONDS EAST) 56.59 FEET TO A POINT BEING 60.00 FEET MEASURED PERPENDICULARLY FROM THE EAST LINE OF "SUPERVISOR'S PLAT NO. 16" AS RECORDED IN LIBER 28 OF PLATS, PAGE 46, OAKLAND COUNTY RECORDS (PREVIOUSLY REFERRED TO AS THE EAST LINE OF SECTION 25, TOWNSHIP 3 NORTH, RANGE 10 EAST); THENCE CONTINUING NORTH 84 DEGREES 59 MINUTES 37 SECONDS EAST (RECORDED AS NORTH 87 DEGREES 46 MINUTES 00 SECONDS EAST AND AS NORTH 87 DEGREES 48 MINUTES 30 SECONDS EAST) 128.01 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE NORTHEASTERLY ALONG A CURVE TO THE RIGHT 62.69 FEET (RADIUS OF SAID CURVE IS 760.00 FEET, CHORD BEARS NORTH 14 DEGREES 14 MINUTES 12 SECONDS EAST 62.67 FEET, AND DELTA IS 04 DEGREES 43 MINUTES 33 SECONDS); THENCE SOUTH 02 DEGREES 50 MINUTES 39 SECONDS EAST (RECORDED AS SOUTH AND AS SOUTH 00 DEGREES 07 MINUTES 15 SECONDS WEST) 49.25 FEET; THENCE SOUTH 84 DEGREES 59 MINUTES 37 SECONDS WEST (RECORDED AS SOUTH 87 DEGREES 46 MINUTES 00 SECONDS WEST AND AS SOUTH 85 DEGREES 47 MINUTES 50 SECONDS WEST) 36.94 FEET TO THE POINT OF BEGINNING; BEING A PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 30, TOWNSHIP 3 NORTH, RANGE 11 EAST.

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

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

LEGAL DESCRIPTION 15-30-302-036 (BY OTHERS):

PART OF THE SOUTH 1/2 OF THE SOUTHWEST 1/4 SECTION 30, T.3N., R.11E., CITY OF ROCHESTER HILLS, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS:
BEGINNING AT A POINT DISTANT N02°44'00"W 1241.21 FEET & N83°20'24"E 57.73 FEET FROM THE SOUTHWEST SECTION CORNER, THENCE N02°50'39"W 105 FEET, THENCE N83°20'24"E 270.90 FEET, THENCE S02°50'39"E 105 FEET, THENCE S83°20'24"W 270.90 FEET TO THE **BEGINNING**

EXCEPTIONS 15-30-302-034:

- SCHEDULE B, PART II, PER TITLE COMMITMENT NO. 733463, PREPARED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED MARCH 16, 2016)
- SUBJECT TO TERMS AND CONDITIONS CONTAINED IN AMENDED ORDER DETERMINING NECESSITY AND GRANTING RIGHT OF WAY AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 16303, PAGE 443.
 - SUBJECT TO RIGHT OF WAY IN FAVOR OF THE DETROIT EDISON COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 5313, PAGE 825.
 - SUBJECT TO TERMS AND CONDITIONS CONTAINED IN FINAL ORDER DETERMINING NECESSITY AND GRANTING RIGHT OF WAY AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 16991, PAGE 273.

EXCEPTIONS 15-30-302-034:

- SCHEDULE B, PART II, PER POLICY NUMBER: 5011400-1908453, PREPARED BY AMROCK INC., DATED MARCH 13, 2018 @ 8:02 AM)
- RIGHT OF WAY GRANTED TO THE DETROIT EDISON COMPANY RECORDED JUNE 18, 1923 IN LIBER 5 OF MISCELLANEOUS RECORDS, PAGE 36, AS AMENDED BY PARTIAL RELEASE OF RIGHT OF WAY RECORDED FEBRUARY 29, 1988 IN LIBER 10319, PAGE 574.
 - RIGHT OF WAY EASEMENT RECORDED AUGUST 6, 1962 IN LIBER 4331, PAGE 426.
 - EASEMENT GRANTED TO THE DETROIT EDISON COMPANY RECORDED FEBRUARY 5, 1969 IN LIBER 5315, PAGE 40.
 - AGREEMENT RECORDED MAY 30, 1984 IN LIBER 8679, PAGE 655.
 - EASEMENT CONTAINED IN WARRANTY DEED RECORDED OCTOBER 23, 1995 IN LIBER 15763, PAGE 688.
 - AGREEMENT GRANTED TO THE COUNTY OF OAKLAND, A MICHIGAN CONSTITUTIONAL CORPORATION, RECORDED JANUARY 31, 1996 IN LIBER 15988, PAGE 180.
 - SANITARY SEWER SERVICE AGREEMENT AMONG THE CITY OF AUBURN HILLS, THE CITY OF ROCHESTER HILLS AND JAMES LAWRENCE BARTON & BEVERLY J. BARTON RECORDED JUNE 12, 2006 IN LIBER 37689, PAGE 410.
 - ROCHESTER HILLS ZONING BOARD OF APPEALS RESOLUTION RECORDED OCTOBER 30, 2007 IN LIBER 39712, PAGE 757.
 - TERMS, AGREEMENTS AND CONDITIONS CONTAINED IN COMPLAINT AND DEMAND FOR JURY TRIAL RECORDED DECEMBER 11, 2007 IN LIBER 39826, PAGE 321.

ZONING:
O. OFFICE DISTRICT

SETBACKS:
FRONT: 50 FEET
REAR: 30 FEET
SIDES: PROPOSED BUILDING LENGTH ALONG ABUTTING PARCEL = 180 FEET
(180 FEET - 40 FEET) / 10 = 14 FEET
30 FEET + 14 FEET = 44 FEET

*SETBACKS PER RM-1: MULTIPLE FAMILY RESIDENTIAL DISTRICT ZONING ABUTTING A MAJOR THOROUGHFARE
*ARCHITECT OR DESIGN INDIVIDUAL TO VERIFY SETBACKS WITH THE CITY OF ROCHESTER HILLS AND/OR ANY HOMEOWNER'S ASSOCIATION ORDINANCE PRIOR TO DESIGN.

BENCHMARKS:
SITE BENCHMARK #1:
ARROW ON HYDRANT ON THE EAST SIDE OF ADAMS ROAD, OPPOSITE FORESTER BOULEVARD. ELEVATION=881.29' (NGVD 29)
SITE BENCHMARK #2:
ARROW ON HYDRANT, ON THE EAST SIDE OF ADAMS ROAD, +/- 200 FEET NORTH OF PARKWAYS BLVD. ELEVATION=878.54' (NGVD 29)

SURVEY NOTES:

- TITLE WORK WAS NOT PROVIDED. ALL EXISTING EASEMENTS MAY NOT BE SHOWN.
- NO WETLANDS WERE OBSERVED ON THE PROPERTY PER ASTI ENVIRONMENTAL, FILE NO. 11482-69, DATED FEBRUARY 22, 2024.

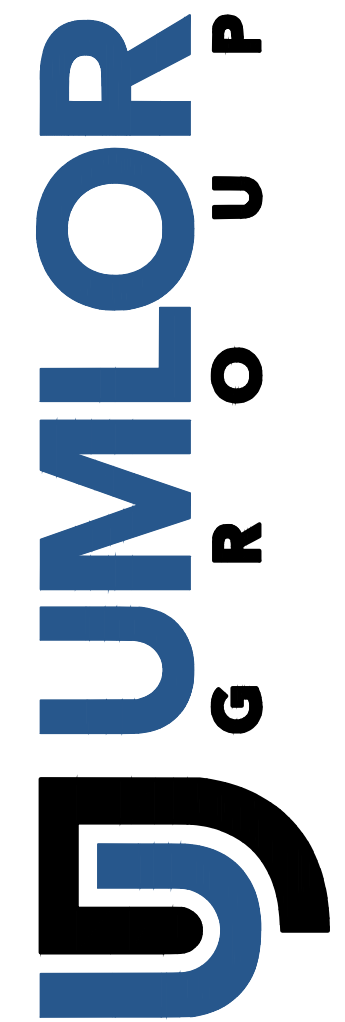
FLOOD HAZARD STATEMENT:

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) #26120389F (COMMUNITY ID NO. 260471 - CITY OF ROCHESTER HILLS, 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.

PROJECT: 2025-0141/PPUD0205-0001
REVISION: Revision #3
RECEIVED: 4/13/2026
ROCHESTER HILLS
MICHIGAN
PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT

STATE OF MICHIGAN
WES LEE
O.U.M.O.R.
ENGINEER
2020/0457
PROFESSIONAL ENGINEER

40287 WEST ROAD
WIXOM, MI 48393
TEL: 248.773.7659
FAX: 866.690.4307



Know what's below
Call before you dig.

G.A.V. & ASSOCIATES, INC.

TREE LIST

MULTIPLE PARCELS - PARCEL NO.'S 15-30-302-034 & -036
SECTION: 30
CITY OF ROCHESTER HILLS
OAKLAND COUNTY
MICHIGAN
RANGE: 11 E.

CLIENT:

REVISED

2025-10-31 PER REVIEW

2026-2-16 PER REVIEW

2026-4-13 PER REVIEW

DATE: 4-25-2025

DRAWN BY: RMS/CEH/MRG

CHECKED BY: JPP/CEH

FBK: --

CHF:RG

SCALE: HOR 1" = -- FT.
VER 1" = -- FT.

4

23-426

TAG #	SIZE	COMMON NAME	SCIENTIFIC NAME	CONDITIONS	INTENT	SPECIMEN	ELEVATION
4001	8	MULBERRY	MORUS ALBA	GOOD	SAVE		876.44
4002	22	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE	SPECIMEN	877.36
4003	12	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.82
4004	22	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE	SPECIMEN	876.84
4005	11	NORWAY SPRUCE	PICEA ABIES	GOOD	SAVE		876.61
4006	28	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE	SPECIMEN	883.71
4007	9	BLACK WALNUT	JUGLANS NIGRA	GOOD	REMOVE		877.87
4008	7	BLACK WALNUT	JUGLANS NIGRA	GOOD	REMOVE		877.58
4009	14	MULBERRY	MORUS ALBA	GOOD	REMOVE		878.79
4010	DEAD				REMOVE		879.58
4011	15	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		879.29
4012	9	NORWAY SPRUCE	PICEA ABIES	GOOD	REMOVE		879.71
4013	9	GREEN SPRUCE	PICEA PUNGENS	GOOD	REMOVE		879.47
4014	14	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		879.77
4015	DEAD				REMOVE		878.68
4016	8	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		875.79
4017	6	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		876.02
4018	18	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE	SPECIMEN	873.67
4019	13, 15	BLACK CHERRY	PRUNUS SEROTINA	GOOD	REMOVE		888.08
4020	10, 11	TREE OF HEAVEN	ALAANTHUS ALTISSIMA	GOOD	REMOVE		877.78
4021	6	SIBERIAN ELM	ULMUS PUMILA	GOOD	REMOVE		877.32
4022	8	BLACK WALNUT	JUGLANS NIGRA	GOOD	REMOVE		877.52
4023	7, 7, 8, 8	TREE OF HEAVEN	ALAANTHUS ALTISSIMA	GOOD	SAVE		877.78
4024	7	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		877.59
4025	7	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		877.28
4026	9	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		877.00
4027	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.56
4028	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.22
4029	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.28
4030	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.94
4031	10	SIBERIAN ELM	ULMUS PUMILA	GOOD	SAVE		876.76
4032	10	ELM	ULMUS AMERICANA	GOOD	SAVE		876.33
4033	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.08
4034	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		877.60
4035	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.34
4036	6	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		875.81
4037	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		874.20
4038	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		874.18
4039	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		875.62
4040	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		873.25
4041	6	NORWAY SPRUCE	PICEA ABIES	GOOD	REMOVE		876.78
4042	15	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	ENVELOPE		877.86
4043	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	ENVELOPE		874.49
4044	10	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		874.57
4045	8	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		875.32
4046	12	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		875.79
4047	10	BLACK WALNUT	JUGLANS NIGRA	GOOD	ENVELOPE		872.47
4048	6	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		875.33
4049	13	ELM	ULMUS AMERICANA	GOOD	REMOVE		879.48
4050	6, 7	BOXELDER	ACER NEGUNDO	FAIR	REMOVE		877.75
4051	24	COLORADO SPRUCE	PICEA PUNGENS 'GLAUCA'	FAIR	REMOVE	SPECIMEN	871.17
4052	15	COLORADO SPRUCE	PICEA PUNGENS 'GLAUCA'	POOR	REMOVE		870.45
4053	12	COLORADO SPRUCE	PICEA PUNGENS 'GLAUCA'	POOR	REMOVE		869.97
4054	20	COLORADO SPRUCE	PICEA PUNGENS 'GLAUCA'	FAIR	REMOVE	SPECIMEN	870.40
4055	12	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		867.70
4056	MS 12	ELM	ULMUS AMERICANA	FAIR	REMOVE		865.38
4057	9, 9, 10, 10, 11	MULBERRY	MORUS ALBA	GOOD	REMOVE		868.99
4058	9, 16	BOXELDER	ACER NEGUNDO	FAIR	REMOVE		868.07
4059	8	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		868.62
4060	MS 8	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		869.32
4061	9	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		870.02
4062	14	BOXELDER	ACER NEGUNDO	POOR	ENVELOPE		870.16
4063	6	BOXELDER	ACER NEGUNDO	FAIR	ENVELOPE		870.15
4064	26	BOXELDER	ACER NEGUNDO	GOOD	REMOVE	SPECIMEN	871.42
4065	10	SCOTCH PINE	PINUS SYLVESTRIS	FAIR	REMOVE		872.52
4066	MS 10	RUSSIAN OLIVE	ELAEAGNUS ANGUSTIFOLIA	POOR	SAVE		873.39
4067	7	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		875.84
4068	6	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		875.28
4069	6	SCOTCH PINE	PINUS SYLVESTRIS	FAIR	SAVE		875.55
4070	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		875.83
4071	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.19
4072	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.36
4073	10	SCOTCH PINE	PINUS SYLVESTRIS	FAIR	SAVE		875.23
4074	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.90
4075	6	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.40
4076	6	SCOTCH PINE	PINUS SYLVESTRIS	FAIR	SAVE		876.01
4077	6	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		875.83
4078	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.19
4079	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	SAVE		876.26
4080	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		876.03
4081	12	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		876.43
4082	7	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		884.57
4083	7	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		876.11
4084	12	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		875.60
4085	10	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		876.10
4086	7	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	GOOD	REMOVE		876.02
4087	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		875.71
4088	7	NORWAY SPRUCE	PICEA ABIES	GOOD	REMOVE		875.73
4089	15	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		875.48
4090	7	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		875.26
4091	8	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		876.13
4092	7	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		876.08
4093	9	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	REMOVE		876.38
4094	12	DOUGLAS FIR	PSEUDOTSUGA MENZIESII	GOOD	REMOVE		875.43
4095	10	BLACK CHERRY	PRUNUS SEROTINA	GOOD	REMOVE		875.10
4096	8	BLACK CHERRY	PRUNUS SEROTINA	GOOD	REMOVE		874.75
4097	10	BLACK CHERRY	PRUNUS SEROTINA	GOOD	REMOVE		874.29
4098	10	PIN OAK	QUERCUS PALUSTRIS	GOOD	REMOVE		872.59
4099	MS 10	BLACK CHERRY	PRUNUS SEROTINA	GOOD	REMOVE		873.00
4100	10	BLACK WALNUT	JUGLANS NIGRA	GOOD	ENVELOPE		871.47
4101	7	BLACK WALNUT	JUGLANS NIGRA	GOOD	REMOVE		871.37
4102	8	BLACK CHERRY	PRUNUS SEROTINA	GOOD	REMOVE		871.66
4103	MS 4	CRAB APPLE	MALUS	GOOD	REMOVE		871.64
4104	MS 6	CRAB APPLE	MALUS	GOOD	REMOVE		871.19
4105	15	ELM	ULMUS AMERICANA	FAIR	REMOVE		867.55
4106	7	SIBERIAN ELM	ULMUS PUMILA	GOOD	REMOVE		867.99
4107	12	BLACK WALNUT	JUGLANS NIGRA	DEAD	REMOVE		867.08
4108	6	SIBERIAN ELM	ULMUS PUMILA	GOOD	REMOVE		866.54
4109	10	ELM	ULMUS AMERICANA	FAIR	REMOVE		867.58
4110	MS 10	BOXELDER	ACER NEGUNDO	FAIR	REMOVE		870.41
4111	6	ELM	ULMUS AMERICANA	GOOD	REMOVE		870.91
4112	14	BOXELDER	ACER NEGUNDO	POOR	REMOVE		870.29
4113	14	ELM	ULMUS AMERICANA	FAIR	REMOVE		868.69
4114	10	ELM	ULMUS AMERICANA	FAIR	REMOVE		868.86
4115	8	ELM	ULMUS AMERICANA	GOOD	REMOVE		869.08
4116	12	BOXELDER	ACER NEGUNDO	FAIR	REMOVE		869.76
4117	6	ELM	ULMUS AMERICANA	FAIR	REMOVE		869.12
4118	6	ELM	ULMUS AMERICANA	FAIR	REMOVE		869.67

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

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

TAG #	SIZE	COMMON NAME	SCIENTIFIC NAME	CONDITIONS	INTENT	SPECIMEN	ELEVATION
4119	6	ELM	ULMUS AMERICANA	FAIR	REMOVE		869.45
4120	6	ELM	ULMUS AMERICANA	FAIR	REMOVE		869.45
4121	7	ELM	ULMUS AMERICANA	GOOD	REMOVE		868.99
4122	7	SIBERIAN ELM	ULMUS PUMILA	GOOD	REMOVE		869.40
4123	7	BLACK WALNUT	JUGLANS NIGRA	GOOD	REMOVE		869.53
4124	8	ELM	ULMUS AMERICANA	GOOD	REMOVE		869.29
4125	8, 8	SIBERIAN ELM	ULMUS PUMILA	GOOD	REMOVE		869.26
4126	MS 12	BOXELDER	ACER NEGUNDO	GOOD	REMOVE		870.05
4127	10	TREE OF HEAVEN	ALAANTHUS ALTISSIMA	GOOD	ENVELOPE		870.74
4128	10	ELM	ULMUS AMERICANA	GOOD	REMOVE		871.58
4129	12	SCOTCH PINE	PINUS SYLVESTRIS	GOOD	ENVELOPE		871.79
4130	15	ELM	ULMUS AMERICANA	GOOD	ENVELOPE		871.91
4131	18	RED OAK	QUERCUS RUBRA	GOOD	ENVELOPE	SPECIMEN	871.53
4132	18	COTTONWOOD	POPULUS DELTOIDES	GOOD	ENVELOPE		871.71
4133	6, 6, 7	BUCKTHORN	RHAMNUS CATHARTICA	GOOD	Not a Tree		871.17
4134	10	EASTERN RED CEDAR	JUNIPERUS VIRGINIANA	GOOD	ENVELOPE		871.44
4135	10	BLACK CHERRY	PRUNUS SEROTINA	GOOD	ENVELOPE		872.11
4136	7	ELM	ULMUS AMERICANA	FAIR	ENVELOPE		872.26
4137	10	BLACK CHERRY	PRUNUS SEROTINA	GOOD	REMOVE		873.05
4138	15	BOXELDER	ACER NEGUNDO	GOOD	REMOVE		873.47
4139	27	BOXELDER	ACER NEGUNDO	GOOD	SAVE	SPECIMEN	874.88
4140	MS 24	BOXELDER	ACER NEGUNDO	GOOD	SAVE	SPECIMEN	875.52
4141	6	BOXELDER	ACER NEGUNDO	GOOD	SAVE		876.03
4142	7	NORWAY SPRUCE	PICEA ABIES	GOOD	SAVE		875.81
4143	15	BOXELDER	ACER NEGUNDO	GOOD	REMOVE		872.72
4144	14	BLACK CHERRY	PRUNUS SEROTINA	GOOD	REMOVE		870.64
4145	10	CRAB APPLE	MALUS	GOOD	ENVELOPE		870.97
4146	24	BOXELDER	ACER NEGUNDO	FAIR	REMOVE	SPECIMEN	871.14
4147	18	ELM	ULMUS AMERICANA	GOOD	REMOVE		871.35
4148	24	BOXELDER	ACER NEGUNDO	GOOD	SAVE	SPECIMEN	873.54
4149	8	BLACK WALNUT	JUGLANS NIGRA	GOOD	REMOVE		869.44
4150	MS 15	BOXELDER	ACER NEGUNDO	FAIR	SAVE		869.77
4151	MS 30	COTTONWOOD	POPULUS DELTOIDES	GOOD	SAVE	SPECIMEN	870.40
4152	8	BLACK CHERRY	PRUNUS SEROTINA	GOOD	SAVE		869.95
4153	8	ELM	ULMUS AMERICANA	POOR	SAVE		869.06
4154	18	BLACK CHERRY	PRUNUS SEROTINA	FAIR	REMOVE	SPECIMEN	869.26
4155	7	BLACK WALNUT	JUGLANS NIGRA	GOOD	REMOVE		868.39
4156	6	ELM	ULMUS AMERICANA	FAIR	REMOVE		869.13
4157	9	BOXELDER	ACER NEGUNDO	FAIR	REMOVE		867.85
4158	9	BLACK CHERRY	PRUNUS SEROTINA	FAIR	REMOVE		868.03
41							

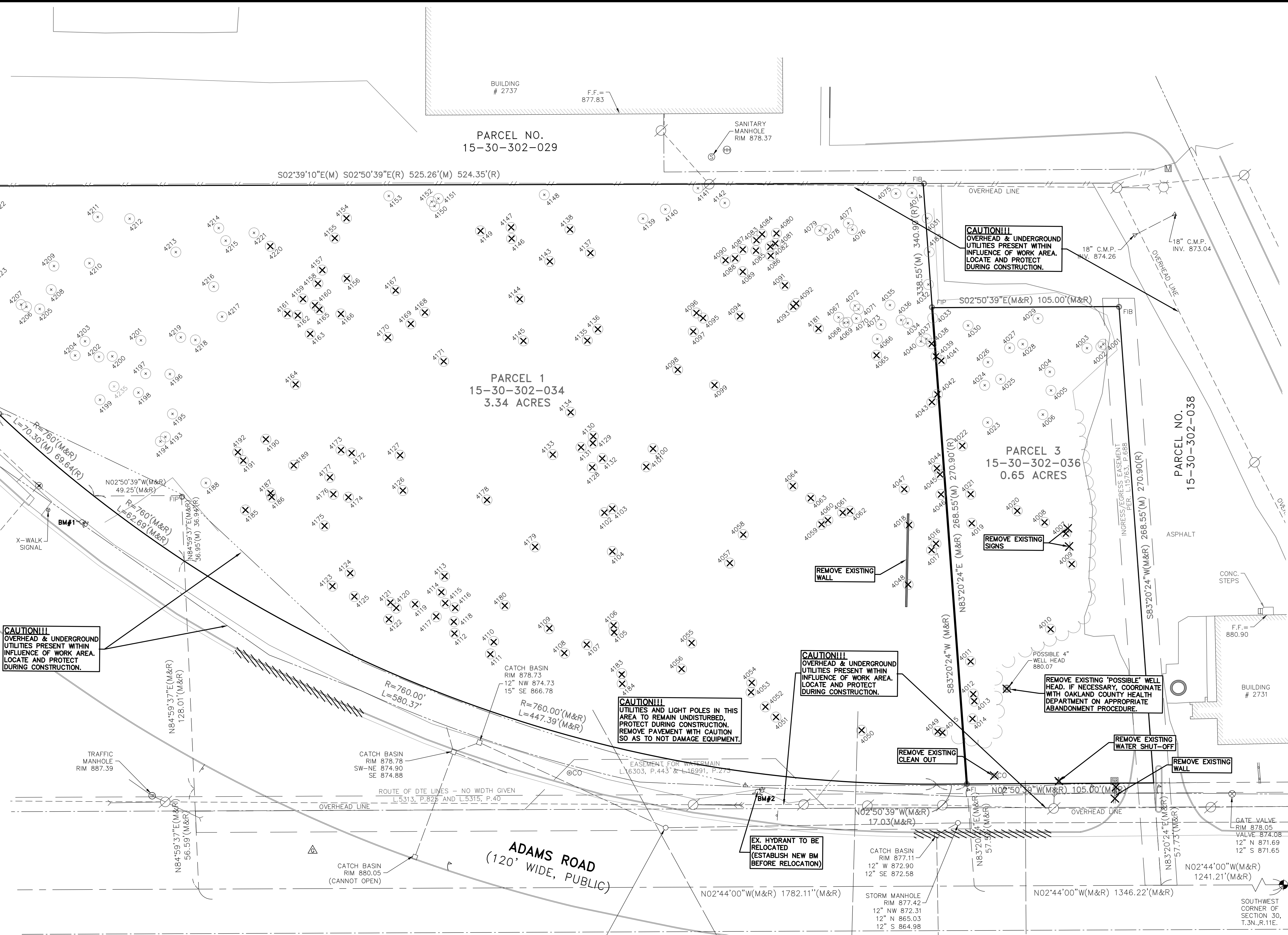
- LEGEND**
- FIP FOUND IRON PIPE
 - FIB FOUND IRON BAR
 - FCI FOUND CAPPED IRON
 - (M) MEASURED
 - (R) RECORD
 - EX. CONDUIT
 - EX. GAS MAIN
 - EX. OVERHEAD LINES
 - EX. SANITARY SEWER
 - EX. STORM SEWER
 - EX. WALL
 - EX. WATER MAIN
 - EX. FENCE
 - EX. CABLE PEDESTAL
 - EX. CATCH BASIN
 - EX. CLEANOUT
 - EX. END SECTION
 - EX. GAS MARKER
 - EX. GATE VALVE
 - EX. GUY ANCHOR
 - EX. HAND HOLE
 - EX. HYDRANT
 - EX. SANITARY MANHOLE
 - EX. SIGN
 - EX. STORM MANHOLE
 - EX. TELEPHONE PEDESTAL
 - EX. TRAFFIC MANHOLE
 - EX. TRAFFIC SIGNAL
 - EX. UTILITY FLAG
 - EX. WATER SHUT OFF
 - EX. WELL
 - EX. LIGHT POLE
 - EX. UTILITY POLE
 - EX. TREE TAG

- DEMOLITION LEGEND:**
- ITEM TO BE REMOVED
 - CURB TO BE REMOVED
 - TREE TO BE REMOVED

BENCHMARKS:
 SITE BENCH MARK #1:
 ARROW ON HYDRANT ON THE EAST SIDE OF ADAMS ROAD,
 OPPOSITE FORESTER BOULEVARD. ELEVATION=881.29' (NGVD 29)
 SITE BENCH MARK #2:
 ARROW ON HYDRANT, ON THE EAST SIDE OF ADAMS ROAD, +/-
 200 FEET NORTH OF PARKWAYS BLVD. ELEVATION=878.54'
 (NGVD 29)

- GENERAL DEMOLITION NOTES:**
- ALL WORK TO BE ACCOMPLISHED IN STRICT ACCORDANCE WITH ALL CITY, COUNTY AND STATE REGULATIONS.
 - WITHIN THE SUBJECT PROPERTY, THE INTENT IS TO HAVE A CLEAN, CLEAR SITE, FREE OF ALL EXISTING ITEMS NOTED TO BE REMOVED IN ORDER TO PERMIT THE CONSTRUCTION OF THE NEW PROJECT.
 - ALL ITEMS NOTED TO BE REMOVED SHALL BE DONE SO AS PART OF THE CONTRACT FOR GENERAL CONSTRUCTION.
 - REMOVE AND DISPOSE OF ANY PAVEMENT, SIDEWALK, DEBRIS AND RUBBISH REQUIRING REMOVAL FROM THE WORK AREA IN AN APPROVED OFF SITE LANDFILL.
 - THE CONTRACTOR SHALL SECURE ALL PERMITS FOR HIS DEMOLITION AND DISPOSAL OF HIS DEMOLITION MATERIAL TO BE REMOVED FROM THE SITE. THE CONTRACTOR SHALL POST BONDS AND PAY PERMIT FEES AS REQUIRED.
 - THE DETAILED PLANS MAY NOT REFLECT ALL UTILITIES ON THE SITE OR SURROUNDING STREETS AND PROPERTIES. THE CONTRACTOR SHALL VERIFY LOCATIONS AND EXISTENCE OF UTILITY SERVICES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CALL MISS DIG, A MINIMUM 72 HOURS PRIOR TO CONSTRUCTION.
 - THE CONTRACTOR TO REMOVE ALL UTILITIES TO EXISTING STRUCTURES WHETHER SHOWN OR NOT OR ARRANGE FOR THE APPROPRIATE UTILITY COMPANY TO CUT AND CAP SERVICE PIPING AT THE PROPERTY LINE OR MAIN (AS REQUIRED). ALL SERVICES MAY NOT BE SHOWN ON THIS PLAN.
 - FOR ALL ITEMS NOTED TO BE REMOVED - REMOVE NOT ONLY THE ABOVE GROUND ELEMENTS, BUT ALL UNDERGROUND ELEMENTS AS WELL INCLUDING BUT NOT NECESSARILY LIMITED TO: FOUNDATIONS, GRAVEL FILLS, TREE ROOTS, OLD PIPES, ETC.
 - BACK FILL ALL EXCAVATIONS RESULTING FROM THE DEMOLITION WORK TO MEET THE REQUIREMENTS FOR FILL OUTLINED IN THE GEOTECHNICAL REPORT.
 - THE CONTRACTOR SHALL PROTECT ALL IRON PINS, MONUMENTS AND PROPERTY CORNERS DURING CONSTRUCTION. ANY CONTRACTOR DISTURBED PINS, MONUMENTS, ETC. SHALL BE RESET BY A LICENSED LAND SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.

- GENERAL DEMOLITION NOTES (CONTINUED):**
- THE CONTRACTOR SHALL RESTORE ANY UTILITY STRUCTURE, PIPES, PAVEMENT, CURBS, SIDEWALKS OR LANDSCAPED AREAS DISTURBED DURING DEMOLITION TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
 - ALL MATERIAL TO BE REMOVED, 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.
 - STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
 - 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.
 - REMOVE ALL STRUCTURES DESIGNATED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, UNDERGROUND UTILITIES, CONCRETE, CURB, TREES, ETC.
 - 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.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.
 - 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 CITY OF ANN ARBOR REQUIREMENTS AND IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) LATEST EDITION.
 - THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO COORDINATE ALL UTILITY WORK.



CAUTION!!!
 OVERHEAD & UNDERGROUND UTILITIES PRESENT WITHIN INFLUENCE OF WORK AREA. LOCATE AND PROTECT DURING CONSTRUCTION.

CAUTION!!!
 OVERHEAD & UNDERGROUND UTILITIES PRESENT WITHIN INFLUENCE OF WORK AREA. LOCATE AND PROTECT DURING CONSTRUCTION.

CAUTION!!!
 UTILITIES AND LIGHT POLES IN THIS AREA TO REMAIN UNDISTURBED. PROTECT DURING CONSTRUCTION. REMOVE PAVEMENT WITH CAUTION SO AS TO NOT DAMAGE EQUIPMENT.

CAUTION!!!
 OVERHEAD & UNDERGROUND UTILITIES PRESENT WITHIN INFLUENCE OF WORK AREA. LOCATE AND PROTECT DURING CONSTRUCTION.

REMOVE EXISTING POSSIBLE WELL HEAD. IF NECESSARY, COORDINATE WITH OAKLAND COUNTY HEALTH DEPARTMENT ON APPROPRIATE ABANDONMENT PROCEDURE.

REMOVE EXISTING WATER SHUT-OFF

REMOVE EXISTING WALL

REMOVE EXISTING CLEAN OUT

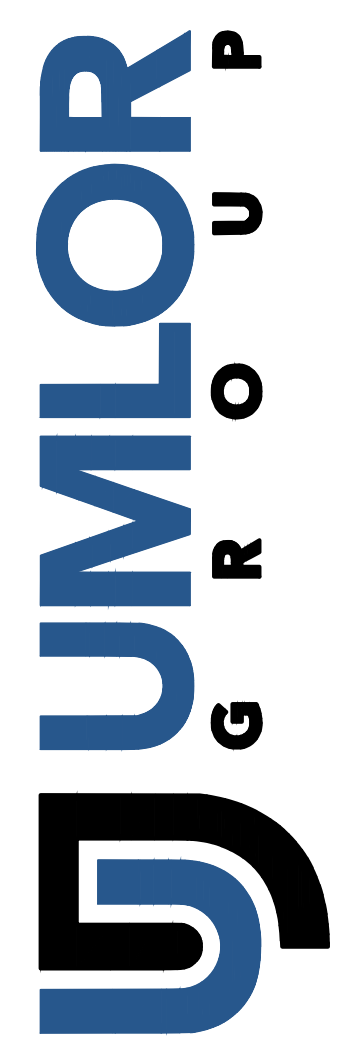
EX. HYDRANT TO BE RELOCATED (ESTABLISH NEW BM BEFORE RELOCATION)



ROCHESTER HILLS
 PROJECT: J2025-0141/PPUD2025-0001
 REVISION: Revision #3
 RECEIVED: 4/13/2026
 PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT

CITY FILE #24-0001 SECTION #30
 NOT TO BE USED AS CONSTRUCTION DRAWINGS

40287 WEST ROAD
 WIXOM, MI 48393
 TEL: 248.773.7659
 FAX: 866.690.4307



CLIENT: G.A.V. & ASSOCIATES, INC.
DEMOLITION PLAN
 MULTIPLE PARCELS - PARCEL NO.'S 15-30-302-034 & -036
 SECTION: 30
 CITY OF ROCHESTER HILLS
 OAKLAND COUNTY
 MICHIGAN

REVISED
2025-10-31 PER REVIEW
2026-2-16 PER REVIEW
2026-4-13 PER REVIEW

DATE: 4-25-2025
 DRAWN BY: RMS/CEH/MRG
 CHECKED BY: JPP/CEH
 FBK: --
 CHF:RG
 SCALE: HOR 1" = 30 FT.
 VER 1" = -- FT.

40287 WEST ROAD
WIXOM, MI 48393
TEL: 248.773.7659
FAX: 866.690.4307

DUMMLOR
GROUP

811
Know what's below
Call before you dig.

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GRADING PLAN
MULTIPLE PARCELS - PARCEL NO.'S 15-30-302-034 & -036
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OAKLAND COUNTY
MICHIGAN

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2025-10-31 PER REVIEW
2026-2-16 PER REVIEW
2026-4-13 PER REVIEW

DATE: 4-25-2025
DRAWN BY: RMS/CEH/MRG
CHECKED BY: JPP/CEH

FBK: --
CHP: RG
SCALE: HOR 1"=30 FT.
VER 1"=4 FT.

6
23-426

GRADING AND DRAINAGE LEGEND:

880.00	PROPOSED SPOT GRADE ELEVATION
TP	TOP OF PAVEMENT
TW	TOP OF WALK
TC	TOP OF CURB
G	GUTTER
FG	FINISH GRADE
FF	FINISH FLOOR
T/WALL	TOP OF WALL
B/WALL	BOTTOM OF WALL
→	OVERLAND FLOW DIRECTION

SIDEWALK RAMP(S) NOTE:
SEE THE GRADING ENLARGEMENTS PLAN, SHEET 7 FOR ADDITIONAL DETAIL ON SIDEWALK GRADING.

The design of this retaining wall along with fall protection will need engineering calculations along with soil borings. This will be reviewed by an outside consultant at the construction plan phase of the project.

ROW PERMIT NOTE:
ALL WORK WITHIN THE ADAMS RD. RIGHT-OF-WAY IS UNDER THE JURISDICTION OF THE ROAD COMMISSION OF OAKLAND COUNTY AND SHALL NOT BEGIN UNTIL A RIGHT-OF-WAY PERMIT IS ISSUED.

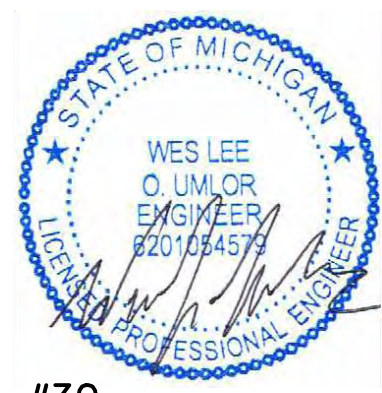
EARTHWORK BALANCING NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL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

LIMITS OF DISTURBANCE
TOTAL AREA OF DISTURBANCE = 3.0 AC±

BENCHMARKS:
SITE BENCH MARK #1:
ARROW ON HYDRANT ON THE EAST SIDE OF ADAMS ROAD, OPPOSITE FORESTER BOULEVARD. ELEVATION=881.29' (NGVD 29)
SITE BENCH MARK #2:
ARROW ON HYDRANT, ON THE EAST SIDE OF ADAMS ROAD, +/- 200 FEET NORTH OF PARKWAYS BLVD. ELEVATION=878.54' (NGVD 29)

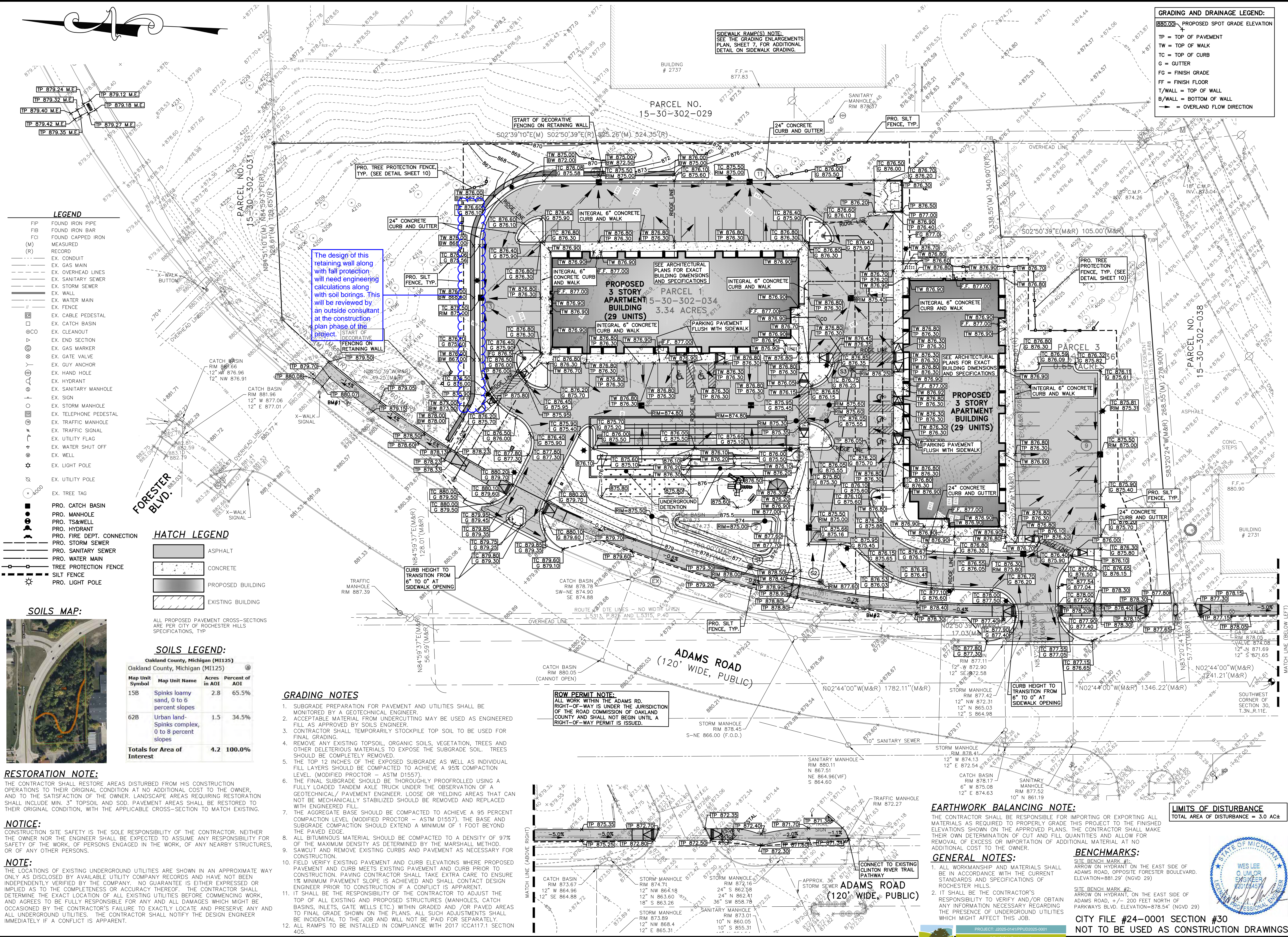
GENERAL NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF ROCHESTER HILLS.
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.



CITY FILE #24-0001 SECTION #30
NOT TO BE USED AS CONSTRUCTION DRAWINGS

ROCHESTER HILLS MICHIGAN
PROJECT: 2025-0141/PP/02025-0001
REVISION: Revision #3
RECEIVED: 4/13/2025
PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT



LEGEND

FP	FOUND IRON PIPE
FIB	FOUND IRON BAR
FCI	FOUND CAPPED IRON
(M)	MEASURED
(R)	RECORD
---	EX. CONDUIT
---	EX. GAS MAIN
---	EX. OVERHEAD LINES
---	EX. SANITARY SEWER
---	EX. STORM SEWER
---	EX. WALL
---	EX. WATER MAIN
---	EX. FENCE
---	EX. CABLE PEDESTAL
---	EX. CATCH BASIN
---	EX. CLEANOUT
---	EX. END SECTION
---	EX. GAS MARKER
---	EX. GATE VALVE
---	EX. GUY ANCHOR
---	EX. HAND HOLE
---	EX. HYDRANT
---	EX. SANITARY MANHOLE
---	EX. SIGN
---	EX. STORM MANHOLE
---	EX. TELEPHONE PEDESTAL
---	EX. TRAFFIC MANHOLE
---	EX. TRAFFIC SIGNAL
---	EX. UTILITY FLAG
---	EX. WATER SHUT OFF
---	EX. WELL
---	EX. LIGHT POLE
---	EX. UTILITY POLE
---	EX. TREE TAG
---	PRO. CATCH BASIN
---	PRO. MANHOLE
---	PRO. TS&WELL
---	PRO. HYDRANT
---	PRO. FIRE DEPT. CONNECTION
---	PRO. STORM SEWER
---	PRO. SANITARY SEWER
---	PRO. WATER MAIN
---	TREE PROTECTION FENCE
---	SILT FENCE
---	PRO. LIGHT POLE

HATCH LEGEND

[Hatch Pattern]	ASPHALT
[Hatch Pattern]	CONCRETE
[Hatch Pattern]	PROPOSED BUILDING
[Hatch Pattern]	EXISTING BUILDING

SOILS LEGEND:
Oakland County, Michigan (M1125)
Oakland County, Michigan (M1125)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
15B	Spinks loamy sand, 0 to 6 percent slopes	2.8	65.5%
62B	Urban land-Spinks complex, 0 to 8 percent slopes	1.5	34.5%
Totals for Area of Interest		4.2	100.0%

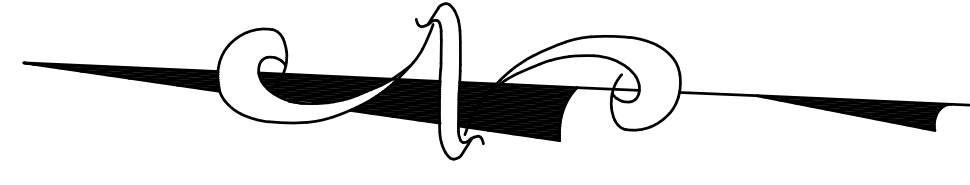
- GRADING NOTES**
1. SUBGRADE PREPARATION FOR PAVEMENT AND UTILITIES SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER.
 2. ACCEPTABLE MATERIAL FROM UNDERCUTTING MAY BE USED AS ENGINEERED FILL AS APPROVED BY SOILS ENGINEER.
 3. CONTRACTOR SHALL TEMPORARILY STOCKPILE TOP SOIL TO BE USED FOR FINAL GRADING.
 4. REMOVE ANY EXISTING TOPSOIL, ORGANIC SOILS, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREES SHOULD BE COMPLETELY REMOVED.
 5. THE TOP 12 INCHES OF THE EXPOSED SUBGRADE AS WELL AS INDIVIDUAL FILL LAYERS SHOULD BE COMPACTED TO ACHIEVE A 95% COMPACTION LEVEL. (MODIFIED PROCTOR - ASTM D1557).
 6. THE FINAL SUBGRADE SHOULD BE THOROUGHLY PROOFOOLED USING A FULLY LOADED TANDEM AXLE TRUCK UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YIELDING AREAS THAT CAN NOT BE MECHANICALLY STABILIZED SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
 7. THE AGGREGATE BASE SHOULD BE COMPACTED TO ACHIEVE A 95 PERCENT COMPACTION LEVEL (MODIFIED PROCTOR - ASTM D1557). THE BASE AND SUBGRADE COMPACTION SHOULD EXTEND A MINIMUM OF 1 FOOT BEYOND THE PAVED EDGE.
 8. ALL BITUMINOUS MATERIAL SHOULD BE COMPACTED TO A DENSITY OF 97% OF THE MAXIMUM DENSITY AS DETERMINED BY THE MARSHALL METHOD.
 9. SAWCUT AND REMOVE EXISTING CURBS AND PAVEMENT AS NECESSARY FOR CONSTRUCTION.
 10. FIELD VERIFY EXISTING PAVEMENT AND CURB ELEVATIONS WHERE PROPOSED PAVEMENT AND CURB MEETS EXISTING PAVEMENT AND CURB PRIOR TO CONSTRUCTION. PAVING CONTRACTOR SHALL TAKE EXTRA CARE TO ENSURE 1% MINIMUM PAVEMENT SLOPE IS ACHIEVED AND SHALL CONTACT DESIGN ENGINEER PRIOR TO CONSTRUCTION IF A CONFLICT IS APPARENT.
 11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.
 12. ALL RAMPS TO BE INSTALLED IN COMPLIANCE WITH 2017 ICA117.1 SECTION 405.



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.

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

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



LEGEND

- FIP FOUND IRON PIPE
- FIB FOUND IRON BAR
- FCI FOUND CAPPED IRON RECORD
- (M) MEASURED
- (R) RECORD
- EX. CONDUIT
- EX. GAS MAIN
- EX. OVERHEAD LINES
- EX. SANITARY SEWER
- EX. STORM SEWER
- EX. WALL
- EX. WATER MAIN
- EX. FENCE
- EX. CABLE PEDESTAL
- EX. CATCH BASIN
- EX. CLEANOUT
- EX. END SECTION
- EX. GAS MARKER
- EX. GATE VALVE
- EX. GUY ANCHOR
- EX. HAND HOLE
- EX. HYDRANT
- EX. SANITARY MANHOLE
- EX. SIGN
- EX. STORM MANHOLE
- EX. TELEPHONE PEDESTAL
- EX. TRAFFIC MANHOLE
- EX. TRAFFIC SIGNAL
- EX. UTILITY FLAG
- EX. WATER SHUT OFF
- EX. WELL
- EX. LIGHT POLE
- EX. UTILITY POLE
- EX. TREE TAG

HATCH LEGEND

- ASPHALT
- CONCRETE
- PROPOSED BUILDING
- EXISTING BUILDING

ALL PROPOSED PAVEMENT CROSS-SECTIONS ARE PER CITY OF ROCHESTER HILLS SPECIFICATIONS, TYP

GENERAL UTILITY NOTES:

- ALL UTILITY LINES, STRUCTURES AND TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND REQUIREMENTS OF THE CITY OF ROCHESTER HILLS.
- NO PHYSICAL CONNECTION TO THE EXISTING WATER MAIN CAN BE MADE UNTIL ALL NEW WATER MAIN PASSES PRESSURE AND BACTERIOLOGICAL TESTS TO THE SATISFACTION OF THE CITY.
- WATER MAIN SERVICE LEADS SHALL BE TYPE "K" ANNEALED SEAMLESS COPPER WITH FLARED FITTINGS, UNLESS OTHERWISE NOTED.
- ALL WATER MAIN SHALL BE PROVIDED WITH 5" OF COVER UNLESS OTHERWISE NOTED.
- ALL SANITARY SEWER LEADS SHALL BE POLYVINYL CHLORIDE (PVC) SDR 23.5 PIPE AND FITTINGS. ALL JOINTS TO BE ELASTOMERIC GASKET JOINTS PER ASTM D3212 UNLESS OTHERWISE NOTED.
- PIPE LENGTHS ARE GIVEN FROM CENTER OF STRUCTURE AND TO END OF FLARED END SECTION UNLESS NOTED OTHERWISE.

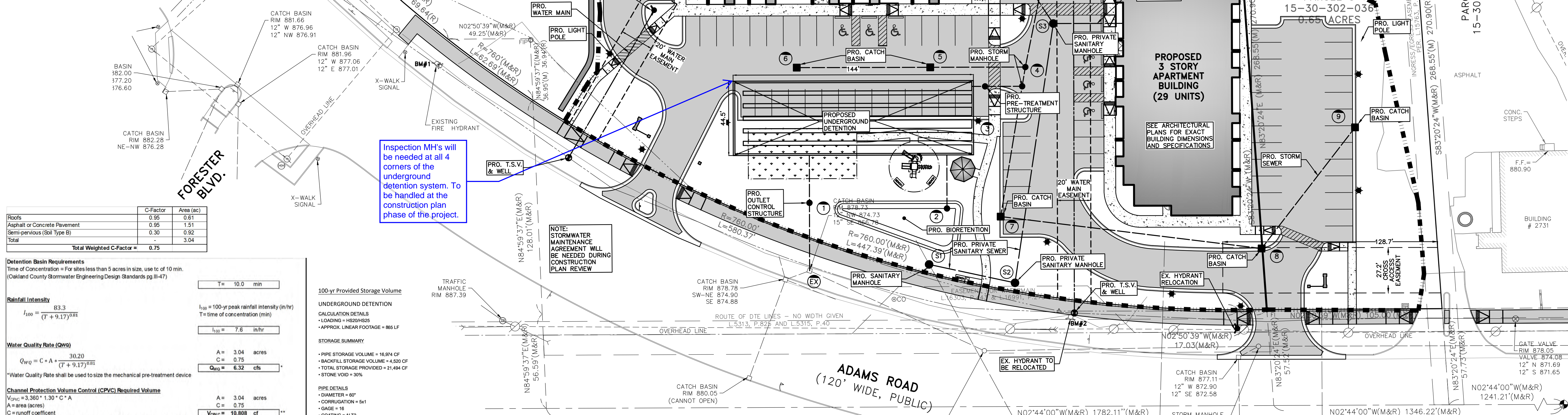
SAND BACKFILL NOTE:
ALL UTILITIES UNDER PAVEMENT OR WITHIN 3' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45' LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS II GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

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Roofs	C-Factor	Area (ac)
Asphalt or Concrete Pavement	0.95	0.61
Semi-pervious (Soil Type B)	0.30	0.92
Total		3.04

Total Weighted C-Factor = 0.75

Detention Basin Requirements
Time of Concentration = For sites less than 5 acres in size, use t_c of 10 min. (Oakland County Stormwater Engineering Design Standards pg III-47)

Rainfall Intensity
 $I_{100} = \frac{83.3}{(T + 9.17)^{0.081}}$
I₁₀₀ = 100-yr peak rainfall intensity (in/hr)
T = time of concentration (min)

Water Quality Rate (Q_{wq})
 $Q_{wq} = C \cdot A \cdot \frac{30.20}{(T + 9.17)^{0.081}}$
Q_{wq} = 6.32 cfs
*Water Quality Rate shall be used to size the mechanical pre-treatment device

Channel Protection Volume Control (CPVC) Required Volume
V_{CPVC} = 3.360 * 1.30 * C * A
A = area (acres)
C = runoff coefficient
V_{CPVC} = 10,808 cf
** The required CPVC volume shall be met to the maximum extent practicable

Channel Protection Rate Control (CPRC) Required Volume
V_{CPRC} = 3.630 * 1.90 * C * A
A = area (acres)
C = runoff coefficient
V_{CPRC} = 15,796 cf

100-Year Detention Volume
Q₁₀₀ = 1.1055 - 0.206 ln(A)
Q₁₀₀ = 100-yr allowable release rate (cfs/acre)
A = area (acres)
Q₁₀₀ = 0.88 cfs/acre

100-Year Required Storage Volume
V₁₀₀ = V_{CPVC} * R - V_{CPVC}
V₁₀₀ = 100-yr required storage volume (cf)
R = storage curve factor
V₁₀₀ = 0 cf

100-Year Required Storage Volume
V₁₀₀ = V_{CPVC} * R - V_{CPVC}
V₁₀₀ = 100-yr required storage volume (cf)
R = storage curve factor
V₁₀₀ = 21,215 cf

100-yr Provided Storage Volume

UNDERGROUND DETENTION
CALCULATION DETAILS
LOADING = HS20HS25
APPROX. LINEAR FOOTAGE = 865 LF

STORAGE SUMMARY
PIPE STORAGE PROVIDED = 16,974 CF
BACKFILL STORAGE VOLUME = 4,420 CF
TOTAL STORAGE PROVIDED = 21,494 CF
STONE VOID = 30%

PIPE DETAILS
DIAMETER = 60"
CORRUGATION = 5x1
GAGE = #16
COATING = ALT2
WALL TYPE = PERFORATED
BARREL SPACING = 30"

BACKFILL DETAILS
WIDTH AT ENDS = 12"
ABOVE PIPE = 0"
WIDTH AT SIDES = 12"
BELOW PIPE = 0"

Land Use Summary

Characteristic	Existing Condition	Proposed Condition
Total Development Area (ac)	3.04	3.04
Impervious Area (ac)	0.00	2.12
Total Pervious Area (ac)	3.04	0.92
Pervious Area Breakdown by Cover Type		
Meadow/fallow/natural areas (non-cultivated)	0	0
Predominant NRCS Soil Type (A, B, C, D)	N/A	N/A
Improved area (turf grass, landscape, row crops)	3.04	0.92
Predominant NRCS Soil Type (A, B, C, D)	B	B
Wooded Areas	0	0
Predominant NRCS Soil Type (A, B, C, D)	N/A	N/A
CPVC Volume Provided (cubic feet)	10,808	10,808
CPRC Volume Calculated (cubic feet)	15,796	15,796
CPRC Volume Provided (cubic feet)	15,796	15,796

Runoff Coefficient
 $C = \frac{\sum (A_i \cdot C_i)}{A}$
C = 0.75
The Professional Engineer who signs and seals this site plan certifies that the values in this table reflect the Oakland County stormwater calculations required for this development and that geotechnical investigations were performed, by others, that prov

ROW PERMIT NOTE:
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Sanitary Basis of Design

Usage	Unit Factor	Units	Population
Proposed Apartments	1.46	per person	75
			109.5

TOTAL POPULATION = 109.5

Estimated Average Flow

Total Population:	110	
Average Daily Flow:	100	gallons/capita/day
Average Flow:	11,000	gallons/day
Peaking Factor:	1.00	
Average Flow:	11,000	gallons/day
		= 0.0170 c.f.s.
Average Flow:	11,000	gallons/day
		= 0.0170 c.f.s.

Estimated Peak Flow

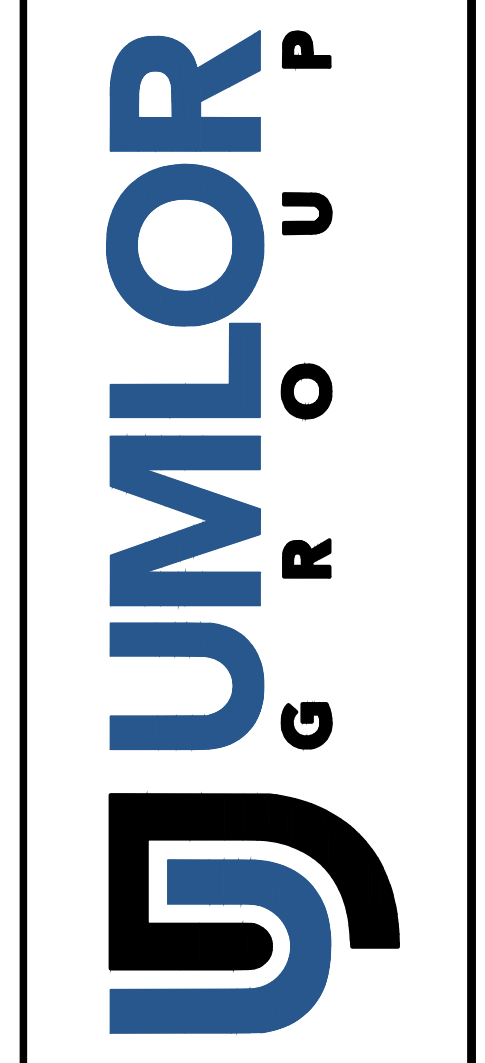
Total Population:	110	
Average Daily Flow:	400	gallons/capita/day
Average Flow:	44,000	gallons/day
Peaking Factor:	4.00	
Peak Flow:	176,000	gallons/day
		= 0.272 c.f.s.
Peak Flow:	176,000	gallons/day
		= 0.176 m.g.d.

Estimated Pipe Capacity of 6" Sanitary Sewer
Pipe Size: 6 inch
Minimum Slope: 0.40 %
Area: 0.20 s.f.
n: 0.013
Capacity of 6" Pipe: 0.36 c.f.s.
Therefore pipe has sufficient capacity

The site plan response letter within the packet is incorrectly stated what was agreed upon at the meeting. The soil borings and CPVC standard will be determined prior to final site plan approval from staff, not at construction plan phase. The construction plans will not be accepted to be reviewed until this matter is addressed.

to be determined prior to overall site plan approval from staff

49287 WEST ROAD
WIXOM, MI 48393
TEL 248.773.7659
FAX 866.690.4307

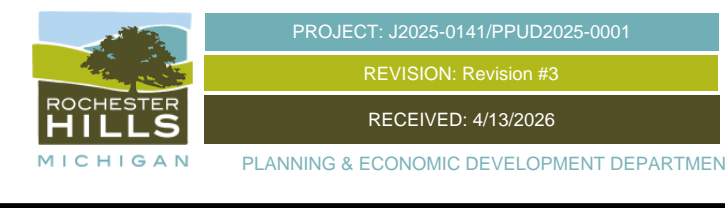


CLIENT: G.A.V. & ASSOCIATES, INC.
UTILITY PLAN
MULTIPLE PARCELS - PARCEL NO.'S 15-30-302-034 & -036
SECTION: 30
CITY OF ROCHESTER HILLS
OAKLAND COUNTY
MICHIGAN

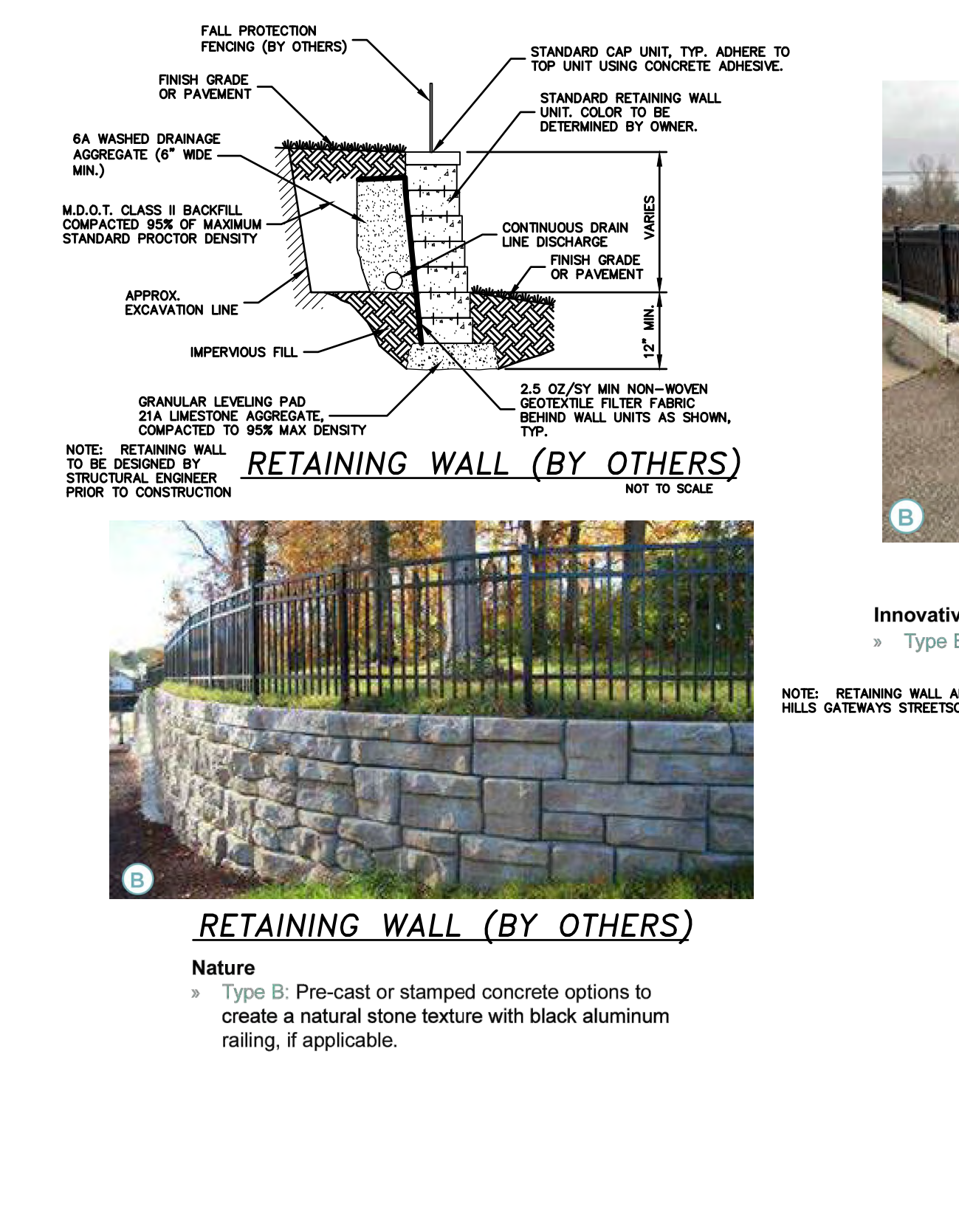
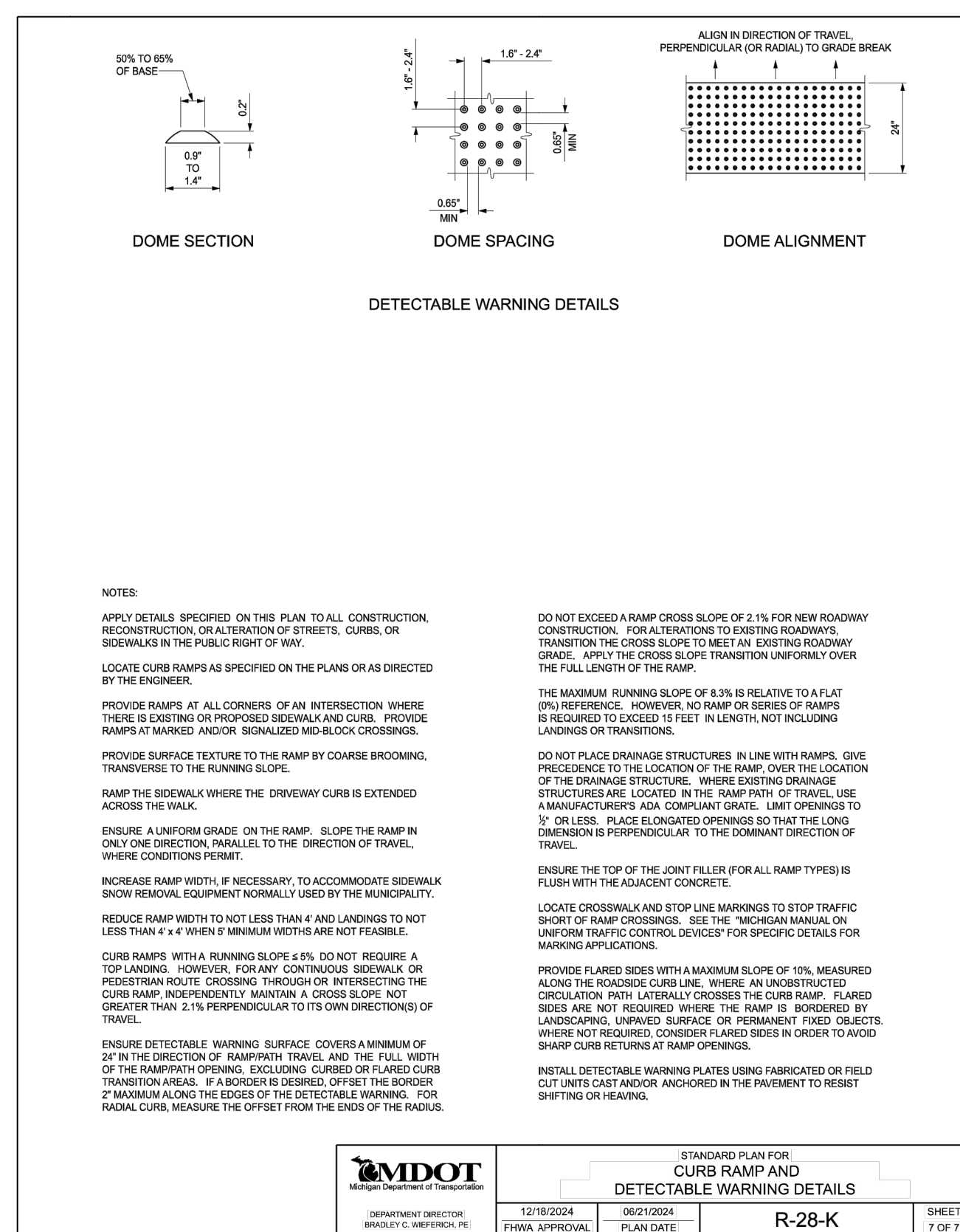
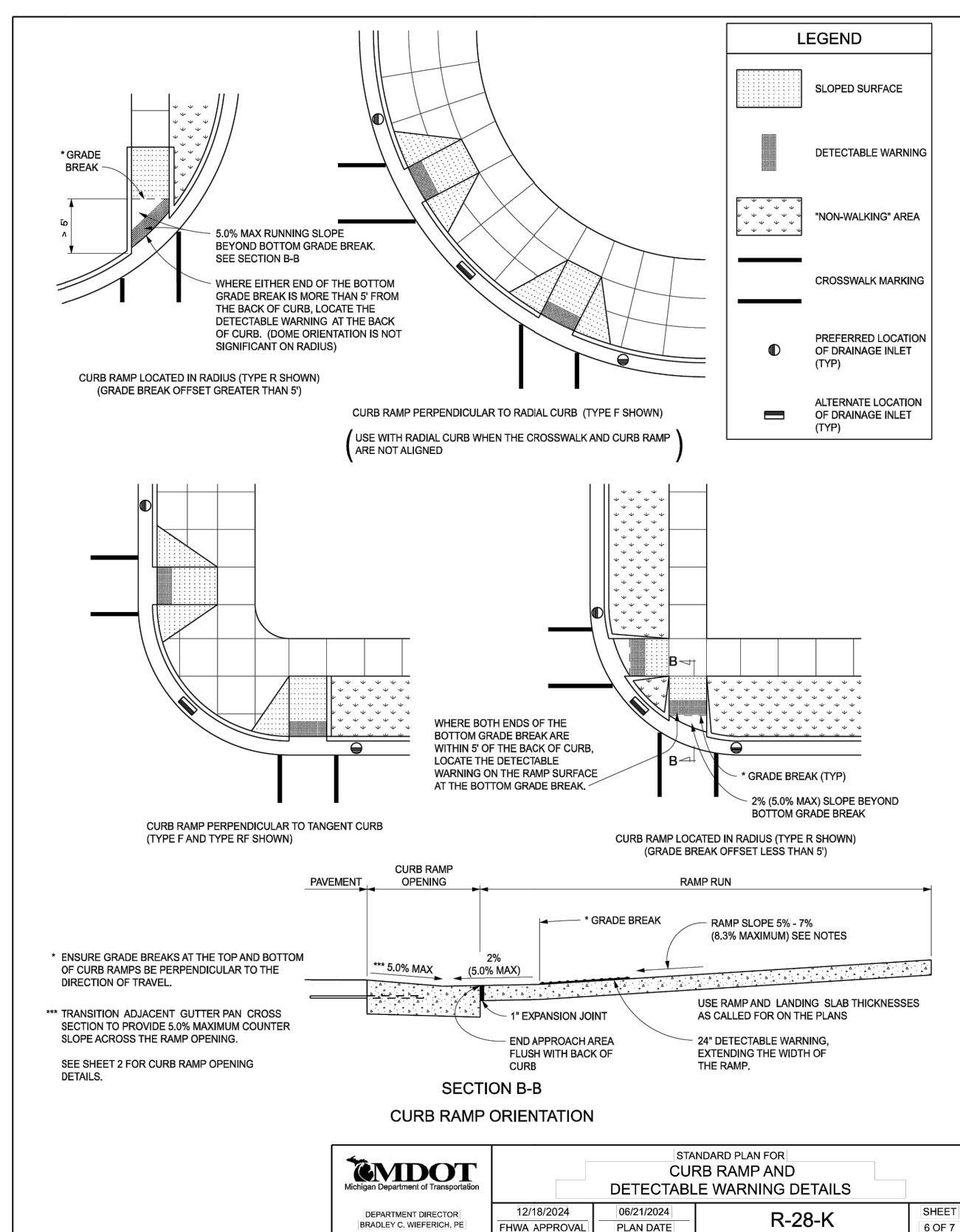
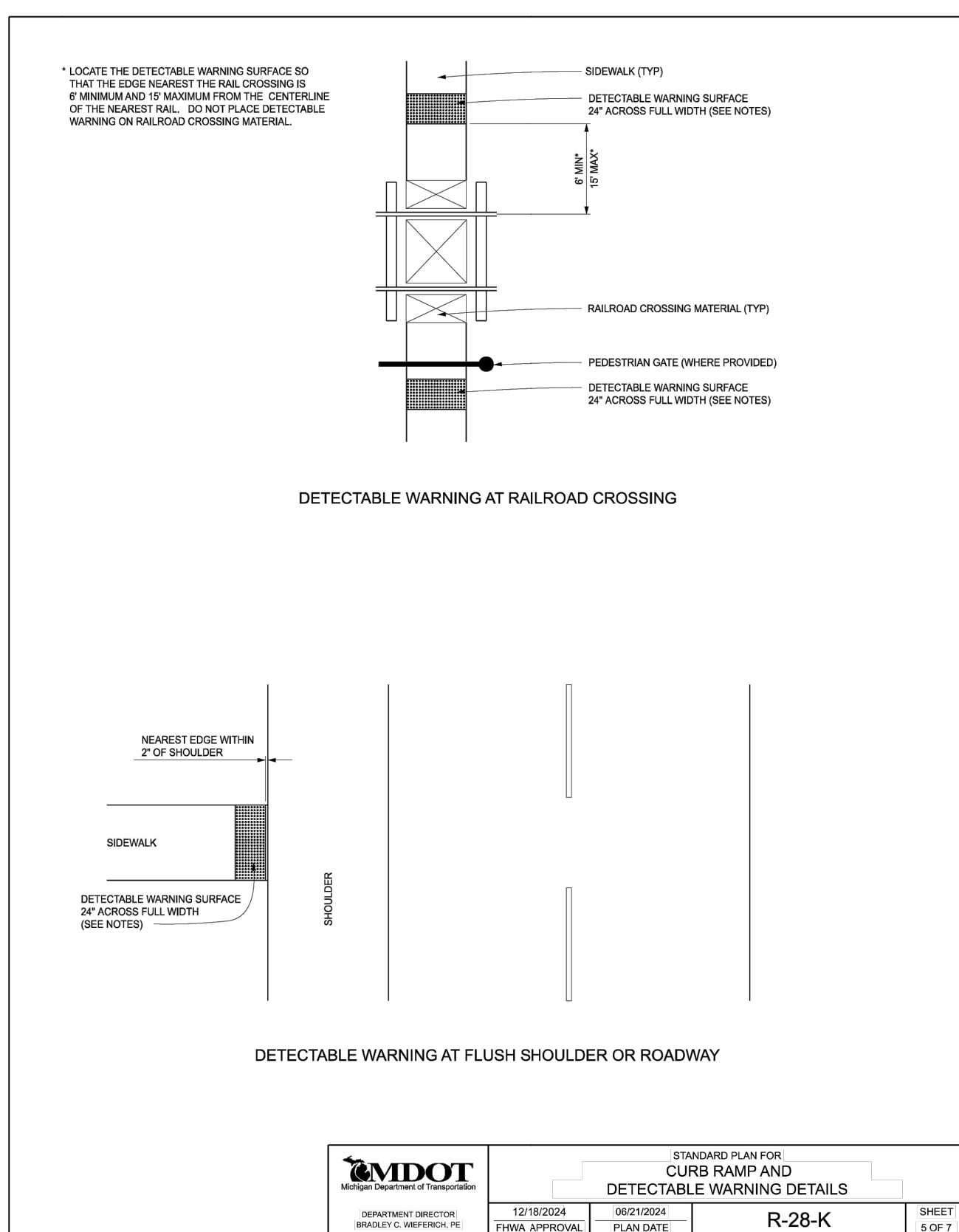
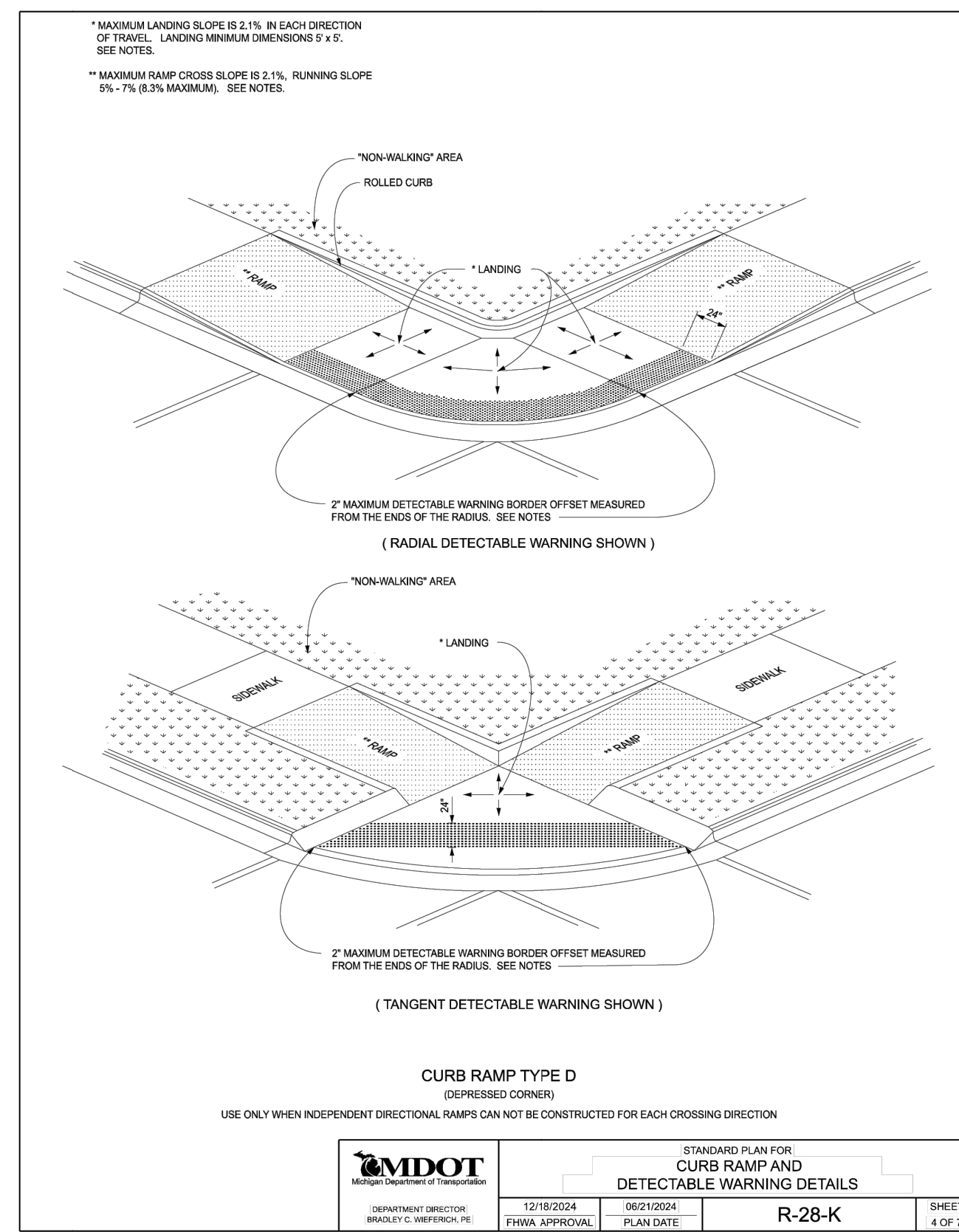
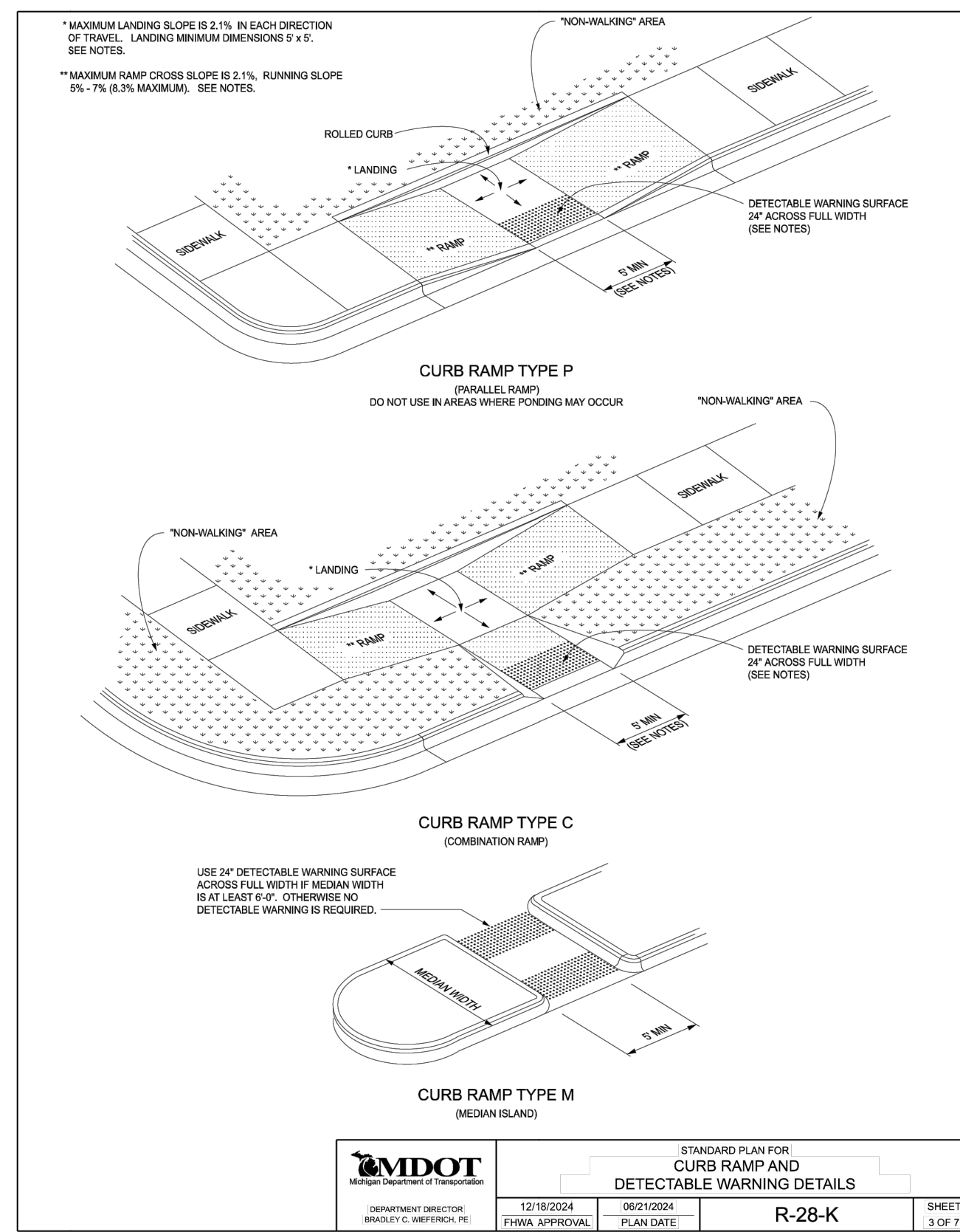
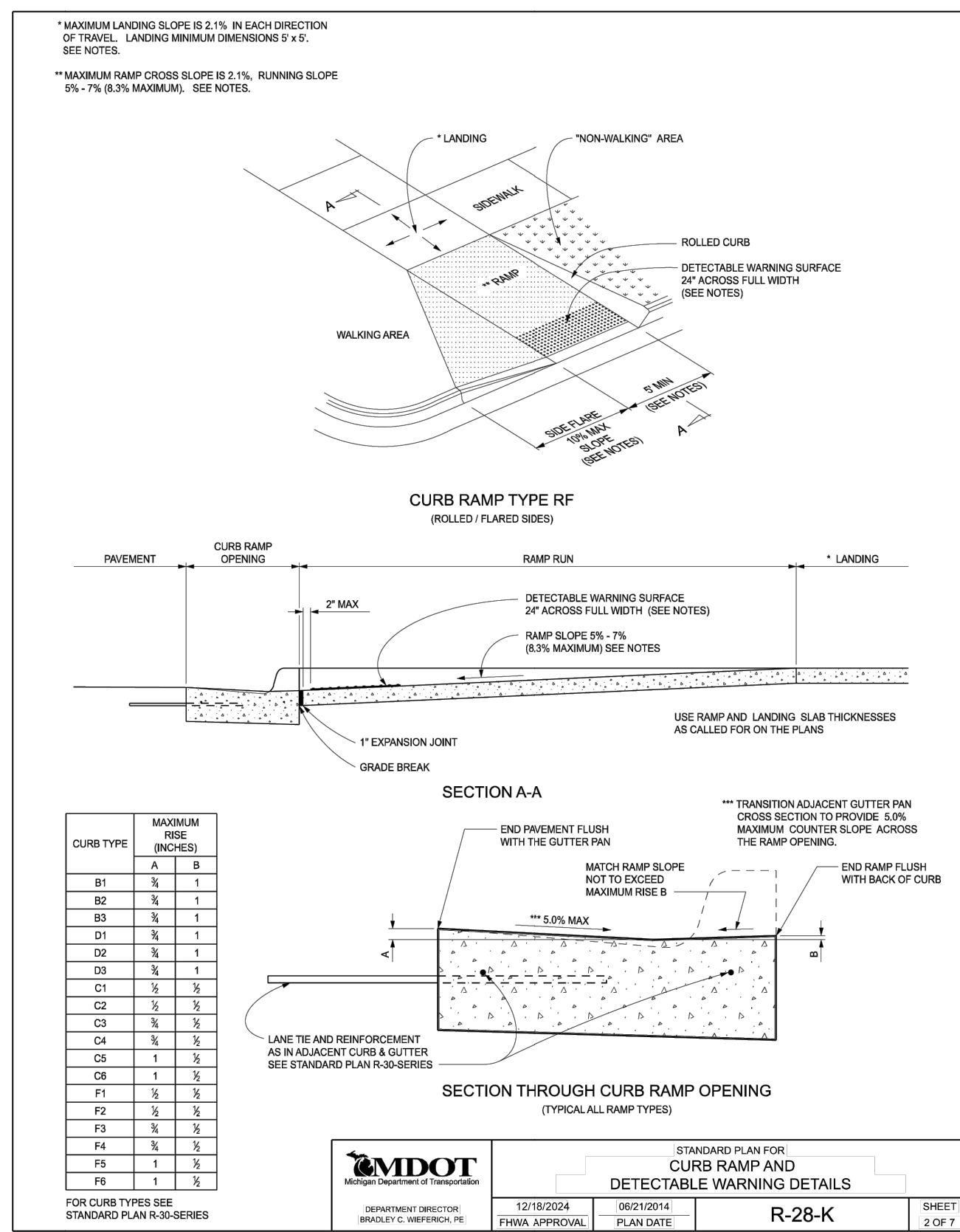
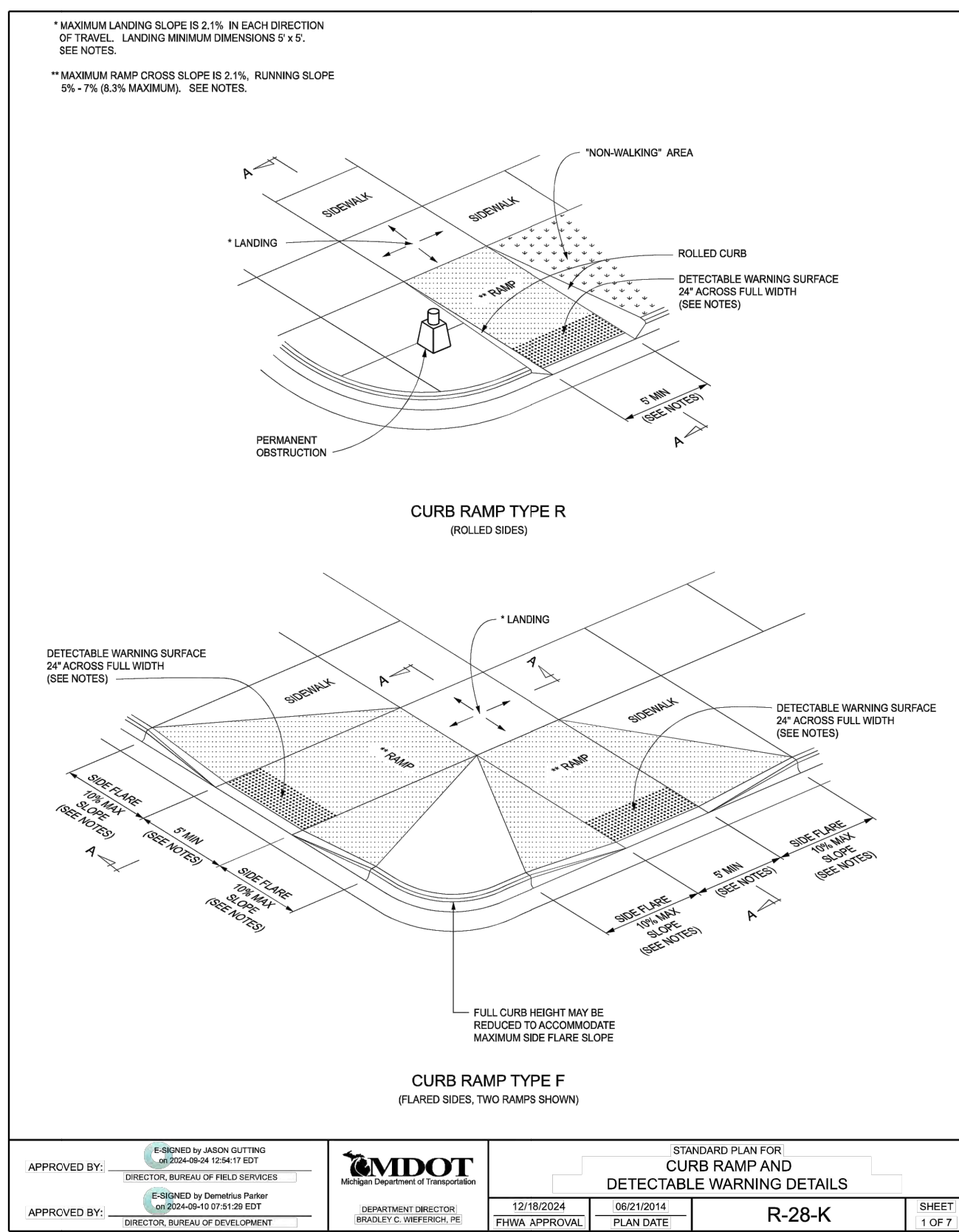
REVISED
2025-10-31 PER REVIEW
2026-2-16 PER REVIEW
2026-4-13 PER REVIEW

DATE: 4-25-2025
DRAWN BY: RMS/CEH/MRG
CHECKED BY: JPP/CEH

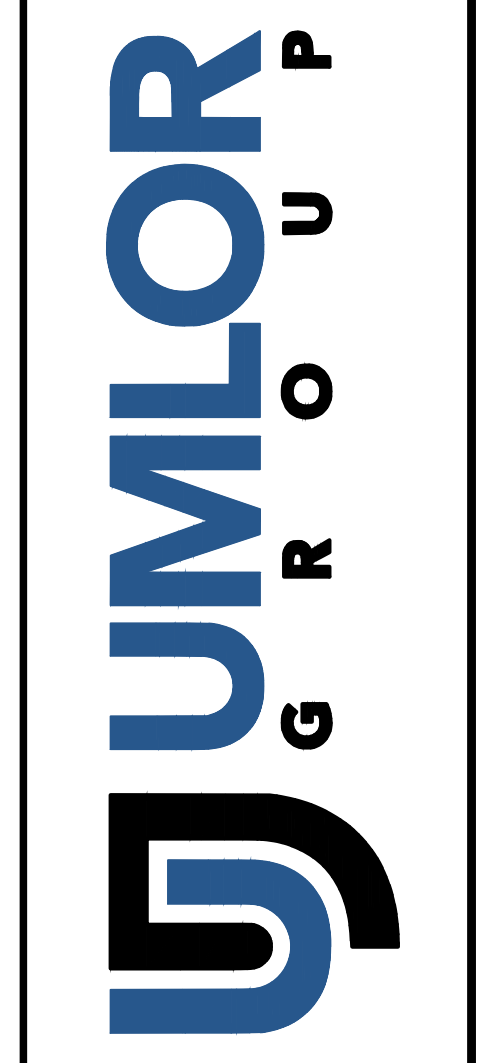
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CHP: RG
SCALE: HOR 1" = 30 FT.
VER 1" = -- FT.
23-426



CITY FILE #24-0001 SECTION #30
NOT TO BE USED AS CONSTRUCTION DRAWINGS



40287 WEST ROAD
WIXOM, MI 48393
TEL: 248.773.7659
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CLIENT: G.A.V. & ASSOCIATES, INC.

SITE DETAILS - 2

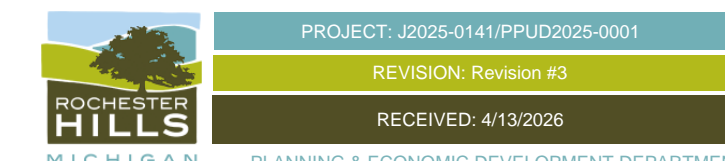
MULTIPLE PARCELS - PARCEL NO.'S 15-30-302-034 & -036
SECTION: 30 CITY OF ROCHESTER HILLS
OAKLAND COUNTY MICHIGAN

REVISIONS:
2025-10-31 PER REVIEW
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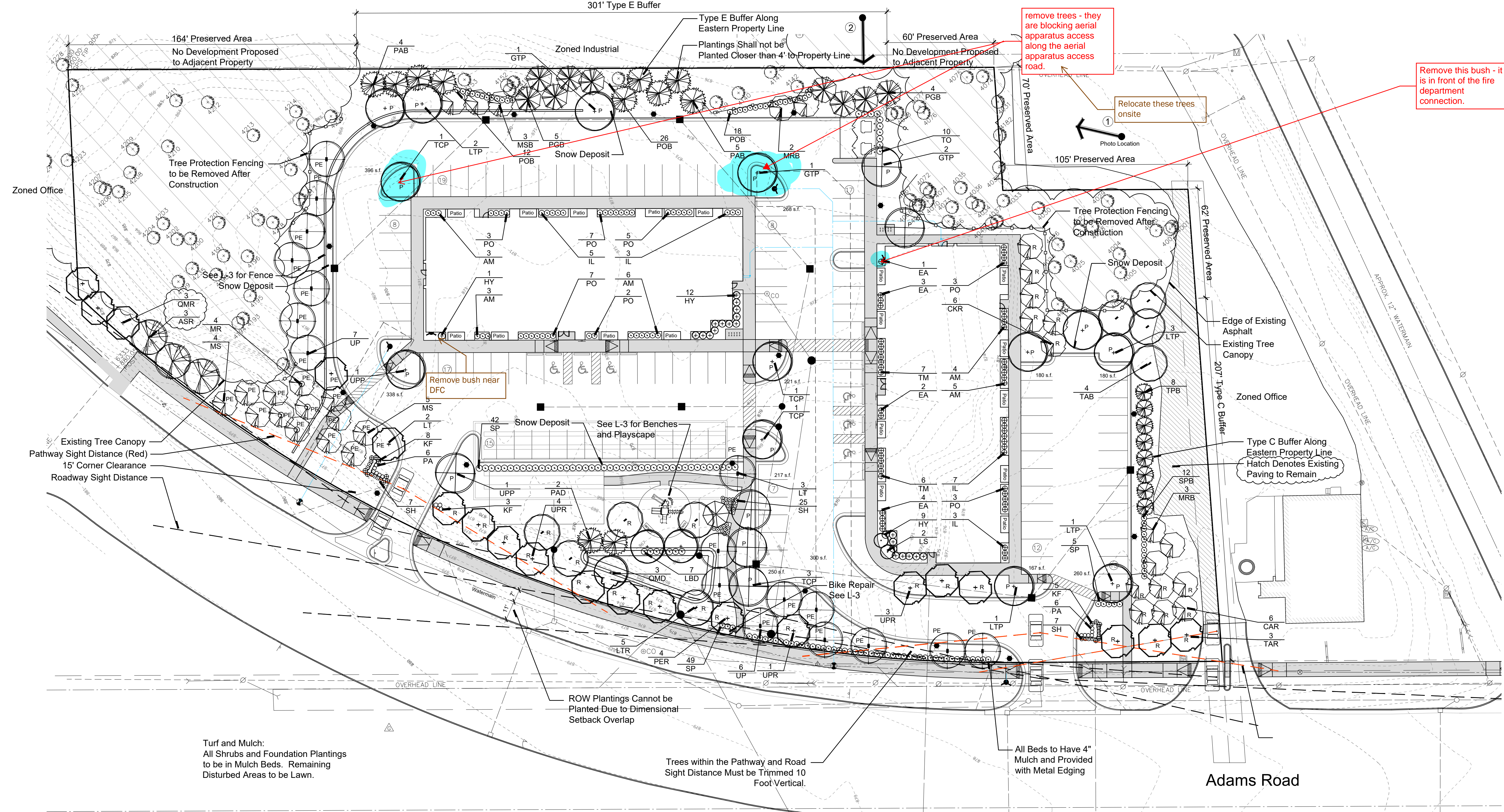
PROJECT: 2025-0141/PPUD2025-0001
REVISION: Revision #3
RECEIVED: 4/13/2026

CITY FILE #24-0001 SECTION #30
NOT TO BE USED AS CONSTRUCTION DRAWINGS

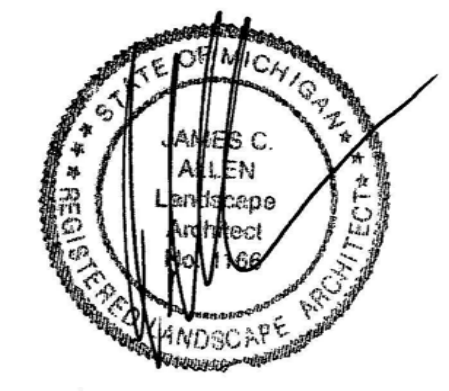


SCALE: 1" = 10'-0" FT.
VER: 1" = 10'-0" FT.

23-426



Seal:



Title:
Landscape Plan

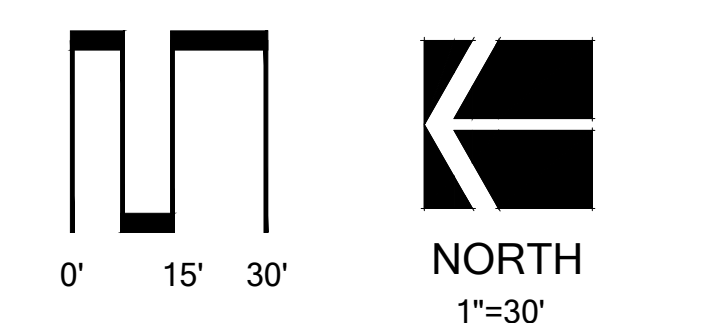
Project:
**Penelope's Place
 Rochester Hills, Michigan**

Prepared for:
 Umlor Group
 49287 West Road
 Wixom, Michigan 48393

Revision: Issued:
 Revised April 25, 2025
 Revised October 14, 2025
 Revised January 30, 2026
 Revised April 13, 2026

Job Number:
 24-009

Drawn By: Checked By:
 jca jca



Sheet No.

Landscape Summary

Parking Lot Landscaping	
Vehicular Use Area	55,149 s.f.
Landscape Area Required	2,758 s.f. (55,149 x 5%)
Net Buffer Length	2,777 s.f.
Trees Required	18.5 Trees (2,777 / 150)
Trees Provided	19 Trees
Perimeter Plantings	
Perimeter	455 l.f.
Trees Required	18.2 Trees (455 / 25)
Trees Provided	18 Trees - Planted Elsewhere
Ornamental Trees Required	13 Trees (455 / 35)
Ornamental Trees Provided	13 Trees - Planted Elsewhere
Right of Way Plantings **	
Frontage	702 l.f.
Trees Required	20.0 Trees (702 / 35)
Trees Provided	20 Trees - Planted Elsewhere
Ornamental Trees Required	11.7 Trees (702 / 60)
Ornamental Trees Provided	12 Trees - Planted Elsewhere
Buffer Landscaping Type C - South Property Line	
Buffer Length	444'
Less Preserved Areas	237'
Net Buffer Length	207'
Canopy Trees Required	4.1 Trees (207 / 100) x 2
Canopy Trees Provided	4 Trees
Evergreen Trees Required	8.3 Trees (207 / 100) x 4
Evergreen Trees Provided	8 Trees
Ornamental Trees Required	3.1 Trees (207 / 100) x 1.5
Ornamental Trees Provided	3 Trees
Shrubs Required	12.4 Shrubs (207 / 100) x 6
Shrubs Provided	12 Shrubs

Buffer Landscaping Type E - East Property Line	
Buffer Length	525'
Less Preserved Areas	224'
Net Buffer Length	301'
Canopy Trees Required	7.5 Trees (301 / 100) x 2.5
Canopy Trees Provided	9 Trees (9 Existing)
Evergreen Trees Required	18.1 Trees (301 / 100) x 6
Evergreen Trees Provided	18 Trees
Ornamental Trees Required	4.5 Trees (301 / 100) x 1.5
Ornamental Trees Provided	5 Trees
Shrubs Required	30.1 Shrubs (301 / 100) x 10
Shrubs Provided	30 Shrubs
Detention Pond	
Freeboard Length	176'
Trees Required	2.6 Trees (176 / 100) x 1.5
Trees Provided	3 Trees
Evergreen Trees Required	1.7 Trees (176 / 100)
Evergreen Trees Provided	2 Trees
Shrubs Required	7 Shrubs (176 / 100) x 4
Shrubs Provided	7 Shrubs
Woodland Replacement - See Sheet 4	
Regulated Trees Required	159 Trees
Replacement Trees Provided	6 Trees
Trees Paid into Tree Fund	153 Trees (\$334 x 153 = \$51,102)

* As measured from the back of curb and Excluding Sidewalks.
 ** ROW Plantings will Require a RCOC Permit. If the Permit is Not Granted, the Value of Required Trees Shall be Placed in Other On-Site Areas.

Plant List

Sym.	Qty	Botanical Name	Common Name	Caliper	Spacing	Root	Height	Price	Total
Parking Lot Island Trees									
GTP	4	Gleditsia triacanthos var. inermis	Honey Locust	3.0"	as shown	B&B	8	\$ 425.00	\$ 1,700.00
LTP	7	Liriodendron tulipifera	Tulip Tree	3.0"	as shown	B&B	8	\$ 425.00	\$ 2,975.00
TCP	6	Tilia cordata 'Gessneri'	Gessneria Linden	3.0"	as shown	B&B	8	\$ 425.00	\$ 2,550.00
UPR	2	Ulmus Prinosctor	Princeton Elm	3.0"	as shown	B&B	8	\$ 425.00	\$ 850.00
Parking Lot Perimeter									
LT	5	Liriodendron tulipifera	Tulip Tree	3.0"	as shown	B&B	8	\$ 425.00	\$ 2,125.00
MR	4	Malus Adirondack'	Adirondack Crab	2.0"	as shown	B&B	8	\$ 200.00	\$ 800.00
MS	9	Malus Spring Snow'	Spring Snow Crab	2.0"	as shown	B&B	8	\$ 200.00	\$ 1,800.00
UP	13	Ulmus Prinosctor	Princeton Elm	3.0"	as shown	B&B	8	\$ 425.00	\$ 5,525.00
Right of Way Trees									
CAR	6	Cornus alternifolia	Pagoda Dogwood, Multi-Stem	as shown	B&B	8	\$ 200.00	\$ 1,200.00	
CKR	6	Cornus kousa	Kousa Dogwood	2.0"	as shown	B&B	8	\$ 200.00	\$ 1,200.00
LTR	5	Liriodendron tulipifera	Tulip Tree	3.0"	as shown	B&B	8	\$ 425.00	\$ 2,125.00
PER	4	Platanus x acerifolia 'Excelsior'	Excelsior London Planetree	3.0"	as shown	B&B	8	\$ 425.00	\$ 1,700.00
CR	3	Tilia americana 'Redmond'	Redmond Linden	3.0"	as shown	B&B	8	\$ 425.00	\$ 1,275.00
UPR	8	Ulmus Prinosctor	Princeton Elm	3.0"	as shown	B&B	8	\$ 425.00	\$ 3,400.00
Buffer Plantings									
MRB	5	Malus Adirondack'	Adirondack Crab	2.0"	as shown	B&B	8	\$ 200.00	\$ 1,000.00
MSB	3	Malus Spring Snow'	Spring Snow Crab	2.0"	as shown	B&B	8	\$ 200.00	\$ 600.00
PAB	9	Picea glauca 'Denata'	Norway Spruce	as shown	B&B	10	\$ 200.00	\$ 2,700.00	
POB	9	Picea glauca 'Denata'	Black Hills Spruce	as shown	B&B	10	\$ 200.00	\$ 2,700.00	
SPB	30	Physocarpus opulifolius 'Summer Wine'	Summer Wine Ninebark	as shown	cont.	30"	\$ 50.00	\$ 1,500.00	
SPB	12	Spiraea J. Little Princess	Little Princess Spiraea	as shown	cont.	30"	\$ 50.00	\$ 600.00	
TAB	4	Tilia americana 'Redmond'	Redmond Linden	as shown	B&B	10	\$ 425.00	\$ 1,700.00	
TPB	8	Thuja p. 'Green Giant'	Green Giant Arborvitae	as shown	B&B	10	\$ 300.00	\$ 2,400.00	
Detention Plantings									
LBD	7	Liriodendron tulipifera	Tulip Tree	as shown	cont.	30"	\$ 50.00	\$ 350.00	
PAD	2	Picea abies	Norway Spruce	as shown	B&B	8	\$ 300.00	\$ 600.00	
QBD	3	Quercus bicolor	Swamp White Oak	3.0"	as shown	B&B	8	\$ 425.00	\$ 1,275.00
Woodland Replacement									
ASR	3	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	2.0"	as shown	B&B	8	\$ 425.00	\$ 1,275.00
QMR	3	Quercus macrocarpa	Bur Oak	2.0"	as shown	B&B	8	\$ 425.00	\$ 1,275.00
General Plantings									
AM	21	Aronia melanocarpa 'Low Spine Hedge'	Chokeberry	as shown	cont.	30"	\$ 50.00	\$ 1,050.00	
EA	10	Eurolymus alata 'Compact'	Compact Burning Bush	as shown	cont.	30"	\$ 50.00	\$ 500.00	
HY	22	Hydrangea x. Little Quick Fire Hydrangea	Little Quick Fire Hydrangea	as shown	cont.	30"	\$ 50.00	\$ 1,100.00	
IL	18	Ilex glabra 'Nordic'	Nordic Inkberry	as shown	cont.	30"	\$ 50.00	\$ 900.00	
KF	16	Kat Fossler's Grass	Kat Fossler's Grass	as shown	cont.	30"	\$ 50.00	\$ 800.00	
LS	2	Liquidambar s. 'Slender Silhouette'	Slender Silhouette Sweet Gum	3.0"	as shown	B&B	8	\$ 425.00	\$ 850.00
PA	12	Panicum a. 'Hammer'	Hammer Fountain Grass	as shown	cont.	30"	\$ 50.00	\$ 600.00	
PO	30	Physocarpus opulifolius 'Little Devil'	Little Devil Ninebark	as shown	cont.	30"	\$ 50.00	\$ 1,500.00	
SH	39	Sparganium angustifolium	Sparganium	as shown	cont.	30"	\$ 15.00	\$ 585.00	
SP	96	Sporobolus sp.	Spore	as shown	cont.	30"	\$ 50.00	\$ 4,800.00	
TD	10	Thuja standishi x. plicata 'Steepchase'	Steepchase Arborvitae	as shown	B&B	8	\$ 200.00	\$ 2,000.00	
TM	13	Taxus x. media 'Gardenside'	Dense Yew	as shown	cont.	30"	\$ 50.00	\$ 650.00	
2,850 Kentucky Blue Grass (S.V.)									
									\$ 49,000.00
									\$ 117,950.00

Landscape irrigation plan will be required prior to final approval

Preservation Photos

Photo 1



South and Southeast Preserved Areas are Predominately Evergreens with Understory

Photo 2



East Preserved Areas are Predominately Evergreens along Fenceline

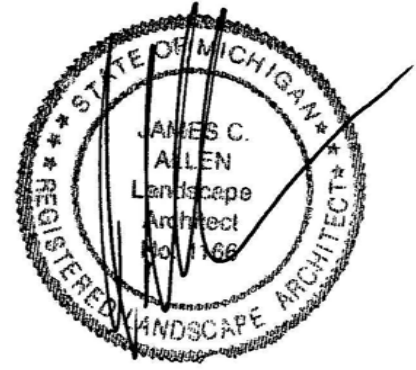


LB Landscape Bond
 Regulated trees = 192 trees
 Regulated trees removed = 110 trees
 Specimen Trees Removed 5 trees
 Replacement Trees Required = 159
 (6 provided onsite, 153 paid into tree fund)

Utility Maintenance Statement:
 If, in the event, Utility Maintenance Results in the Removal of Landscaping, as Shown on this Plan, it Will be the Owner's Responsibility to Repair and Replace Shrubs and Trees that are Located within the Utility Easements.

Utility Cabinets:
 Cabinets Shall be Screened on Three Side by Evergreen Shrubs Equal to the Top of the Cabinet

TRP Tree Removal Permit
 Regulated trees = 192 trees
 Regulated trees removed = 110 trees
 Specimen Trees Removed 5 trees
 Replacement Trees Required = 159
 (6 provided onsite, 153 paid into tree fund)



Seal:

Title:
Landscape Plan

Project:

Penelope's Place
Rochester Hills, Michigan

Prepared for:

Umlor Group
49287 West Road
Wixom, Michigan 48393

Revision: Issued:

Review	April 25, 2025
Revised	October 14, 2025
Revised	January 30, 2026
Revised	April 13, 2026

Job Number:

24-009

Drawn By: Checked By:

jca jca

Sheet No.

L-2

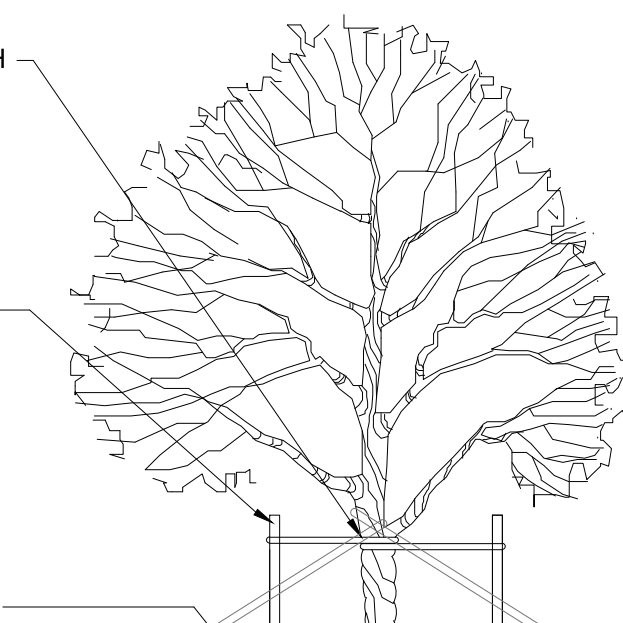
NOTE:
GUY DECIDUOUS TREES ABOVE 3" CAL. STAKE DECIDUOUS TREES BELOW 3" CAL.

STAKE TREES AT FIRST BRANCH USING 2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS. ALLOW FOR SOME MINIMAL FLEXING OF THE TREE. REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES, MIN. 36" ABOVE GROUND FOR UPRIGHT, 18" IF ANGLED. DRIVE STAKES A MIN. 18" INTO UNDISTURBED GROUND OUTSIDE ROOTBALL. REMOVE AFTER ONE YEAR.

MULCH 4" DEPTH WITH SHREDDED HARDWOOD BARK, NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK. PULL ANY ROOT BALL DIRT EXTENDING ABOVE THE ROOT FLARE AWAY FROM THE TRUNK SO THE ROOT FLARE IS EXPOSED TO AIR.

MOUND EARTH TO FORM SAUCER. REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT DOWN WIRE BASKET AND FOLD DOWN BURLAP FROM TOP 1/2 OF THE ROOTBALL.



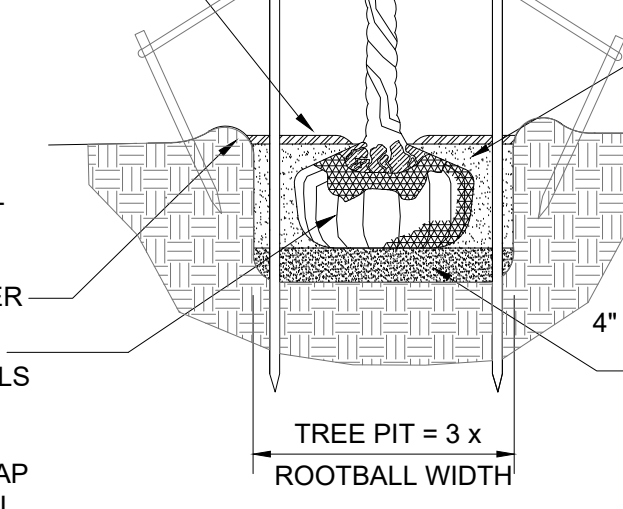
NOTE:
TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

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

REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY OR COULD CAUSE GIRDLING.

PLANTING MIXTURE: AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.

SCARIFY SUBGRADE AND PLANTING PIT SIDES. RECOMPACT BASE OF TO 4" DEPTH.



DECIDUOUS TREE PLANTING DETAIL

Not to scale

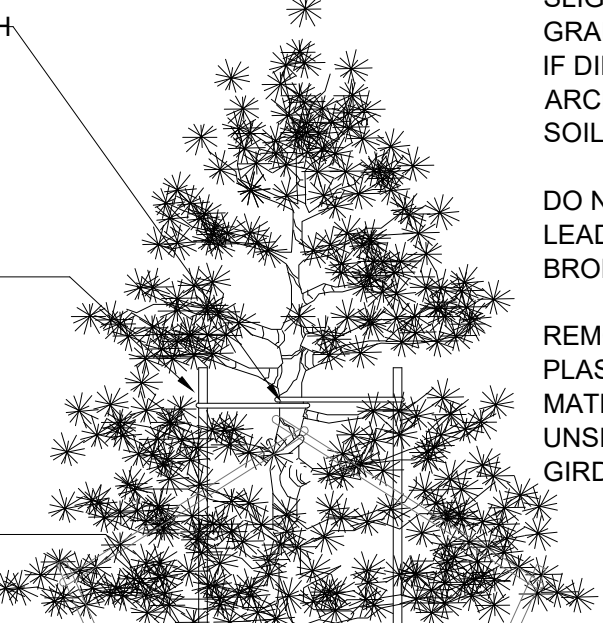
NOTE:
GUY EVERGREEN TREES ABOVE 12' HEIGHT. STAKE EVERGREEN TREE BELOW 12' HEIGHT.

STAKE TREES AT FIRST BRANCH USING 2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS. ALLOW FOR SOME MINIMAL FLEXING OF THE TREE. REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES, MIN. 36" ABOVE GROUND FOR UPRIGHT, 18" IF ANGLED. DRIVE STAKES A MIN. 18" INTO UNDISTURBED GROUND OUTSIDE ROOTBALL. REMOVE AFTER ONE YEAR.

MULCH 4" DEPTH WITH SHREDDED HARDWOOD BARK, NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK. PULL ANY ROOT BALL DIRT EXTENDING ABOVE THE ROOT FLARE AWAY FROM THE TRUNK SO THE ROOT FLARE IS EXPOSED TO AIR.

MOUND EARTH TO FORM SAUCER. REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT DOWN WIRE BASKET AND FOLD DOWN BURLAP FROM TOP 1/2 OF THE ROOTBALL.



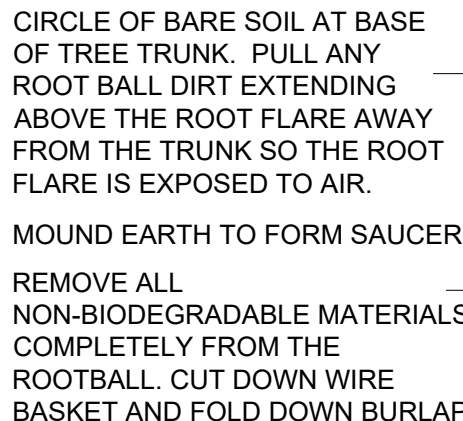
NOTE:
TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

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

REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY OR COULD CAUSE GIRDLING.

PLANTING MIXTURE: AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.

SCARIFY SUBGRADE AND PLANTING PIT SIDES. RECOMPACT BASE OF TO 4" DEPTH.



EVERGREEN TREE PLANTING DETAIL

Not to scale

SHRUB PLANTING DETAIL

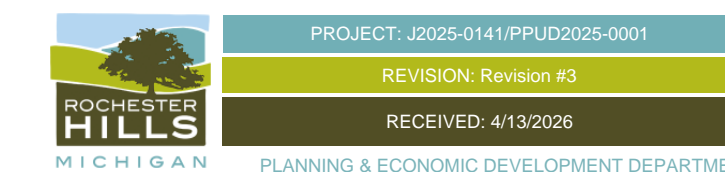
NOT TO SCALE

LANDSCAPE NOTES

- 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.
- Plants shall be full, well-branched, and in healthy vigorous growing condition.
- Plants shall be watered before and after planting is complete.
- 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 installation.
- All material shall conform to the guidelines established in the most recent edition of the American Standard for Nursery Stock.
- Provide clean backfill soil, using material stockpiled on site. Soil shall be screened and free of any debris, foreign material, and stone.
- "Agriform" labs or similar slow-release fertilizer shall be added to the planting pits before being backfilled.
- 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.
- All plantings shall be mulched per planting details located on this sheet.
- The Landscape Contractor shall be responsible for all work shown on the landscape drawings and specifications.
- No substitutions or changes of location, or plant types shall be made without the approval of the Landscape Architect.
- The Landscape Architect shall be notified in writing of any discrepancies between the plans and field conditions prior to installation.
- The Landscape Contractor shall be responsible for maintaining all plant material in a vertical condition throughout the guaranteed period.
- 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.
- 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.
- The Landscape Contractor shall seed and mulch or sod (as indicated on plans) all areas disturbed during construction, throughout the contract limits.
- A pre-emergent weed control agent, "Preem" or equal, shall be applied uniformly on top of all mulching in all planting beds.
- All lawn and landscaped areas shall be provided with an underground automatic sprinkler system.
- Sod shall be two year old "Baron/Cheridaphi" Kentucky Blue Grass grown in a sod nursery on loam soil.
- All Disturbed Areas to Receive 4" of Topsoil. Planting Beds to Receive 4" of Shredded Hardwood Mulch.

ADDITIONAL NOTES

- All Landscaped Areas Shall be Irrigated with an Automatic, Underground System. Irrigation May Only Occur Between Midnight and 5 am.
- Islands Shall be Sod.
- Owner Shall be Responsible for Replacing Damaged Plant Material Due to Utility Maintenance.
- Prior to the release of the Performance Bond, the City of Rochester Hills Forestry Division needs to inspect all trees, existing or planted, to identify any that pose a hazard to the safe use of the public right-of-way. Forestry may require the developer to remove and possibly replace, any such trees.
- These requirements are incorporated into the plan.
- Prior approval is required to plant any tree or shrub on the public right-of-way. All trees and shrubs must be planted 10' from the edge of the public road. (Trees must be planted at least 15' away from the curb or road edge where the speed limit is more than 35 mph). Shade trees and shrubs must be planted at least 5' from the edge of the public walkway. Evergreen and ornamental trees must be planted at least 10' from the edge of the public walkway. No trees or shrubs may be planted within the triangular area formed at the intersection of any street right-of-way at a distance along each line of 25' from their point intersection. No trees or shrubs may be planted within the triangular area formed at the intersection of any driveway with a public walkway at a distance along each line of 15' from their point of intersection. All trees and shrubs must be planted at least 10' from any fire hydrant. Shade and evergreen trees must be at least 15' away from the nearest overhead wire. Trees must be planted a minimum of 5' from an underground utility, unless the City's Landscape Architect requires a greater distance.
- No substitutions or changes of location or plant types shall be made without the approval of the developer and the City of Rochester Hills Planning and Economic Development Department and has Final Right of Approval for the Release of the Performance and Maintenance Bonds.
- The developer and/or the City of Rochester Hills 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 or specifications.
- Replacement trees may not be planted within the drip line of existing trees.
- Trees may not be planted within 4' of any property line.



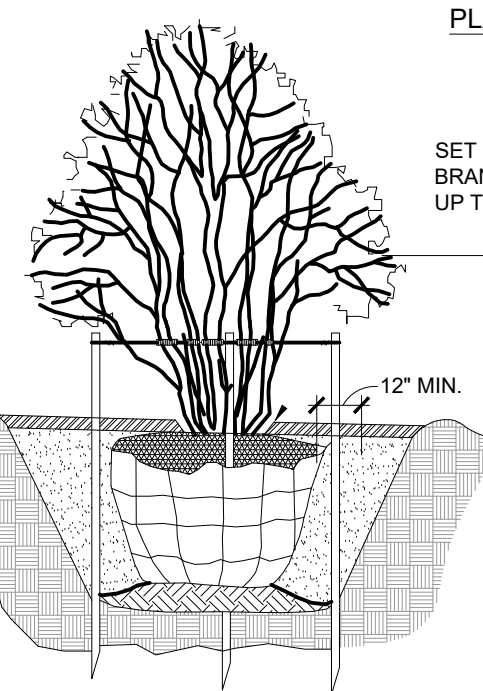
City File #24-0001



Sheet No.



NOTES:
PRUNE AS SPECIFIED
STAKE 3 LARGEST STEMS, IF TREE HAS MORE THAN 3 LEADERS
SET TREE STAKES VERTICAL AND AT SAME HEIGHT.



MOUND TO FORM SAUCER
REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT DOWN WIRE BASKET AND FOLD DOWN BURLAP FROM TOP 1/2 OF THE ROOTBALL
PLANT MIXTURE AS SPECIFIED

SCARIFY SIDES TO 4" DEPTH AND RECOMPACT

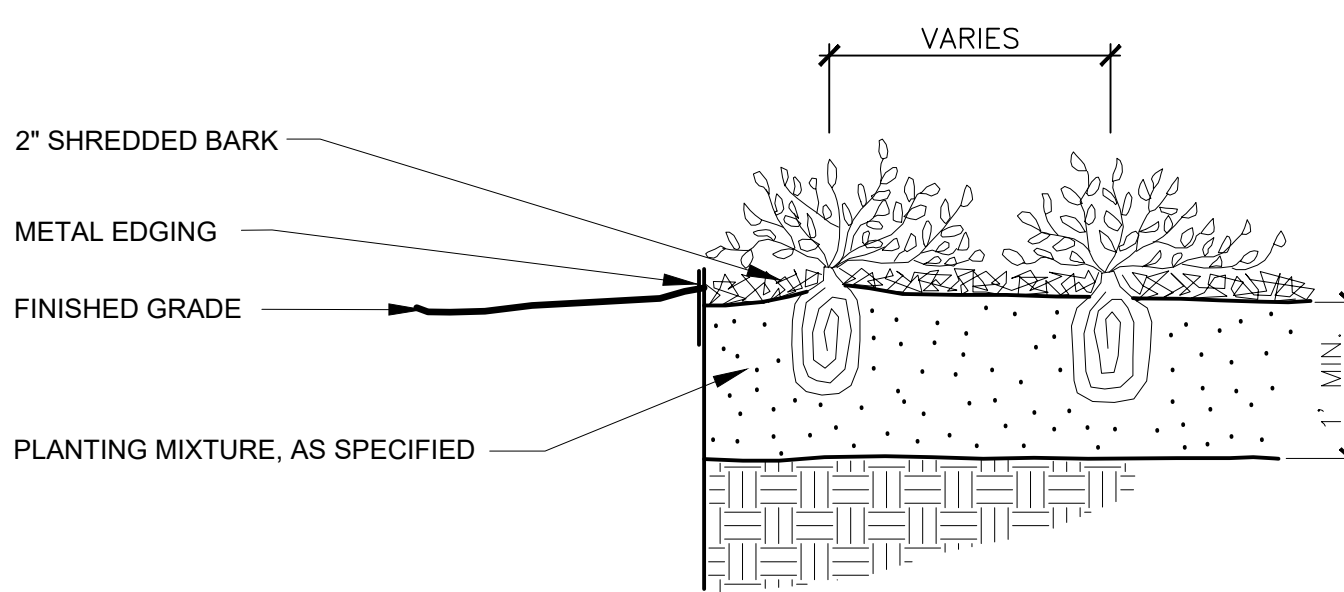
STAKES TO EXTEND 12" BELOW TREE PIT IN UNDISTURBED GROUND

SET STAYS ABOVE FIRST BRANCHES, APPROX. HALFWAY UP TREE (SEE DETAIL)

MULCH 3" DEPTH WITH SHREDDED HARDWOOD BARK, NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK TO EXPOSE ROOT FLARE. REMOVE EXCESS SOIL TO EXPOSE ROOT FLARE IF NECESSARY.

MULTI-STEM TREE PLANTING DETAIL

NOT TO SCALE



PERENNIAL PLANTING DETAIL

Not to scale

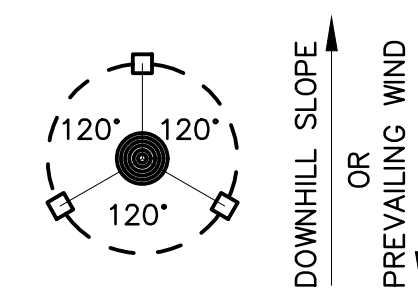
MAINTENANCE NOTES

The owner of the property shall be responsible for all maintenance of site landscaping, as follows:

- Landscaping shall be kept in a neat, orderly and healthy growing condition, free from debris and refuse.
- Pruning shall be minimal at the time of installation, only to remove dead or diseased branches. Subsequent pruning shall assure proper maturation of plants to achieve their approved purpose.
- All dead, damaged, or diseased plant material shall be removed immediately and replaced within six (6) months after it dies or in the next planting season, whichever occurs first. For purposes of this section, the planting season for deciduous plants shall be between March 1 and June 1 and from October 1 until the prepared soil becomes frozen. The planting season for evergreen plants shall be between March 1 and June 1. Plant material installed to replace dead or diseased material shall be as close as practical to the size of the material it is intended to replace. The City may notify property owners of the need to replace dead, damaged, or diseased material.
- The approved landscape plan shall be considered a permanent record and integral part of the Site Plan Approval. Unless otherwise approved in accordance with the aforementioned procedures, any revisions to or removal of plant materials, or non-compliance with the maintenance requirements of this Section 138-12.109 will place the parcel in non-conformity with the approved landscape plan and be a violation of this ordinance.

MULCH BEDS

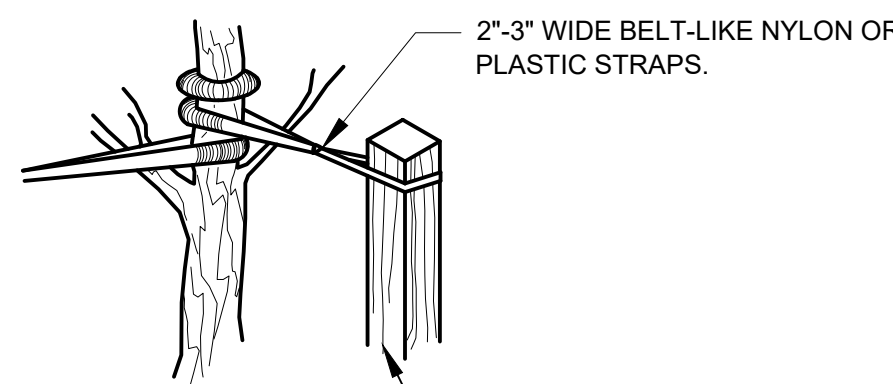
A Minimum four-inch layer of shredded hardwood bark shall be placed in all planter beds containing trees or shrubs and around the base of all trees planted within lawn areas (mulch over the entire planting pit width). To aid in maintenance operations all shrubs planted within lawn areas are to be planted in groups and mulched as one group, and hedgerows are to be mulched as one continuous strip.



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

STAKING/GUYING LOCATION

2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS.



STAKES AS SPECIFIED 3 PER TREE

GUYING DETAIL

STAKING DETAIL

TREE STAKING DETAIL

Not to scale

Bike Repair Station



Manufacturer: The Park and Facilities
 Model: 567-1002

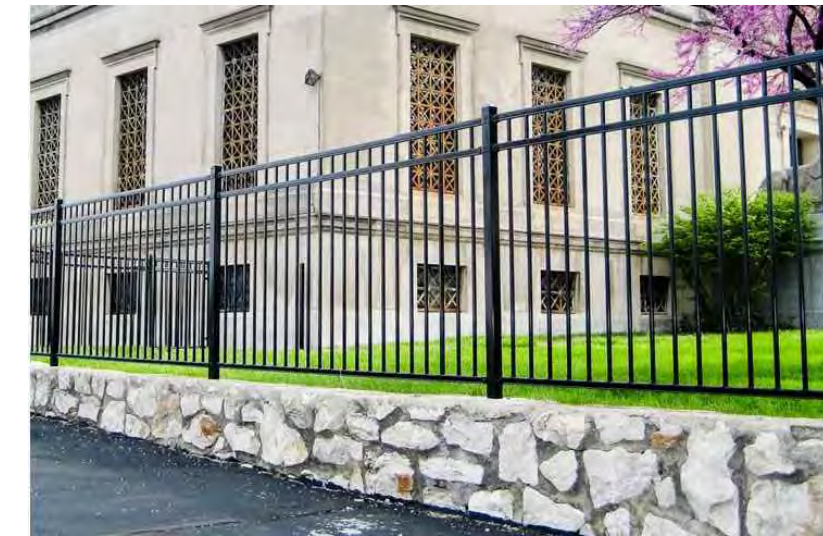
Seating



Manufacturer: Landscape Forms
 Color: Jarrah Woodgrain with Powder Coated Metal
 Model: Rest Bench, Backed, 26" x 80" x 33"

Benches shall comply with section 903 of the 2017 ICC A117.1.

Decorative Fencing



Manufacturer: Ameristar
 Color: Black
 Model: Montage, 42" Height

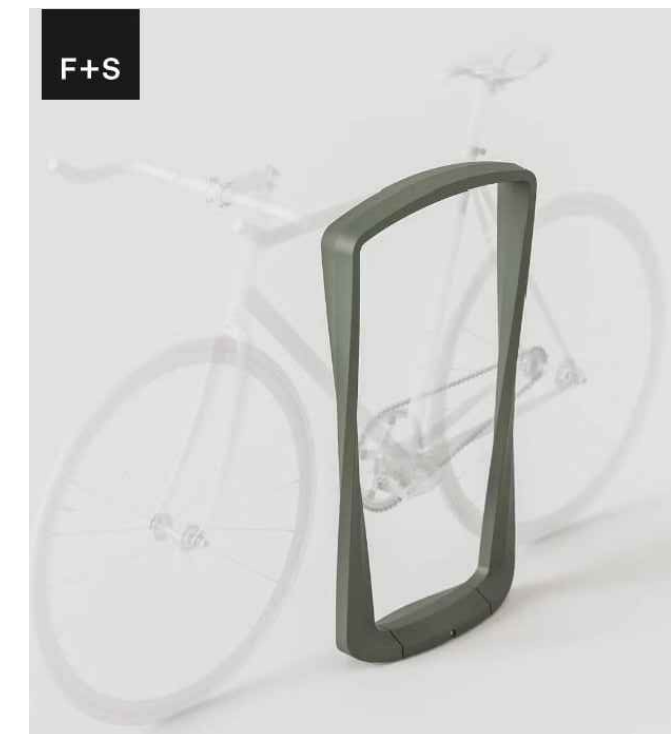
Playscape



Manufacturer: Playcraft
 Structure #: R5054682A with Rock Climber

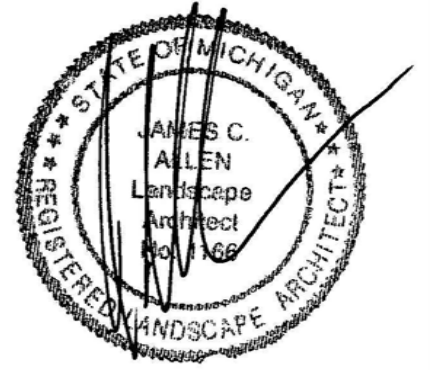
Play area shall comply with section 1008 of the 2017 ICC A117.1.

Bike Rack



Manufacturer: Forms + Surfaces
 Color: Black
 Model: Twist Bike Rack

Seal: _____



Title: _____

Site Furnishings

Project: _____

Penelope's Place
 Rochester Hills, Michigan

Prepared for: _____

Umlor Group
 49287 West Road
 Wixom, Michigan 48393

Revision: _____ Issued: _____

Review	April 25, 2025
Revised	October 14, 2025
Revised	January 30, 2026
Revised	April 13, 2026

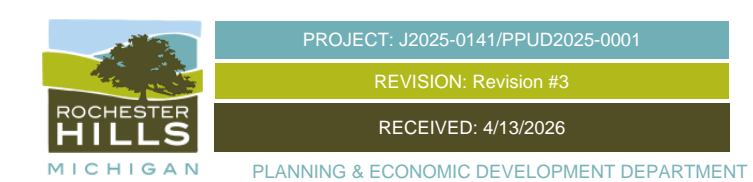
Job Number: _____

24-009

Drawn By: _____ Checked By: _____

jca

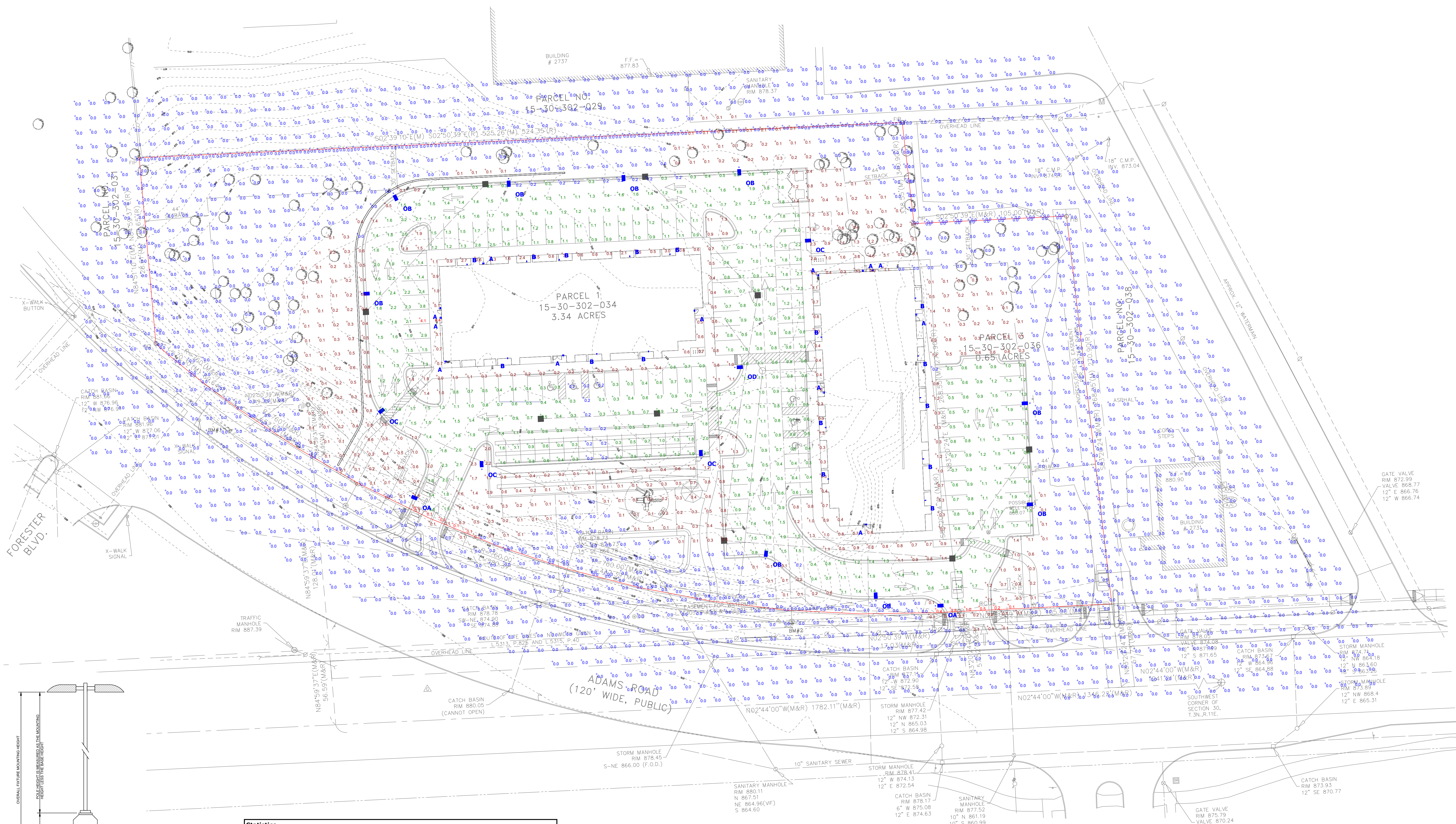
jca



City File #24-0001



Sheet No. _____



Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT	+	1.1 fc	4.1 fc	0.2 fc	20.5:1	5.5:1	0.3:1
PROPERTY LINE @ 5' AFG	+	0.0 fc	1.0 fc	0.0 fc	N/A	N/A	0.0:1
Calc Zone #4	+	0.3 fc	6.4 fc	0.0 fc	N/A	N/A	0.0:1

- General Note**
1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
 2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
 3. PARKING LOT CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"
 4. PROPERTY LINE CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 5' - 0"

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

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

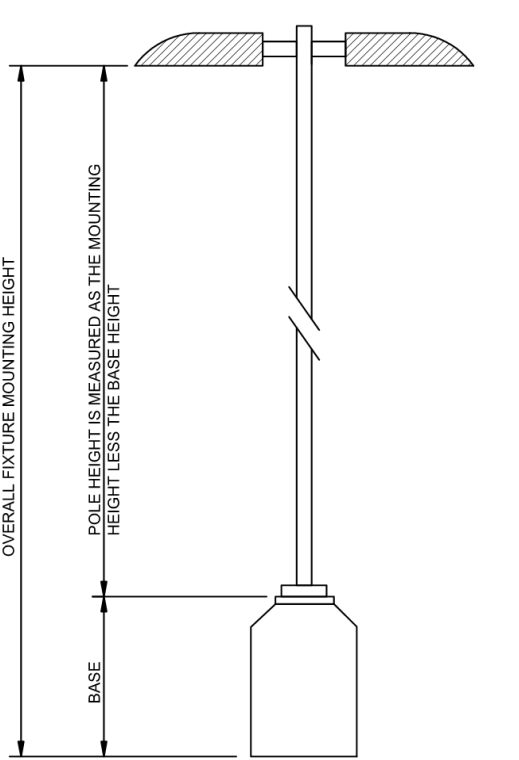
UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT CONTROLS@GASSERBUSH.COM OR 734-266-6705.

Plan View
 Scale - 1" = 30ft

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

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

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	Mounting Height
⏏	A	12	Lightway	539-LED-3-14-WSA-21	MEUW-LED	LED	1	3317	0.9	27	8'-0"
⏏	B	64	Sonnenman - A Way of Light	7380.74-WL	Square Column LED Sconce	LED	1	628	0.9	8	VARIES
⏏	OA	2	Lithonia Lighting	DSXO LED P1 30K 80CRI RCCO	D-Series Size 0 Area Luminaire P1 Performance Package 3000K CCT 80 CRI Right Corner Cutoff Extreme Backlight Control	LED	1	3063	0.9	33.21	20'-0"
⏏	OB	9	Lithonia Lighting	DSXO LED P3 30K 80CRI BLC4	D-Series Size 0 Area Luminaire P3 Performance Package 3000K CCT 80 CRI Type 4 Extreme Backlight Control	LED	1	5756	0.9	68.95	20'-0"
⏏	OC	4	Lithonia Lighting	DSXO LED P3 30K 80CRI T4M	D-Series Size 0 Area Luminaire P3 Performance Package 3000K CCT 80 CRI Type 4 Medium	LED	1	7776	0.9	68.95	20'-0"
⏏	OD	1	Lithonia Lighting	DSXO LED P3 30K 80CRI T5W	D-Series Size 0 Area Luminaire P3 Performance Package 3000K CCT 80 CRI Type 5 Wide	LED	1	8130	0.9	68.95	20'-0"



Energize with confidence!
 Contact our EV Charging Team to source and specify industry leading hardware and software solutions.
 Chris Aina
 caina@gasserbush.com
 734-460-4036
 www.gasserbush.com

General Note

1. SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
2. SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
3. PARKING LOT CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0"
4. PROPERTY LINE CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 5' - 0"

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

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

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT CONTROLS@GASSERBUSH.COM OR 734-266-6705.

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.

Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	Mounting Height
A		12	Lightway	539-LED-3-T4-WSA-21	MEUW-LED	LED	1	3317	0.9	27	8'-0"
B		64	Sonneman - A Way of Light	7380-74-WL	Square Column LED Sconce	LED	1	628	0.9	8	VARIES
OA		2	Lithonia Lighting	DSXO LED P1 30K 80CRI RCCO	D-Series Size 0 Area Luminaire P1 Performance Package 3000K CCT 80 CRI Right Corner Cutoff Extreme Backlight Control	LED	1	3063	0.9	33.21	20'-0"
OB		9	Lithonia Lighting	DSXO LED P3 30K 80CRI BLCA	D-Series Size 0 Area Luminaire P3 Performance Package 3000K CCT 80 CRI Type 4 Extreme Backlight Control	LED	1	5756	0.9	68.95	20'-0"
OC		4	Lithonia Lighting	DSXO LED P3 30K 80CRI T4M	D-Series Size 0 Area Luminaire P3 Performance Package 3000K CCT 80 CRI Type 4 Medium	LED	1	7776	0.9	68.95	20'-0"
OD		1	Lithonia Lighting	DSXO LED P3 30K 80CRI T5W	D-Series Size 0 Area Luminaire P3 Performance Package 3000K CCT 80 CRI Type 5 Wide	LED	1	8130	0.9	68.95	20'-0"

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PARKING LOT	+	1.1 fc	4.1 fc	0.2 fc	20.5:1	5.5:1	0.3:1
PROPERTY LINE @ 5' AFG	+	0.0 fc	1.0 fc	0.0 fc	N/A	N/A	0.0:1
Calc Zone #4	+	0.3 fc	6.4 fc	0.0 fc	N/A	N/A	0.0:1

Light A

MEUW-LED

Construction:

- Steel Housing and chassis
- Diffuser UV-stabilized, high impact resistant, DR acrylic

Light Source:

- LED
- Dimming to 10% **Included**

Notes:

- Integral mounting plate; Hardware include
- Mounts on a Standard J-Box
- Lens on all five sides
- Optional battery backup available on fixtures 526 & larger
- Optional photocell (Z1) increases fixture depth 1/2"
- UL and CUL listed **WET** location
 - Build America, Buy America Act Compliant
 - CRI > 90
 - Universal 120/277 volt standard
 - 5-Year Warranty on LED Components

DIM 'A'	Mount-Center	
MEUW-513	13"	6.5"
MEUW-518	18"	9"
MEUW-526	26"	13"
MEUW-538	38"	19"
MEUW-550	50"	25"

ORDERING INFORMATION

Example: MEUW-526-LED-O2C-3-Z3-WSA

Size	LED	Watts	Source Lumens	Dimming	Energy Star	Kelvin	Cage	Finish	Diffuser	Options
513-LED	O1B	8	1000	0-10v	NO	23000K 33500K 44000K	B1 Satin Black Z1 Text Bronze	W1 Yolk W2 Gloss White W3 Text White B2 Text Black T4 Shimmer Gray M13 Anod Silver T6 Pewter W13 Pearl Beige (See Price List) P2 Brushed Alum	WSA White Smooth Acrylic	DIM LED dimming driver (0-10v) Dimming to 10% Included Z1 Photocell - Specify voltage 01-120 volt 02-277 volt 42 All Aluminum Construction Battery Backup Options (MEUW-526 and Larger only) BB10 10 Watts (1170lm) for 90-Minutes

28435 Industry Drive, Valencia, California 91355
800-325-4448 (661-257-0286) • fax 800-323-2346 (661-257-0261)
www.lightwayind.com • sales@lightwayind.com

Revision: 10/31/2024

SONNEMAN
A WAY OF LIGHT

Light B

Project: **Square Column LED Sconce Spec Sheet**

SKU: 7380-74-WL

Dimensions:

- Height: 19.0" (481mm)
- Width: 3" (76mm)
- Extends: 4.5" (114mm)
- Minimum Extension: 4.5" (114mm)
- Maximum Extension: 4.5" (114mm)
- Canopy/Backplate/Base Width: 4.5" (114mm)
- Canopy/Backplate/Base Depth: 0.5" (12.7mm)
- Canopy/Backplate/Base Height: 4.5" (114mm)

Electrical Specs:

- Built 1 Type: LED GU10 Base, MR16
- Built Quantity: 1
- Input Voltage: 120VAC
- Wattage: 8
- Notes: N/A, bulb sold separately
- CR1: 80
- Built Max Wattage: 8

Installation:

- Installation: Licensed electrician required
- Installation Orientation: Vertical

Shipping:

- Carton 1 L x W x H: 24" x 8" x 8"
- Carton 1 Gross Weight: 6 LBS

Shade:

- Shade Material: UV-Stabilized WH Polycarbonate

General Listings:

- Features: Wet Rated, C-UL, US
- Certification: Color/Finish: Textured Gray (L74)
- Dark Sky Friendly: Textured White (L95)

Available Finishes:

- Available Finishes: Textured Bronze (L72), Textured Gray (L74), Textured White (L95)

Available Color Temperatures:

- Available Color Temperatures: (Bulbs) Not Included

D-Series Size 0 LED Area Luminaire

Introduction

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

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

Specifications

- EPA: 0.44 ft
- Length: 26.18" (665mm)
- Width: 14.06" (357mm)
- Height H1: 2.26" (57mm)
- Height H2: 7.46" (190mm)
- Weight: 23 lbs (10.4kg)

Ordering Information

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

Series	LEDs	Color Temperature	Color Rendering Index	Options	Notes	Shipping
DSXO LED	Forward optics	(this section 70CRI only)	70CRI	AER	Adjustable front view	MVOLT (120V/277V)
				TSLG	Type 1 low glare	
	Retro-reflective optics	70CRI	T15	Type 1 direct	MVOLT (120V/277V)	
			T3M	Type 3 medium beam		
	Retro-reflective optics	70CRI	T4M	Type 4 medium beam	MVOLT (120V/277V)	
			T5M	Type 5 medium beam		
	Retro-reflective optics	70CRI	T6M	Type 6 medium beam	MVOLT (120V/277V)	
			T7M	Type 7 medium beam		
	Retro-reflective optics	70CRI	T8M	Type 8 medium beam	MVOLT (120V/277V)	
			T9M	Type 9 medium beam		
Retro-reflective optics	70CRI	T10M	Type 10 medium beam	MVOLT (120V/277V)		
		T11M	Type 11 medium beam			
Retro-reflective optics	70CRI	T12M	Type 12 medium beam	MVOLT (120V/277V)		
		T13M	Type 13 medium beam			
Retro-reflective optics	70CRI	T14M	Type 14 medium beam	MVOLT (120V/277V)		
		T15M	Type 15 medium beam			

Shipped Included

- SPA Square pole mounting (4ft drilling, 1.2" min. 30 poles)
- BBA Round pole mounting (4ft drilling, 1.2" min. 30 poles)
- SPAS Square pole mounting (4ft drilling, 1.2" min. 30 poles)
- RPAS Round pole mounting (4ft drilling, 1.2" min. 30 poles)
- SPRMS Square pole mounting (4ft drilling, 1.2" min. 30 poles)
- RRMS Round pole mounting (4ft drilling, 1.2" min. 30 poles)
- WBA Wall bracket 1"
- MA Mast arm adjust (mounts on 2 1/8" OD horizontal beam)

Shipped Separately

- ESOR External (Shade-Shell) (removable, field install required, matches housing finish)
- ESOB Bird Spikes (field install required)

Shipped Installed

- MS Removable shell (black finish standard)
- LRB Left mount option
- ROR Right mount option
- CEE Coastal (Custom order)
- HA 50% ambient operation
- BAA Buy American(s) Act Compliant
- SE Single Aisle (70, 77, 54, 71)
- BE Breaks for 70K, 30K, 4000K

Shipped Dark Finish

- DBKD Dark finish
- BLKD Black
- DBKD2 Matte dark finish
- DBKD3 Matte dark finish
- DBKD4 Matte dark finish
- DBKD5 Matte dark finish
- DBKD6 Matte dark finish
- DBKD7 Matte dark finish
- DBKD8 Matte dark finish
- DBKD9 Matte dark finish
- DBK10 Matte dark finish

Shipped White

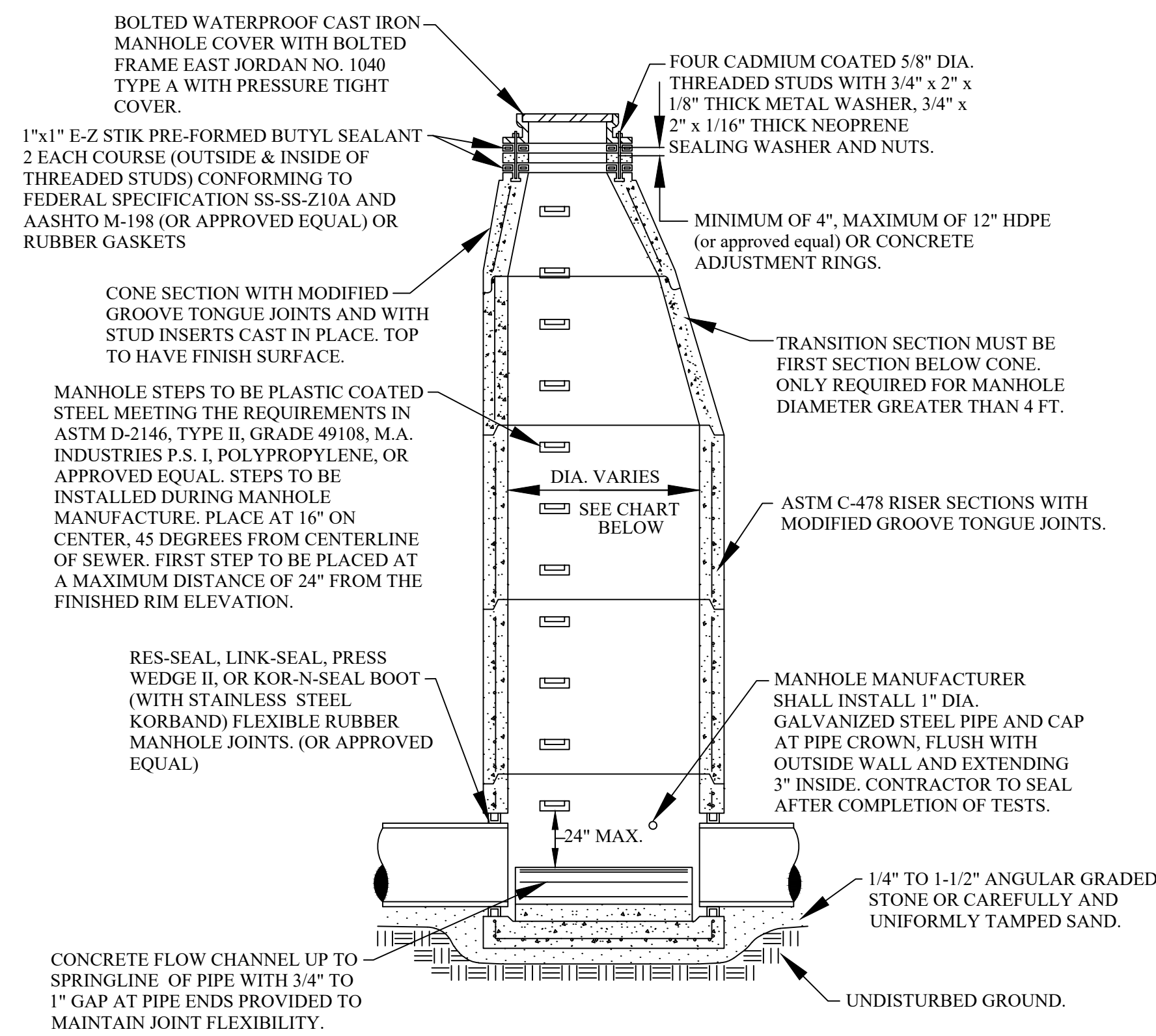
- DBWD Dark finish
- DBWD2 Matte dark finish
- DBWD3 Matte dark finish
- DBWD4 Matte dark finish
- DBWD5 Matte dark finish
- DBWD6 Matte dark finish
- DBWD7 Matte dark finish
- DBWD8 Matte dark finish
- DBWD9 Matte dark finish
- DBWD10 Matte dark finish

COMMERCIAL OUTDOOR

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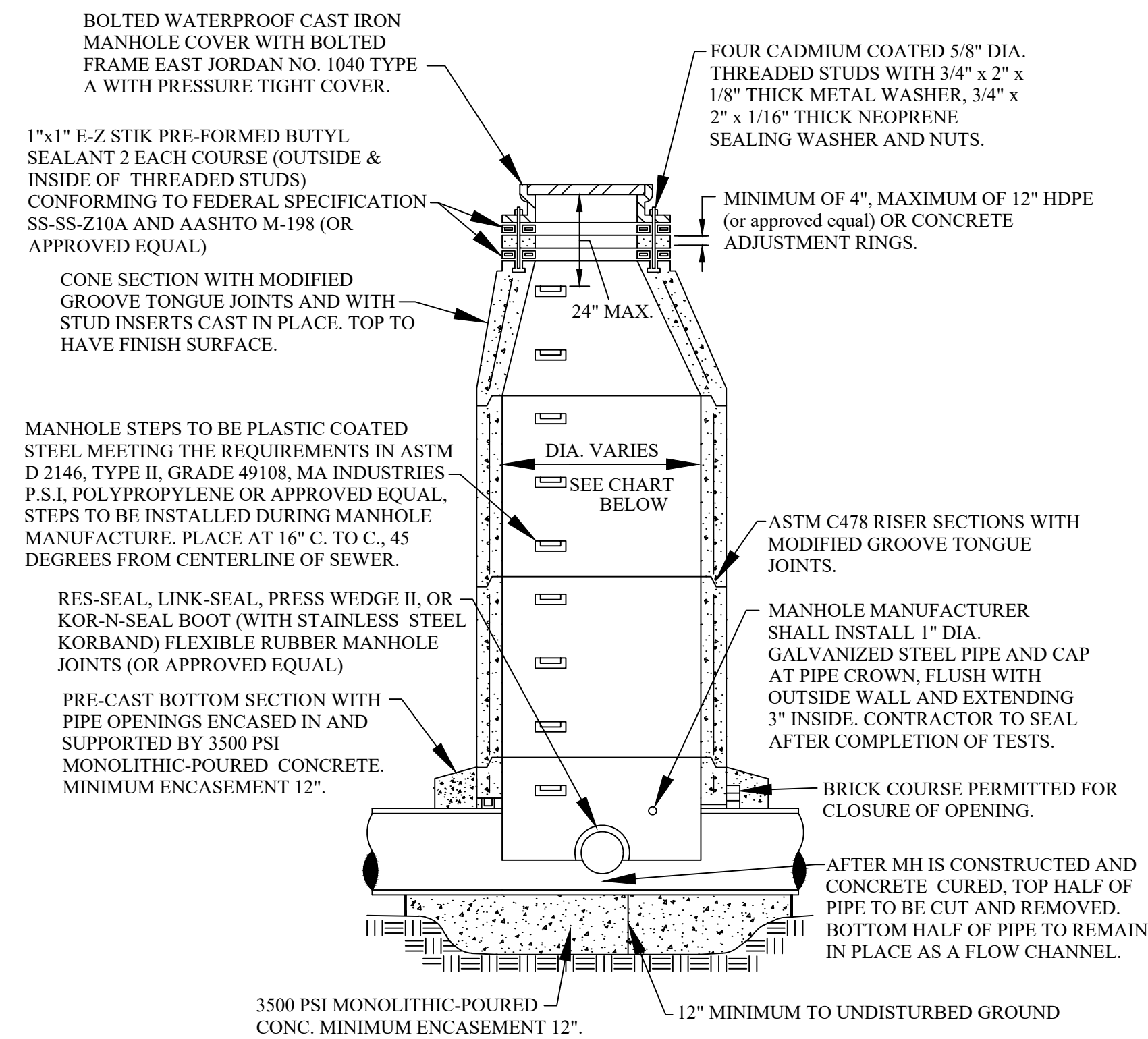
SANITARY SEWER CONSTRUCTION NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS AND THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER (OCWRC). ALL SANITARY SEWER CONSTRUCTION SHALL HAVE FULL-TIME INSPECTION SUPERVISED BY THE CITY OF ROCHESTER HILLS INSPECTION SERVICES.
- NO SEWER INSTALLATION SHALL HAVE AN INFILTRATION EXCEEDING 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE IN A 24 HOUR PERIOD, AND NO SINGLE RUN OF SEWER BETWEEN MANHOLES SHALL EXCEED 100 GALLONS PER INCH DIAMETER PER MILE. AIR TESTS IN LIEU OF INFILTRATION TESTS SHALL BE AS SPECIFIED IN THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER STANDARDS. PRELIMINARY-AIR TESTS ARE WITNESSED BY THE CITY AND FINAL AIR TESTS ARE WITNESSED BY BOTH THE CITY AND THE OCWRC. ONLY PIPE AND PIPE JOINTS APPROVED BY THE CITY MAY BE USED FOR SANITARY SEWER CONSTRUCTION.
- LOCATED IN THE FIRST MANHOLE UPSTREAM FROM THE POINT OF ALL CONNECTIONS TO AN EXISTING SEWER, OR EXTENSION, A TEMPORARY 12-INCH DEEP SUMP SHALL BE PROVIDED IN THE FIRST MANHOLE ABOVE THE CONNECTION WHICH WILL BE FILLED IN AFTER SUCCESSFUL COMPLETION OF ANY ACCEPTANCE TEST UP TO THE STANDARD FILLET PROVIDED FOR THE FLOW CHANNEL. A WATERTIGHT BULKHEAD SHALL BE PROVIDED ON THE DOWNSTREAM SIDE OF THE SUMP MANHOLE.
- AT ALL TIMES WHEN LAYING OF NEW PIPE IS NOT ACTUALLY IN PROGRESS, THE UPSTREAM OPEN END OF THE PIPE SHALL BE CLOSED BY TEMPORARY WATERTIGHT PLUGS OR BY OTHER APPROVED MEANS. IF WATER IS IN THE TRENCH WHEN WORK IS RESUMED, THE PLUG SHALL NOT BE REMOVED UNTIL THE DANGER OF WATER ENTERING THE PIPE HAS PASSED. ALL MAIN LINE PIPE SHALL BE LAID WITH A PIPE LASER BEAM FOR LINE AND GRADE. A TARGET MUST BE INSTALLED AT THE END OF THE PIPE BEING LAID.
- SELF-LEVELING ACCESS ASSEMBLY STRUCTURES SHALL BE USED FOR ADJUSTING STRUCTURES WITHIN ASPHALT AND CONCRETE PAVEMENT.
- ALL SEWER PIPE SHALL BE INSTALLED IN CLASS "B" BEDDING OR BETTER.
- ALL NEW MANHOLES SHALL HAVE CITY APPROVED FLEXIBLE, WATERTIGHT SEALS WHERE PIPES PASS THROUGH WALLS. MANHOLES SHALL BE OF PRE CAST SECTIONS WITH MODIFIED GROOVE TONGUE AND BUTYL TYPE JOINTS. PRE CAST MANHOLE CONE SECTIONS SHALL BE CITY APPROVED MODIFIED ECCENTRIC CONE TYPE. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS.
- AT ALL CONNECTIONS TO MANHOLES IN ALL SEWERS, OR EXTENSIONS, DROP CONNECTIONS WILL BE REQUIRED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS 18 INCHES.
- GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWN SPOUT DRAINAGE OR WEEP TILE DRAINAGE SHALL NOT BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT MISS DIG THREE (3) DAYS IN ADVANCE (811) FOR THE LOCATION OF UNDERGROUND PIPELINE AND CABLE FACILITIES AND SHALL ALSO NOTIFY REPRESENTATIVES OF OTHER UTILITIES LOCATED IN THE VICINITY OF THE WORK.
- AN 18 INCH MINIMUM VERTICAL SEPARATION AND A 10 FOOT MINIMUM HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN SANITARY SEWER AND ALL OTHER UTILITIES.
- AS A MEANS OF INSURING PROPER INSTALLATION OF THE SANITARY SEWER PIPE, THE CONTRACTOR SHALL VIDEO INSPECT, ACCORDING TO THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS, 100% OF THE SANITARY SEWER PIPE. THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE CITY OF ROCHESTER HILLS PRIOR TO VIDEO INSPECTION, SO A REPRESENTATIVE MAY BE PRESENT. ROCHESTER HILLS WILL BE PROVIDED WITH A DIGITAL COPY OF THE VIDEO INSPECTION AND LOG IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS INSPECTION STANDARDS.



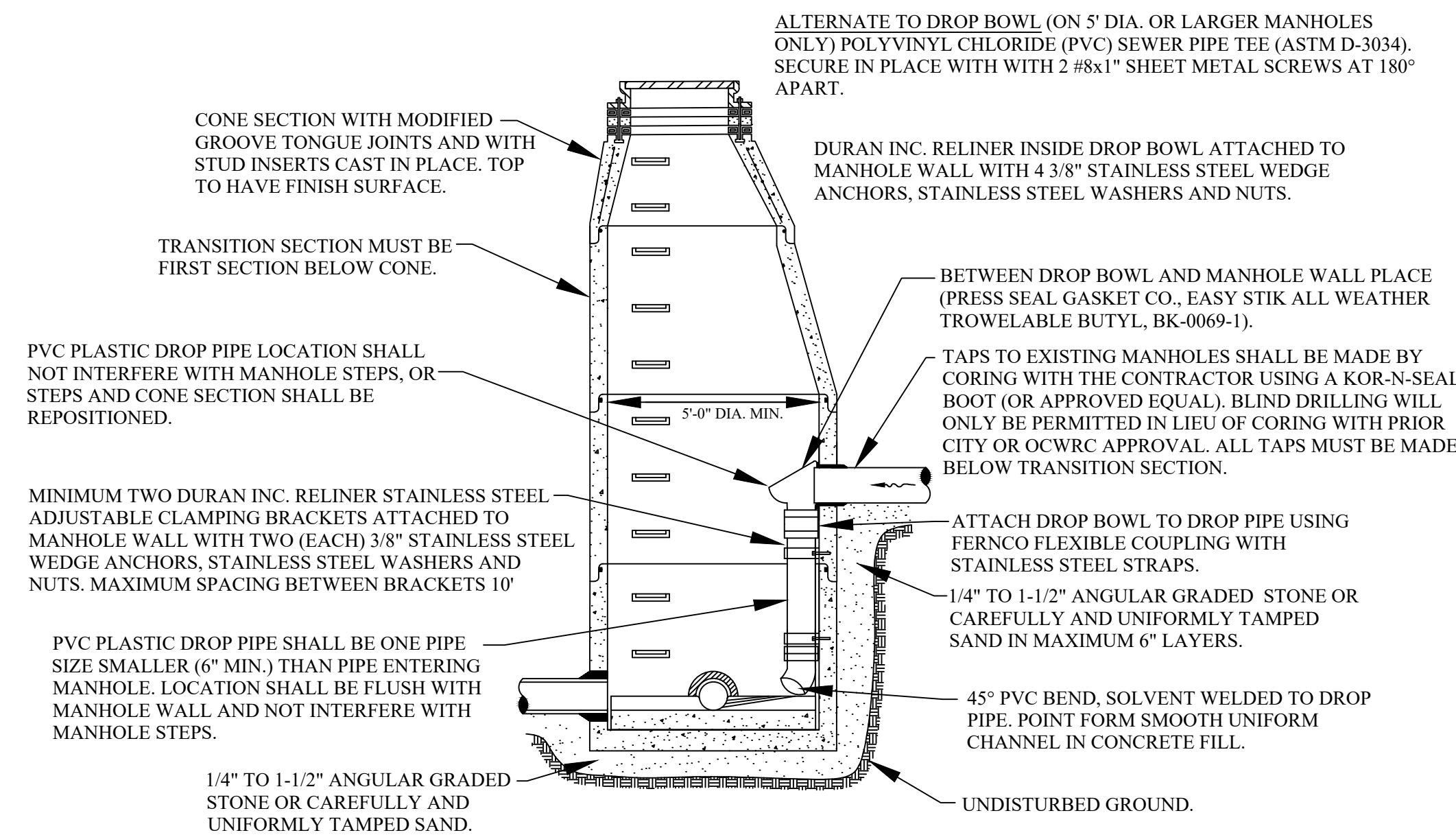
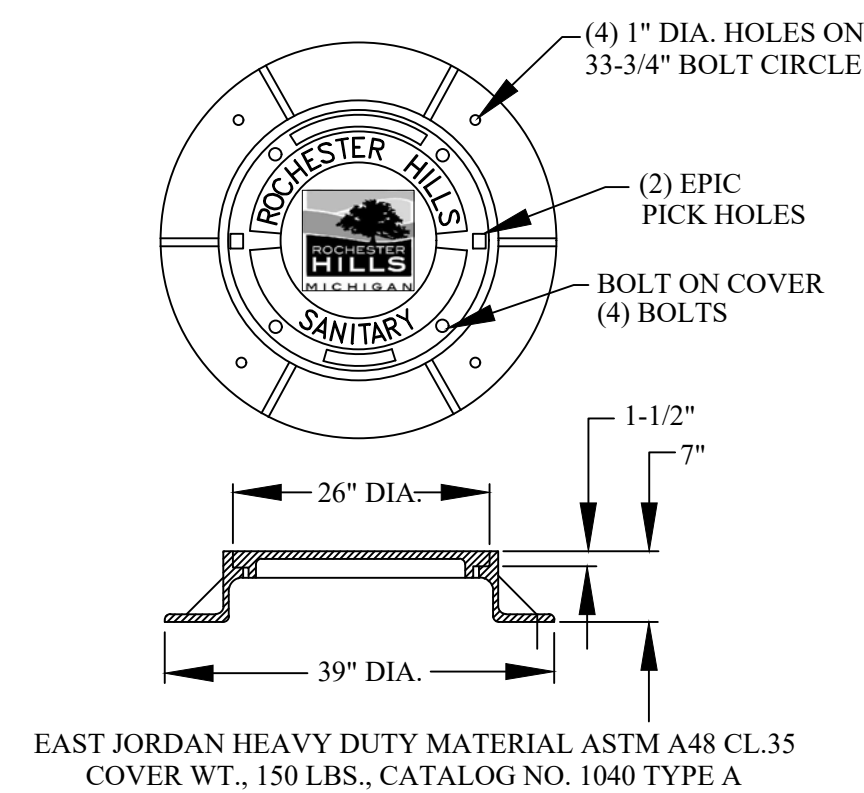
MANHOLE SIZING CHART

MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.	MAX. PIPE SIZE FOR RIGHT ANGLE INST.
4'	24"	18"
5'	36"	24"
6'	42"	36"
7'	60"	42"



MANHOLE SIZING CHART

MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.
4'	24"
5'	36"
6'	42"
7'	60"



NOTE: INTERIOR DROP CONNECTION PERMITTED ONLY WHEN APPROVED BY CITY ENGINEER.

PROJECT: 2025-0141 (PRUD2025-000)
 REVISION: Revised #2
 RECEIVED: 4/13/2026
 ROCHESTER HILLS MICHIGAN
 PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT



REVISIONS	DATE

APPROVED BY
 CITY COUNCIL, DATE: _____
 PREPARED BY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS
 ENGINEERING DIVISION @
 248-841-2510 48 HRS. PRIOR
 TO START OF
 CONSTRUCTION

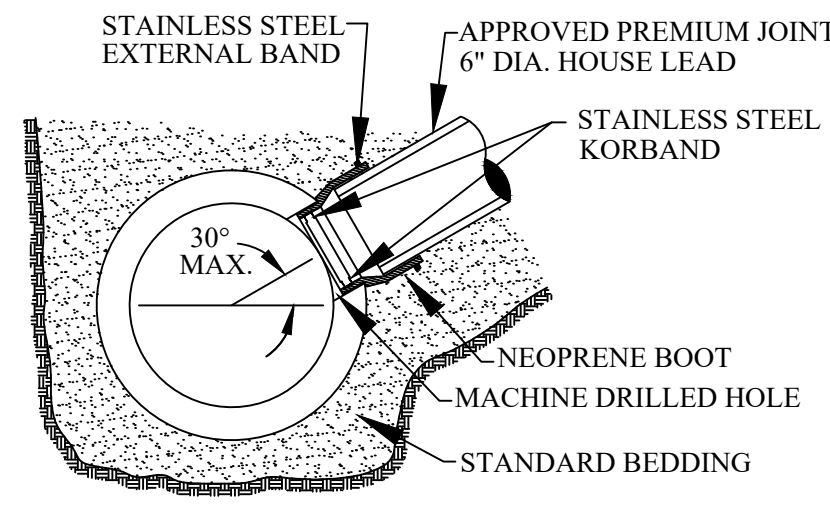
City of Rochester Hills
 1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

**SANITARY SEWER
 STANDARD DETAILS**

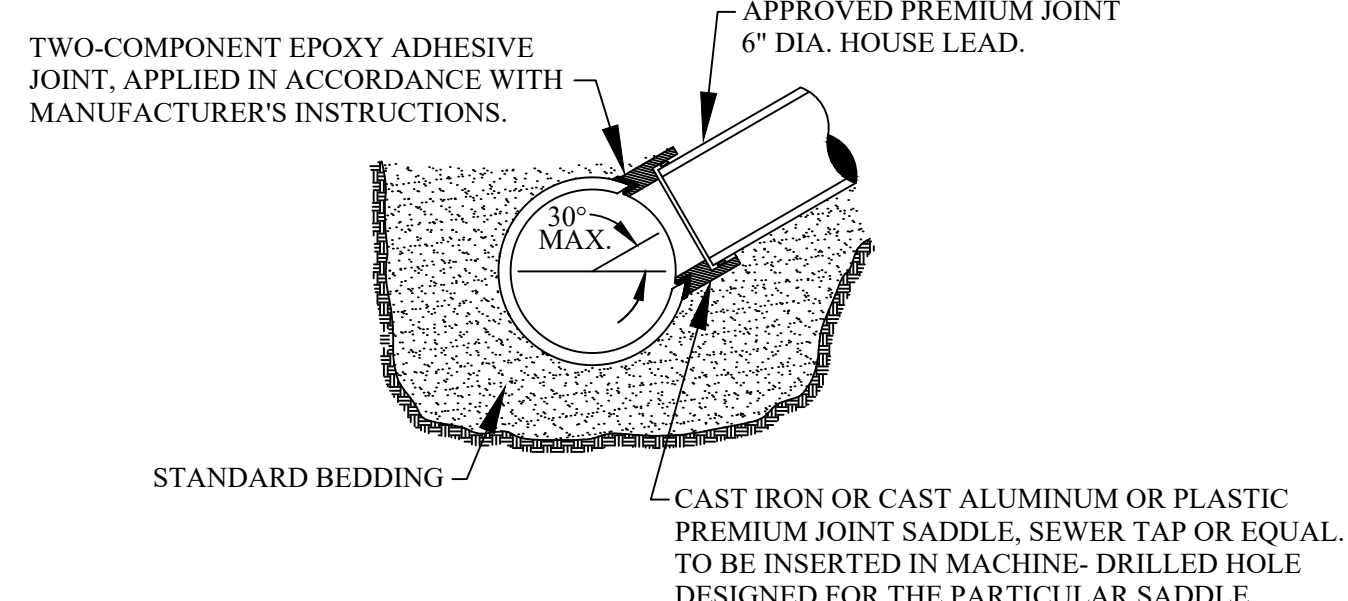
NOT TO SCALE	DATE: 1/10/2019
SHEET 1 OF 2	

CITY OF ROCHESTER HILLS GRAVITY BUILDING LEAD REQUIREMENTS AND DETAILS

- ALL BUILDING LEAD WORK MUST BE PERFORMED UNDER THE CITY OF ROCHESTER HILLS INSPECTION.
- FOR ALL CITY OF ROCHESTER HILLS SYSTEMS CALL 248-841-2510 48-HOURS PRIOR TO SCHEDULING INSPECTION.
FOR ALL OCWRC-OPERATED SYSTEMS, CALL 248-858-1110 48-HOURS IN ADVANCE PRIOR TO SCHEDULING INSPECTION.
- SANITARY SEWER MAY NOT BE USED AS A DE-WATERING OUTLET.
- FITTINGS SHALL BE OF THE SAME MATERIAL AS THE PIPE. FERNCO STRONGBACK COUPLING (OR APPROVED EQUAL) IF DISSIMILAR PIPES ARE CONNECTED. IF DISSIMILAR FITTINGS MUST BE USED, TRANSITION CEMENT/GLUE IS REQUIRED.
- APPROVED BUILDING LEAD PIPE FOR GRAVITY SEWER LEADS:
 - PVC PLASTIC, ASTM D3034, SDR 23.5
 - SOLID WALL PVC SCHEDULE 40, ASTM D-2665
 - ANY DEVIATIONS FROM ABOVE SPECIFICATIONS REQUIRES APPROVAL BY CITY ENGINEER.
- FOR 6" LEADS A CLEANOUT MUST BE INSTALLED EVERY 100 FT. FOR 4" LEADS A CLEANOUT MUST BE INSTALLED EVERY 50 FT. 90° BENDS NOT ALLOWED EXCEPT FROM THE HORIZONTAL TO THE VERTICAL WITHIN 5 FEET OF THE BUILDING.

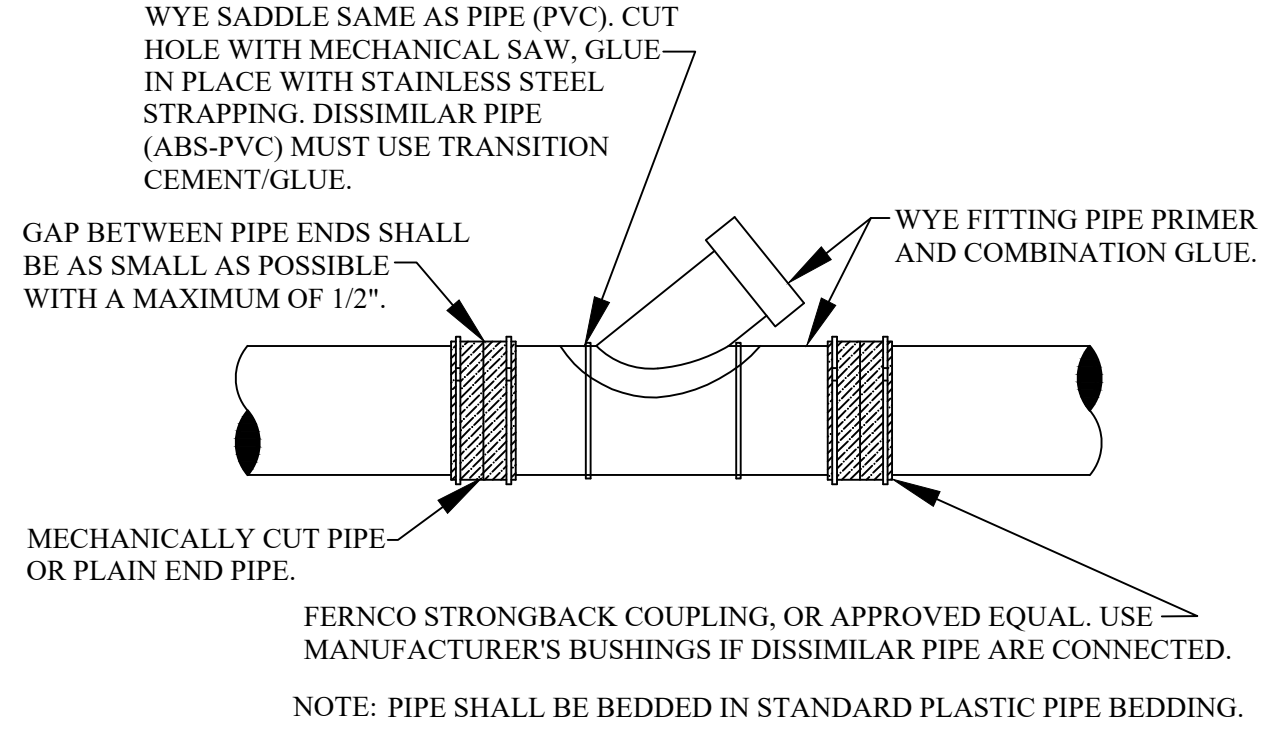


KOR-N-TEE TAP FOR CONCRETE PIPE

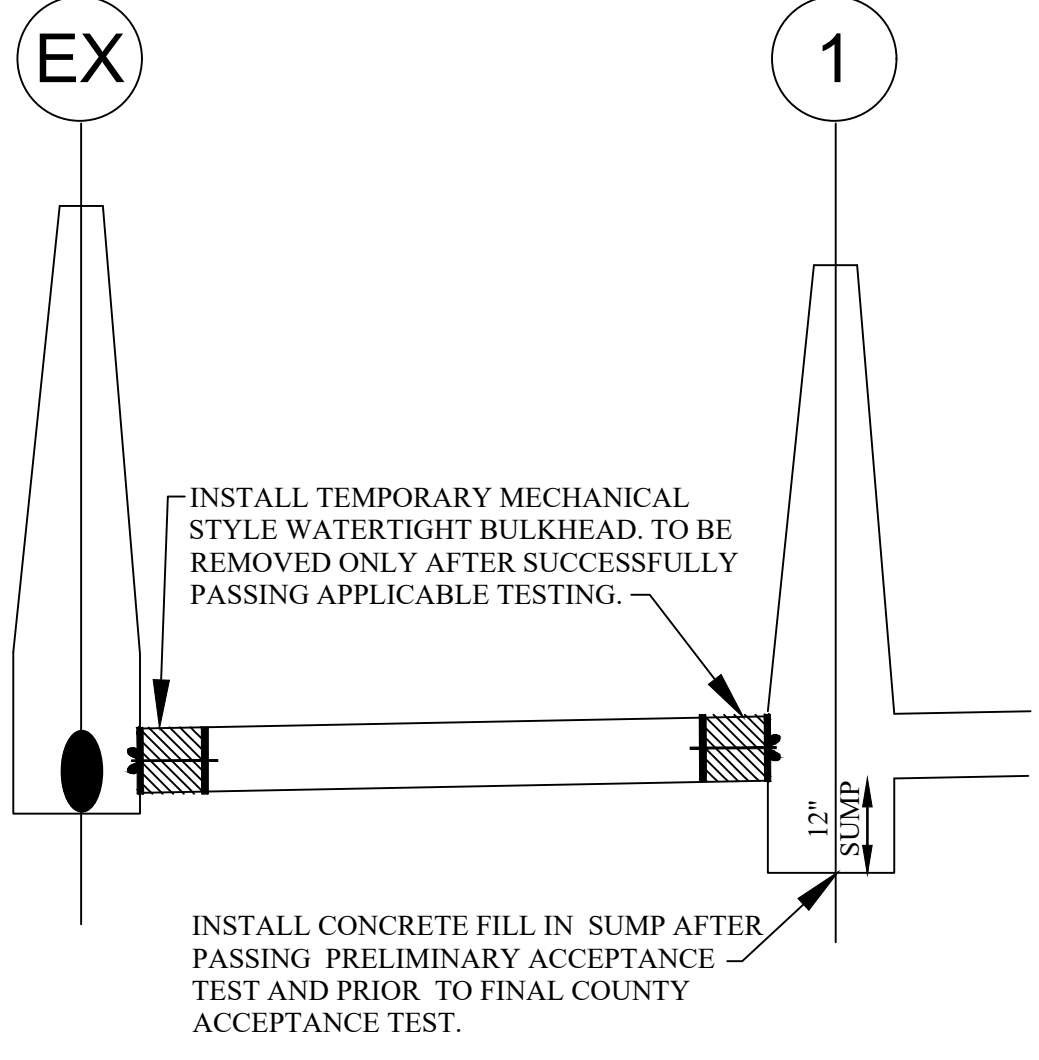


NOTE: SURFACE OF MAIN SEWER SHALL BE CLEANED WITH AN ABRASIVE GRINDER PRIOR TO EPOXY APPLICATION. DUE TO VARIATION OF SET-UP TIME OF EPOXY ADHESIVE WITH TEMPERATURE, ANCHOR STRAPS SHALL BE USED TO SECURE SADDLE IN POSITION IN COLD WEATHER OR WHENEVER WORK IS TO PROCEED PRIOR TO COMPLETE CURE OF EPOXY.

SEWER TAP-OVER 12" MAIN SEWER PIPES VITRIFIED CLAY



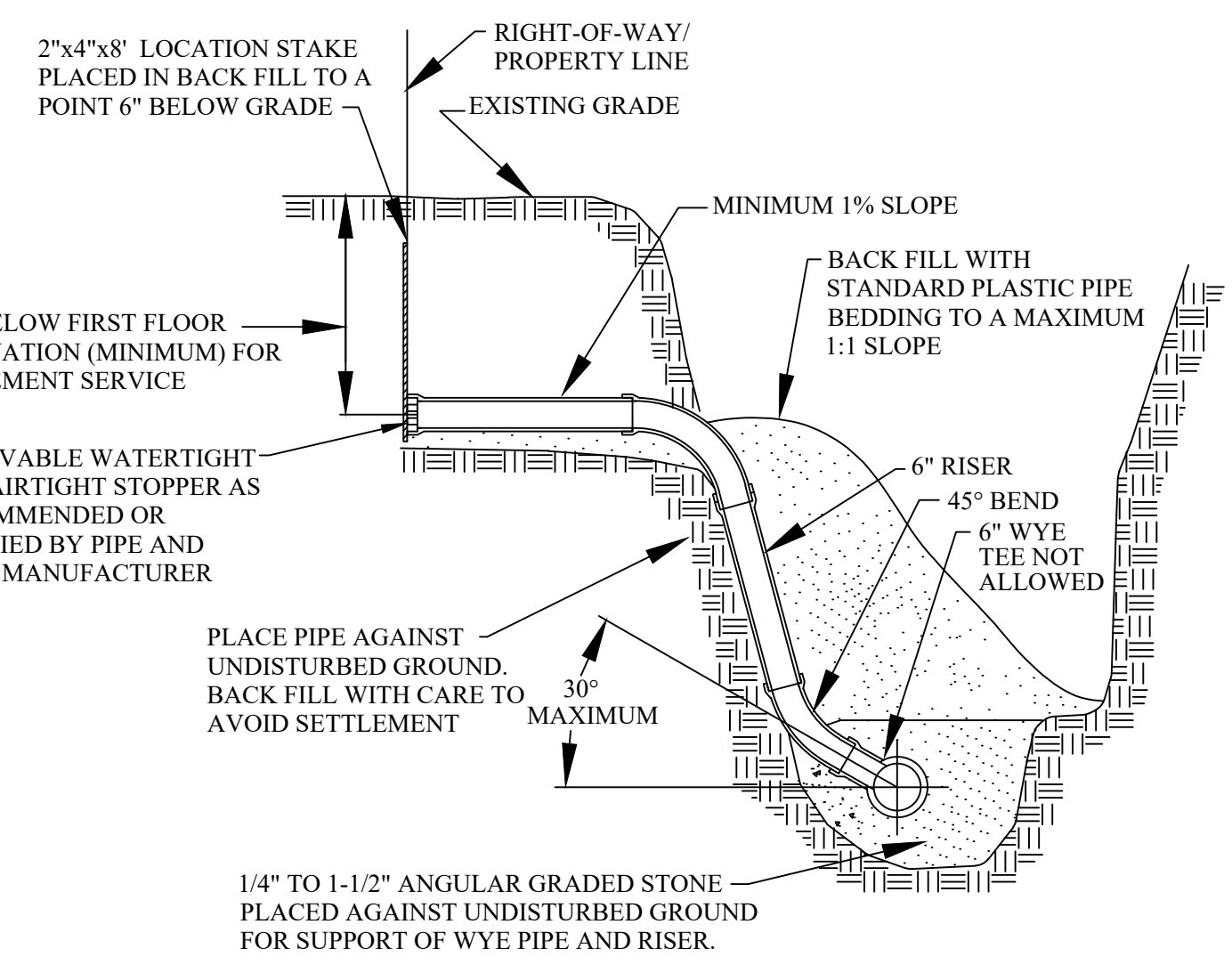
WYE SADDLE OR WYE PIPE INSERTION WITH FLEXIBLE COUPLINGS (RIGID PIPE)



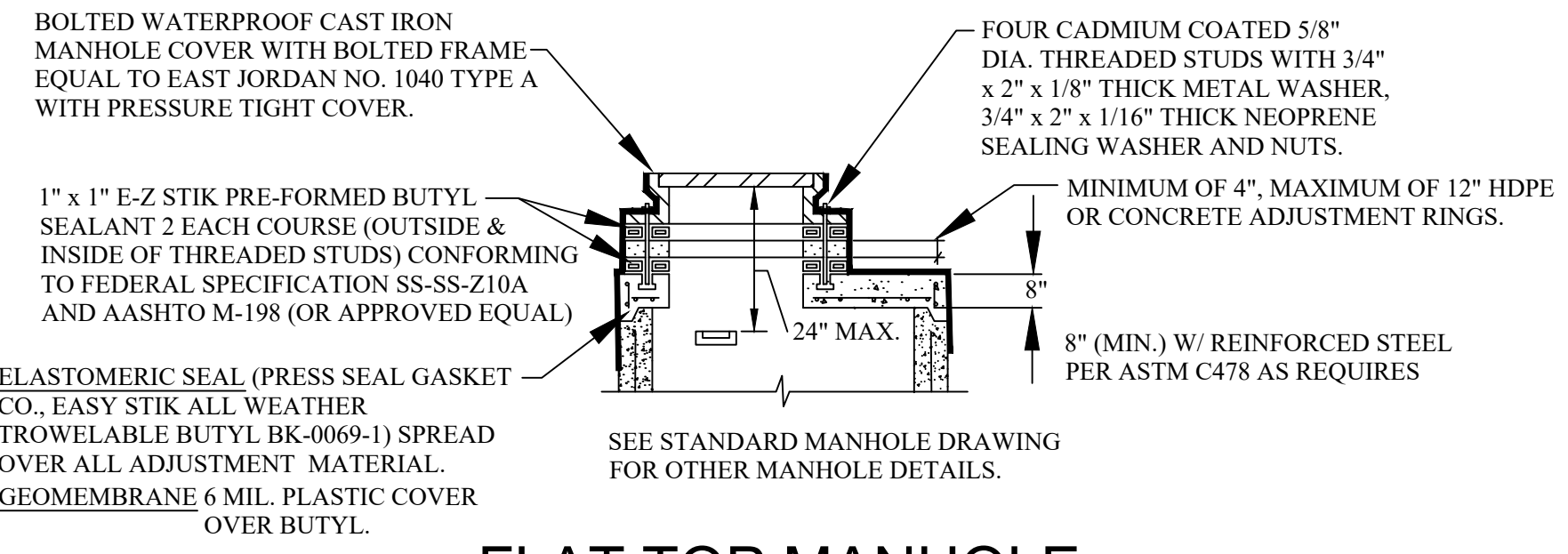
PROFILE OF BULKHEADS AND ONE FOOT SUMP

- THE MAXIMUM SCALE SHALL BE ONE (1) INCH EQUALS FIFTY (50) FEET.
- THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED.
- THE SIZE, MANUFACTURER AND MODEL NUMBERS OF ALL VALVES AND PUMPS INSTALLED SHALL BE INDICATED.
- A TOTAL AS-BUILT DRAWING QUANTITY LIST SHALL BE INCLUDED.
- THE LOCATIONS SHALL BE SHOWN ON THE PLANS WITH AN ACCURACY OF ONE (1) FOOT.
- THE OFFSET OF THE SANITARY MAIN FROM PROPERTY LINES SHALL BE INDICATED.
- ALL MANHOLES, VALVE WELLS, PUMPS AND ALL SANITARY SYSTEM APPURTENANCES SHALL BE LOCATED FROM TWO FIXED OBJECTS (MANHOLES, BUILDING CORNERS ETC.).
- ALL UNDERGROUND APPURTENANCES, SUCH AS TFC/ARV WELLS, METER PITS, GRINDER PUMPS AND PUMP STATION PITS, ETC. SHALL BE LOCATED FROM THE NEAREST MANHOLE THAT IS CONNECTED TO THE SAME SANITARY MAIN AS THE APPURTENANCE.
- THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE VERTICAL SEPARATION IS LESS THAN 18" SHALL BE NOTED.
- AS-BUILTS SHALL BE PREPARED IN ACCORDANCE WITH CITY OF ROCHESTER HILLS AS-BUILT GUIDELINES AS PROVIDED AT THE PRE-CONSTRUCTION MEETING.

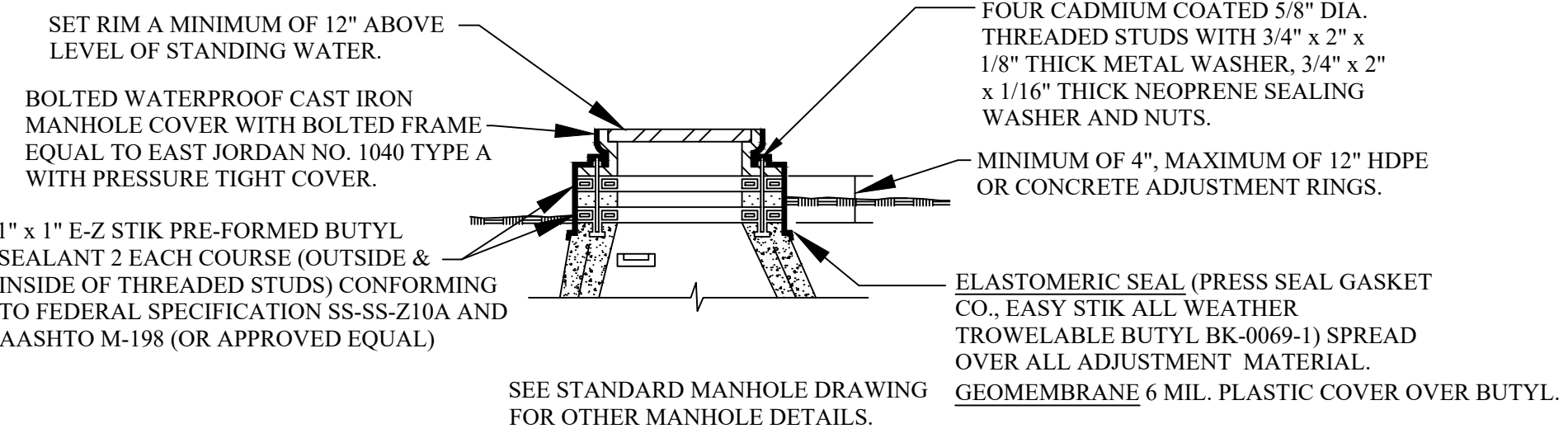
ROCHESTER HILLS MICHIGAN
PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT
PROJECT: 2025-0141/PPUD0205-0001
REVISION: Revision #3
RECEIVED: 4/13/2025



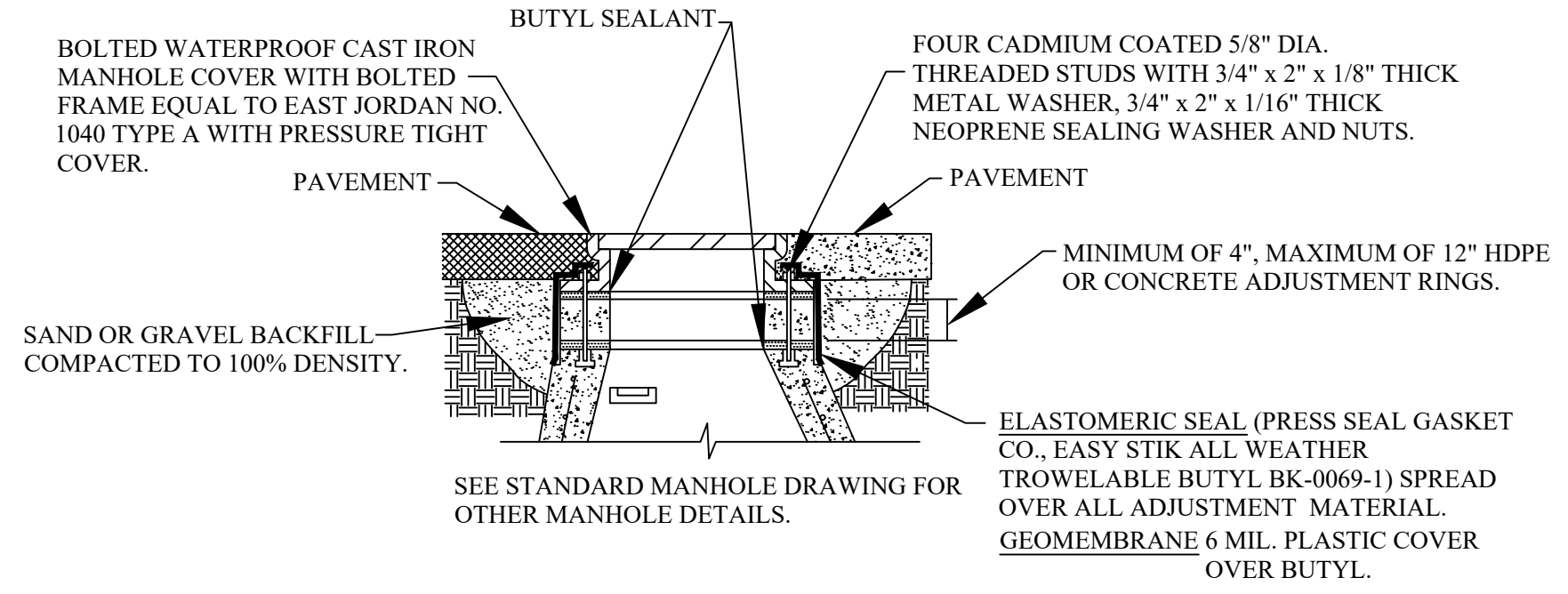
HOUSE LEAD DETAIL



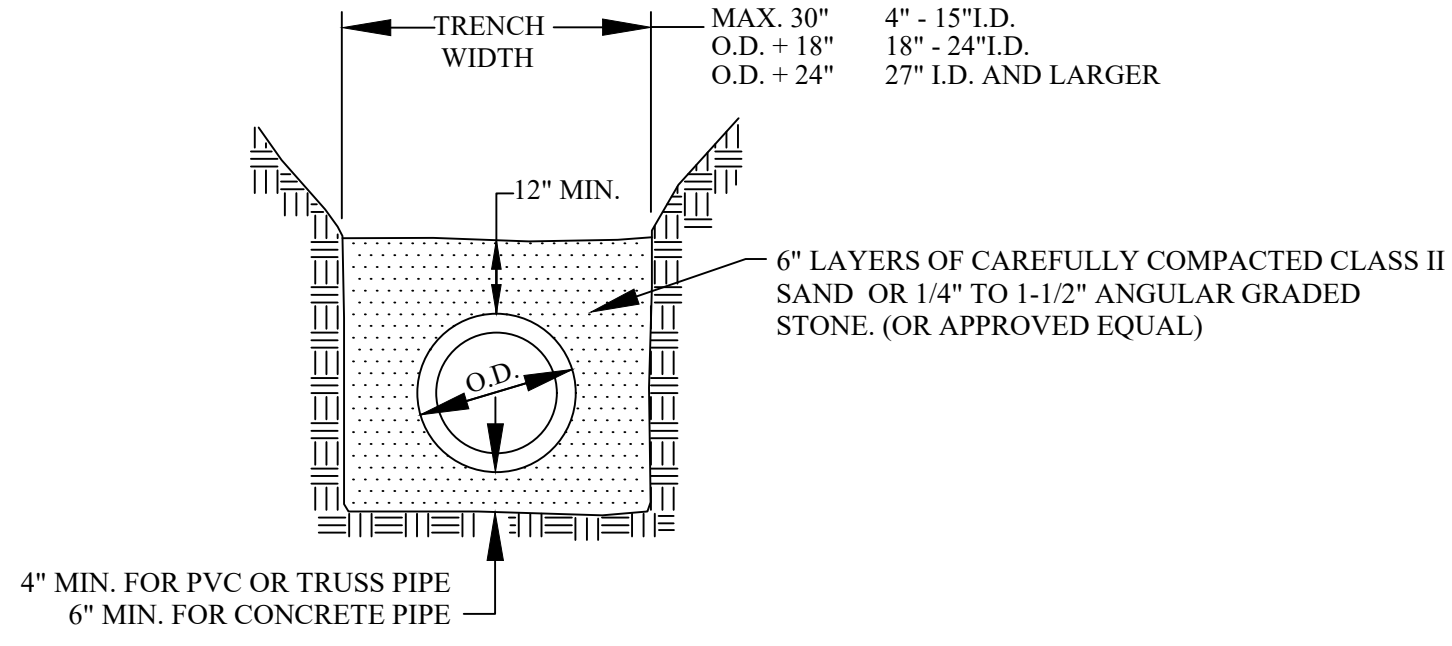
FLAT TOP MANHOLE



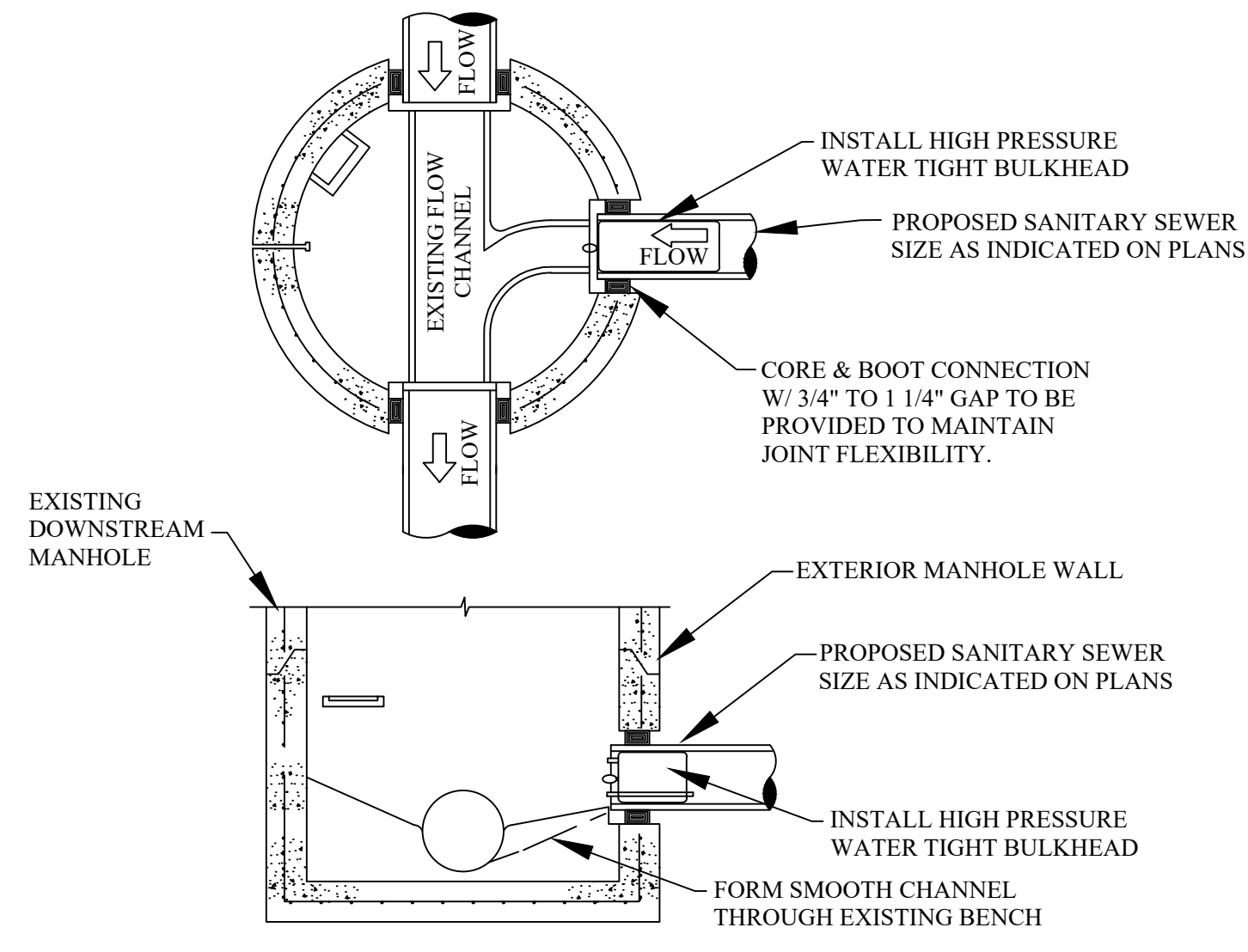
ADJUSTMENT DETAIL FOR MANHOLE TOPS WITHIN FLOOD PRONE AREAS



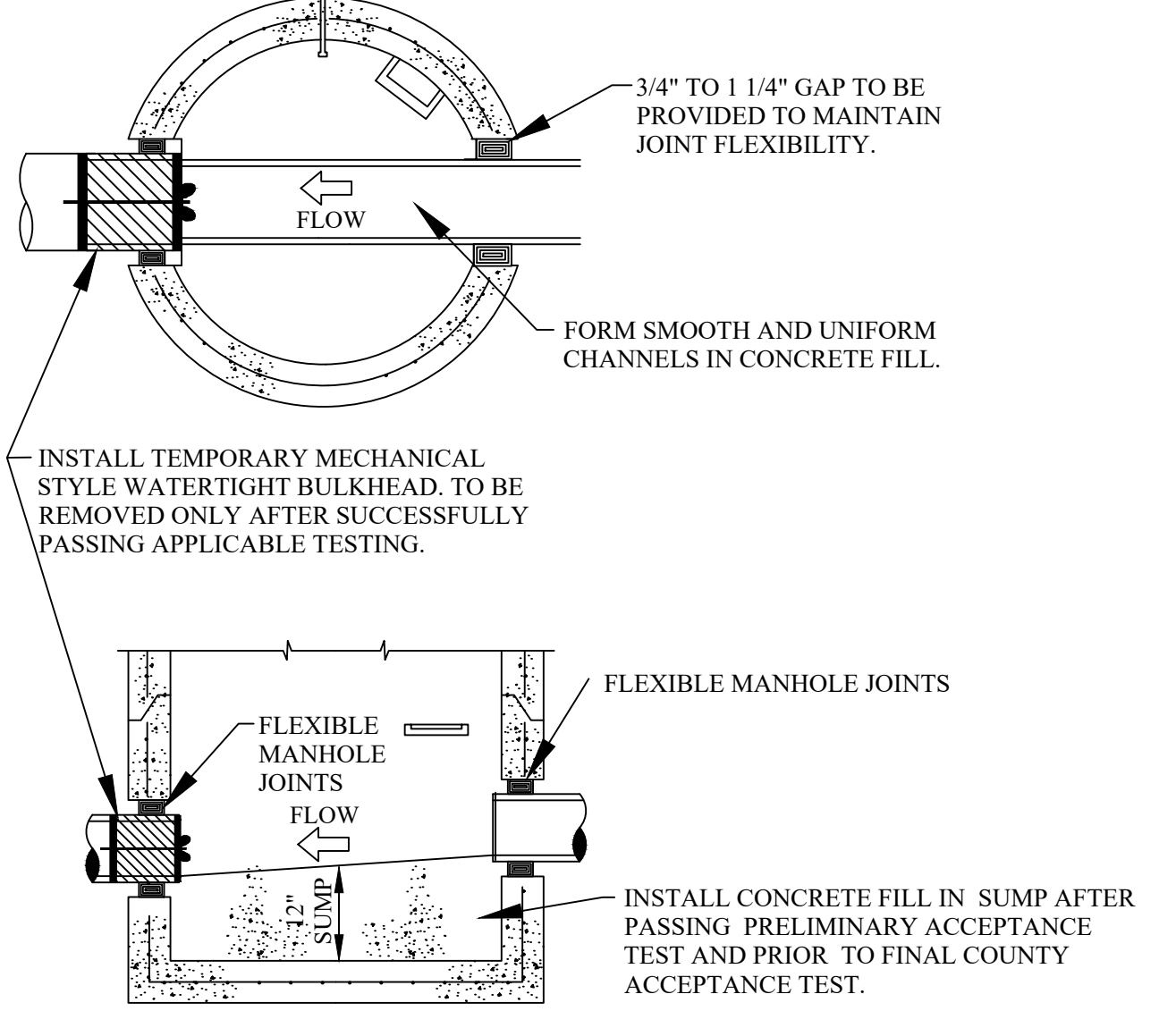
ADJUSTMENT DETAIL MANHOLE TOPS WITHIN PAVEMENT AREAS



STANDARD BEDDING (CLASS B)



TESTING BULKHEAD IN EXISTING MANHOLE



FIRST MANHOLE UPSTREAM FROM SANITARY TAP

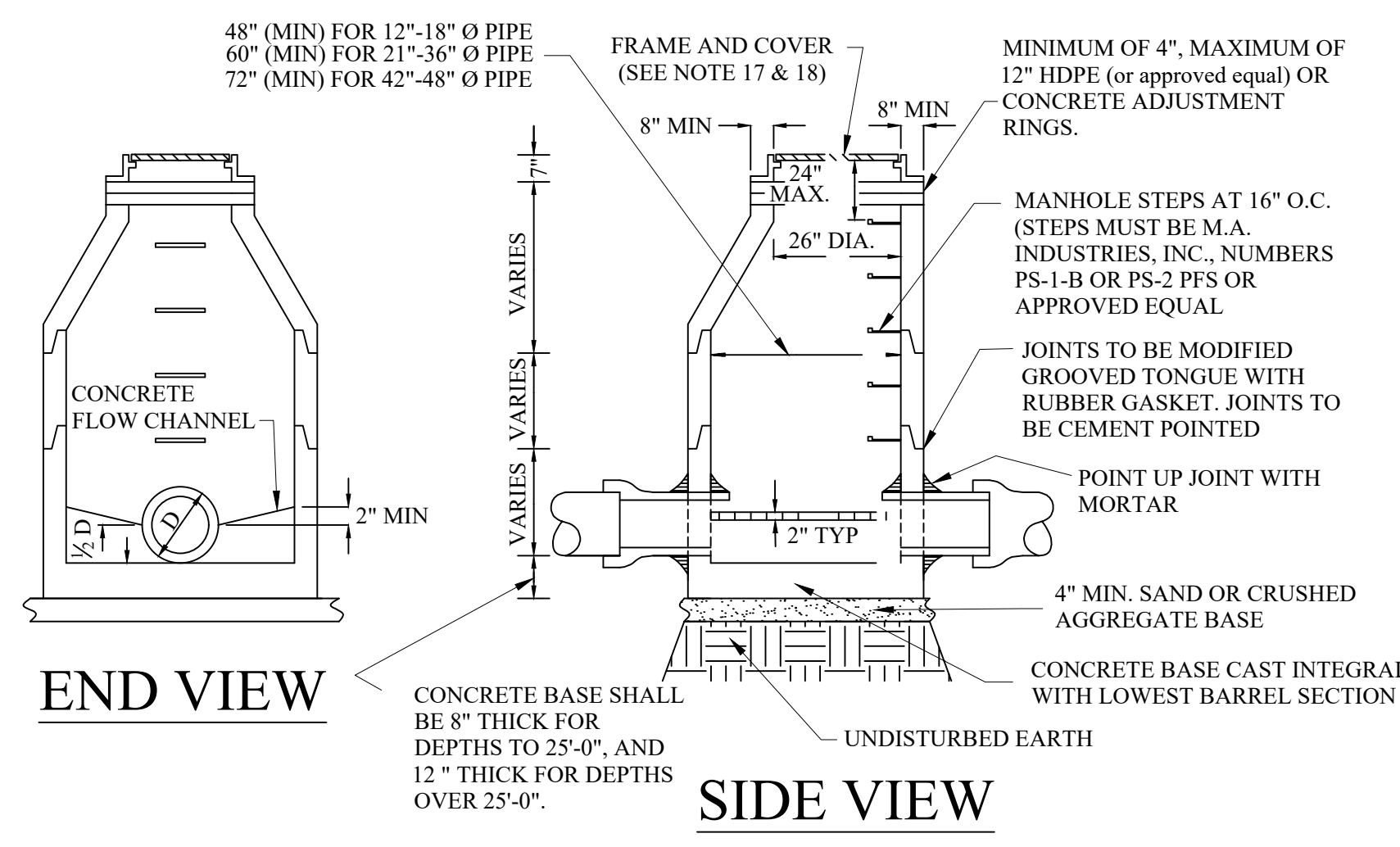
REVISIONS	DATE	APPROVED BY
WYE SADDLE REVISION	12-22-22	CITY COUNCIL, DATE: SEPTEMBER 23, 2019
PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES		

NOTIFY ROCHESTER HILLS
ENGINEERING DIVISION @
248-841-2510 48 HRS. PRIOR
TO START OF
CONSTRUCTION

City of Rochester Hills
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

SANITARY SEWER STANDARD DETAILS

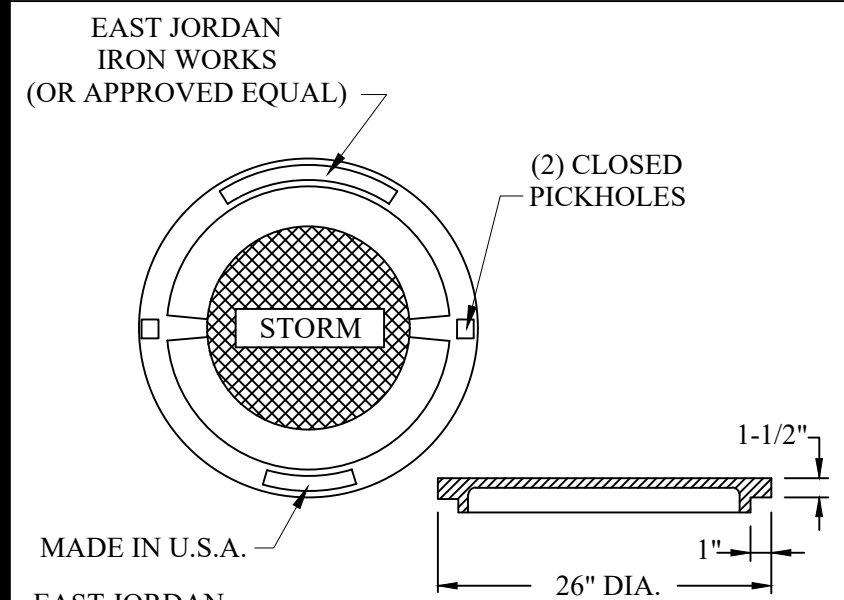
NOT TO SCALE	DATE: 1/10/2019
SHEET 2 OF 2	



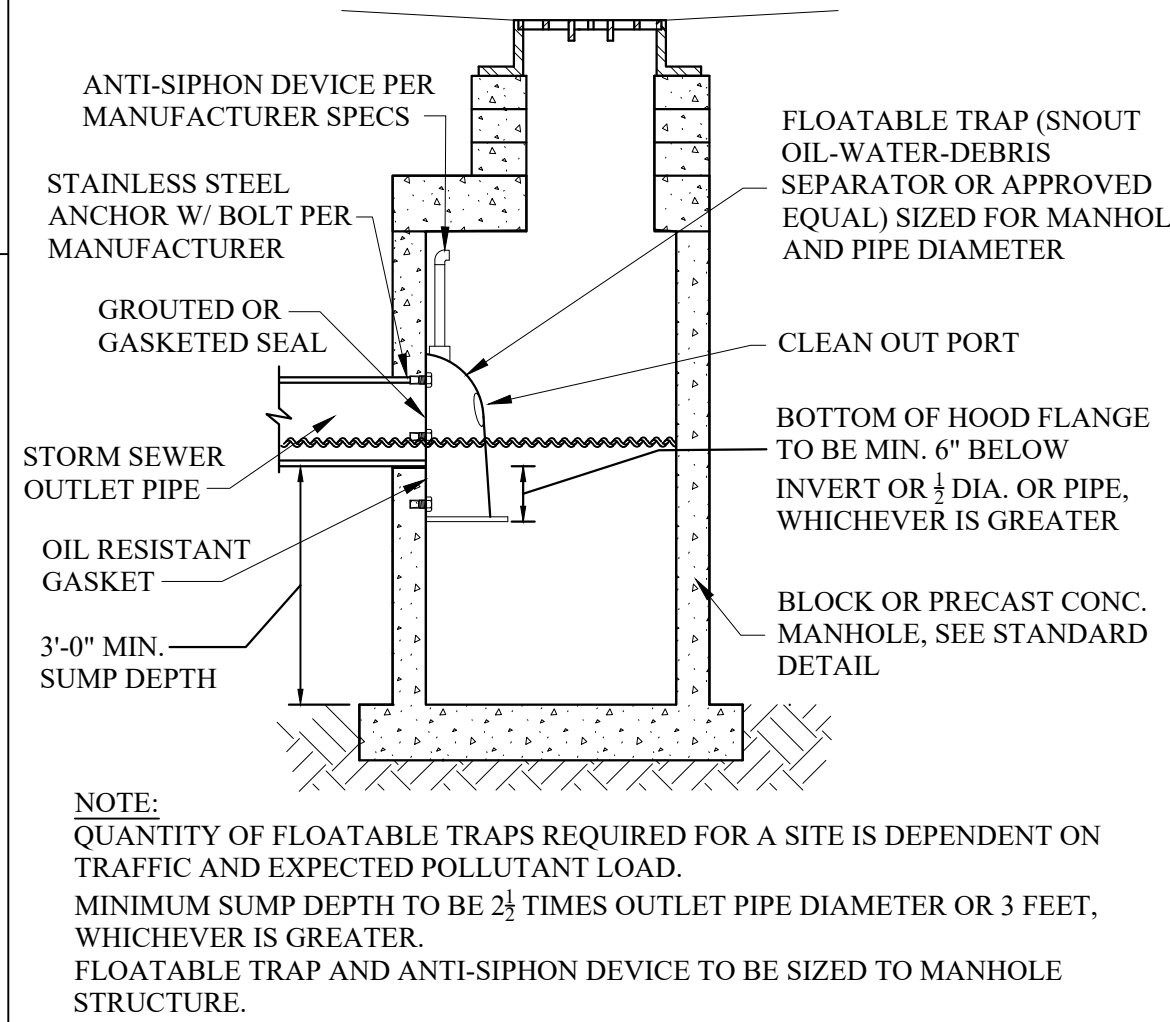
END VIEW

SIDE VIEW

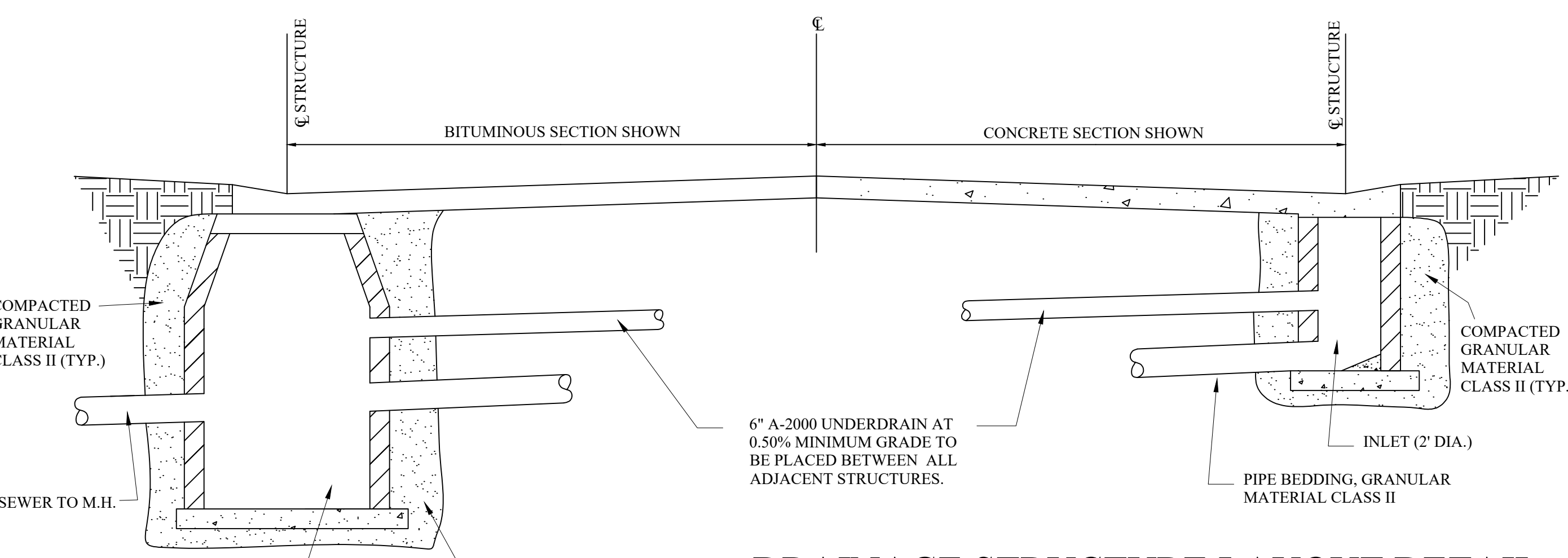
PRE-CAST STORM MANHOLE



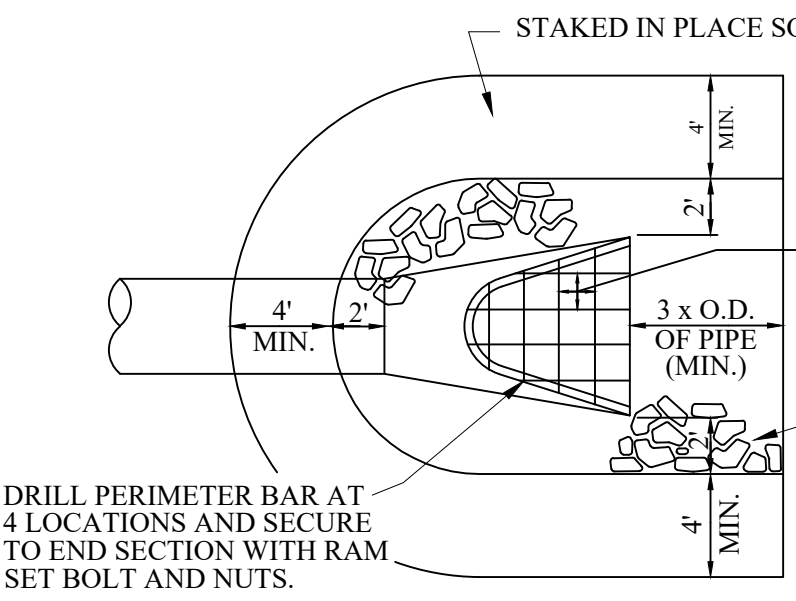
LETTERED MANHOLE COVER



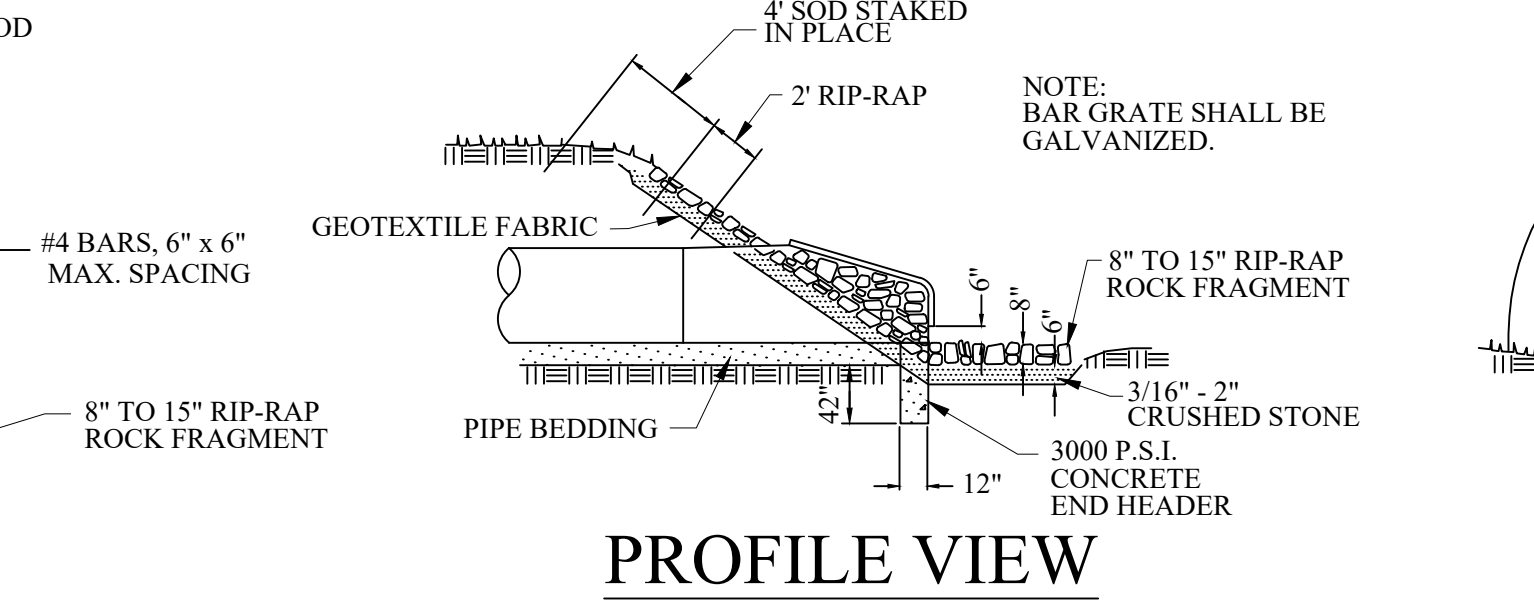
CATCH BASIN WITH FLOATABLE TRAP



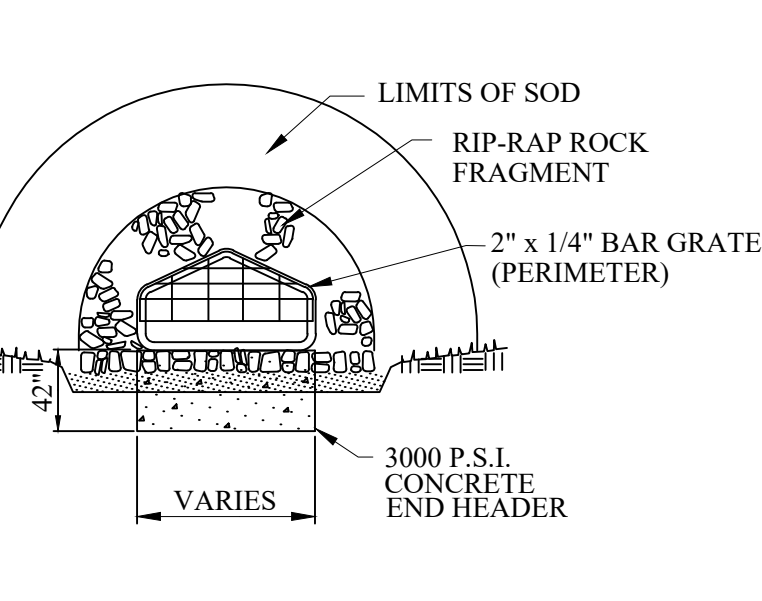
DRAINAGE STRUCTURE LAYOUT DETAIL



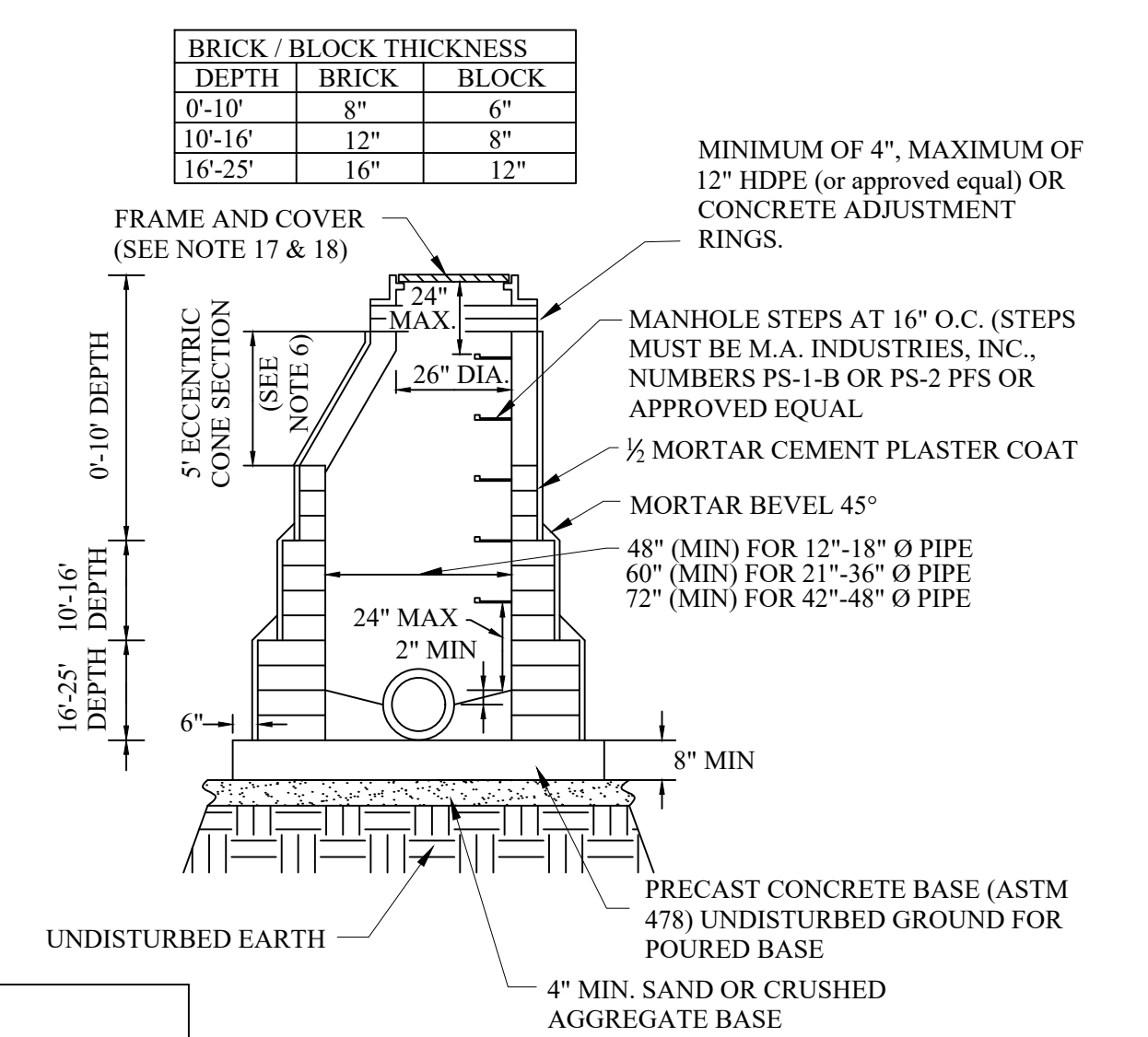
PLAN VIEW



END SECTION AND BAR GRATE DETAIL

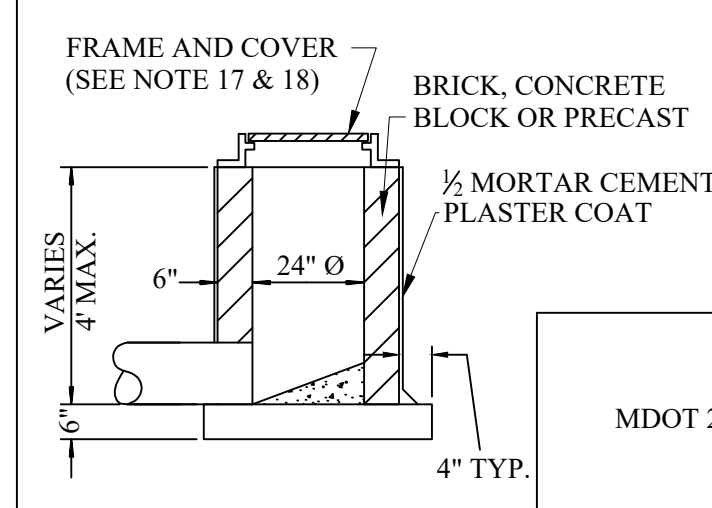


END VIEW

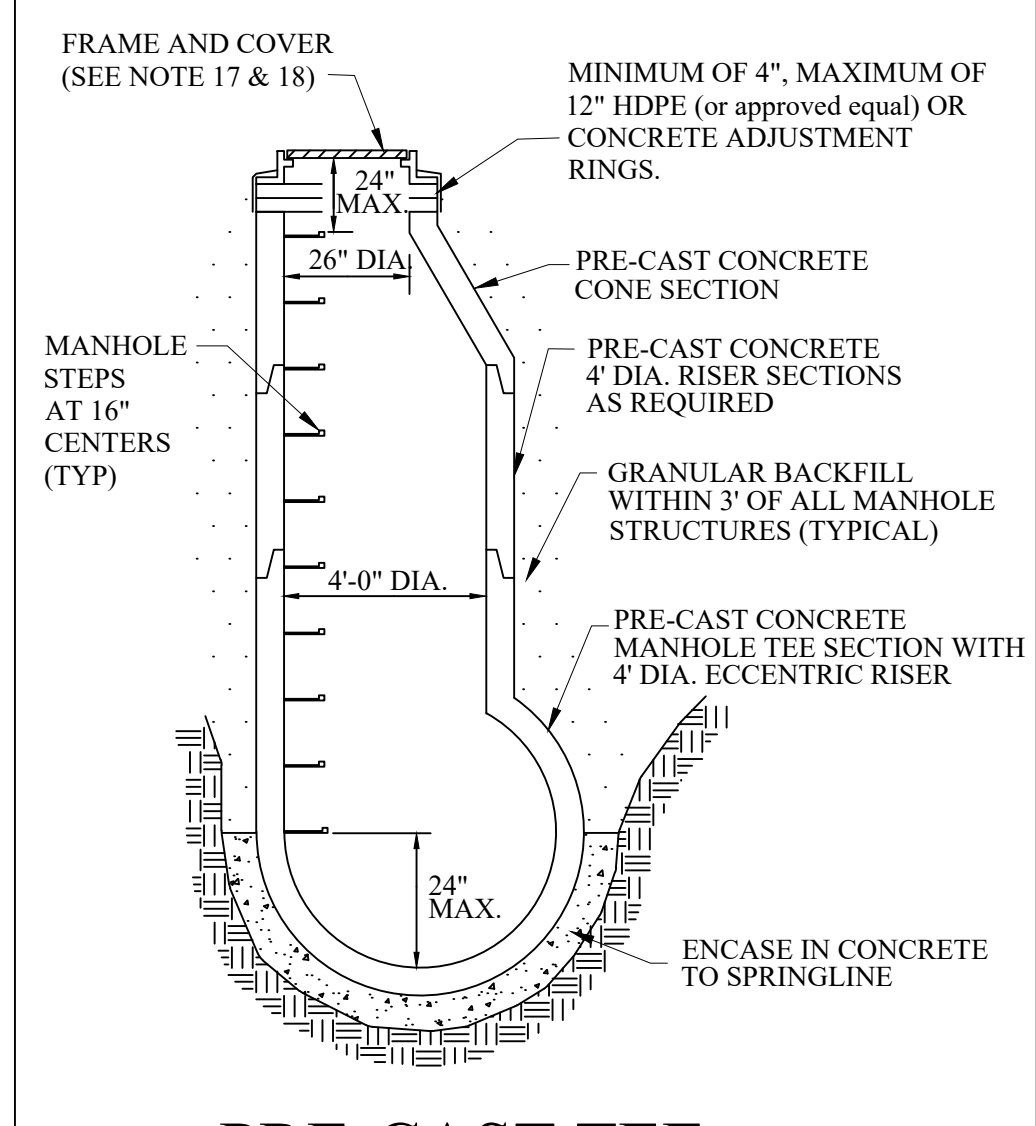


BRICK OR BLOCK MANHOLE

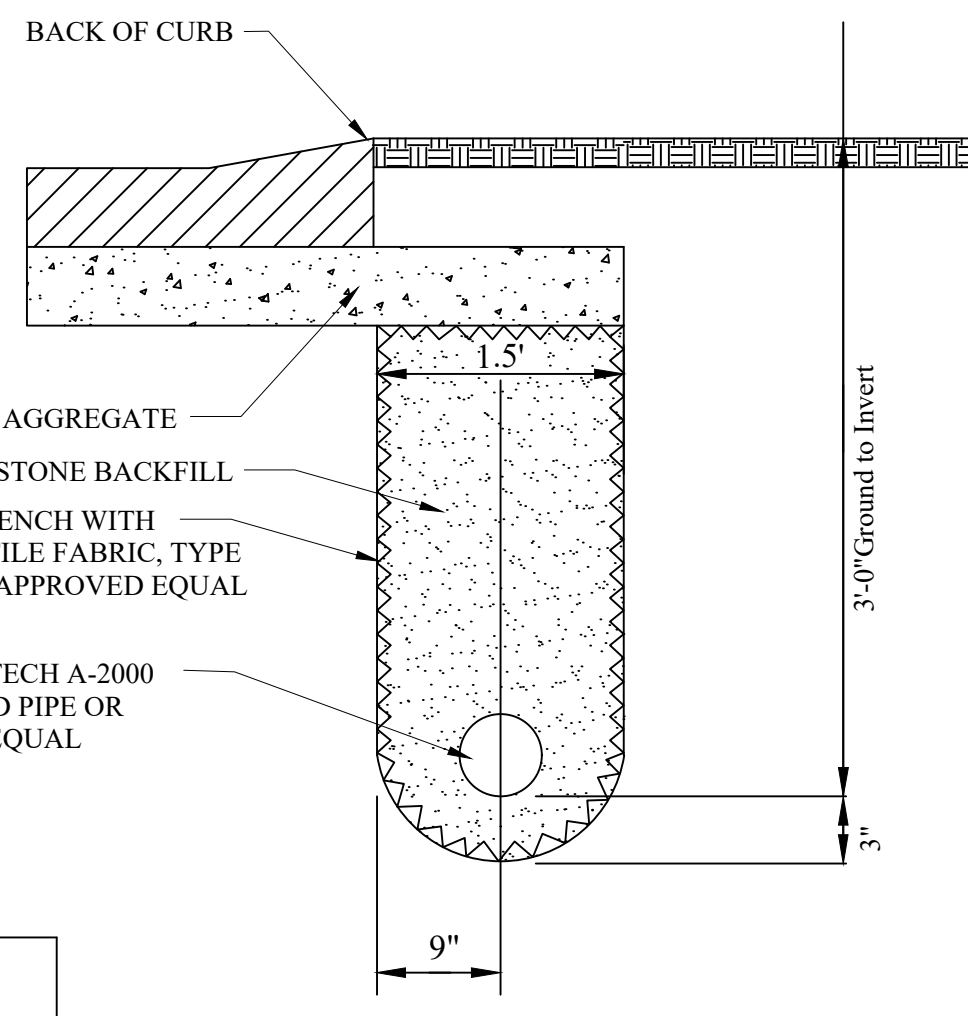
(NOTE: PERMITTED BY CITY ONLY FOR SPECIAL CIRCUMSTANCES)



INLET DETAIL

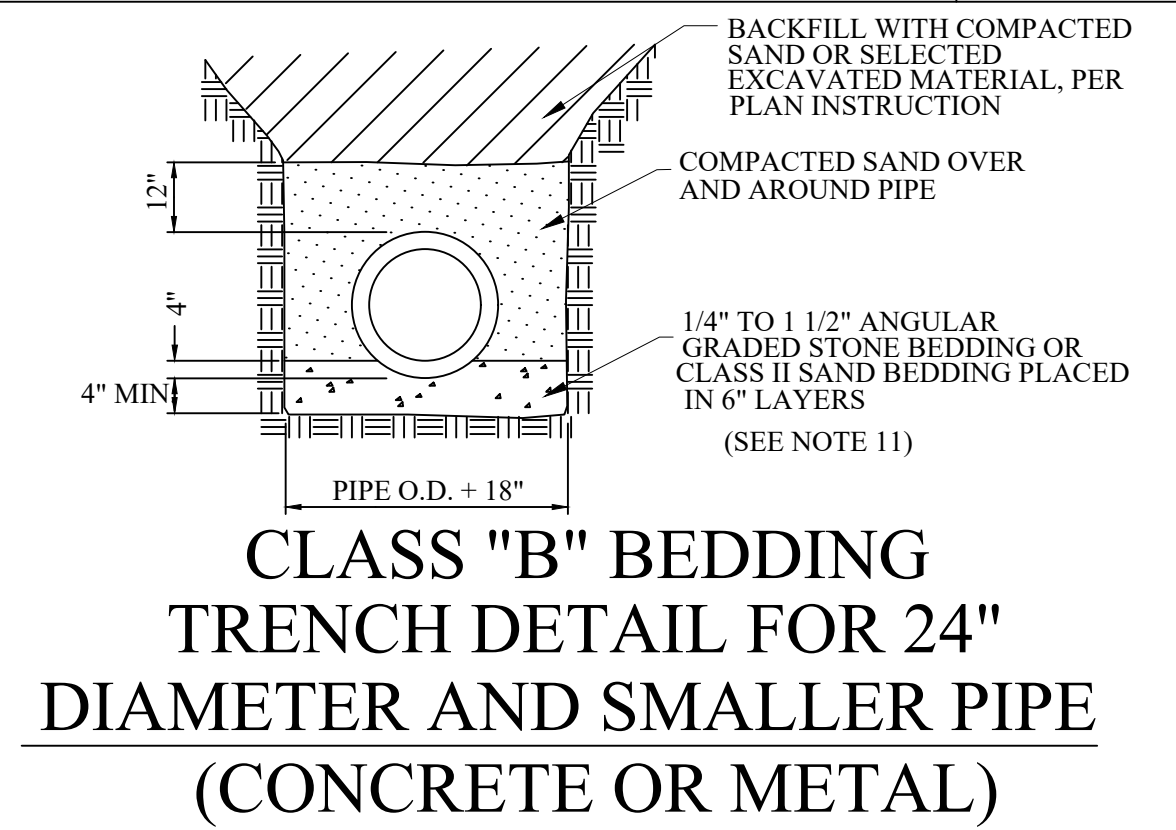


PRE-CAST TEE MANHOLE DETAIL

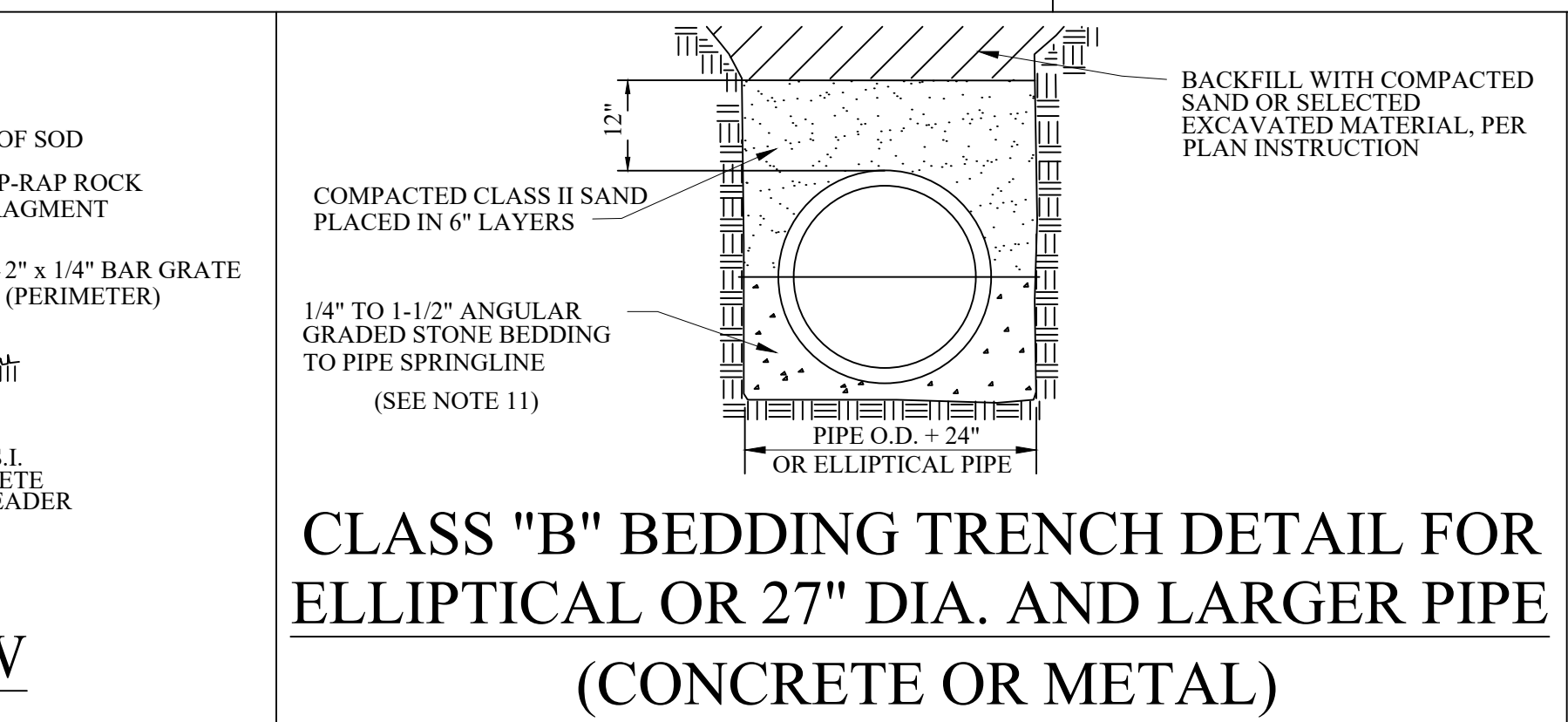


EDGE DRAIN DETAIL

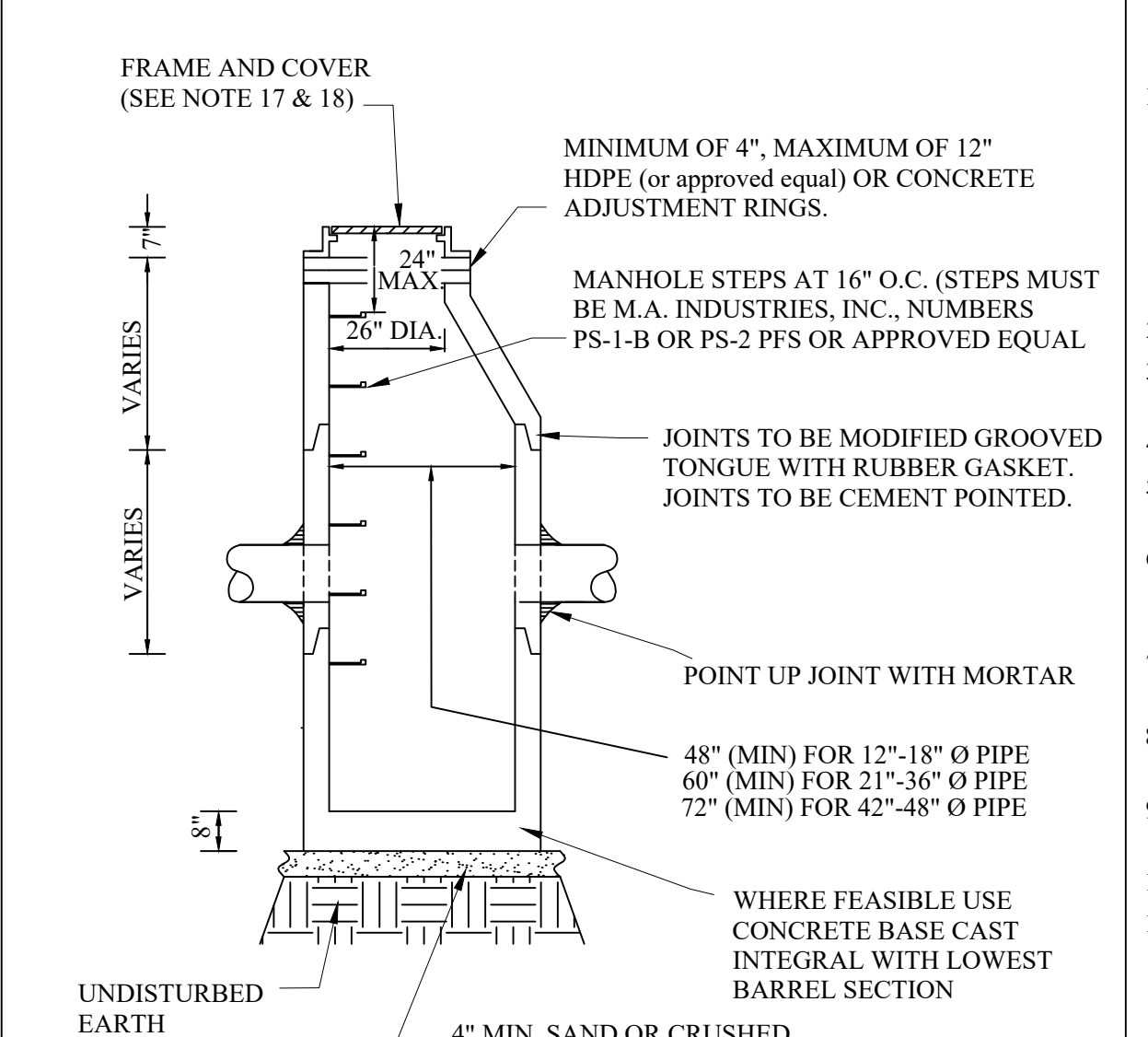
FOR PUBLIC AND PRIVATE ROADS



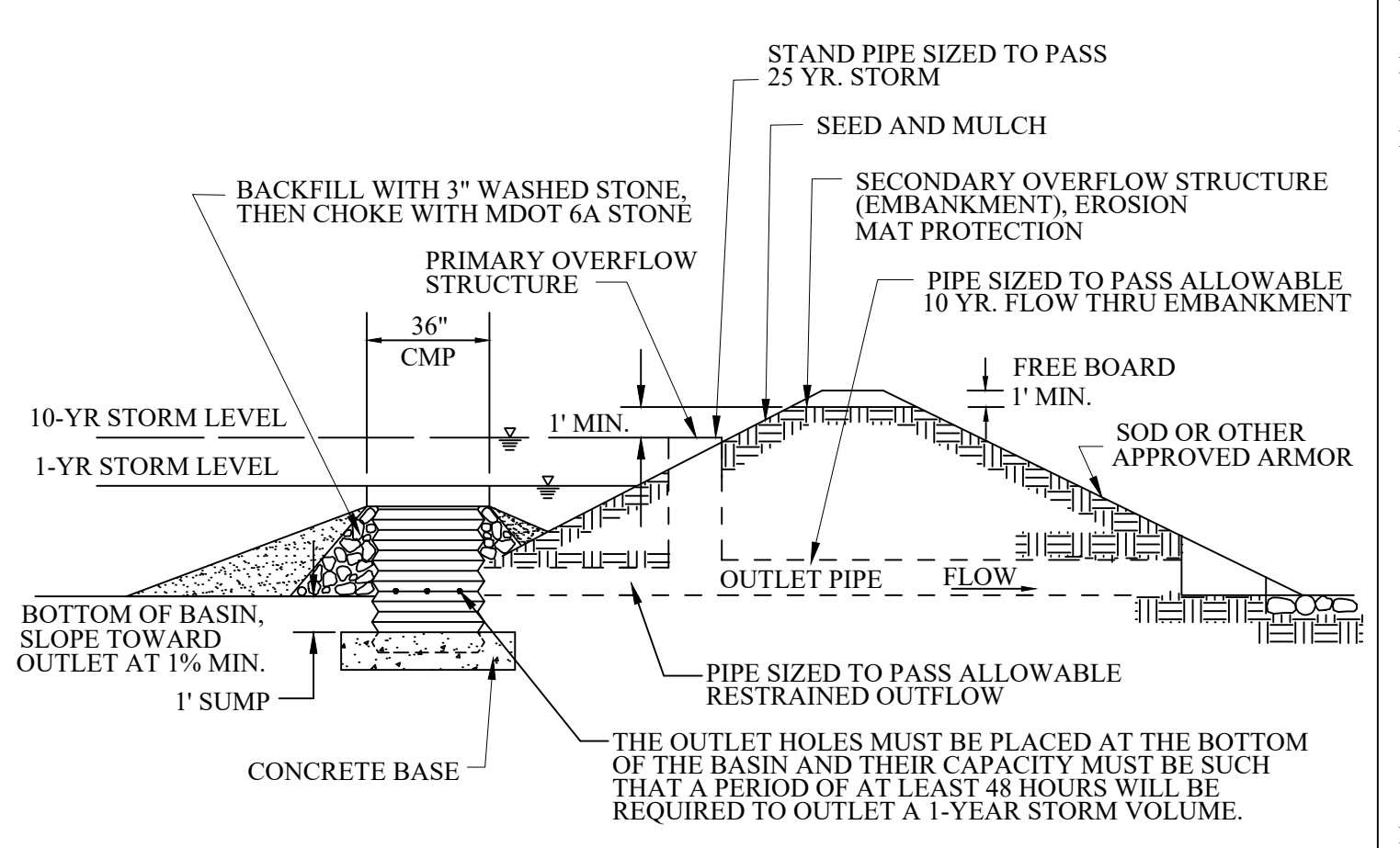
CLASS "B" BEDDING TRENCH DETAIL FOR 24" DIAMETER AND SMALLER PIPE (CONCRETE OR METAL)



CLASS "B" BEDDING TRENCH DETAIL FOR ELLIPTICAL OR 27" DIA. AND LARGER PIPE (CONCRETE OR METAL)



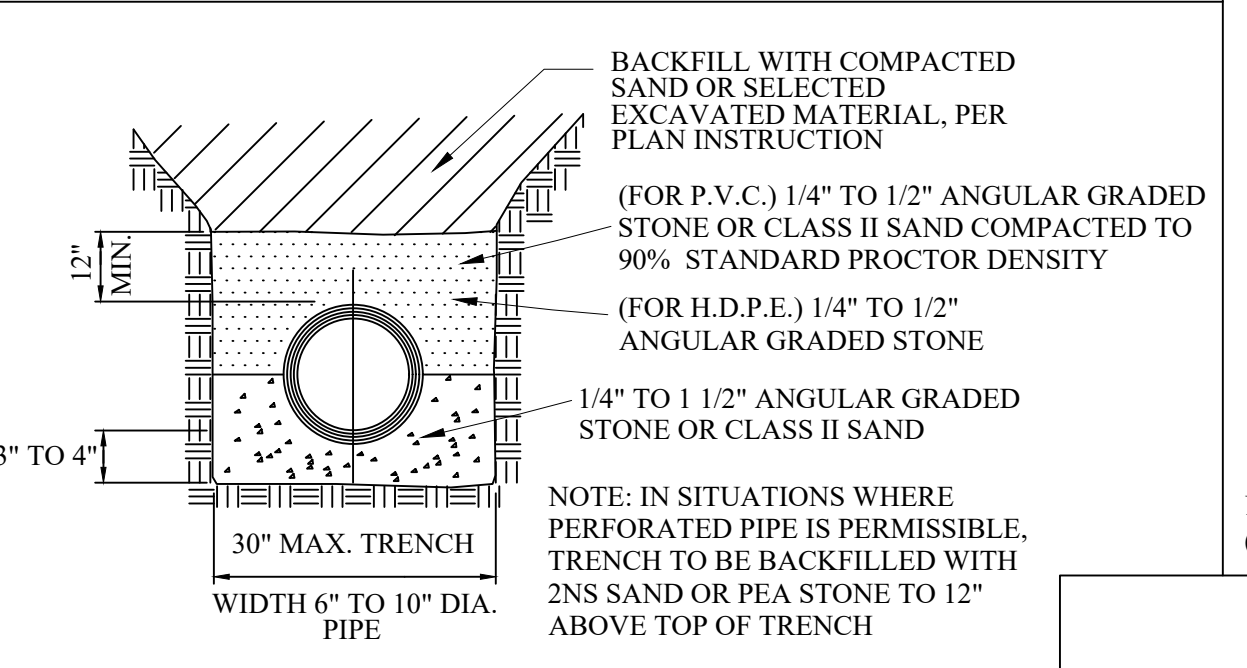
PRECAST STORM CATCH BASIN



PROFILE VIEW

SO-2 FOREBAY OUTLET FILTER (CMP)

(SEE OCWRC STANDARD DETAILS FOR FOREBAY OUTLET STRUCTURE)

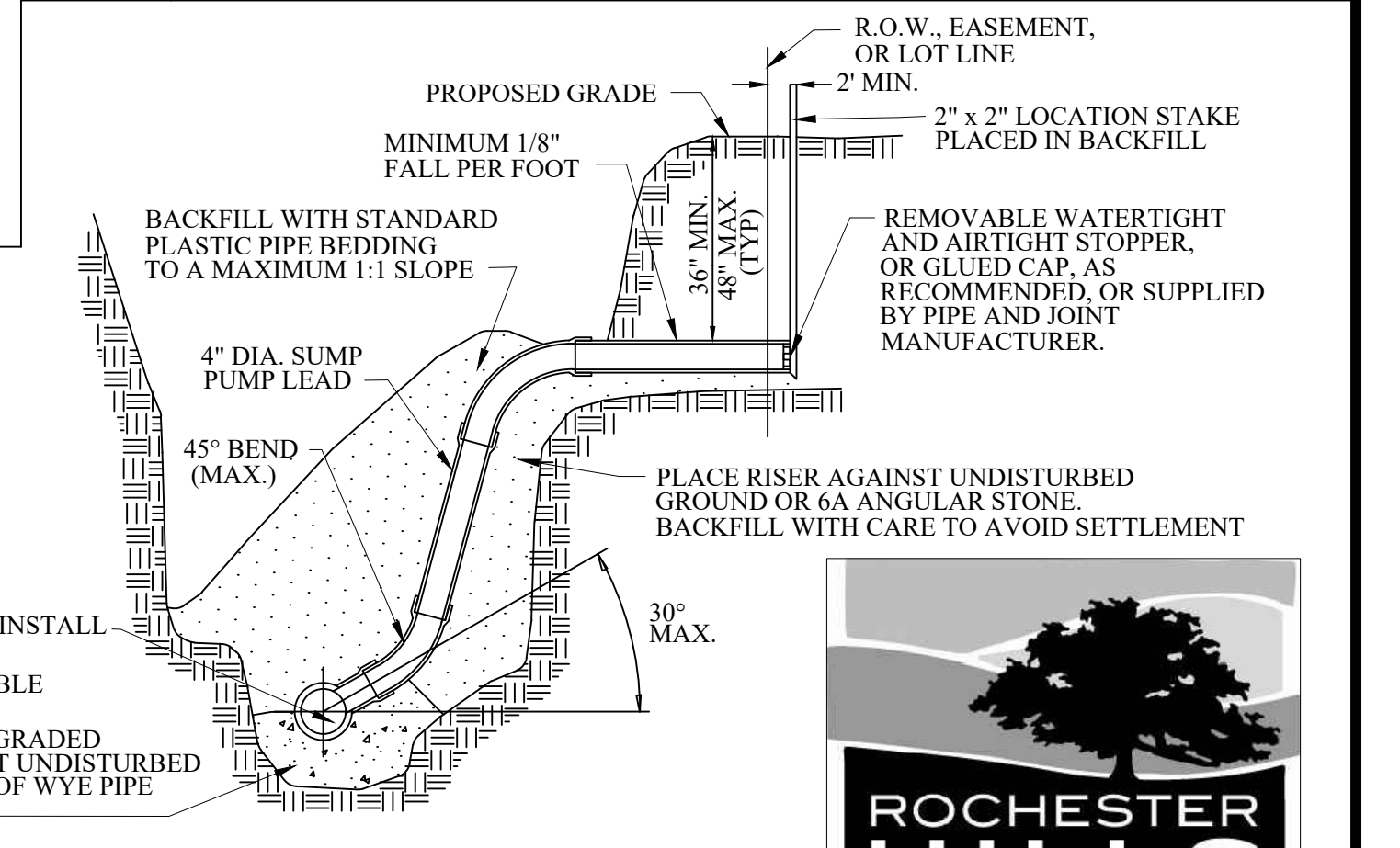


H.D.P.E. OR P.V.C. BEDDING DETAIL

- GENERAL NOTES:**
- ALL EXISTING AND NEW STORM SYSTEMS SHALL BE CLEANED AND FLUSHED ONCE SITE IS 90% BUILT OUT AND VEGETATED. SEDIMENT, ROCK, AND OTHER DEBRIS SHALL BE COLLECTED AND DISPOSED OF IN A PROPER MANNER. IN NO CASE SHALL DEBRIS BE FLUSHED DOWN A STORM OR SANITARY SEWER FOR DISPOSAL. ALL DAMAGED IRRIGATION AND HOUSE DRAINAGE PIPE, DRAIN TILES, SEWER LATERALS AND CULVERTS SHALL BE REPAIRED EXPEDITIOUSLY. DEBRIS COLLECTED SHALL BE DISPOSED IN A COMMERCIAL LANDFILL OR OTHER APPROVED LOCATION.
 - STORM SEWER PIPE SHALL BE OF SIZE AND TYPE NOTED ON THE APPROVED PLANS.
 - REINFORCED CONCRETE PIPE (RCP) SHALL BE MODIFIED GROOVED TONGUE JOINTS WITH O-RING TYPE RUBBER GASKET, PER ASTM C443.
 - ALL CATCH BASIN LEADS AND INLET LEADS SHALL BE ASTM C76-CLASS IV PIPE.
 - MINIMUM PIPE SIZE FOR SEWERS, CATCH BASIN LEADS, AND INLET LEADS SHALL BE 12" NOMINAL INTERNAL DIAMETER.
 - ECCENTRIC CONES SHALL BE PROVIDED ON ALL STRUCTURES, REGARDLESS OF THE MATERIAL USED. PRECAST REINFORCED CONCRETE MANHOLE, BLOCK, OR BRICK TO PROVIDE A TRUE VERTICAL FACE FOR PLACEMENT OF MANHOLE STEPS.
 - THE INSIDE JOINTS OF PIPES SIZES 42" AND LARGER DIAMETER SHALL BE POINTED UP WITH MORTAR UPON COMPLETION OF BACKFILLING OPERATIONS.
 - ALL PIPES SHALL HAVE CLASS, LOT NUMBER, AND DATE OF MANUFACTURE CONSPICUOUSLY MARKED ON EACH LENGTH BY MANUFACTURER.
 - ALL END SECTIONS 18" AND LARGER SHALL BE PROVIDED WITH A GALVANIZED BAR SCREEN.
 - PRECAST REINFORCED CONCRETE SECTIONS SHALL CONFORM TO ASTM 2478.
 - IN DRY, STABLE SOILS, PEASTONE (EQUIVALENT TO M.D.O.T. 34R SPECIFICATIONS) MAY BE SUBSTITUTED FOR THE STANDARD BEDDING. IF THE TRENCH IS WET OR UNSTABLE A GEOTEXTILE FABRIC MUST BE USED TO LINE THE TRENCH PRIOR TO THE PLACEMENT OF THE 2NS SAND, PEASTONE, OR 1/4" - 1-1/2" ANGULAR GRADED STONE.
 - SCHEDULE INSPECTIONS 48 HOURS PRIOR TO START OF CONSTRUCTION BY CALLING THE CITY'S INSPECTION LINE AT 248-841-2510. FULL TIME INSPECTION SHALL BE REQUIRED FOR ALL UNDERGROUND STORM SEWER CONSTRUCTION.
 - THE CONTRACTOR SHALL CONTACT MISS DIG 72 HOURS BEFORE CONSTRUCTION AT (811) TO LOCATE EXISTING UNDERGROUND UTILITIES.
 - PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL HAVE IN HIS POSSESSION A CURRENT SOIL EROSION CONTROL PERMIT AS ISSUED BY THE OCWRC.
 - MINIMUM SUMP DEPTH IS 2' FOR CATCH BASINS, MINIMUM SUMP DEPTH IS 3' FOR CATCH BASINS WITH FLOATABLE TRAP INSTALLATIONS.
 - AS A MEANS OF INSURING PROPER INSTALLATION OF THE STORM SEWER PIPE, AT THE DISCRETION OF THE CITY ENGINEER, THE CONTRACTOR SHALL VIDEO INSPECT, ACCORDING TO THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS, 100% OF THE STORM SEWER PIPE 12" AND LARGER IN DIAMETER. IF VIDEO INSPECTION IS REQUIRED BY THE CITY ENGINEER THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE CITY OF ROCHESTER HILLS PRIOR TO VIDEO INSPECTION, SO A REPRESENTATIVE MAY BE PRESENT. ROCHESTER HILLS WILL BE PROVIDED WITH A DIGITAL COPY OF THE VIDEO INSPECTION AND LOG IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS.
- PROJECTS THAT THE CITY ENGINEER MAY IMPOSE THESE REQUIREMENTS ARE:
- ALL PUBLIC PROJECTS OR PROJECTS BEING CONSTRUCTED ON PUBLIC PROPERTY.
 - ANY PROJECT INVOLVING A DEVELOPMENT, SUBDIVISION, SITE CONDOMINIUM, CONDOMINIUM, OR ASSOCIATION.
 - ANY PROJECT THAT WILL RESULT IN MORE THAN ONE OWNER RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE COMPLETE STORM DRAINAGE SYSTEM.

COVERS FOR MANHOLES, CATCH BASINS, AND INLETS

- MANHOLE FRAME AND COVER SHALL BE EJ 1040, TYPE A COVER OR EQUIVALENT.
 - CATCH BASINS AND INLET FRAME AND COVER SHALL BE AS FOLLOWS:
 - EJ 7045 WITH TYPE M1 GRATE AND 7050 T2 ADJUSTABLE BACK, OR EQUAL, FOR USE WITH CONCRETE CURB AND GUTTER, (STRAIGHT CURB/M.D.O.T. F CURB) AND WITH CONCRETE PAVEMENT WITH INTEGRAL CURB.
 - EJ 7085 WITH TYPE M1 GRATE OR EQUAL, FOR USE WITH CONCRETE B-2 MODIFIED CURB AND GUTTER, AND WITH CONCRETE WITH B-2 MODIFIED INTEGRAL CURB.
 - EJ 7065 WITH TYPE M1 GRATE AND 7060 T1 DRIVE OVER CURB BACK, OR EQUAL, FOR USE WITH MOUNTABLE CURB AND GUTTER, AND WITH CONCRETE PAVEMENT WITH MOUNTABLE INTEGRAL CURB.
 - EJ FRAME 1040 WITH TYPE N OVAL GRATE OR TYPE O2 BEEHIVE GRATE, OR EQUAL, FOR USE ON OPEN DITCH STRUCTURES AND ON CATCH BASINS LOCATED IN SWALES, AND IN EASEMENTS OUTSIDE THE PUBLIC STREET RIGHT-OF-WAY.
 - EJ FRAME 7045Z WITH TYPE M4 VANE STYLE INLET GRATE (RIGHT HAND FLOW OR LEFT HAND FLOW) AND 7060 T1 BACK OR 7050 T2 BACK DEPENDING ON CURB STYLE, OR EQUAL, FOR USE WITH RELIEF BASINS WHICH ARE ON LONGITUDINAL ROAD SLOPES OF 4% OR GREATER.
 - EJ FRAME 5100 WITH TYPE M1 SINUSOIDAL GRATE, OR EQUAL, FOR USE IN NON-CURB PAVEMENT AREAS.
- NOTE: COVERS MUST HAVE THE "DUMP NO WASTE! DRAINS TO WATERWAY" LETTERING (WHEN APPLICABLE).



HOUSE LEAD DETAIL FOR 3" OR 4" DIA. PLASTIC SUMP PUMP LEADS



REVISIONS	DATE	APPROVED BY

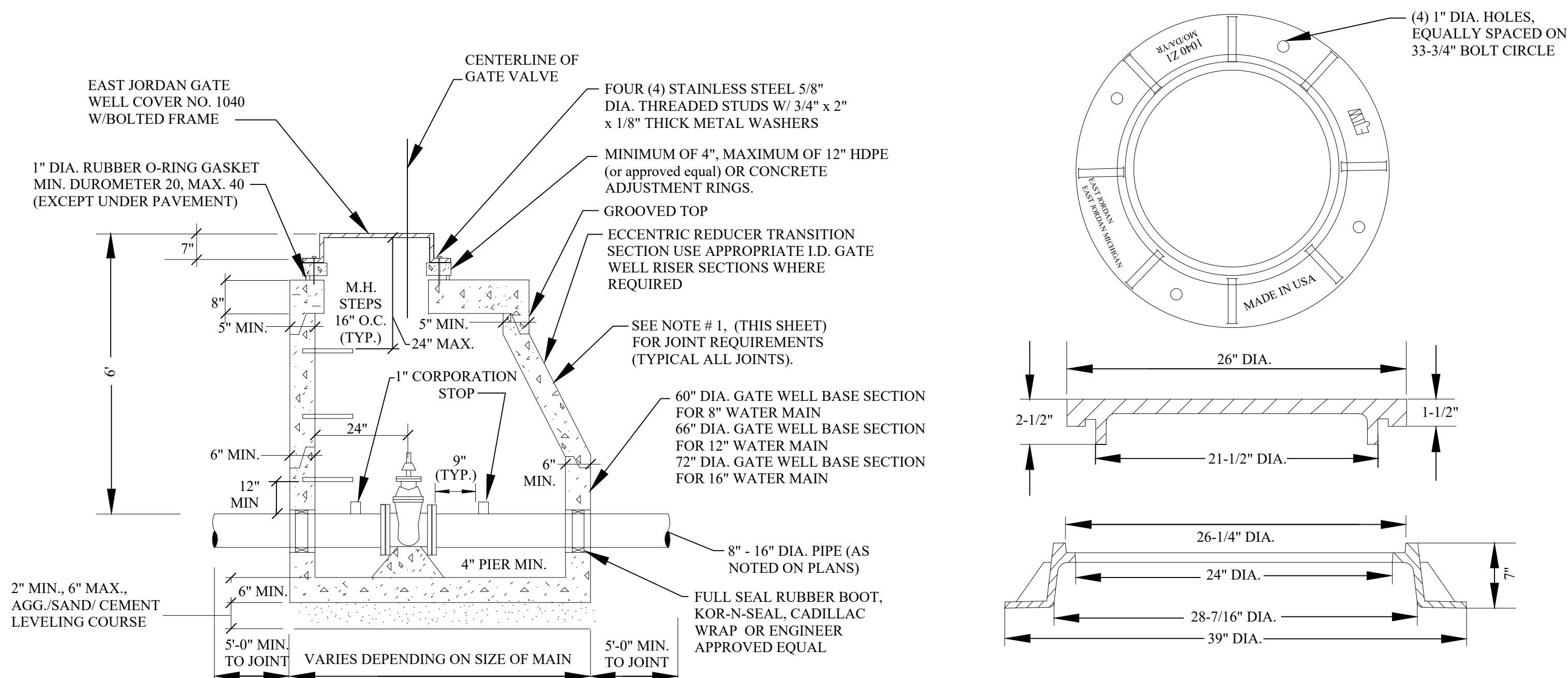
DATE: _____

PREPARED BY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS ENGINEERING DEPARTMENT @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION

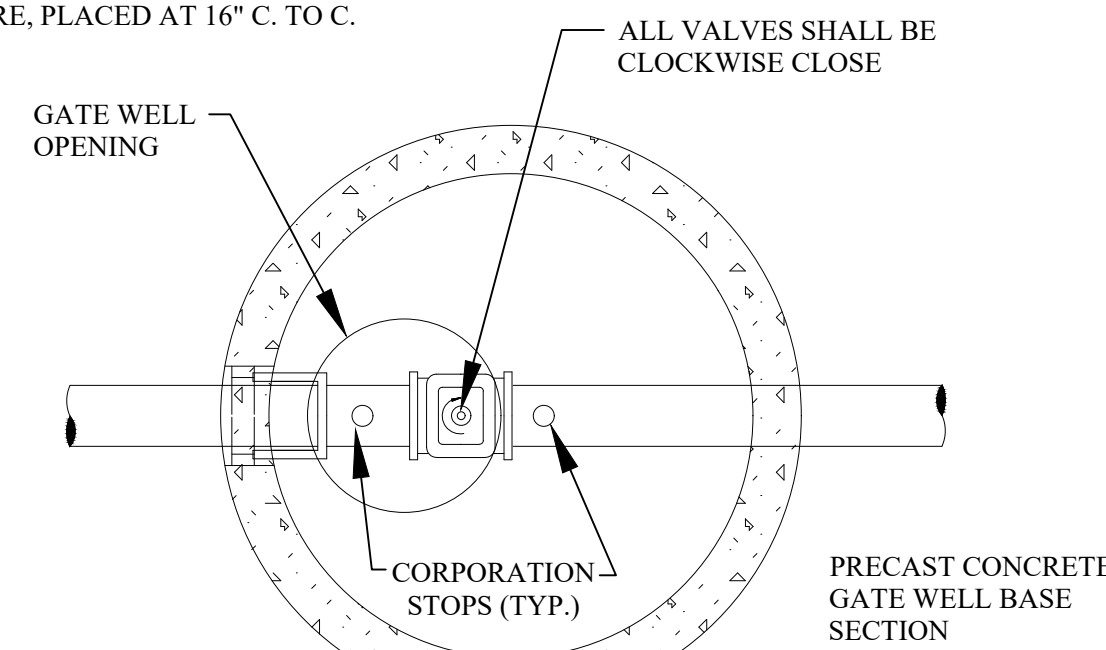
City of Rochester Hills
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

STORM SYSTEM STANDARD DETAILS

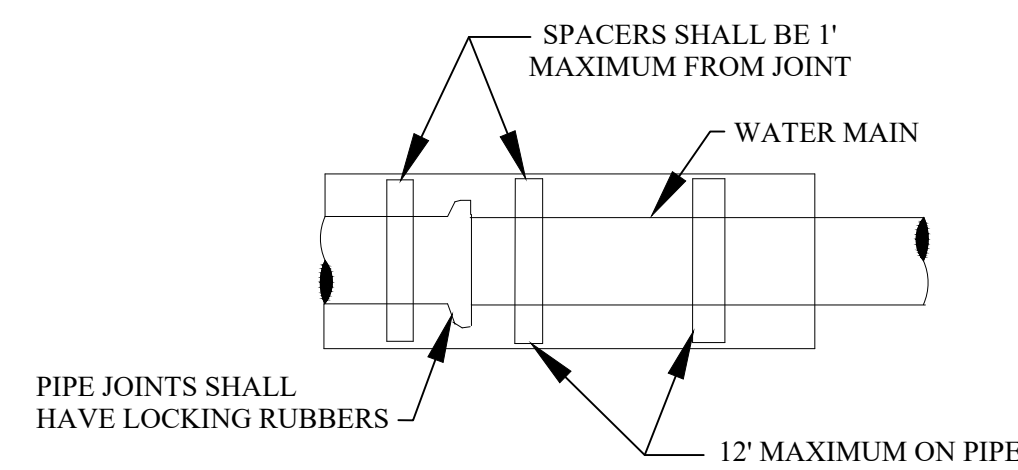


ALL GATE WELLS

MANHOLE STEPS TO BE PLASTIC COATED STEEL MEETING THE REQUIREMENTS IN ASTM D 2146, TYPE II, GRADE 49108. M.A. INDUSTRIES P.S.I. POLYPROPYLENE OR APPROVED EQUAL. STEPS TO BE INSTALLED DURING MANHOLE MANUFACTURE, PLACED AT 16" C. TO C.



GATE WELL (TYPICAL)

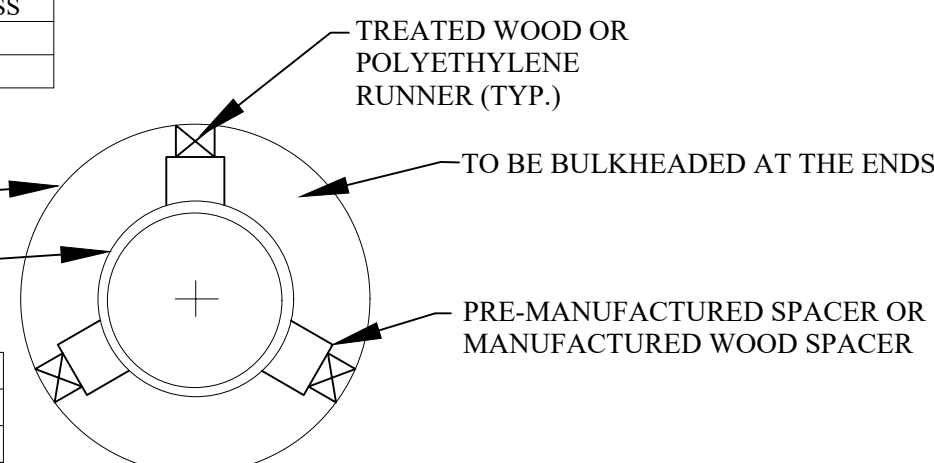


UNLESS OTHERWISE SPECIFIED, MINIMUM CASING PIPE SHALL BE ASTM A-139 GRADE B, WALL THICKNESS AS FOLLOWS:

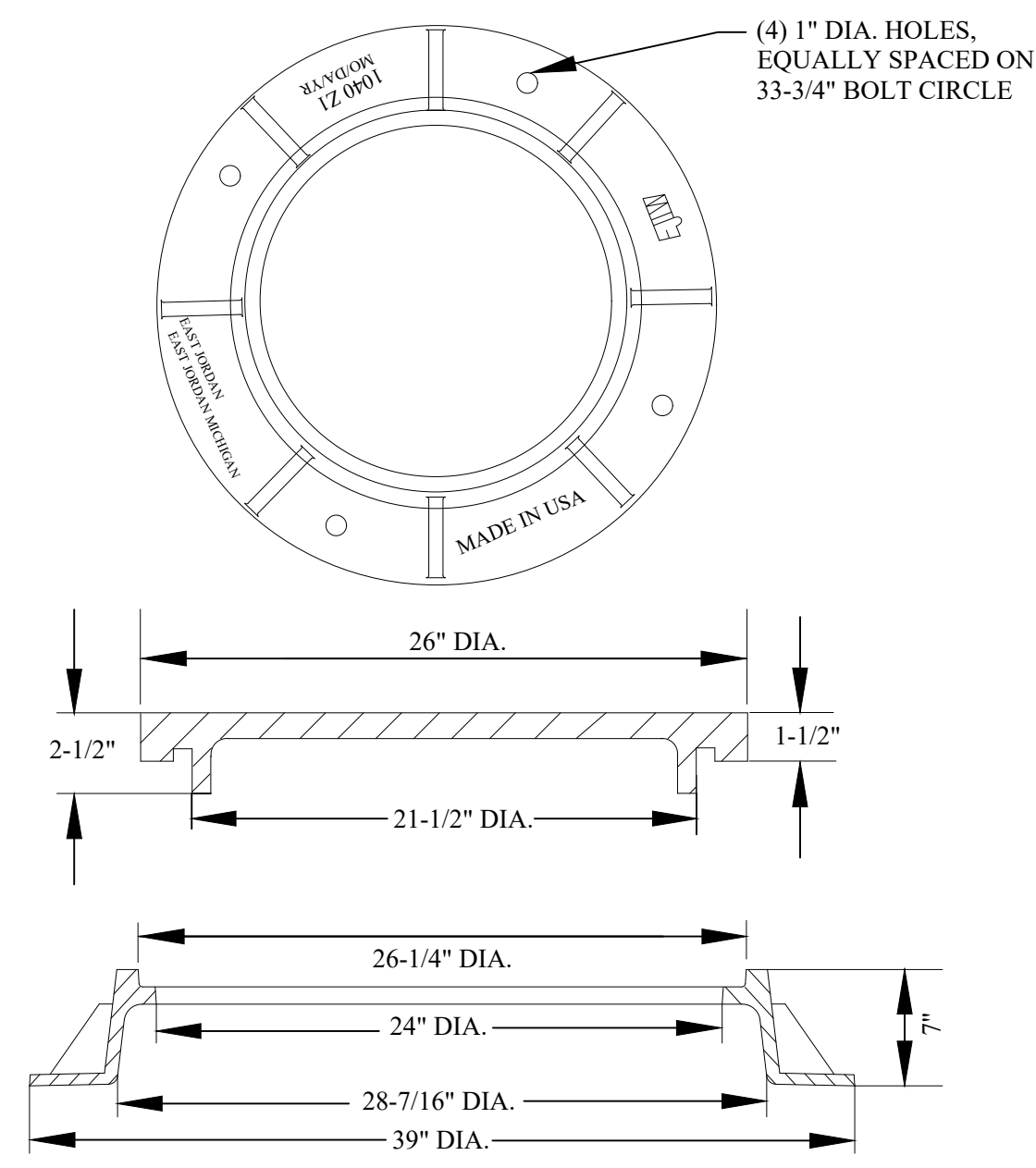
NOMINAL SIZE	MINIMUM WALL THICKNESS
8" - 42"	0.375
48" - 60"	0.500

CASING SHOULD BE A MINIMUM OF 1 1/2 TIMES THE PIPE SIZE

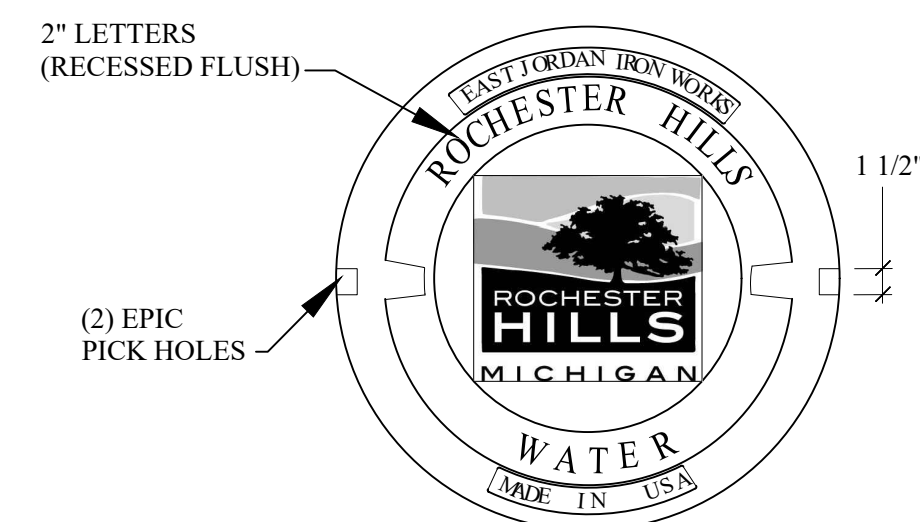
WATER PIPE	REQUIRED QUANTITY OF RUNNERS IN ACCORDANCE WITH SIZE
TO 14" DIA.	3 RUNNERS
16" TO 36" DIA.	6 RUNNERS
38" TO 48" DIA.	8 RUNNERS



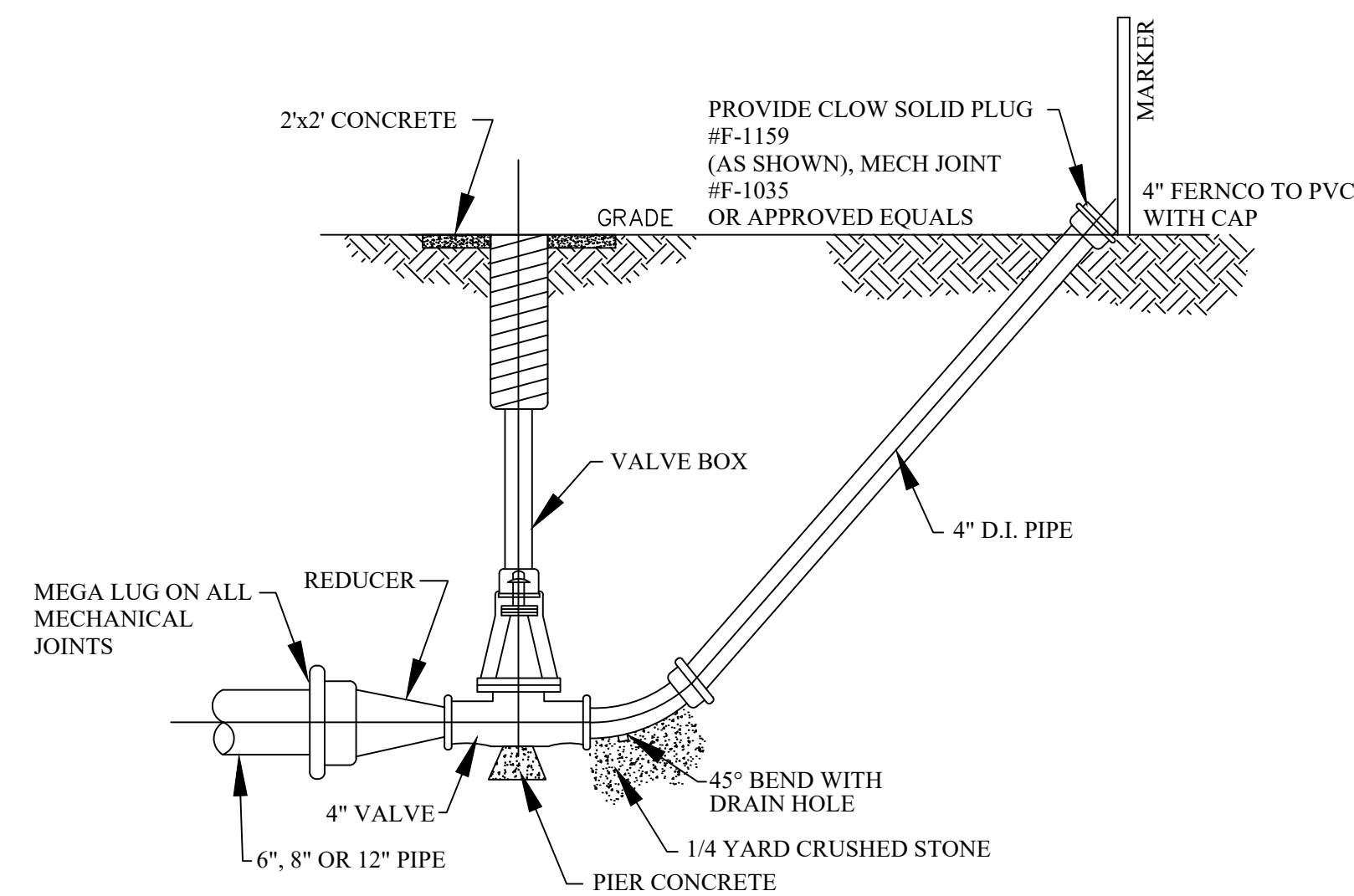
SUPPORT FOR WATER MAIN CONSTRUCTED IN CASING PIPE



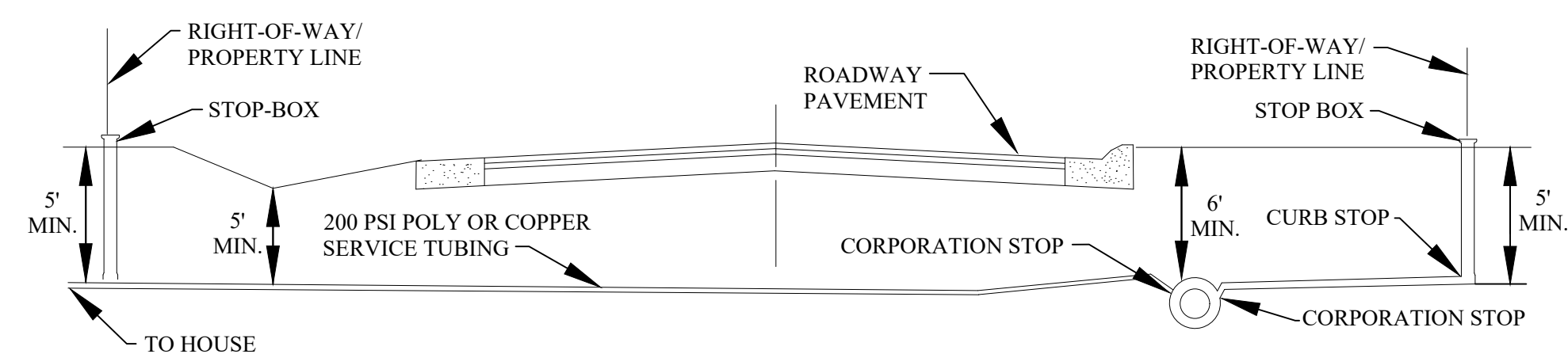
FRAME



LETTERING LAYOUT FOR GATE WELL COVERS

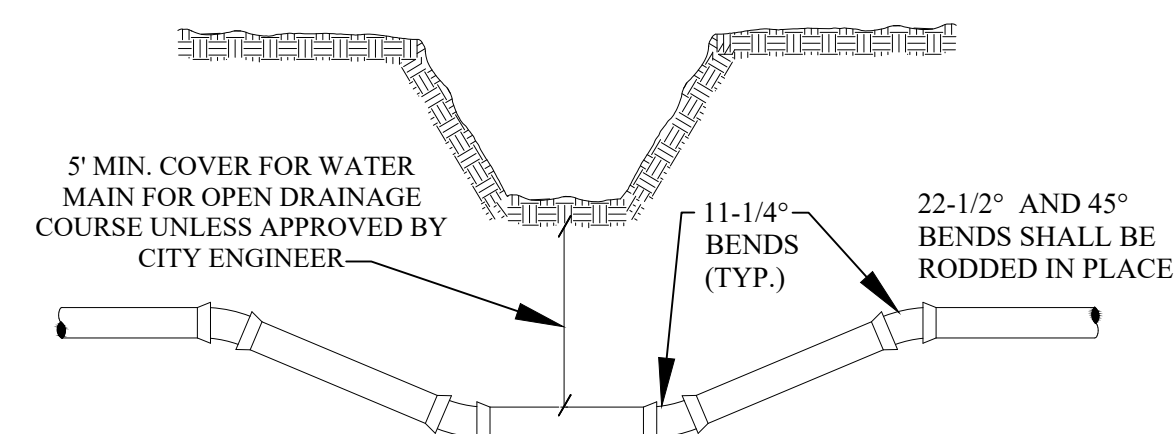


DETAIL OF 4" BLOWOFF

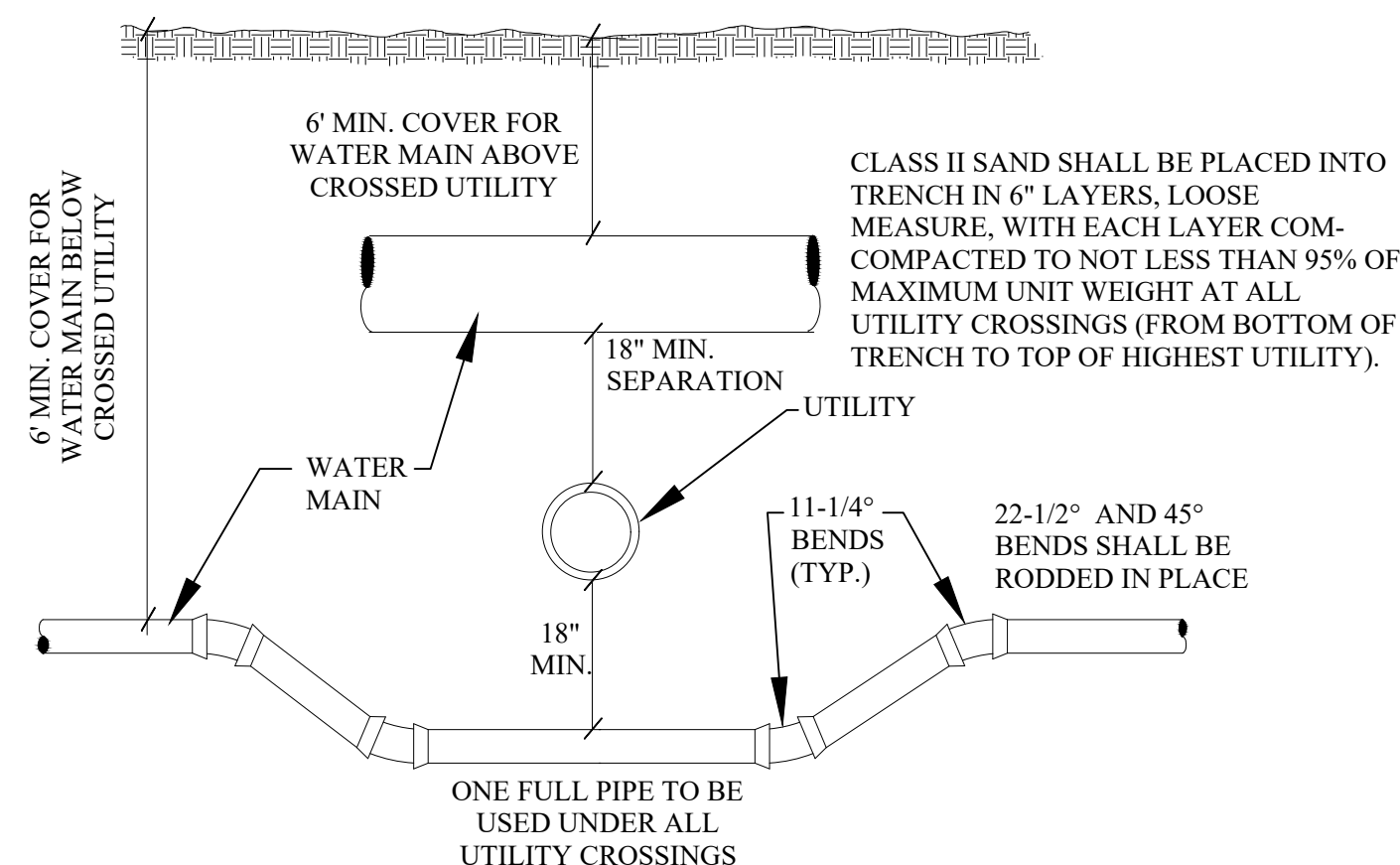


NOTES:
1. WATER SERVICE SHUT-OFF TO BE PLACED AT PROPERTY LINE.
2. LATERAL LOCATION SHALL BE AS REQUESTED BY THE ABUTTING PROPERTY OWNER.
3. ROCHESTER HILLS DPS PERFORMS SERVICE LEAD TAPS UP TO 2" DIAMETER.

TYPICAL PUBLIC ROAD WATER SERVICE CONNECTION

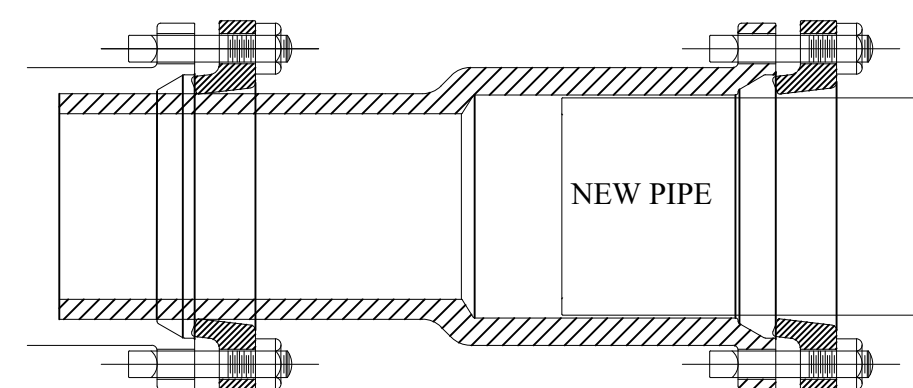


DITCH CROSSING

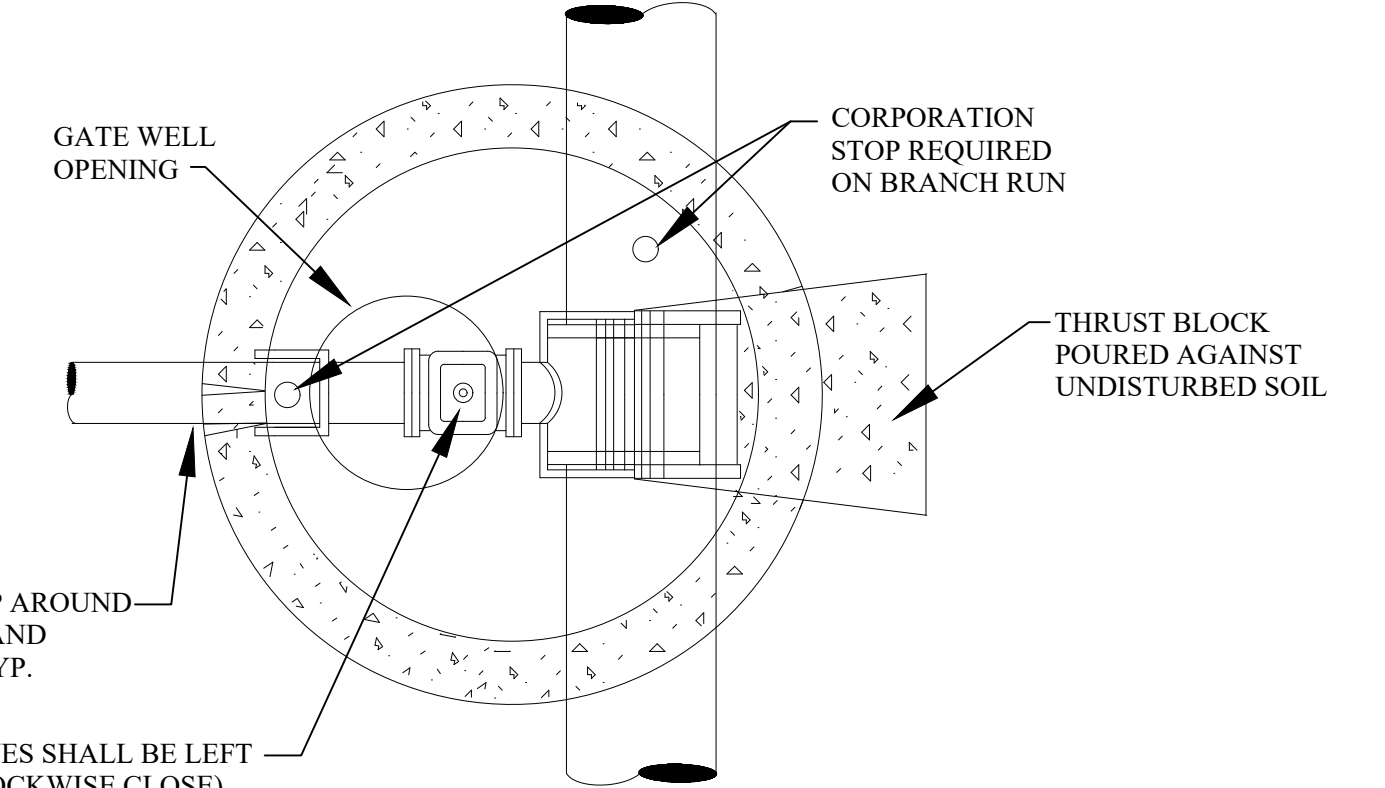


UTILITY CROSSING

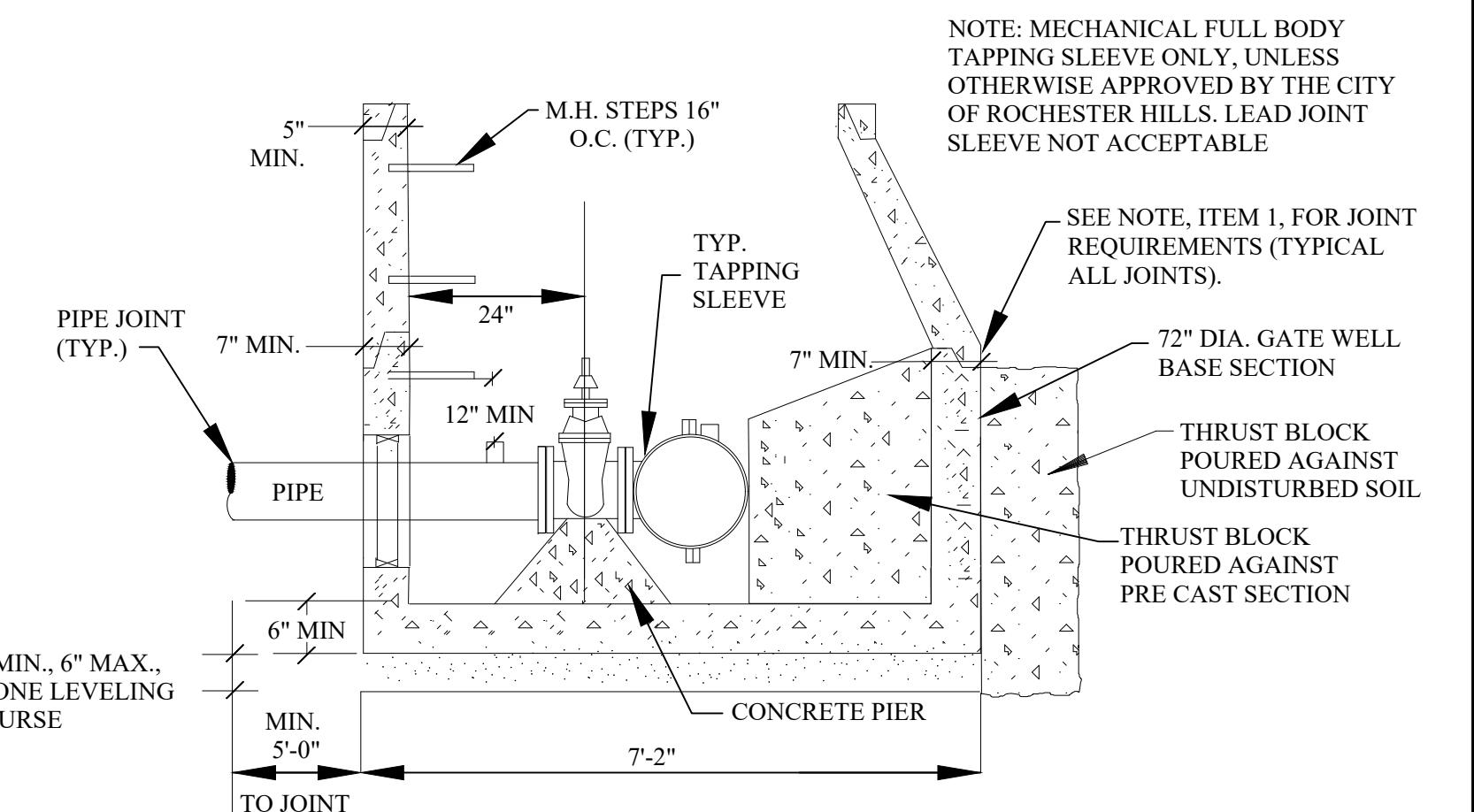
EAST JORDAN MJ x PE DUAL-PURPOSE CUTTING-IN SLEEVE OR APPROVED EQUAL



BOTTLE SLEEVE

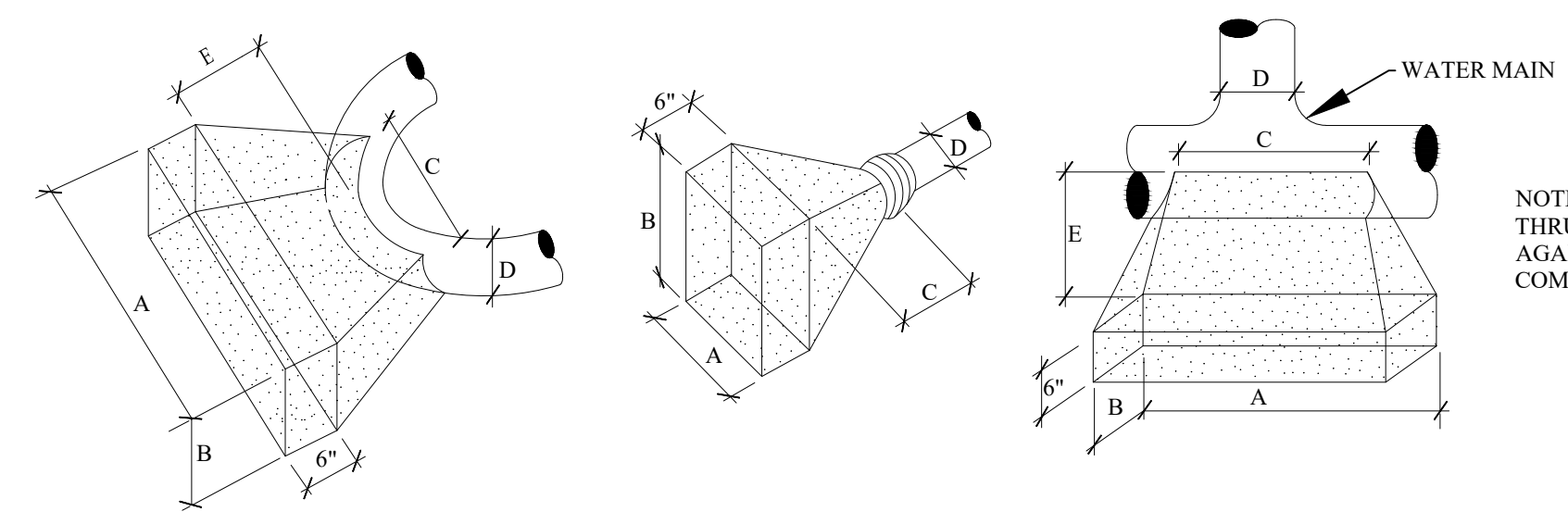


PLAN TAPPING SLEEVE VALVE & WELL (TYPICAL)



NOTES:

- ALL PRECAST CONCRETE GATE WELL SECTIONS SHALL BE MANUFACTURED TO CONFORM WITH A.S.T.M. C478, STANDARD SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS. EXCEPT WALL THICKNESS SHALL BE AS SHOWN ON THESE DETAILS. ALL JOINTS FOR PRECAST CONCRETE GATE WELL SECTIONS SHALL BE "MODIFIED GROOVE TONGUE" WITH GASKET MANUFACTURED TO CONFORM WITH A.S.T.M. C 443, STANDARD SPECIFICATION FOR JOINTS FOR CIRCULAR CONCRETE SEWER AND CULVERT PIPE USING RUBBER GASKETS.
- CONTRACTOR SHALL INSTALL VALVES, TAPPING SLEEVES AND GATE WELL STRUCTURES IN STRICT COMPLIANCE WITH MEASUREMENTS PROVIDED ON SHEET 16.c. 2'-0" BETWEEN GATE WELL WALL & CENTERLINE OF OPERATING NUT TO ALLOW PROPER OPERATION OF VALVE THROUGH GATE WELL OPENING. FAILURE TO DO SO WILL REQUIRE CONTRACTOR TO CORRECT AT HIS EXPENSE.
- TAPPING SLEEVES SHALL BE MANUFACTURED BY ROMAC INDUSTRIES; MUELLER; EAST JORDAN; SMITH-BLAIR OR APPROVED EQUAL AND APPROVED BY THE CITY OF ROCHESTER HILLS. FULL BODY SLEEVES MUST BE USED EXCEPT FOR REINFORCED CONCRETE PRESSURE PIPE OR A.C. PIPE.
- FOR ALL PIPE USE A 1" CORPORATION STOP. NO CORPS SHALL BE USED IN CONCRETE PRESSURE PIPE.
- RUBBER O-RINGS SHALL NOT BE USED IN PAVEMENT.



FOR 90° BENDS OR SMALLER

D	A	B	C	E MIN.
20"	8"	6.5"	3.5"	2.5"
16"	6"	4"	2.5"	2"
12"	4"	3"	2"	1.75"
10"	3"	3"	2"	1.75"
8"	3"	2"	2"	1.5"
6"	2"	1.5"	2"	1.25"

FOR PLUGS

D	A	B	C MIN.
20"	7"	5"	2.5"
16"	4'-10"	4'-10"	2"
12"	4'-4"	3"	1'-9"
10"	3"	2"	1'-6"
8"	2'-10"	2'-6"	1'-6"
6"	1'-6"	1'-6"	3"

FOR TEES

D	A	B	C	E MIN.
20"	6.5"	4.5"	3.5"	3"
16"	4'-8"	4'-8"	2.5"	2.75"
12"	4"	3"	2.5"	2.5"
10"	3"	2"	2"	2.25"
8"	2'-6"	2"	2"	2.25"
6"	2"	2"	2"	2.25"

THRUST BLOCK DETAILS



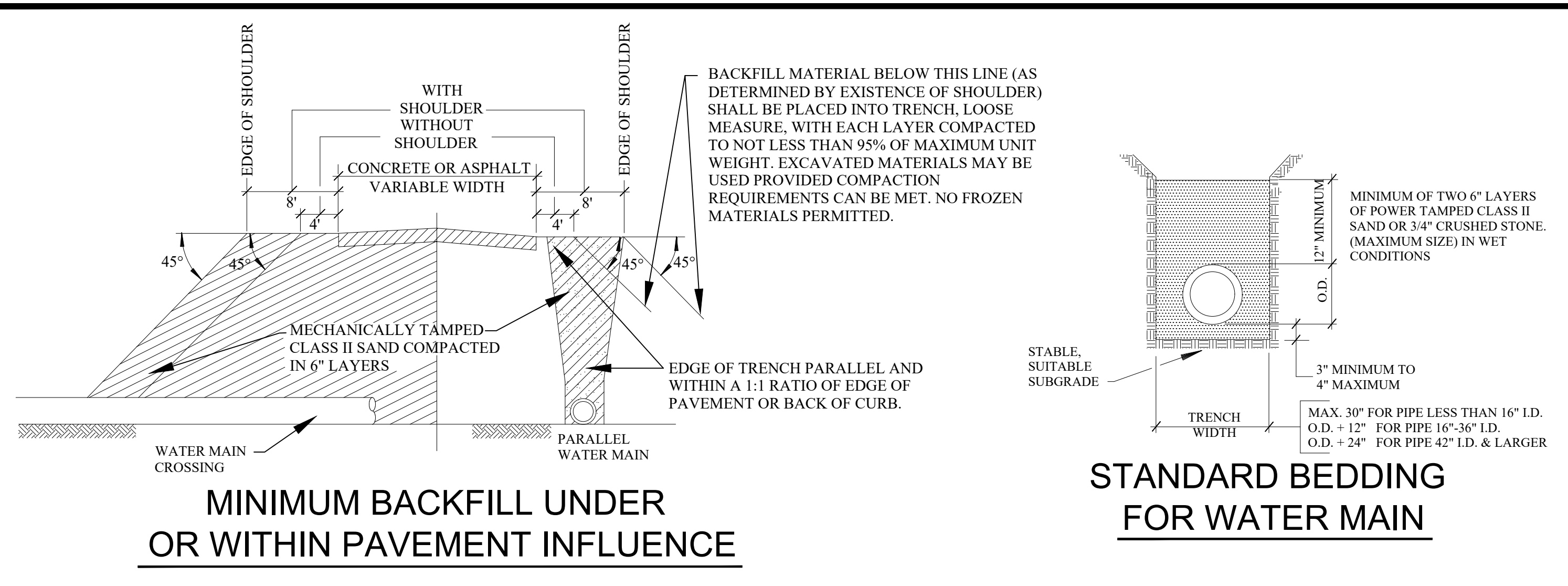
REVISIONS	DATE	APPROVED BY
		CITY COUNCIL, DATE: SEPTEMBER 23, 2019
		PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS ENGINEERING DIVISION @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION

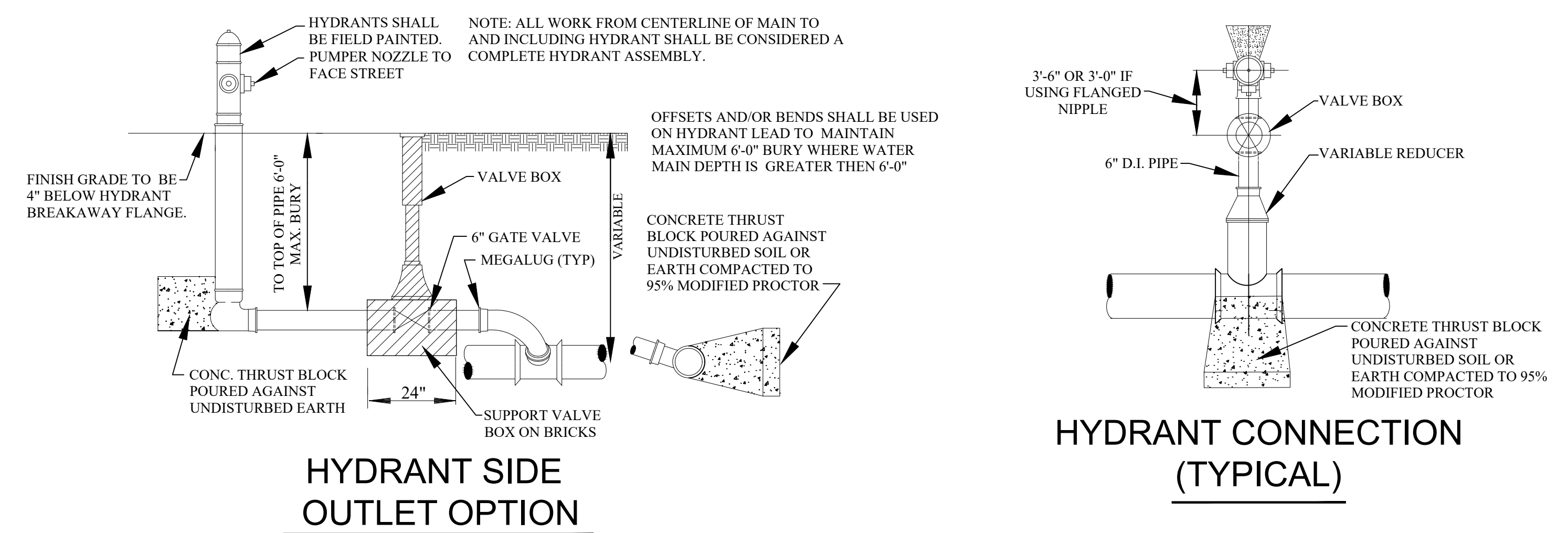
City of Rochester Hills
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

WATER MAIN STANDARD DETAILS

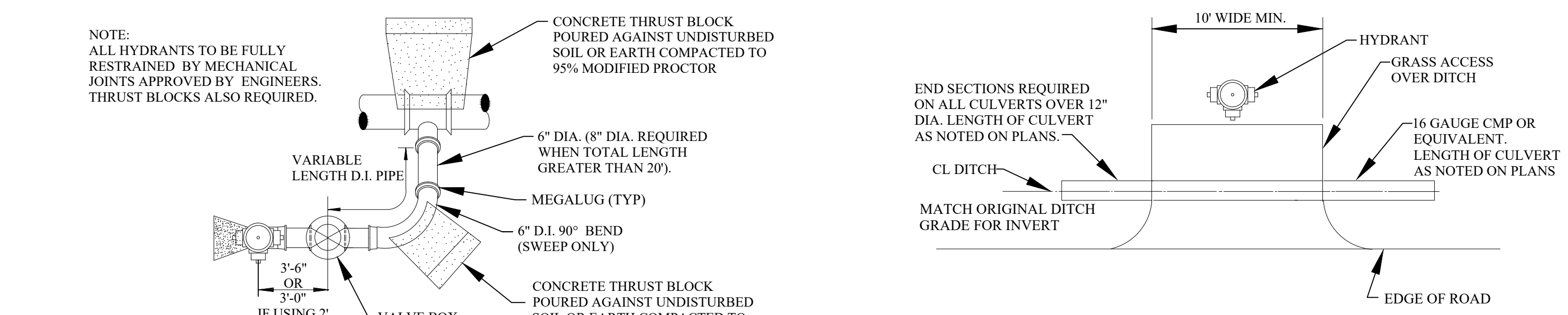
NOT TO SCALE	DATE: 1/10/2018
SHEET 1 OF 2	REV 04/22/2022



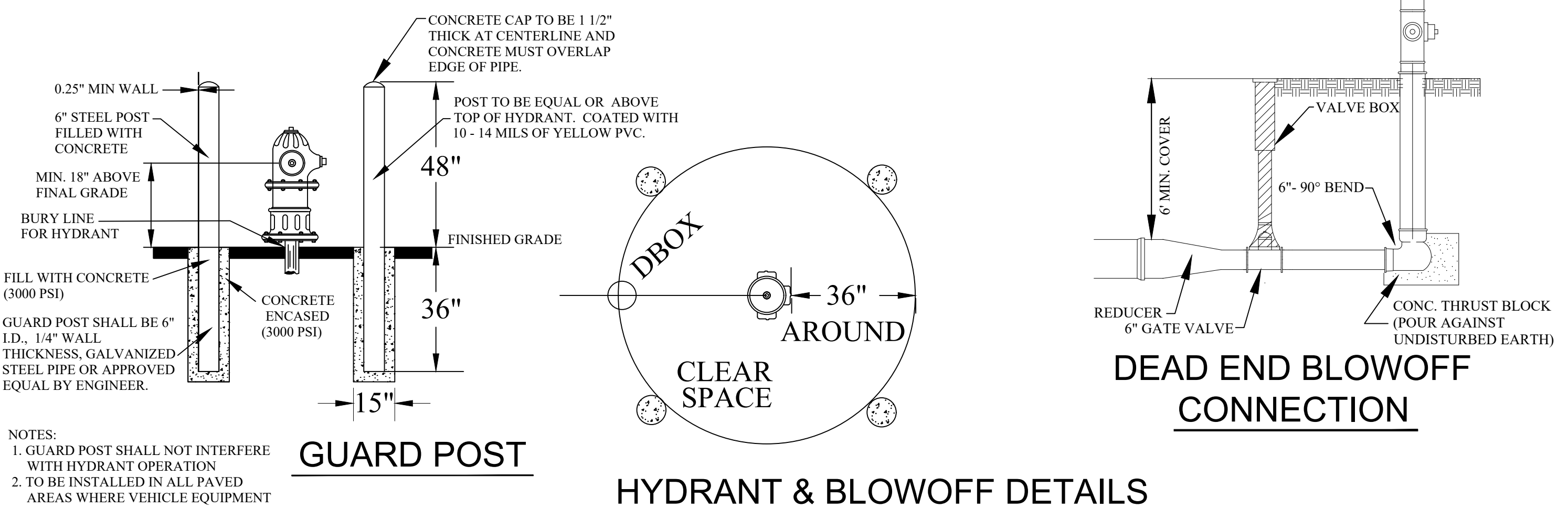
MINIMUM BACKFILL UNDER OR WITHIN PAVEMENT INFLUENCE



HYDRANT SIDE OUTLET OPTION



HYDRANT SIDE OUTLET OPTION

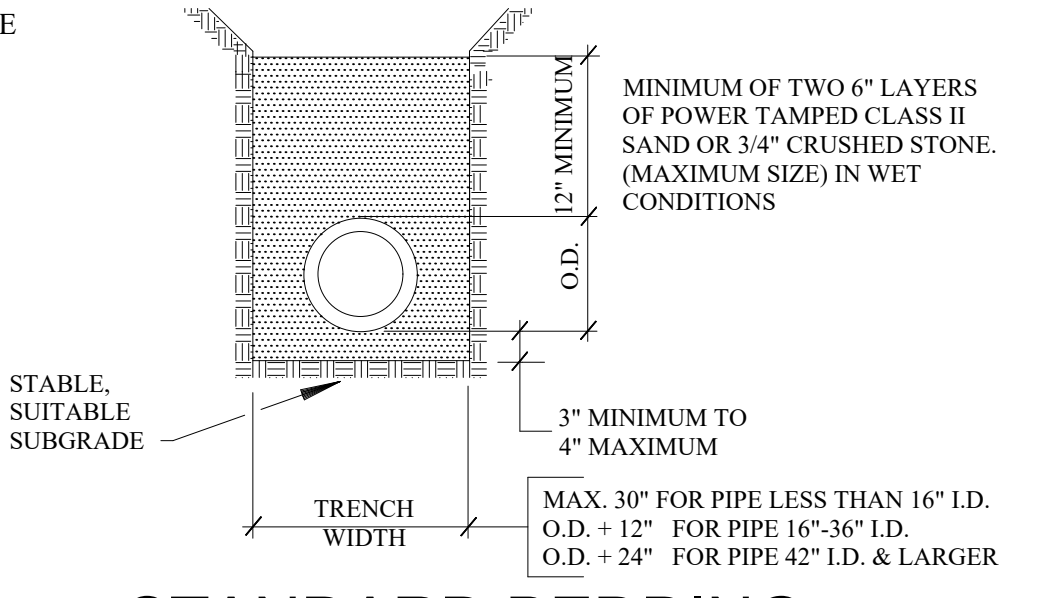


GUARD POST

HYDRANT & BLOWOFF DETAILS

GENERAL NOTES

- ALL CONSTRUCTION PROCEDURES AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS.
- A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED BY THE CITY OF ROCHESTER HILLS AND HELD PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR MUST CONTACT MISS DIG (811) AT LEAST THREE WORKING DAYS PRIOR TO THE START OF CONSTRUCTION FOR UNDERGROUND UTILITY LOCATIONS. ALL UTILITIES SHALL BE STAKED BEFORE CONSTRUCTION BEGINS.
- ALL WATER MAIN EASEMENTS SHALL BE PROVIDED PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM.
- WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 6 FEET BELOW FINISHED GRADES, INCLUDING OPEN DRAINAGE COURSES.
- ALL TRENCHES UNDER OR WITHIN A 1:1 RATIO OF EXISTING OR PROPOSED PAVEMENT OR DRIVEWAYS, SHALL BE BACKFILLED WITH COMPACTED CLASS II SAND TO GRADE (95% MAXIMUM UNIT DENSITY).
- WHERE TWO UTILITIES CROSS, PROVIDE CLASS II BACKFILL MATERIAL IN SIX (6) INCH COMPACTED LAYERS TO TOP OF HIGHEST UTILITY.
- WHERE WATER MAINS DIP UNDER OTHER UTILITIES, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE CONSTRUCTED WITH 11-1/4\"/>



STANDARD BEDDING FOR WATER MAIN

WATER MAIN MATERIALS NOTES

- TEMPORARY CONNECTIONS, WHICH MAY BE MADE FOR CHLORINATING AND FLUSHING PURPOSES, SHALL INCLUDE A TESTABLE DOUBLE CHECK VALVE BACKFLOW PREVENTER WITH CURRENT CERTIFICATION.
- CORPORATION STOPS USED FOR INSERTION INTO MAINS SHALL BE FORD TYPE B-44. ALL STOPS SHALL HAVE BRONZE CAST BODIES, KEYS, STEM WASHERS AND NUTS. INLET THREADS SHALL CONFORM TO THE LATEST VERSION OF AWWA C800.
- ALL DUCTILE IRON PIPE (D.I.P.) WATER MAIN SHALL BE DESIGNED FOR 150 PSI MINIMUM WORKING PRESSURE. A ZINC COATING WITH CLASS 52 MAY BE PROPOSED AND IS SUBJECT TO FINAL DECISION FOR APPROVAL BY THE CITY ENGINEER.
- THE DUCTILE IRON PIPE TO BE FURNISHED AND DELIVERED UNDER THIS SPECIFICATION SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C151 (ANSI A21.5), EXCEPT AS OTHERWISE SPECIFIED HEREIN. PIPE SHALL BE DOUBLE CEMENT-LINED AND SEAL COATED WITH AN APPROVED BITUMINOUS SEAL COAT IN ACCORDANCE WITH AWWA C104 (ANSI A21.4).
- DUCTILE IRON PIPE SHALL BE CLASS 54 FOR SIZES THREE (3) INCH THROUGH TWENTY (20) INCHES SIZE. TWENTY-FOUR (24) INCH AND LARGER SHALL BE CLASS 55 DUCTILE IRON PIPE.
- PIPES TWENTY-FOUR (24) INCHES AND LARGER IN NOMINAL DIAMETER SHALL MEET ALL THE REQUIREMENTS OF THE CURRENT AWWA C100 FOR DUCTILE IRON WATER PIPE.
- MECHANICAL JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C111 (ANSI A21.11).
- FLANGE JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C110 (ANSI A21.10).
- FITTINGS FOR DUCTILE IRON PIPE SHALL BE DUCTILE IRON AND SHALL MEET REQUIREMENTS OF AWWA C110 (ANSI A21.10) OR AWWA C153 (ANSI A21.53). DUCTILE IRON FITTINGS SHALL BE RATED FOR 350 PSI. PIPE SIZES TWENTY-FOUR (24) INCH DIAMETER AND LESS, AND 250 PSI FOR PIPE SIZES OVER TWENTY-FOUR (24) INCH DIAMETER. DUCTILE IRON FLANGE FITTINGS SHALL BE RATED FOR 250 PSI FOR ALL PIPE DIAMETERS.
- ALL DUCTILE IRON PIPE, FITTINGS AND HYDRANTS SHALL BE ENCASED WITH POLYETHYLENE ENCASEMENT IN ACCORDANCE WITH THE REQUIREMENTS OF A.N.S.I.A.W.W.A. STANDARD SPECIFICATION D1248 AND AWWA C105. POLYETHYLENE TUBE MATERIAL SHALL HAVE A THICKNESS OF .008\"/>

VALVE AND SLEEVE NOTES

- GATE VALVES, SIZES THREE (3) INCH THROUGH SIXTEEN (16) INCH AND TAPPING VALVES SHALL MEET THE CITY OF ROCHESTER HILLS STANDARD AS DETAILED WITH NON-RISING STEM. (EAST JORDAN, AMERICAN FLOW CONTROL, MUELLER)
- ALL IN LINE GATE VALVES EIGHT (8) INCH AND LARGER SHALL BE IN WELLS. SPECIFICATIONS SHALL INCLUDE THE DIRECTION OF OPERATION OF ALL VALVES (CLOCKWISE CLOSURE). VALVE BOX USE TO BE APPROVED BY ENGINEERING DIVISION.
- ALL GATE WELL COVERS SHALL BE CITY OF ROCHESTER HILLS STANDARD AS DETAILED.
- ALL GATE VALVES WITH OPERATING NUTS AT A DISTANCE GREATER THAN FIVE (5) FEET BELOW GROUND SURFACE SHALL BE PROVIDED WITH AN EXTENSION STEM. THE LENGTH OF THE EXTENSION STEM SHALL REACH WITHIN FIVE (5) FEET FROM THE GROUND SURFACE. WHEN AN EXTENSION STEM IS USED, IT SHALL BE HELD IN PLACE BY AN EXTENSION STEM GUIDE SUITABLY FASTENED TO THE WALL OF THE GATE WELL. THE EXTENSION STEM SHALL BE MECHANICALLY ATTACHED TO THE OPERATING NUT. DETAILS OF THE EXTENSION SYSTEM AND THE METHOD OF INSTALLATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- BUTTERFLY VALVES SHALL BE USED FOR VALVES GREATER THAN 16-INCH DIAMETER AND SHALL BE MODEL 2F11 AS MANUFACTURED BY HENRY PRATT COMPANY OR APPROVED EQUAL.
- TAPPING VALVES SHALL BE SERIES "A" AS MANUFACTURED BY EAST JORDAN OR RESILIENT SEATED GATE VALVES AS APPROVED BY THE CITY OF ROCHESTER HILLS ENGINEERING SERVICES.
- TAPPING SLEEVES SHALL BE MANUFACTURED BY ROMAC INDUSTRIES; MUELLER; EAST JORDAN; SMITH-BLAIR OR APPROVED EQUAL AND APPROVED BY THE CITY OF ROCHESTER HILLS. FULL BODY SLEEVES MUST BE USED EXCEPT FOR REINFORCED CONCRETE PRESSURE PIPE OR A.C. PIPE.

HYDRANT REQUIREMENTS

- ALL HYDRANTS SHALL BE CONSTRUCTED WITH A SIX (6) INCH COMPANION GATE VALVE IN A THREE (3) PIECE, ADJUSTABLE DUCTILE IRON VALVE BOX, WHICH SHALL INCLUDE A FIVE AND ONE-QUARTER (5-1/4) INCH SCREW SHAFT. VALVE BOXES SHALL BE SERIES 6860 AS MANUFACTURED BY TYLER PIPE OR APPROVED EQUAL.
- ALL HYDRANTS SHALL BE EAST JORDAN NO. 4-BR-250 TRAFFIC MODEL, OR CITY APPROVED EQUAL. SELF-DRAINING HYDRANTS SHALL NOT BE USED. HYDRANTS SHALL HAVE BREAKAWAY FLANGE.
- ALL HYDRANTS SHALL BE PAINTED RED ABOVE GROUND WITH A FINISH COAT OF RUST-OLEUM SAFETY RED OR APPROVED EQUAL. HYDRANT CAPS SHALL BE PAINTED SAME COLOR AS THE HYDRANT.
- ALL FIRE HYDRANT JOINTS SHALL BE TOTALLY RESTRAINED BY THE USE OF RESTRAINED JOINT. THRUST BLOCKS ARE ALSO REQUIRED.
- REFER TO AWWA C502 FOR ALL PROPOSED FIRE HYDRANTS.

ACCEPTANCE OF NEW WATER MAINS

- PRIOR TO WATER MAIN ACCEPTANCE THE FOLLOWING CONDITIONS MUST BE MET: 1) PRESSURE TESTING AND BACTERIA TESTING MUST BE COMPLETED IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS 2) ALL EASEMENT AND RIGHT-OF-WAY ACQUISITION MUST BE ACCEPTED BY THE CITY OF ROCHESTER HILLS ENGINEERING SERVICES 3) THE CITY OF ROCHESTER HILLS MUST BE PROVIDED WITH THE BILL OF SALE AND 4) ALL MYLAR "AS-BUILT DRAWINGS" MUST BE ACCEPTED AND APPROVED BY THE CITY OF ROCHESTER HILLS, ENGINEERING SERVICES. THE CITY OF ROCHESTER HILLS INSPECTION DIVISION MUST WITNESS THE CONNECTION OF THE WATER MAIN TO THE EXISTING WATER MAIN, AFTER WHICH RESIDENTIAL AND COMMERCIAL TAPS WILL BE ALLOWED.
- THE CONTRACTOR SHALL NOTIFY THE CITY OF ROCHESTER HILLS, INSPECTION DEPARTMENT (248.841.2510) FOR PRESSURE TESTING, BACTERIOLOGICAL SAMPLING, CONNECTIONS TO EXISTING WATER MAIN AND FINAL FIELD REVIEW. A FORTY-EIGHT (48) HOUR ADVANCE NOTICE IS REQUIRED.
- THE CONTRACTOR SHALL DISINFECT AND PRESSURE TEST ALL NEW WATER MAIN IN ACCORDANCE WITH ROCHESTER HILLS STANDARDS. THE WATER MAIN SHALL PASS A 150 PSI PRESSURE TEST FOR A TWO (2) HOUR PERIOD. WATER LOSS SHALL NOT EXCEED A RATE OF 11.65 U.S. GALLONS PER INCH DIAMETER PER MILE OF WATER MAIN IN TWENTY-FOUR (24) HOURS.
- WHERE CONTRACTOR SUPPLIED GAUGES ARE REQUIRED, MINIMUM SIZE SHALL BE 3 1/2\"/>

CITY OF ROCHESTER HILLS WATER SYSTEMS AS-BUILT DRAWING SPECIFICATIONS

IN AREAS WHERE WATER SYSTEMS ARE OPERATED AND MAINTAINED BY THE CITY OF ROCHESTER HILLS DEPARTMENT OF PUBLIC SERVICES, FINAL ACCEPTANCE OF THE WATER SYSTEM MUST BE RENDERED BY THE DEPARTMENT OF PUBLIC SERVICES, BEFORE THE SYSTEM CAN BE USED FOR THE SERVICE INTENDED.

ONE ITEM REQUIRED FOR FINAL ACCEPTANCE SHALL BE THE SUBMISSION OF AS-BUILT DRAWINGS TO THE CITY OF ROCHESTER HILLS, DPS, BY THE DESIGN ENGINEER. AS-BUILT DRAWINGS SHALL BE DEFINED AS AND CONTAIN THE FOLLOWING INFORMATION:

- FINAL AS-BUILT DRAWINGS SHALL BE PROVIDED IN REPRODUCIBLE PDF FORMAT VIA DIGITAL STORAGE MEDIA. XEROX OR ANY HEAT PROCESS REPRODUCTIONS WILL NOT BE ACCEPTED.
- ALONG WITH THE PDF PLAN SET PROVIDE TWO (2) SETS OF BLACK-LINED DRAWINGS AND THE PLANS ON ELECTRONIC MEDIA IN AUTOCAD FORMAT (LATEST VERSION).
- EACH AND EVERY SHEET SHALL BE SEALED BY THE DESIGN ENGINEER, ALONG WITH THE FOLLOWING CERTIFICATION STATEMENT ON THE COVER SHEET:

I HEREBY CERTIFY THAT OUR FIRM HAS PREPARED THESE AS-BUILT DRAWINGS OF THE IMPROVEMENTS AS CONSTRUCTED, AND THAT TO THE BEST OF MY KNOWLEDGE THOSE IMPROVEMENTS NOTED AS "AS BUILT" WERE CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED CONSTRUCTION PLANS, AND ALSO THAT THE WATER MAIN AND STRUCTURES, AS CONSTRUCTED, LIE WITHIN THE EASEMENT DESCRIPTIONS REQUIRED BY THE CITY OF ROCHESTER HILLS.

(COMPANY NAME)

(ENGINEER'S SIGNATURE)

PROFESSIONAL ENGINEER NO. _____

ENGINEER SEAL

- THE MAXIMUM SCALE SHALL BE ONE (1) INCH EQUALS FIFTY (50) FEET.
- THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED.
- THE SIZE, BRAND AND MODEL NUMBERS OF ALL VALVES AND HYDRANTS INSTALLED SHALL BE INDICATED.
- A TOTAL AS-BUILT DRAWING QUANTITY LIST SHALL BE INCLUDED, AS WELL AS AN AS-BUILT DRAWING QUANTITY LIST ON EACH INDIVIDUAL SHEET.
- THE LOCATIONS SHALL BE SHOWN ON THE PLANS WITH AN ACCURACY OF ONE (1) FOOT.
- THE OFFSET OF THE WATER MAIN FROM PROPERTY LINES SHALL BE INDICATED.
- ALL GATE VALVE WELLS, HYDRANTS AND ALL WATER SYSTEM APPURTENANCES SHALL BE LOCATED FROM TWO FIXED OBJECTS (MANHOLES, BUILDING CORNERS ECT.).
- ALL UNDERGROUND APPURTENANCES, SUCH AS GATE VALVE WELLS, METER PITS, PRESSURE REDUCING VALVE PITS, ETC. SHALL BE LOCATED FROM THE NEAREST HYDRANT THAT IS CONNECTED TO THE SAME WATER MAIN AS THE APPURTENANCE.
- THE LOCATION AND SIZE OF EVERY RESTRAINED JOINT SHALL BE NOTED.
- THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE VERTICAL SEPARATION, IS LESS THAN 18\"/>

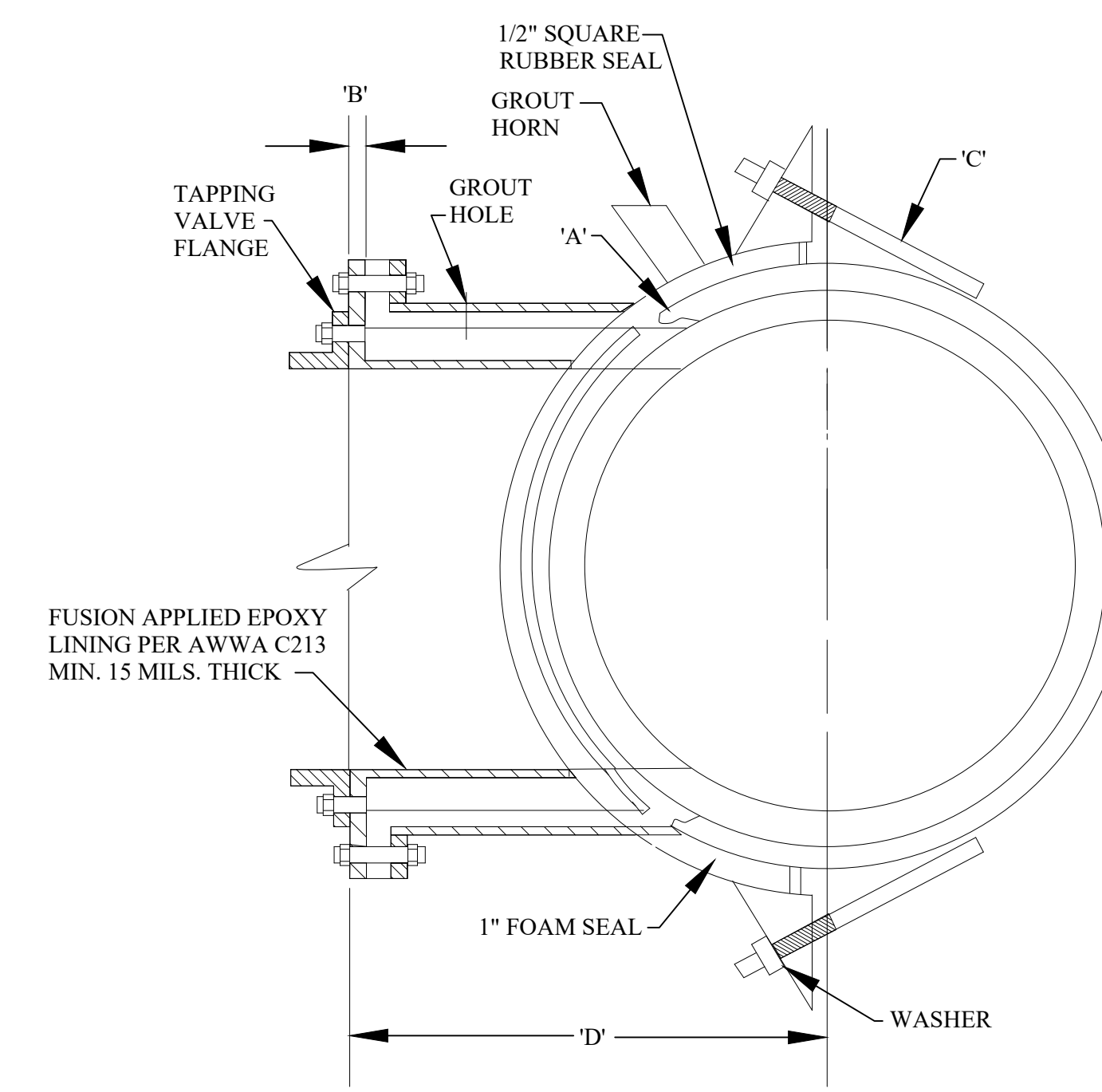
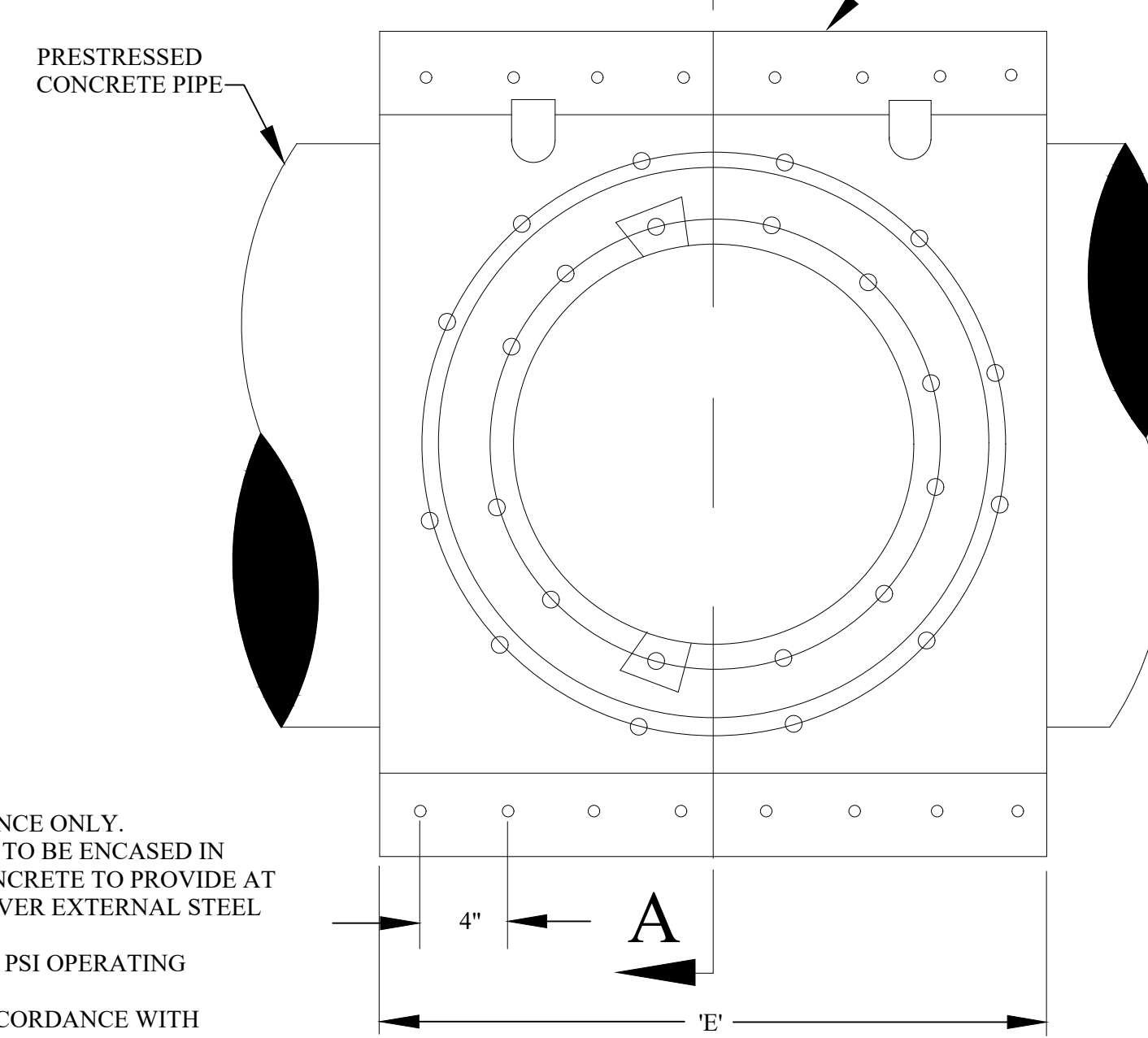
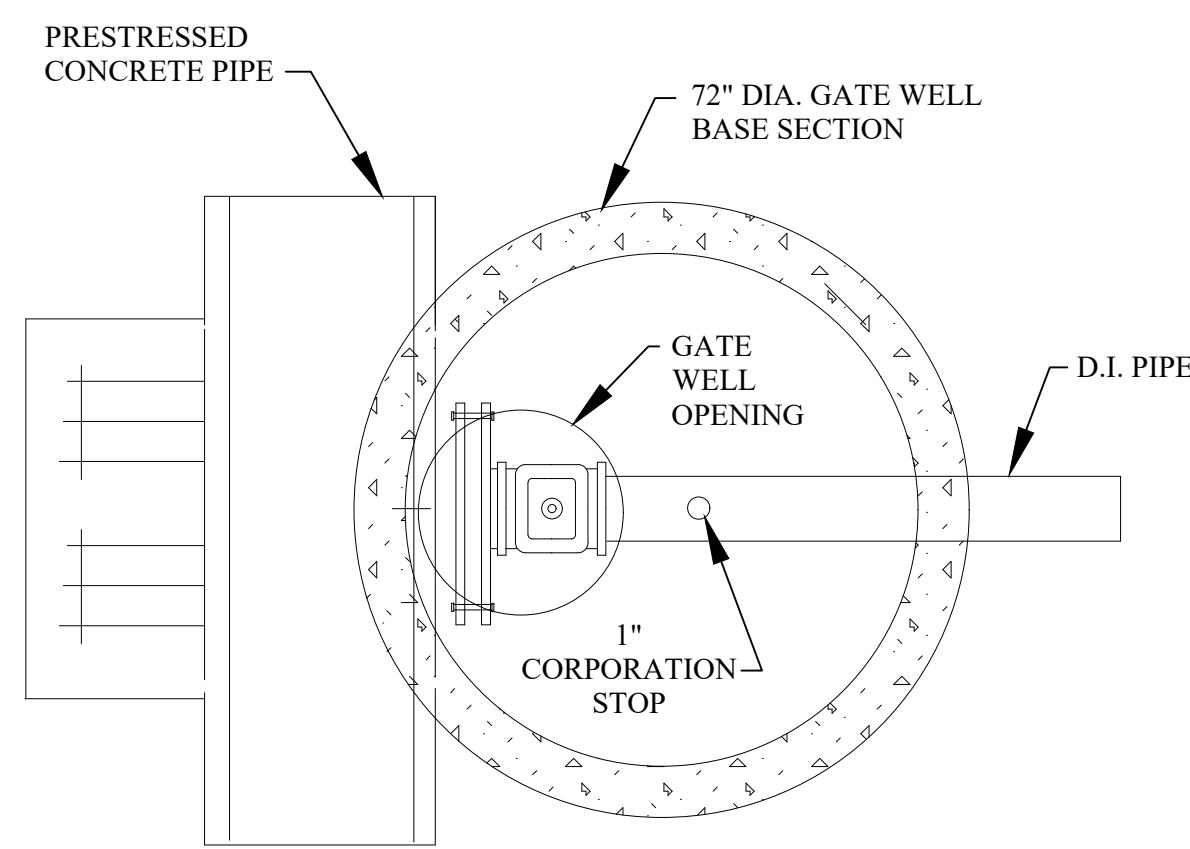
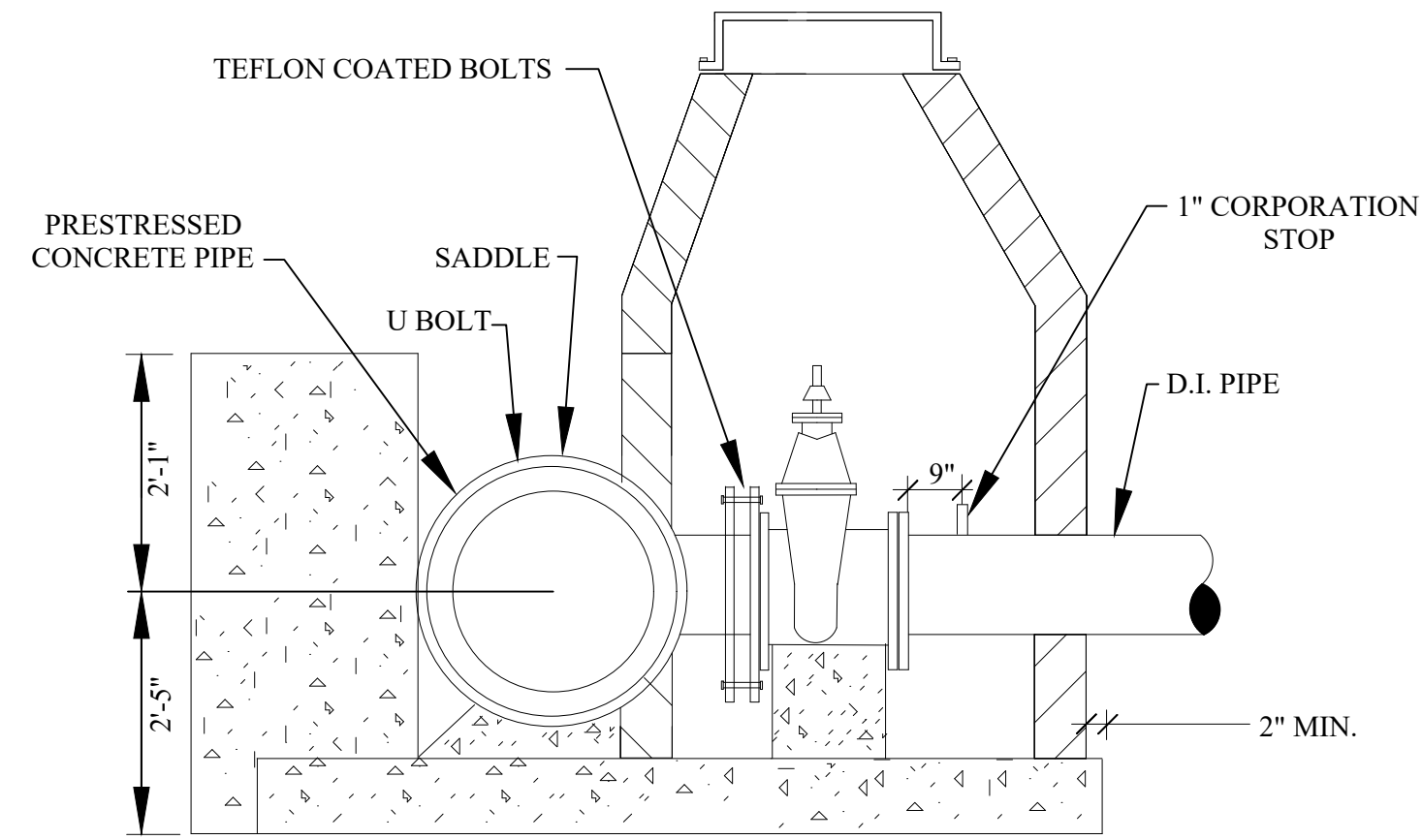


REVISIONS	DATE	APPROVED BY	NOTIFY ROCHESTER HILLS ENGINEERING DIVISION @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION
REVISION TO FIRE HYDRANT PER EGLE	10-23-2023	CITY COUNCIL, DATE: SEPTEMBER 23, 2019	
REV. ADDED #14 UNDER GENERAL NOTES	12-12-2023	PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES	

City of Rochester Hills
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

WATER MAIN STANDARD DETAILS

NOT TO SCALE	DATE: 1/10/2019
SHEET 2 OF 2	

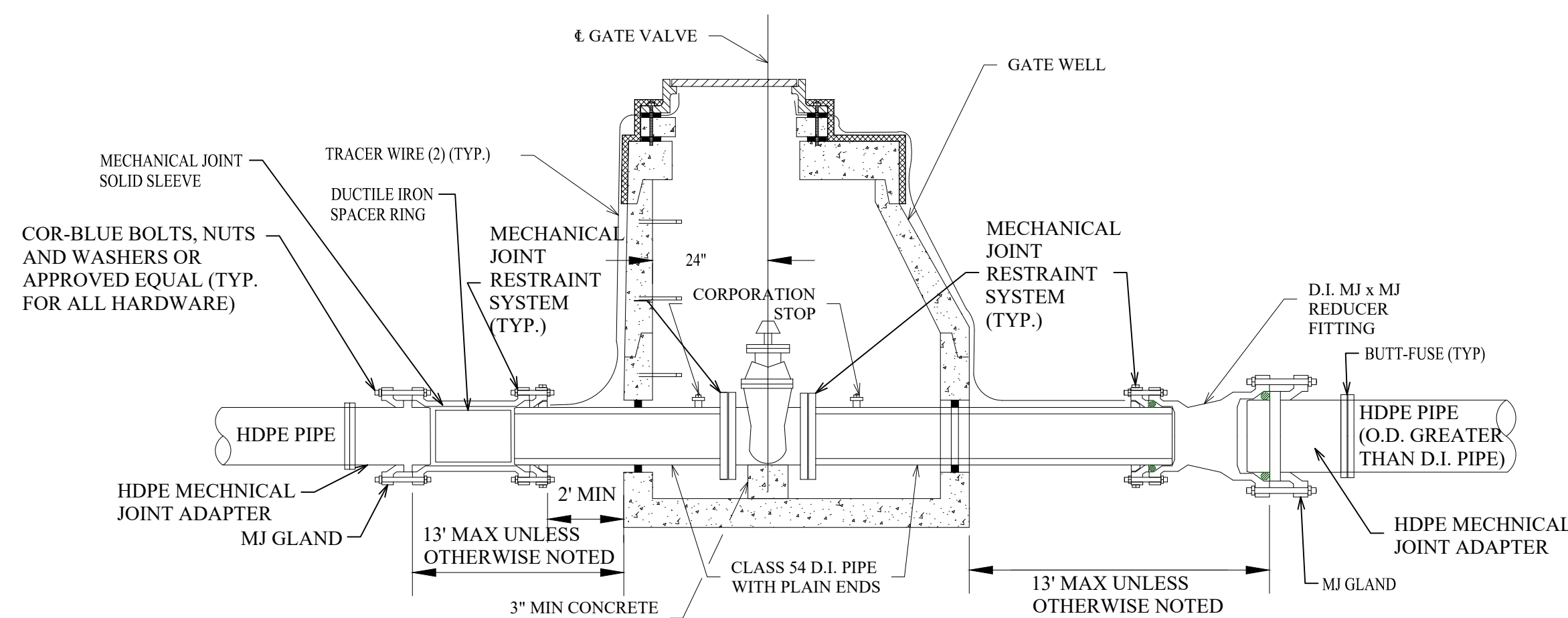


PIPE SIZE X TAP SIZE	A	B	C	D	E
16" X 4"	1/4"	7/8"	6	14-1/16"	24"
16" X 6"	1/4"	1-1/8"	6	14-5/16"	24"
16" X 8"	1/4"	1-1/8"	6	14-5/16"	24"
16" X 10"	1/4"	1-3/8"	7	14-9/16"	28"
16" X 12"	1/4"	1-3/8"	8	14-9/16"	32"
20" X 4"	1/4"	7/8"	6	16-1/2"	24"
20" X 6"	1/4"	1-1/8"	6	16-1/2"	24"
20" X 8"	1/4"	1-1/8"	6	16-1/2"	24"
20" X 10"	1/4"	1-3/8"	7	17"	28"
20" X 12"	1/4"	1-3/8"	8	17"	32"
24" X 4"	1/4"	7/8"	6	18-3/4"	24"
24" X 6"	1/4"	1-1/8"	6	19"	24"
24" X 8"	1/4"	1-1/8"	6	19"	24"
24" X 10"	1/4"	1-3/8"	7	19-1/4"	28"
24" X 12"	1/4"	1-3/8"	8	19-1/4"	32"
30" X 4"	1/4"	7/8"	6	22-1/8"	24"
30" X 6"	1/4"	1-1/8"	6	22-3/8"	24"
30" X 8"	1/4"	1-1/8"	6	22-3/8"	24"
30" X 10"	1/4"	1-3/8"	7	22-5/8"	28"
30" X 12"	1/4"	1-3/8"	8	22-5/8"	32"
36" X 4"	1/4"	7/8"	6	25-1/2"	24"
36" X 6"	1/4"	1-1/8"	6	25-3/4"	24"
36" X 8"	1/4"	1-1/8"	7	25-3/4"	28"
36" X 10"	1/4"	1-3/8"	8	26"	32"
36" X 12"	1/4"	1-3/8"	9	26"	36"
42" X 4"	1/4"	7/8"	6	28-7/8"	24"
42" X 6"	1/4"	1-1/8"	7	29-1/8"	28"
42" X 8"	1/4"	1-1/8"	8	29-1/8"	32"
42" X 10"	3/8"	1-3/8"	9	29-3/8"	36"
42" X 12"	3/8"	1-3/8"	10	29-3/8"	40"
48" X 4"	3/8"	7/8"	7	32-1/4"	28"
48" X 6"	3/8"	1-1/8"	7	32-1/2"	28"
48" X 8"	3/8"	1-1/8"	7	32-1/2"	28"
48" X 10"	3/8"	1-3/8"	7	32-3/4"	28"
48" X 12"	3/8"	1-3/8"	9	32-3/4"	36"

- NOTES: 1) THESE DIMENSIONS ARE FOR REFERENCE ONLY.
 2) ENTIRE SADDLE, INCLUDING STRAPS, TO BE ENCASED IN PORTLAND CEMENT MORTAR OR CONCRETE TO PROVIDE AT LEAST ONE (1) INCH OF THICKNESS OVER EXTERNAL STEEL SURFACES PRIOR TO BACKFILLING.
 3) TAP SADDLES ARE DESIGNED FOR 150 PSI OPERATING PRESSURE.
 4) FLANGE DRILLED AND TAPPED IN ACCORDANCE WITH AWWA C207 CLASS D, CENTERING RING CONFORMS TO MSS-SP 60.
 5) GROUT SHALL SET A MINIMUM OF TWENTY-FOUR (24) HOURS PRIOR TO PRESSURE TESTING.

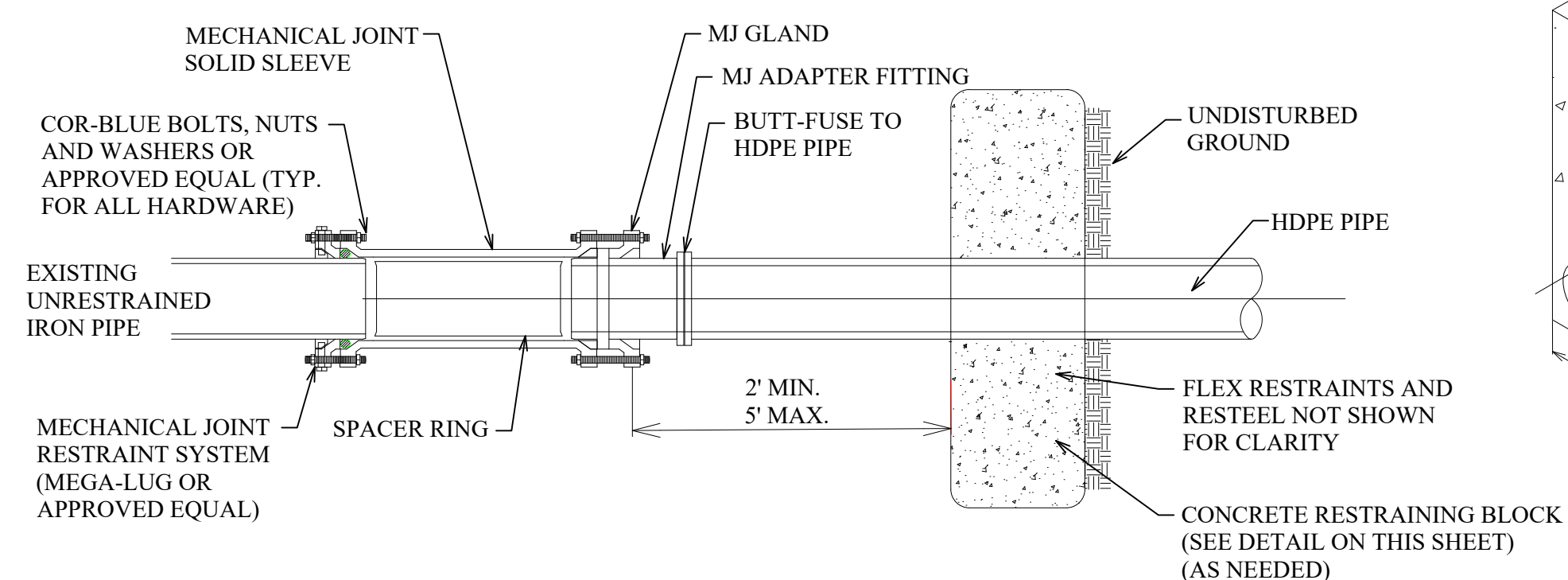
CONCRETE PRESSURE TAP VALVE & WELL ASSEMBLY W/ CONCRETE ENCASEMENT

CONCRETE TAPPING SLEEVE DETAILS

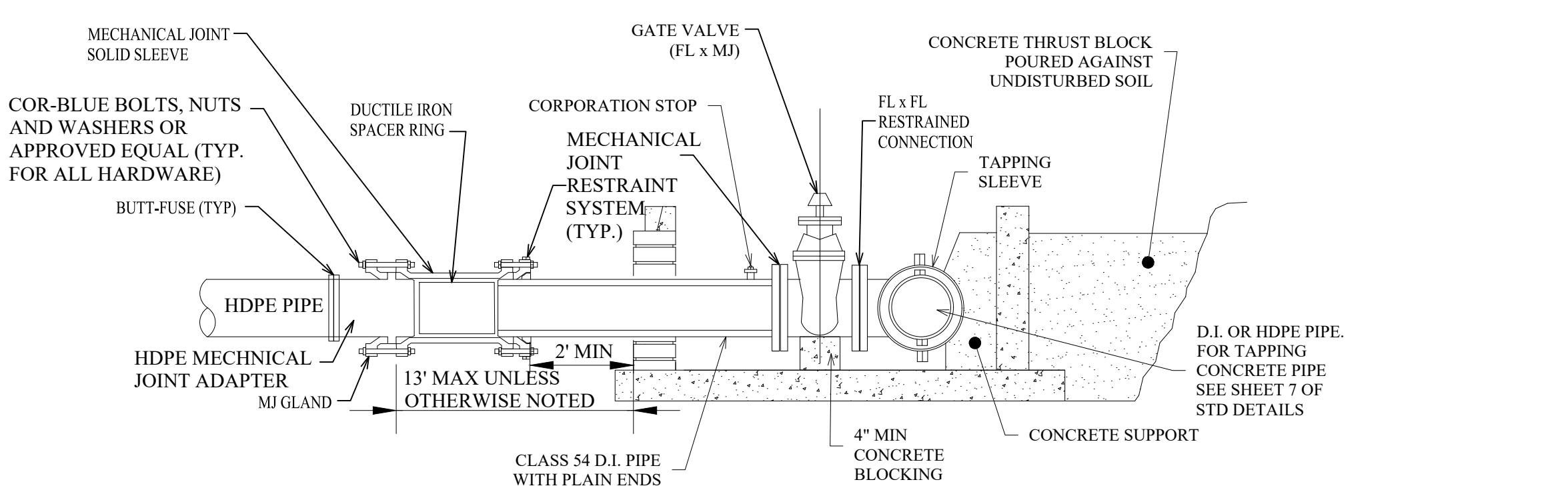


TYPICAL HDPE CONNECTION TO GATE VALVE

- NOTES:
 1. WHERE GATE VALVE IS IN LINE WITH THE HDPE WATER MAIN, INSTALL D.I. PIPE THROUGH GATE WELL MAKING CONNECTION TO HDPE PIPE OUTSIDE OF GATE WELL AS SHOWN.
 2. TRACER WIRES SHALL BE INSTALLED ALONG THE OUTSIDE OF THE GATE WELL AND BENEATH THE FRAME AND COVER.

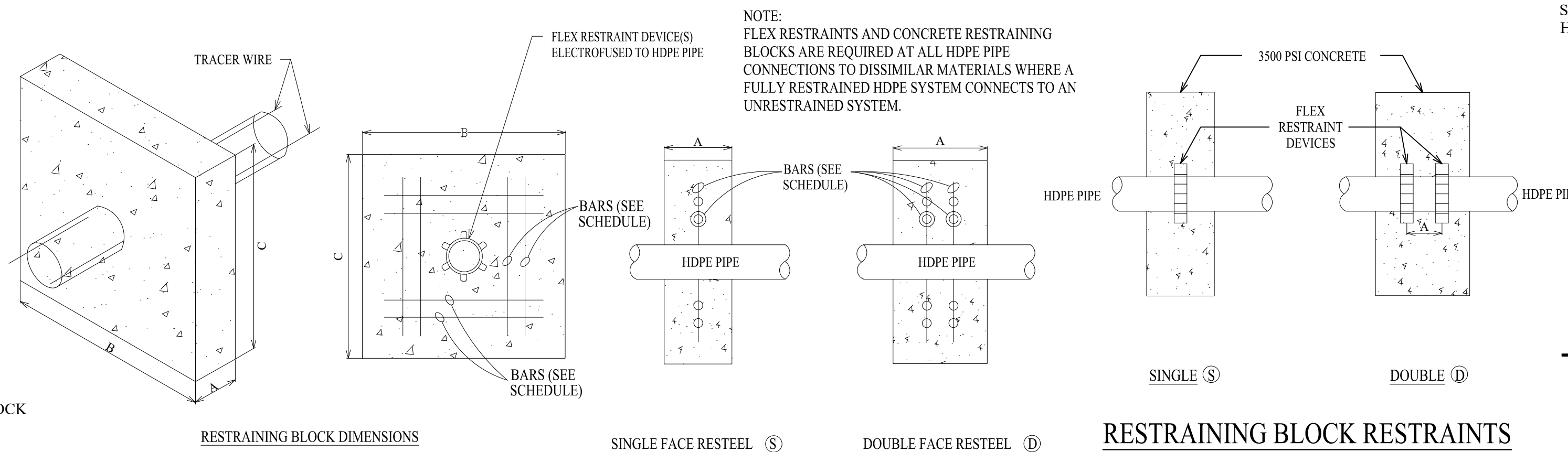


HDPE TO EXISTING WATER MAIN TRANSITION

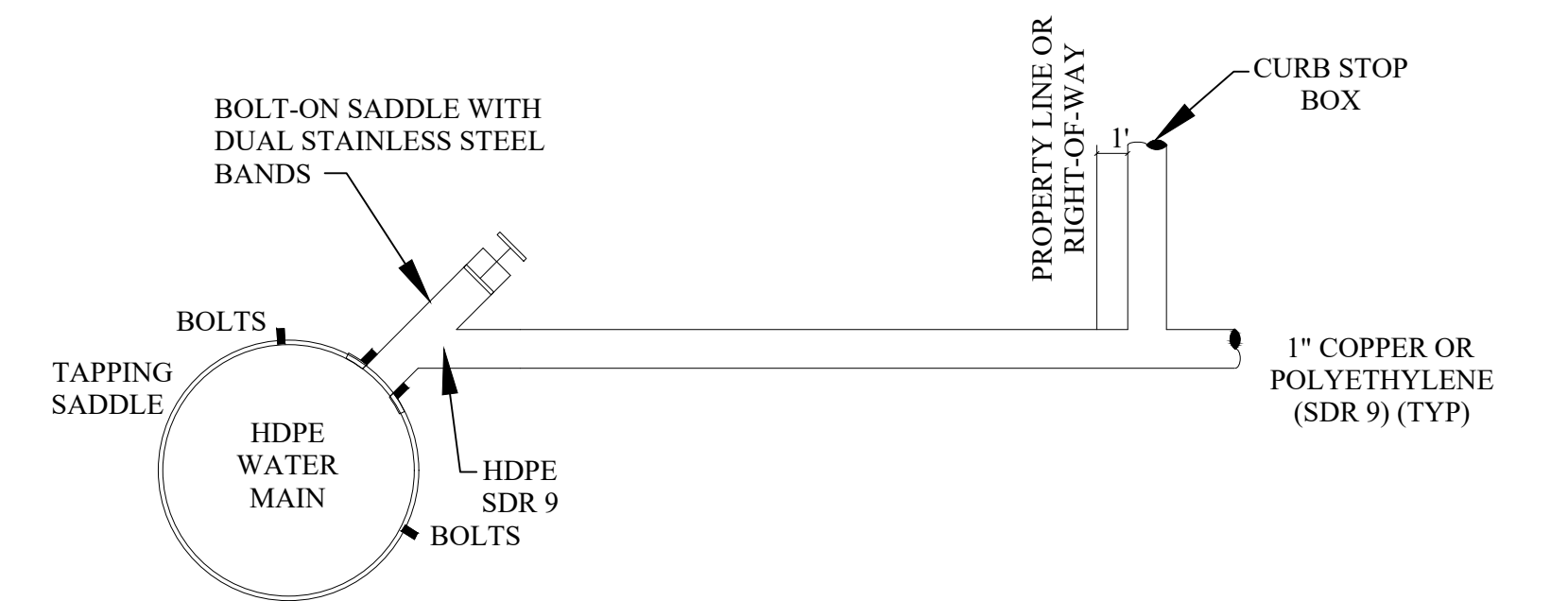


HDPE TAPPING SLEEVE, VALVE & WELL

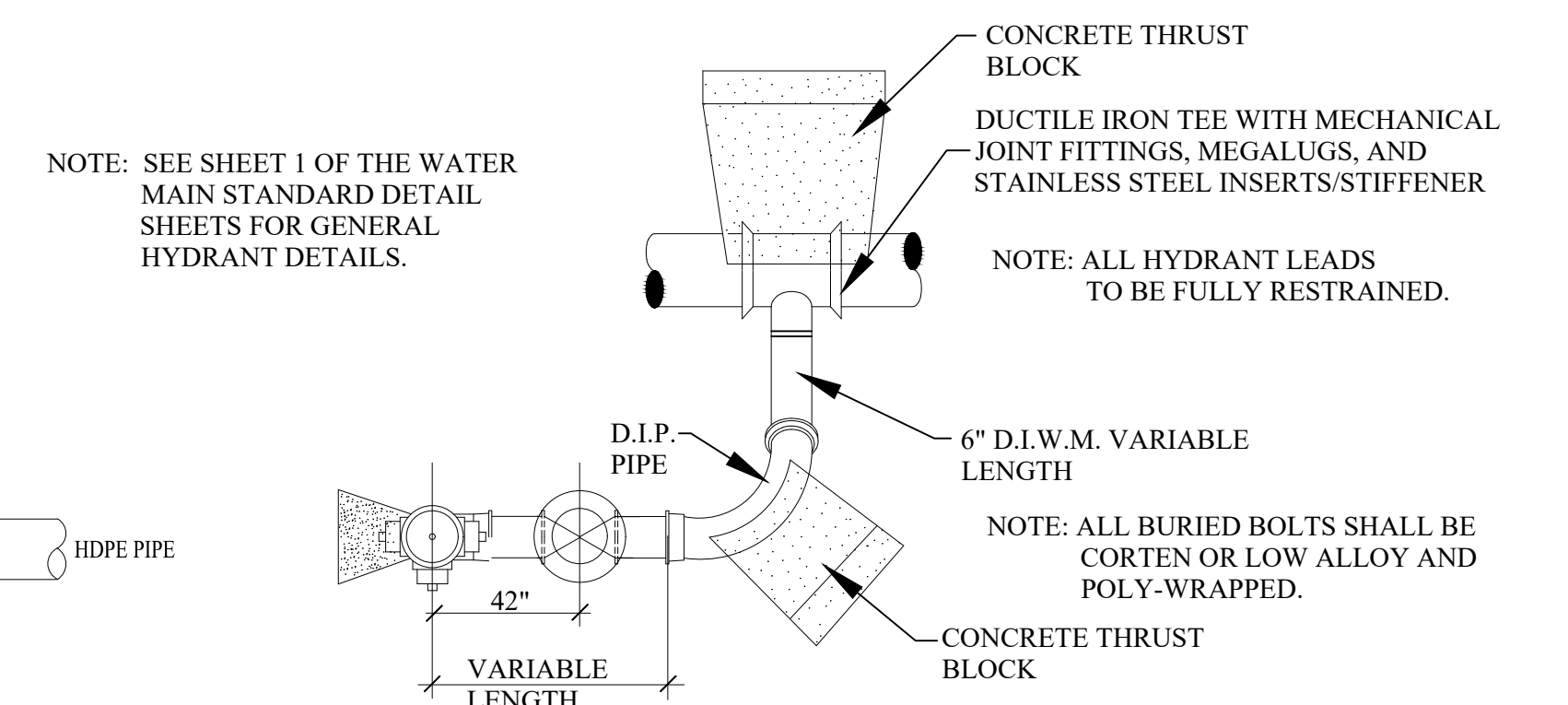
- NOTES:
 1. SEE SHEET 1 OF THE WATER MAIN STANDARD DETAIL SHEETS FOR GENERAL TAPPING SLEEVE VALVE AND WELL DETAILS.
 2. TAPPING SLEEVES FOR HDPE PIPE REQUIRE AN OUTLET SEAL GASKET AND SPRING WASHERS IN ADDITION TO THE REQUIREMENTS DETAILED IN SHEET 2 (JCM 452, ROMAC S8TH OR APPROVE EQUAL).



RESTRAINING BLOCK RESTEEL



HOUSE LEAD DETAIL HDPE TO COPPER OR POLYETHYLENE (SDR 9)



PLAN HYDRANT SIDE OUTLET

- NOTE: SEE SHEET 1 OF THE WATER MAIN STANDARD DETAIL SHEETS FOR GENERAL HYDRANT DETAILS.

NOTE: ALL HYDRANT LEADS TO BE FULLY RESTRAINED.

NOTE: ALL BURIED BOLTS SHALL BE CORTEN OR LOW ALLOY AND POLY-WRAPPED.

RESTRAINING BLOCK RESTRAINTS

DETAILS FOR HIGH DENSITY POLYETHYLENE PIPE (HDPE)



REVISIONS	DATE
REVISED HDPE TO EX. WM TRANSITION	3/28/2023

APPROVED BY
 CITY COUNCIL, DATE: SEPTEMBER 23, 2019
 PREPARED BY ENGINEERING DIVISION
 DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS
 ENGINEERING DIVISION @
 248-841-2510 48 HRS. PRIOR
 TO START OF
 CONSTRUCTION

City of Rochester Hills
 1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

**WATER MAIN
 SPECIAL DETAILS**

NOT TO SCALE DATE: 1/10/2019
 SHEET 1 OF 1 REV 12/10/2021