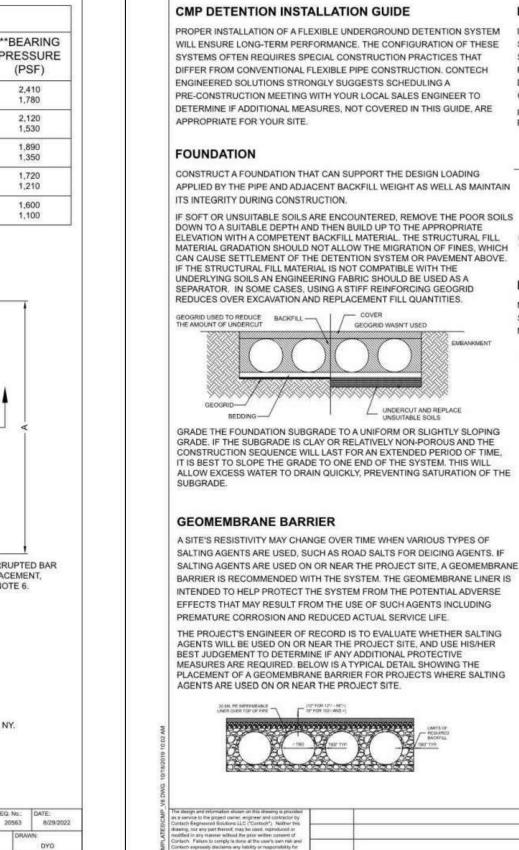


REVISION DESCRIPTION

DETENTION SYSTEM



CMP DETENTION INSTALLATION GUIDE IN-SITU TRENCH WALL PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM IF EXCAVATION IS REQUIRED, THE TRENCH WALL NEEDS TO BE CAPABLE OF SUPPORTING THE LOAD THAT THE PIPE SHEDS AS THE SYSTEM IS LOADED. IF WILL ENSURE LONG-TERM PERFORMANCE. THE CONFIGURATION OF THESE SOILS ARE NOT CAPABLE OF SUPPORTING THESE LOADS, THE PIPE CAN DEFLECT. SYSTEMS OFTEN REQUIRES SPECIAL CONSTRUCTION PRACTICES THAT PERFORM A SIMPLE SOIL PRESSURE CHECK USING THE APPLIED LOADS TO DIFFER FROM CONVENTIONAL FLEXIBLE PIPE CONSTRUCTION, CONTECH DETERMINE THE LIMITS OF EXCAVATION BEYOND THE SPRING LINE OF THE ENGINEERED SOLUTIONS STRONGLY SUGGESTS SCHEDULING A PRE-CONSTRUCTION MEETING WITH YOUR LOCAL SALES ENGINEER TO OUTER MOST PIPES. DETERMINE IF ADDITIONAL MEASURES, NOT COVERED IN THIS GUIDE, ARE IN MOST CASES THE REQUIREMENTS FOR A SAFE WORK ENVIRONMENT AND APPROPRIATE FOR YOUR SITE PROPER BACKFILL PLACEMENT AND COMPACTION TAKE CARE OF THIS CONCERN FOUNDATION GRANULAR AND SMALLER CONSTRUCT A FOUNDATION THAT CAN SUPPORT THE DESIGN LOADING APPLIED BY THE PIPE AND ADJACENT BACKFILL WEIGHT AS WELL AS MAINTAIN ITS INTEGRITY DURING CONSTRUCTION. IF SOFT OR UNSUITABLE SOILS ARE ENCOUNTERED, REMOVE THE POOR SOILS DOWN TO A SUITABLE DEPTH AND THEN BUILD UP TO THE APPROPRIATE ELEVATION WITH A COMPETENT BACKFILL MATERIAL. THE STRUCTURAL FILL TERIAL GRADATION SHOULD NOT ALLOW THE MIGRATION OF FINES, WHICH GRANULAR AND SMI CAN CAUSE SETTLEMENT OF THE DETENTION SYSTEM OR PAVEMENT ABOVE F THE STRUCTURAL FILL MATERIAL IS NOT COMPATIBLE WITH THE INDERLYING SOILS AN ENGINEERING FABRIC SHOULD BE USED AS A **BACKFILL PLACEMENT** SEPARATOR. IN SOME CASES, USING A STIFF REINFORCING GEOGRID REDUCES OVER EXCAVATION AND REPLACEMENT FILL QUANTITIES. MATERIAL SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF EOGRID USED TO REDUCE BACKFILL COVER SHOVEL-SLICING, RODDING, AIR TAMPER, VIBRATORY ROD, OR OTHER EFFECTIVE METHODS. RADE THE FOUNDATION SUBGRADE TO A UNIFORM OR SLIGHTLY SLOPING RADE. IF THE SUBGRADE IS CLAY OR RELATIVELY NON-POROUS AND THE IF AASHTO T99 PROCEDURES ARE DETERMINED INFEASIBLE BY THE T IS BEST TO SLOPE THE GRADE TO ONE END OF THE SYSTEM. THIS WILL ALLOW EXCESS WATER TO DRAIN QUICKLY, PREVENTING SATURATION OF T EOTECHNICAL ENGINEER OF RECORD, COMPACTION IS CONSIDER ADEQUATE WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR, OR UNDER FOOT, AND THE GEOTECHNICAL NGINEER OF RECORD (OR REPRESENTATIVE THEREOF) IS SATISFIED WITH THE LEVEL OF COMPACTION. GEOMEMBRANE BARRIER

REVISION DESCRIPTION

FOR LARGE SYSTEMS, CONVEYOR SYSTEMS, BACKHOES WITH LONG A SITE'S RESISTIVITY MAY CHANGE OVER TIME WHEN VARIOUS TYPES OF

BACKFILL ONCE MINIMUM COVER FOR CONSTRUCTION LOADING ACROSS HE ENTIRE WIDTH OF THE SYSTEM IS REACHED, ADVANCE THE EQUIPMENT BARRIER IS RECOMMENDED WITH THE SYSTEM. THE GEOMEMBRANE LINER IS TO THE END OF THE RECENTLY PLACED FILL, AND BEGIN THE SEQUENCE AGAIN UNTIL THE SYSTEM IS COMPLETELY BACKFILLED. THIS TYPE OF CONSTRUCTION SEQUENCE PROVIDES ROOM FOR STOCKPILED BACKFILL DIRECTLY BEHIND THE BACKHOE, AS WELL AS THE MOVEMENT OF JCTION TRAFFIC. MATERIAL STOCKPILES ON TOP OF THE BACKFILLED DETENTION SYSTEM SHOULD BE LIMITED TO 8- TO 10-FEET HIGH AND MUST PROVIDE BALANCED LOADING ACROSS ALL BARRELS. TO DETERMINE THE PROPER COVER OVER THE PIPES TO ALLOW THE MOVEMENT OF CONSTRUCTION EQUIPMENT SEE TABLE 1, OR CONTACT YOUR LOCAL CONTECH SALES ENGINEER.

www.ContechES.com

025 Centre Pointe Dr., Suite 400, West Chester, OH 45069

WHEN FLOWABLE FILL IS USED. YOU MUST PREVENT PIPE FLOATATION

TYPICALLY, SMALL LIFTS ARE PLACED BETWEEN THE PIPES AND THEN

ALLOWED TO SET-UP PRIOR TO THE PLACEMENT OF THE NEXT LIFT. T

ALLOWABLE THICKNESS OF THE CLISM LIFT IS A FUNCTION OF A PROPER

BALANCE BETWEEN THE UPLIFT FORCE OF THE CLSM, THE OPPOSING

MEASURES. THE PIPE CAN CARRY LIMITED FLUID PRESSURE WITHOUT

PIPE DISTORTION OR DISPLACEMENT, WHICH ALSO AFFECTS THE CLSM

IFT THICKNESS, YOUR LOCAL CONTECH SALES ENGINEER CAN HELP

TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H-20

LIVE LOAD. BECAUSE CONSTRUCTION LOADS OFTEN EXCEED DESIGN LIVE

NECESSARY. SINCE CONSTRUCTION EQUIPMENT VARIES FROM JOB TO JOB,

LOADS. INCREASED TEMPORARY MINIMUM COVER REQUIREMENTS ARE

REQUIREMENTS WITH YOUR LOCAL CONTECH SALES ENGINEER DURING

BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL

CAN RAPIDLY FILL THE EXCAVATION; POTENTIALLY CAUSING FLOATATION

AND MOVEMENT OF THE PREVIOUSLY PLACED PIPES. TO HELP MITIGATE

POTENTIAL PROBLEMS, IT IS BEST TO START THE INSTALLATION AT THE

DOWNSTREAM END WITH THE OUTLET ALREADY CONSTRUCTED TO ALLOW

A ROUTE FOR THE WATER TO ESCAPE. TEMPORARY DIVERSION MEASURES

IT IS BEST TO ADDRESS EQUIPMENT SPECIFIC MINIMUM COVER

WEIGHT OF THE PIPE. AND THE EFFECT OF OTHER RESTRAINING

DETERMINE THE PROPER LIFT THICKNESS.

CONSTRUCTION LOADING

YOUR PRE-CONSTRUCTION MEETING

THE OUTLET PIPE.

DYODS DRAWING

ADDITIONAL CONSIDERATIONS

CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE

UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS FOR PURPOSES OF PERFORMANCE AND LONGEVITY.

INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE OF CMP DETENTION SYSTEMS AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING. ANNUAL INSPECTIONS, SITES WITH HIGH TRASH LOAD OR SMALL OUTLET CONTROL ORIFICES MAY NEED MORE FREQUENT INSPECTIONS. THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE ON SITE SPECIFIC ACTIVITIES RATHER THAN THE SIZE OR CONFIGURATION OF THE

INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN EQUIPMENT OPERATIONS TAKE PLACE AND IN OTHER VARIOUS INSTANCES IN WHICH ONE WOULD EXPECT HIGHER ACCUMULATIONS OF SEDIMENT OR ABRASIVE/ CORROSIVE CONDITIONS. A RECORD OF EACH INSPECTION IS TO BE MAINTAINED FOR THE LIFE OF THE SYSTEM

MAINTENANCE

CMP DETENTION SYSTEMS SHOULD BE CLEANED WHEN AN INSPECTION REVEALS ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.

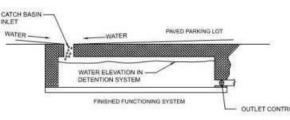
ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE. IF MAINTENANCE IS NOT FRONT OF THE OUTLET ORIFICE, MANHOLE COVERS SHOULD BE SECURELY FOLLOWING CLEANING ACTIVITIES. CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED A OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

ANNUAL INSPECTIONS ARE BEST PRACTICE FOR ALL UNDERGROUND SYSTEMS. DURING THIS INSPECTION. IF EVIDENCE OF SALTING/DE-ICING AGENTS IS OBSERVED WITHIN THE SYSTEM, IT IS BEST PRACTICE FOR THE SYSTEM TO BE RINSED, INCLUDING ABOVE THE SPRING LINE SOON AFTER THE SPRING THAW AS PART OF THE MAINTENANCE PROGRAM FOR THE SYSTEM. MAINTAINING AN UNDERGROUND DETENTION OR INFILTRATION SYSTEM IS

EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY

HE FOREGOING INSPECTION AND MAINTENANCE EFFORTS HELP ENSURE MAY BE REQUIRED FOR HIGH FLOWS DUE TO THE RESTRICTED NATURE OF NDERGROUND PIPE SYSTEMS USED FOR STORMWATER STORAGE CONTINUE TO FUNCTION AS INTENDED BY IDENTIFYING RECOMMENDED REGULAR RELATED TO THE STRUCTURAL INTEGRITY OF THE PIPE OR THE SOUNDNESS OF PIPE JOINT CONNECTIONS IS BEYOND THE SCOPE OF THIS GUIDE.

13379 20563 8/29/2022 DESIGNED: DRAWN.



DYO20563 Rochester University - Athletic Field

Perforated CMP Detention

Rochester, MI

DETENTION SYSTEM

MICHIGAN

PROJECT

ROCHESTER

UNIVERSITY

ATHLETIC FIELD

IMPROVEMENTS

ROCHESTER HILLS

ISSUE DATE

10/5/22

10/24/22

11/23/22

12/2/22

DRAWN

CHECKED

APPROVED

FRENCH

associates

236 Mill Street Rochester, MI

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ISSUED FOR

BIDS

ADDENDUM #1

SITE PLAN RESUBMITTAL

architects planners interiors

CREATIVE SITE

CIVIL ENGINEERING

& SITE DESIGN

3728 NASH DRIVE

TROY, MI 48083

248 259 2023

SOLUTIONS, PLC

jarnold@creative-site-solutions.com

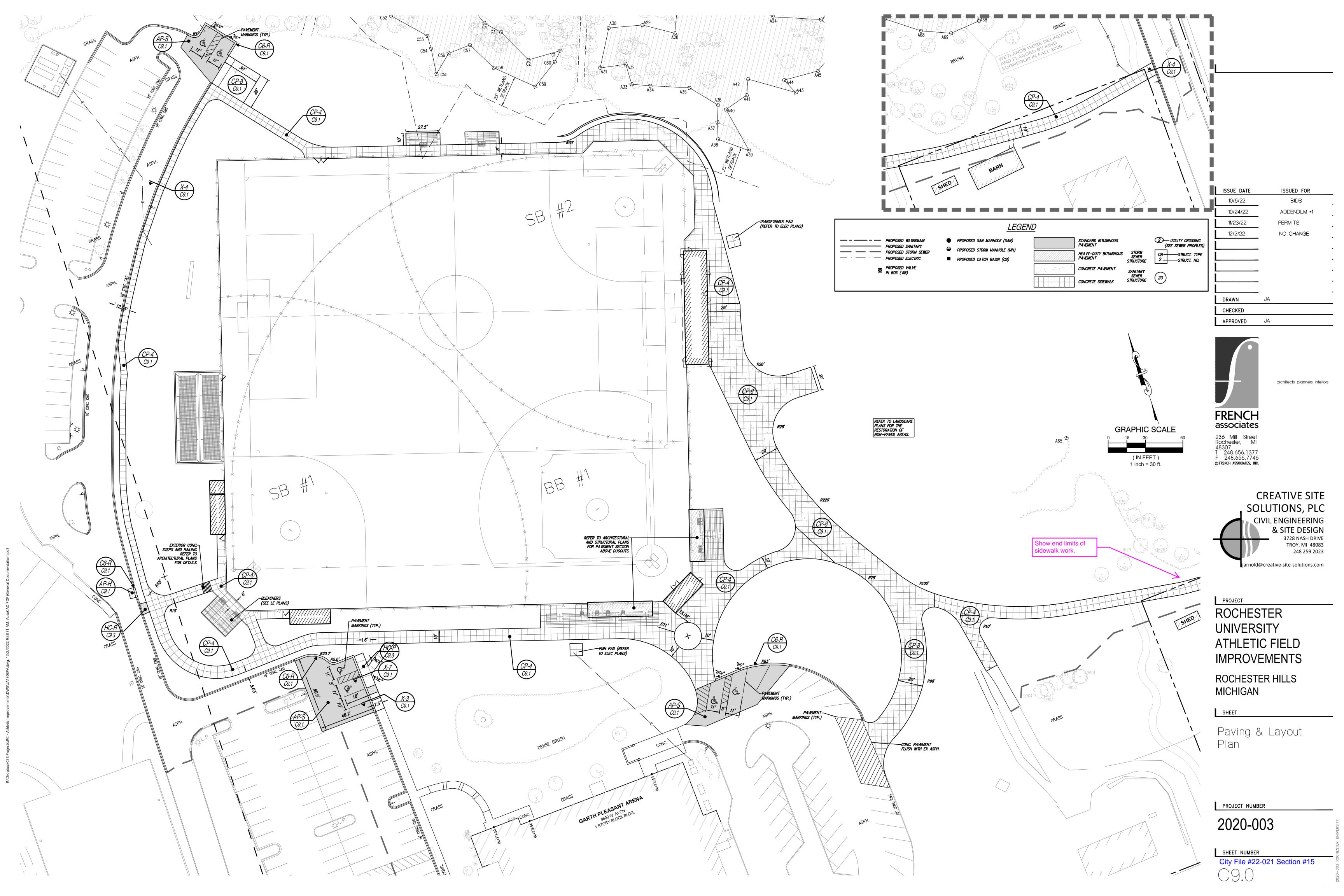
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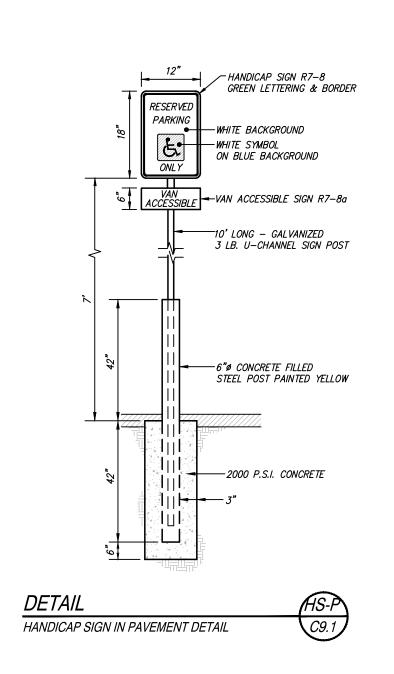
PROJECT NUMBER

2020-003

SHEET NUMBER

City File #22-021 Section #15





PLAN TW GRADE

PLAN TW GRADE

EPOXY COATED #4 BAR @ 42" O.C.

CONCRETE SIDEWALK
(WIDTH VARIES)

4" LIMESTONE AGG. BASE, 21AA OR MDOT CLASS II

SAND (TYP @ WALKS)

✓ PLAN GUTTER

~ EPOXY COATED #4 BAR (TYP)

-4" LIMESTONE AGG. BASE, 21AA

C9.1

5" 1"

∼PLAN GUTTER

← EPOXY COATED #4 BAR (TYP)

-4" LIMESTONE AGG. BASE, 21AA

EPOXY COATED #4 BAR @ 42" O.C.

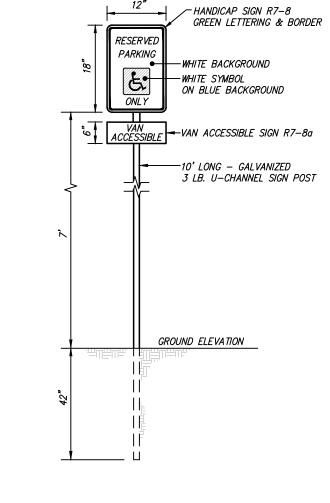
CONCRETE SIDEWALK
(WIDTH PER PLAN)

4" LIMESTONE AGG. BASE, 21AA OR MDOT CLASS II

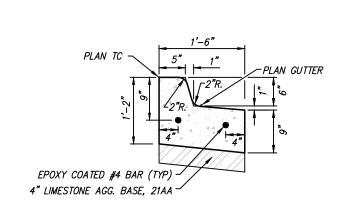
SAND (TYP @ WALKS)

SECTION

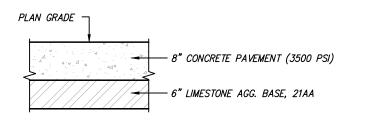
WALK/CURB & GUTTER ADA ACCESSIBLE

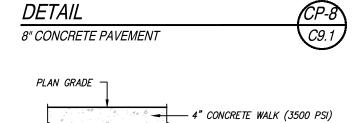


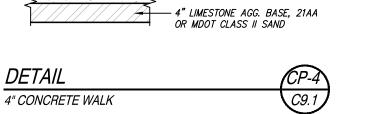


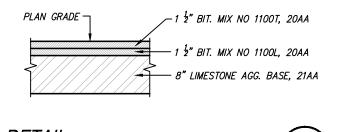




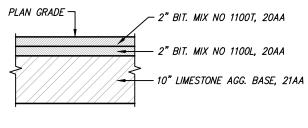












DETAIL

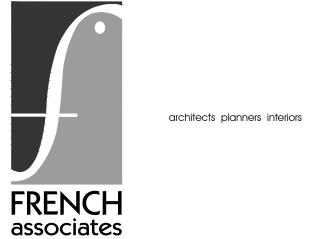
HEAVY DUTY BITUMINOUS PAVEMENT



PAVING CONSTRUCTION NOTES:

- EARTHWORK AND PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE NOTED IN THE FOLLOWING ITEMS.
- REMOVE ANY EXISTING TOPSOIL, VEGETATION, TREES AND OTHER DELETERIOUS MATERIALS TO EXPOSE THE SUBGRADE SOIL. TREE ROOTS SHALL BE COMPLETELY REMOVED.
- EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
- . THE TOP 12 INCHES OF THE EXPOSED SUBGRADE SHALL BE COMPACTED TO A DENSITY NO LESS THAN 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D 1557-91).
- THE FINAL SUBGRADE SHALL BE THOROUGHLY PROOFROLLED UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. LOOSE OR YELDING AREAS WHICH CANNOT BE MECHANICALLY STABILIZED SHALL BE REMOVED AND REPLACED WITH ENGINEERED FILL OR AS DICTATED BY FIELD CONDITIONS. THE AGGREGATE BASE SHALL BE COMPACTED TO A DENSITY NO LESS THAN 95
- PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED PROCTOR (ASTM D 1557—91). THE BASE SHALL EXTEND A MINIMUM OF 1 FOOT BEYOND THE PAVED EDGE.
- 7. ALL BITUMINOUS MATERIAL SHALL BE COMPACTED TO A DENSITY NO LESS THAN 97 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY THE MARSHALL METHOD.
- R. A BOND COAT OF SS-1H EMULSION IS REQUIRED BETWEEN THE LEVELING COURSE AND THE WEARING COURSE WHEN EITHER 48 HOURS HAVE ELAPSED BETWEEN PLACEMENT OF THE BITUMINOUS COURSES OR THE SURFACE OF THE PAVEMENT HAS BEEN CONTAMINATED WITH DIRT, DUST, OR FOREIGN MATERIAL. THE BOND COAT SHALL BE APPLIED IN A UNIFORM MANNER OVER THE SURFACE AT A RATE OF 0.1 GALLONS/S.Y. IN THE EVENT A BOND COAT IS NOT REQUIRED, THE LEVELING COURSE MAY REQUIRE LOCALIZED BROOM CLEANING.
- 9. PERFORMANCE GRADE PG64-22 ASPHALT CEMENT SHALL BE USED IN THE PRODUCTION OF ALL BITUMINOUS MIXTURES. RECLAIMED ASPHALT PAVEMENT (RAP) SHALL BE ALLOWED IN THE SURFACE COURSE ONLY AS SPECIFIED BY THE CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- 10. CONSTRUCTION TRAFFIC SHALL BE MINIMIZED ON THE NEW PAVEMENT. IF CONSTRUCTION TRAFFIC IS ANTICIPATED ON THE PAVEMENT STRUCTURE, THE PLACEMENT OF THE FINAL LIFT SHALL BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. THIS ACTION WILL ALLOW REPAIR OF LOCALIZED FAILURE, IF ANY DOES OCCUR, AS WELL AS REDUCE LOAD DAMAGE ON THE PAVEMENT SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO ANY DAMAGED SECTION RESULTING FROM CONSTRUCTION ACTIVITY.
- 1. TAPER CURB HEIGHT DOWN TO ZERO HEIGHT IN FIVE FEET AT ALL CURB ENDINGS UNLESS OTHERWISE NOTED ON THE PLAN.
- 12. WHERE CURB AND GUTTER SECTION IS ADJACENT TO A HANDICAP RAMP, DROP CURB HEIGHT TO MAXIMUM 1/4" ACROSS THE RAMP OPENING.
- 13. RESTRIPE PARKING LOTS AS SHOWN, USING 4" PAVEMENT MARKING BLUE FOR HANDICAP SPACES, YELLOW FOR STANDARD SPACES.
- 14. CONTRACTOR SHALL PROTECT EXISTING CURB, GUTTER, SIDEWALK, WALLS, FENCES AND ALL OTHER EXISTING SITE FEATURES NOT INDICATED FOR REMOVAL OR REHABILITATION.
- 15. PLACE EXPANSION JOINTS WHERE NEW CONCRETE PAVEMENT OR WALKS ABUT BUILDING WALLS (PROPOSED OR EXISTING), CURB, OR EXISTING CONCRETE PAVEMENT. PLACE JOINT SEALANT ON ALL EXPANSION JOINTS.
- 16. CONTRACTOR TO CONSTRUCT CONTRACTION AND EXPANSION JOINTS IN ALL NEW CONCRETE PAVEMENT. CONTRACTION JOINTS SHALL BE TOOLED WHERE SIDEWALK WIDTH IS 8' OR LESS, AND SHALL BE SPACED EQUAL TO THE WIDTH OF THE PAVEMENT (I.E. 8' SPACING FOR 8' WIDE WALK), BUT NOT MORE THAN 10' APART. PLACE EXPANSION JOINTS WITH JOINT SEALANT AT MAXIMUM 50' SPACING. CONTRACTOR SHALL GENERALLY MATCH THE JOINT PATTERNS FOR CONCRETE PAVEMENT WHEN SHOWN ON THE PLANS.
- 7. WHERE THESE PLANS DIFFER FROM THE STANDARD DETAILS OR STANDARD SPECIFICATIONS OF THE COMMUNITY, THE COMMUNITY REQUIREMENTS SHALL
- 18. CONCRETE PAVEMENT SHALL MEET THE REQUIREMENTS FOR MOOT GRADE P1 CONCRETE PER THE CURRENT MOOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

ISSUE DATE ISSUED FOR 10/5/22 BIDS 10/24/22 ADDENDUM #1 11/23/22 PERMITS 12/2/22 NO CHANGE DRAWN CHECKED APPROVED JA



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PROJECT

ROCHESTER UNIVERSITY ATHLETIC FIELD **IMPROVEMENTS**

ROCHESTER HILLS MICHIGAN

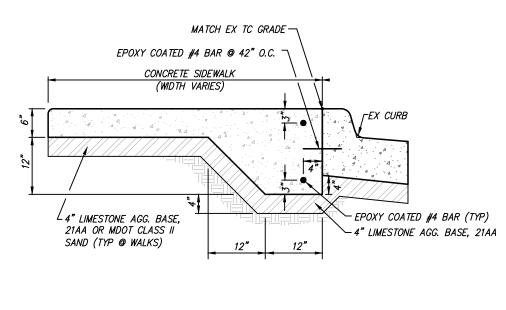
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Paving Notes & Details

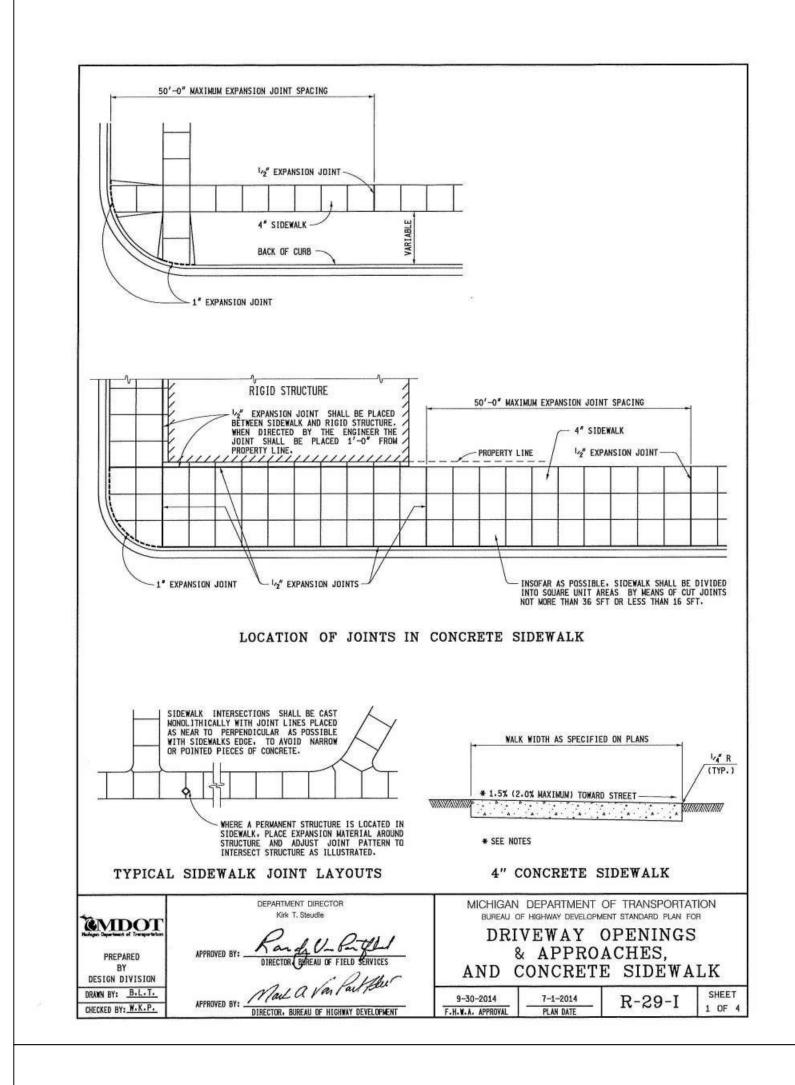
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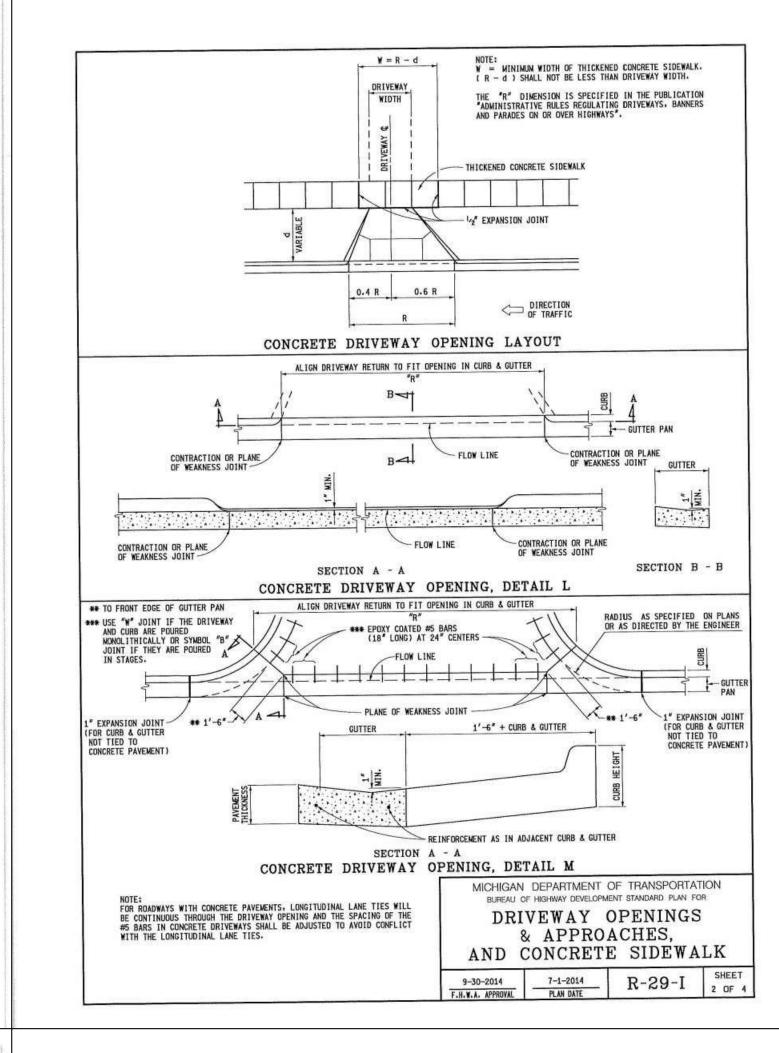
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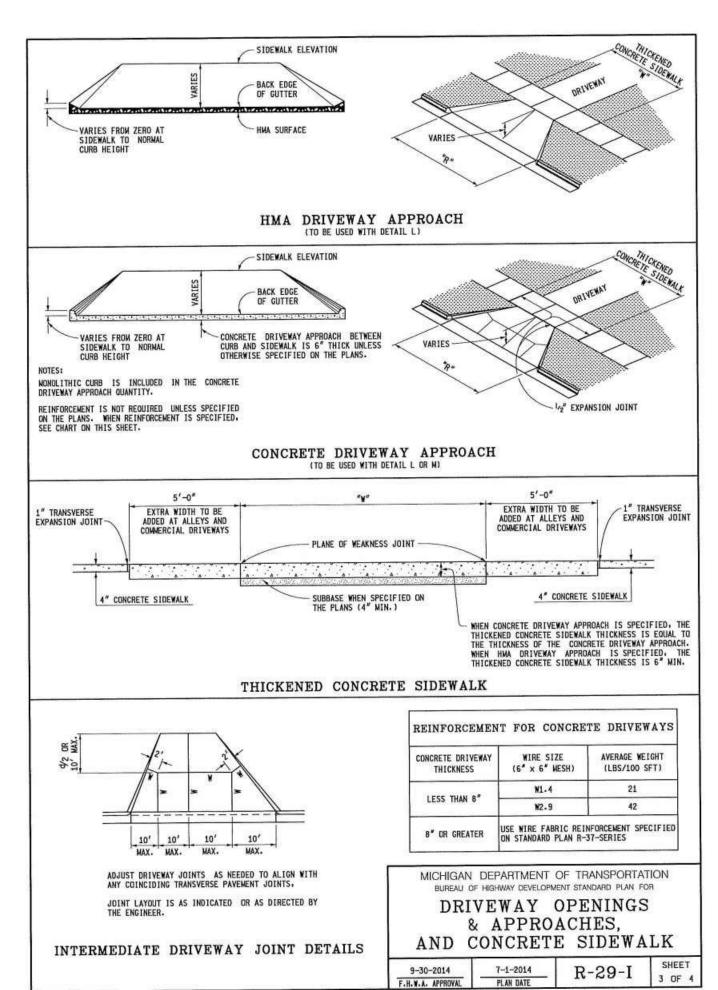
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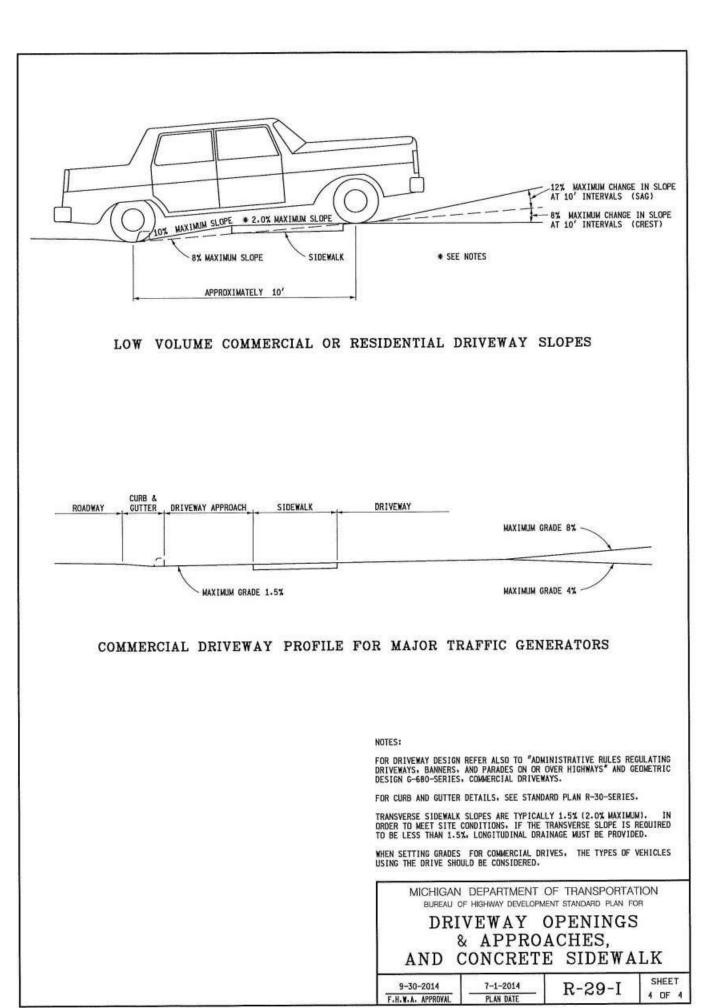


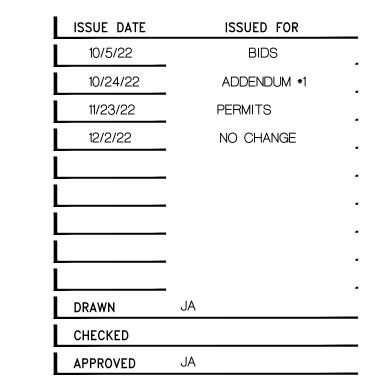














architects planners interiors

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PROJECT

ROCHESTER UNIVERSITY ATHLETIC FIELD IMPROVEMENTS

ROCHESTER HILLS MICHIGAN

SHEET

MDOT Driveway Details

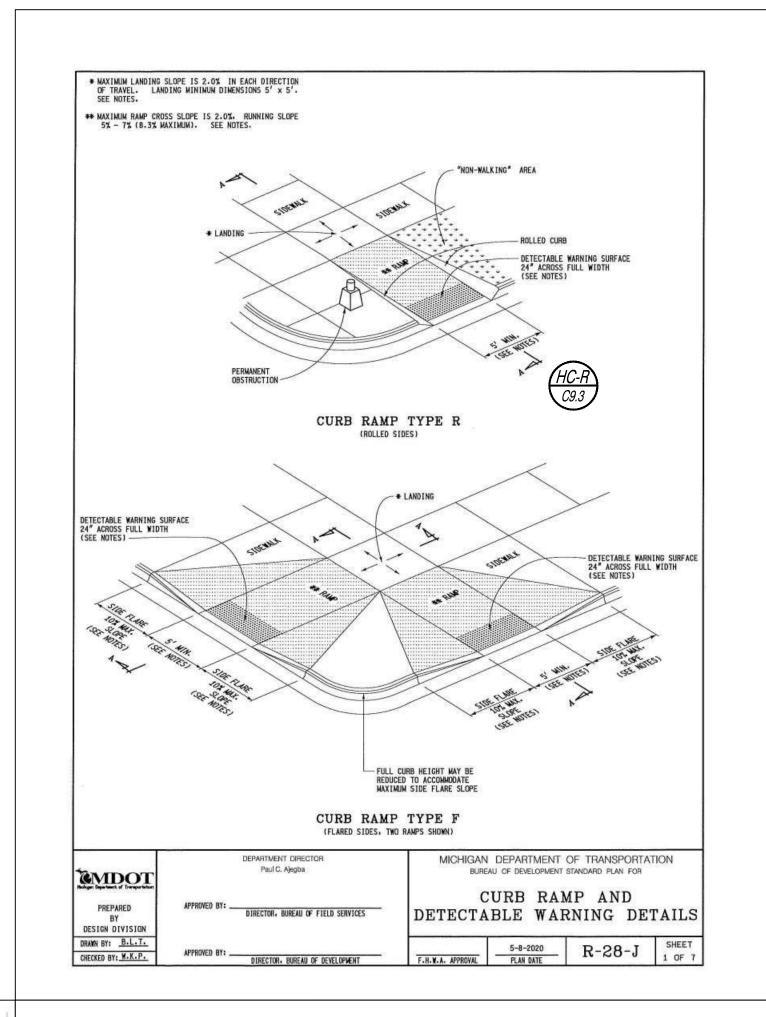
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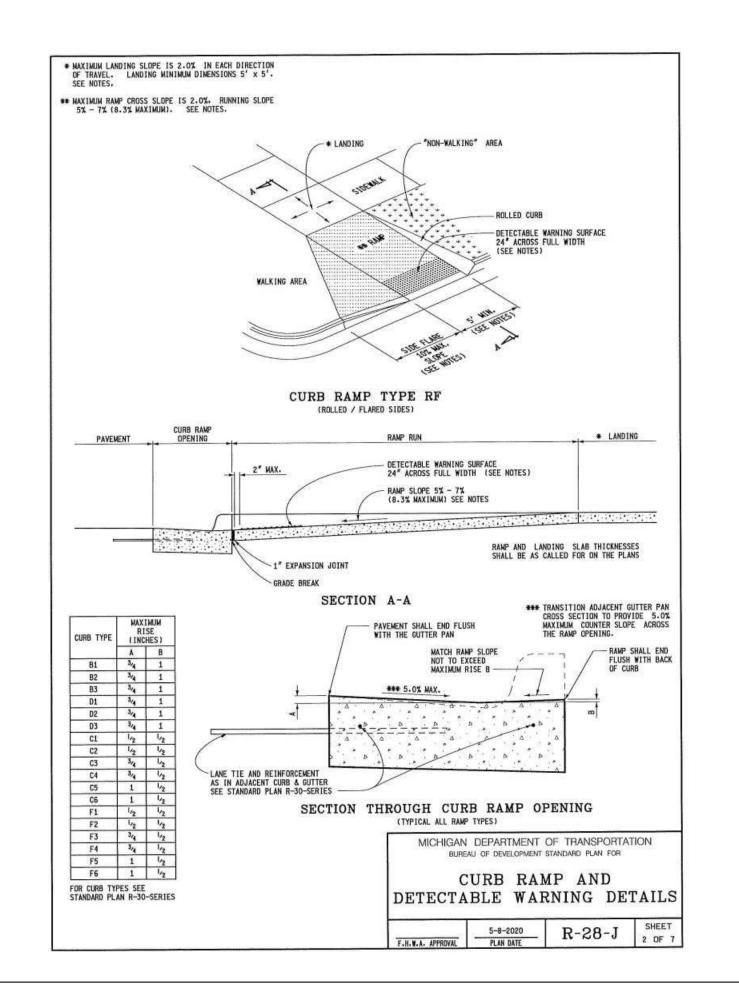
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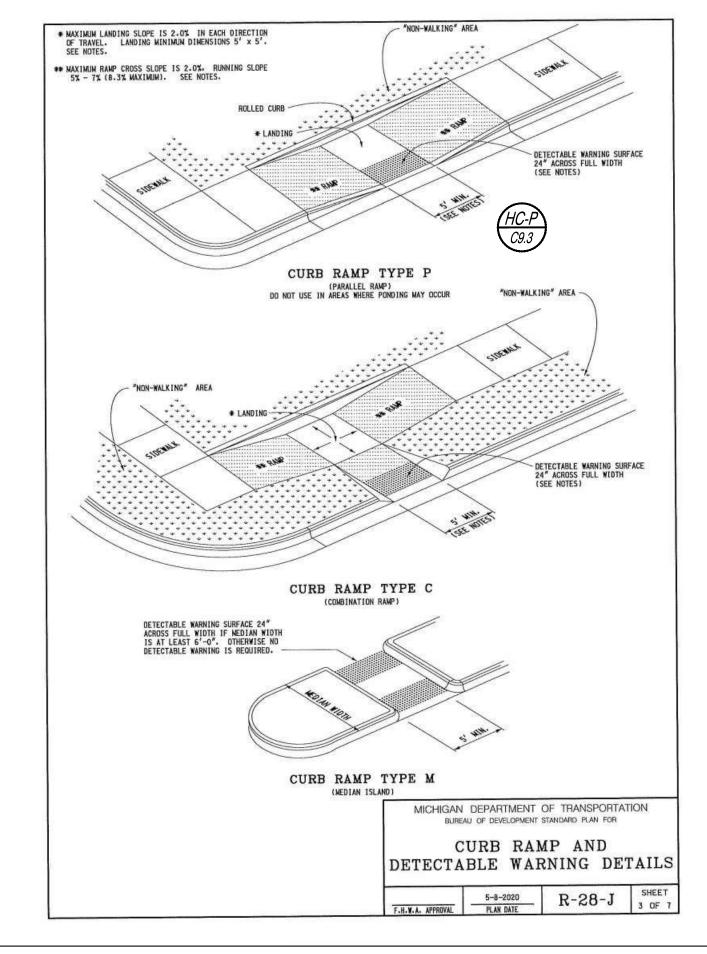
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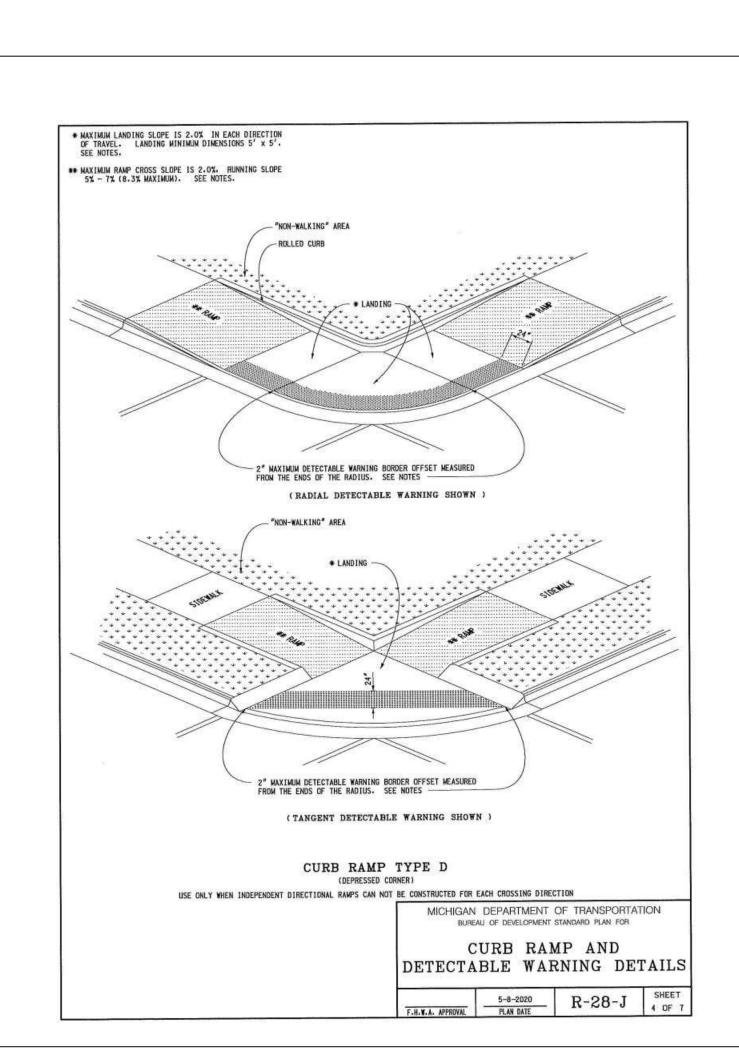
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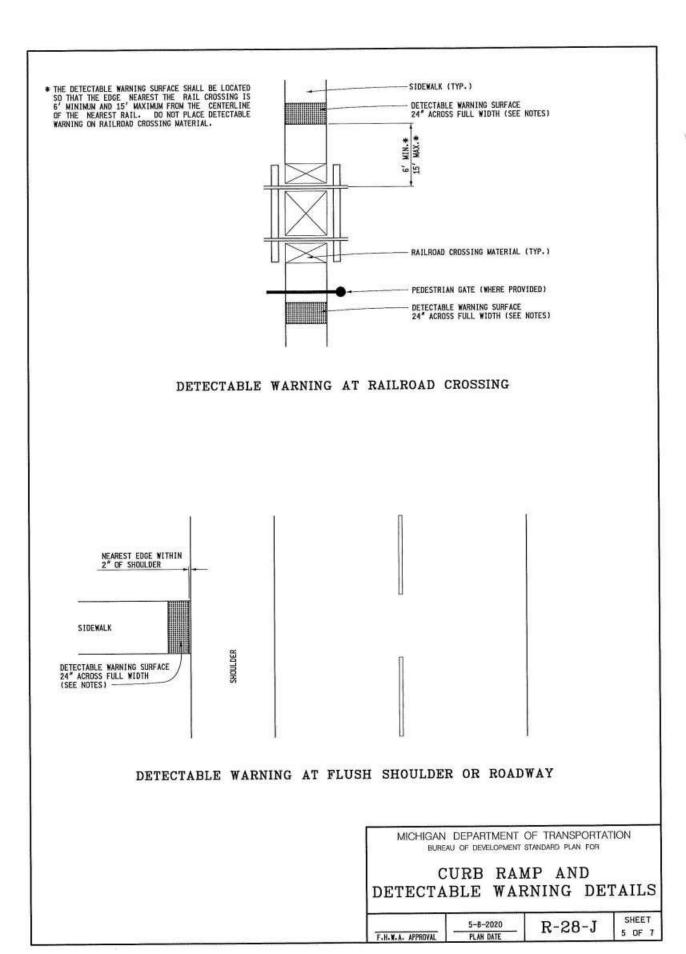
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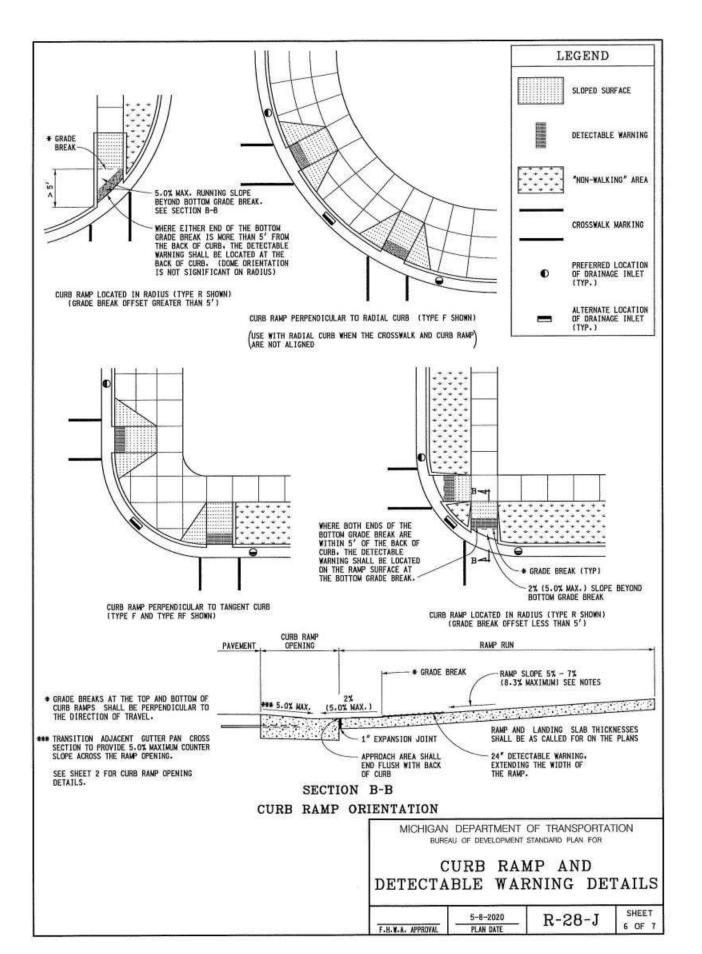


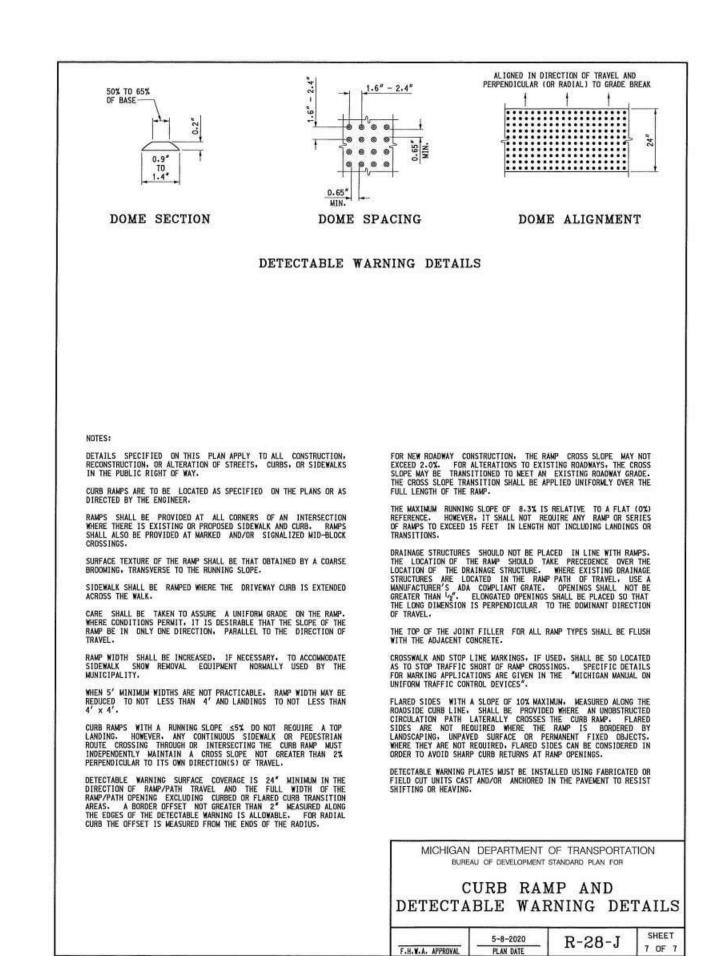


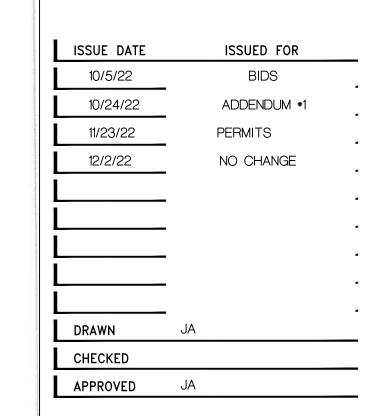














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PROJECT

ROCHESTER UNIVERSITY ATHLETIC FIELD **IMPROVEMENTS**

ROCHESTER HILLS **MICHIGAN**

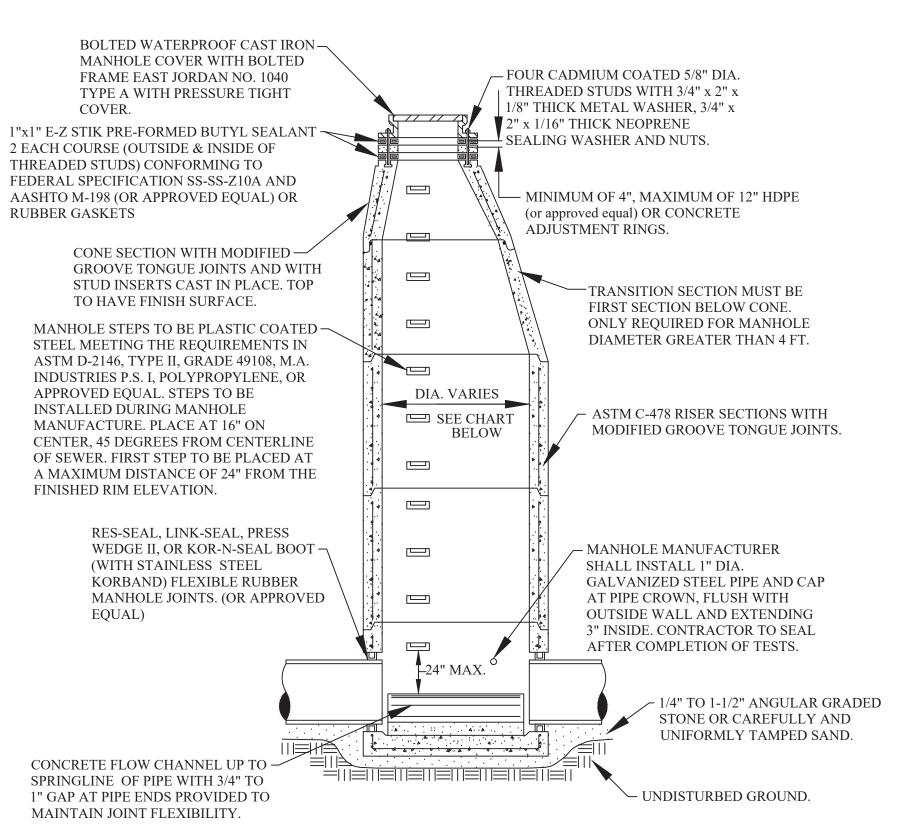
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MDOT Curb Ramp Details

PROJECT NUMBER

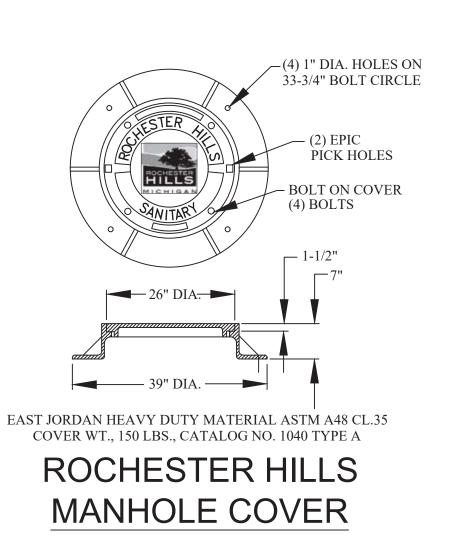
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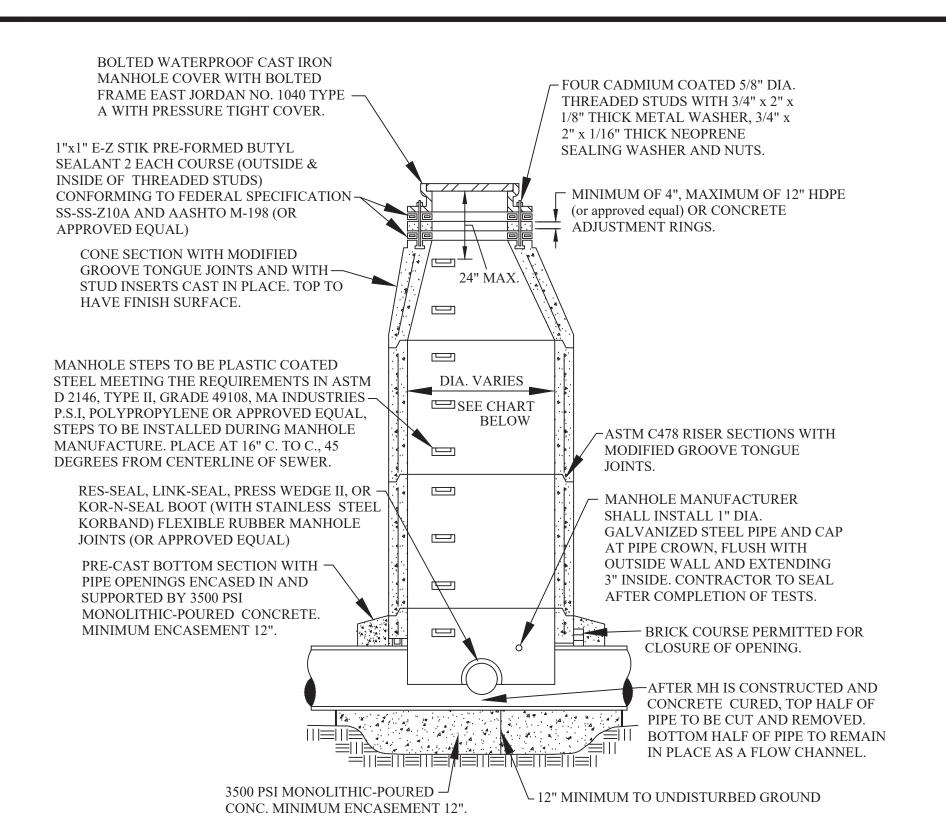
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STANDARD MANHOLE

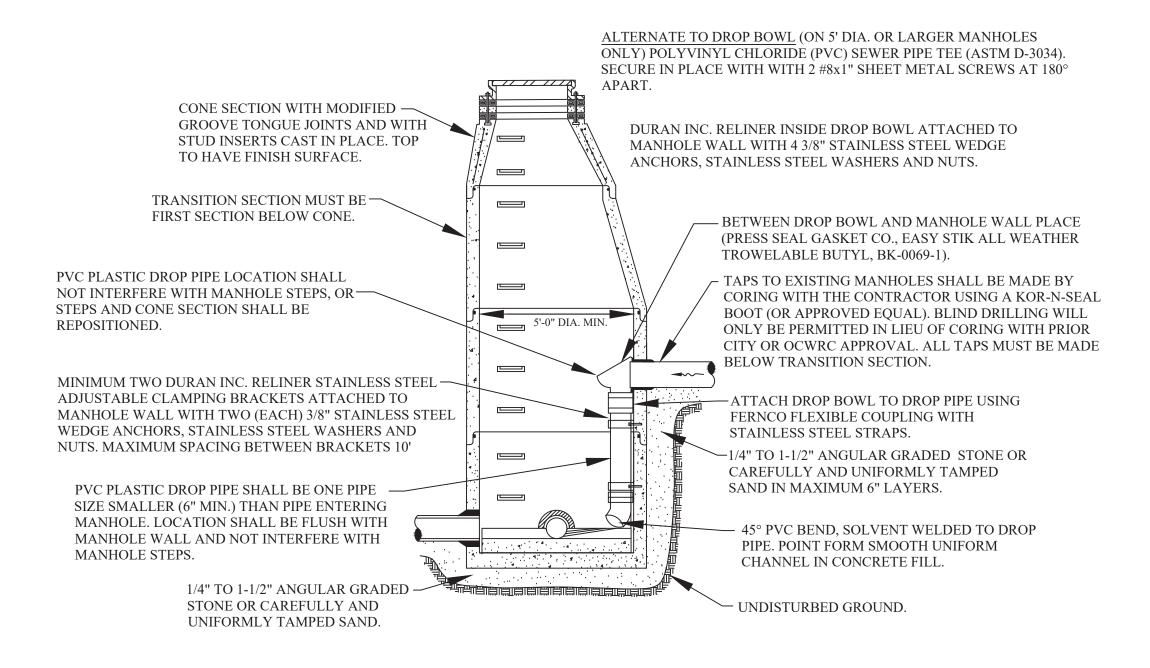
MANHOLE SIZING CHART					
MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.				
4'	24"	18"			
5'	36"	24"			
6'	42"	36"			
7'	60"	42"			





MANHOLE CONSTRUCTED OVER EXISTING SEWER

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



INTERIOR DROP CONNECTION

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

SANITARY SEWER CONSTRUCTION NOTES

- 1. 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.
- 2. 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.
- 3. 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.
- 4. 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
- 5. SELF-LEVELING ACCESS ASSEMBLY STRUCTURES SHALL BE USED FOR ADJUSTING STRUCTURES WITHIN ASPHALT AND CONCRETE PAVEMENT.
- 6. ALL SEWER PIPE SHALL BE INSTALLED IN CLASS "B" BEDDING OR BETTER.
- 7. 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.
- 8. AT ALL CONNECTIONS TO MANHOLES IN ALL SEWERS, OR EXTENSIONS, DROP CONNECTIONS WILL BE REQUIRED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS 18 INCHES.
- 9. GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWN SPOUT DRAINAGE OR WEEP TILE DRAINAGE SHALL NOT BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
- 10. 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.
- 11. AN 18 INCH MINIMUM VERTICAL SEPARATION AND A 10 FOOT MINIMUM HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN SANITARY SEWER AND ALL OTHER UTILITIES.
- 12. 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.

SANITARY SEWER MATERIALS

- 1. THE FOLLOWING MATERIALS MAY BE USED FOR PUBLIC SANITARY SEWER CONSTRUCTION, APPROVED PIPE MATERIALS MUST CONFORM TO STANDARDS ADOPTED BY THE OFFICE OF THE OAKLAND COUNTY WATER RESOURCES COMMISSIONER:
 - A.FOR SEWERS 8" TO 15" TO BE PVC TRUSS PIPE, ASTM D-2680, WITH GASKET JOINTS, OTHER TYPES OF PIPE AS APPROVED BY CITY ENGINEER.
 - B. FOR 6" SEWER LEADS SHALL BE SOLID WALLED PVC, SDR 23.5, ASTM D-3034 OR PVC SCHEDULE 40 SOLID WALLED, ASTM D-2665. PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 150 P.S.I., AND A MINIMUM DEFLECTION OF 15% AT FAILURE. THE SEWER LEAD MATERIAL SHALL BE COMPATIBLE WITH SEWER MAIN MATERIAL.
 - C. FOR SEWERS GREATER THAN 15" TO BE REINFORCED CONCRETE PIPE (RCP) SHALL CONFORM TO THE CURRENT ASTM D C76 WALL B. JOINTS SHALL BE SYNTHETIC RUBBER AND MEET OR EXCEED THE REQUIREMENTS ESTABLISHED BY ASTM 361.

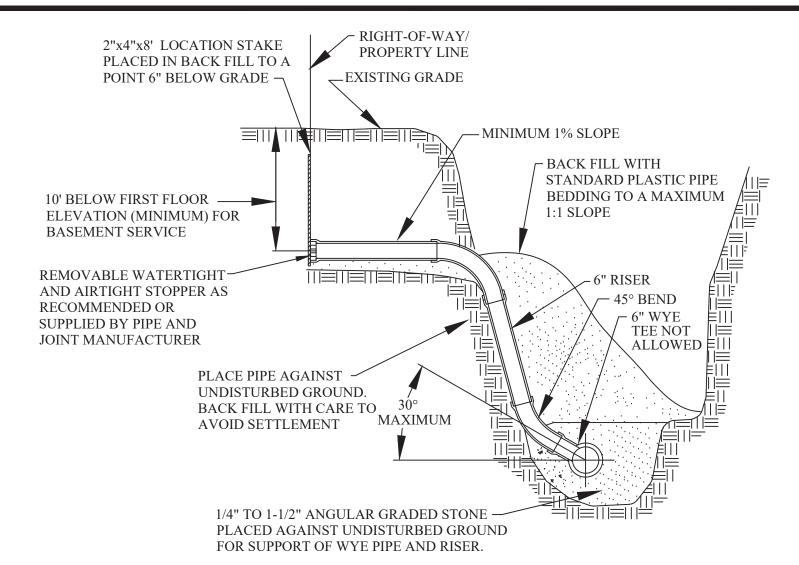


City of Rochester Hills

1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

SANITARY SEWER STANDARD DETAILS NOT TO SCALE DATE: 1/10/2019

SHEET 1 OF 2 C10.1



HOUSE LEAD DETAIL

INSTALL HIGH PRESSURE

CORE & BOOT CONNECTION

-EXTERIOR MANHOLE WALL

-PROPOSED SANITARY SEWER

INSTALL HIGH PRESSURE WATER TIGHT BULKHEAD

SIZE AS INDICATED ON PLANS

W/ 3/4" TO 1 1/4" GAP TO BE

PROVIDED TO MAINTAIN

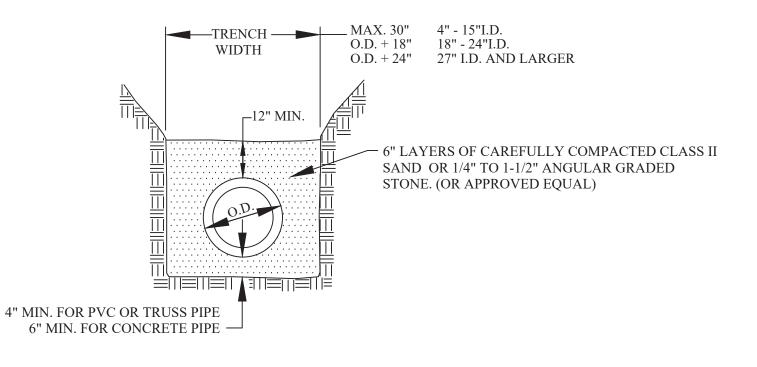
JOINT FLEXIBILITY.

FORM SMOOTH CHANNEL

WATER TIGHT BULKHEAD

PROPOSED SANITARY SEWER

SIZE AS INDICATED ON PLANS

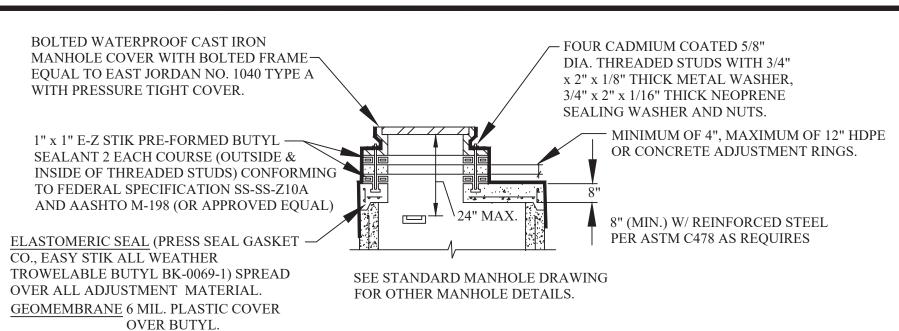


STANDARD BEDDING (CLASS B)

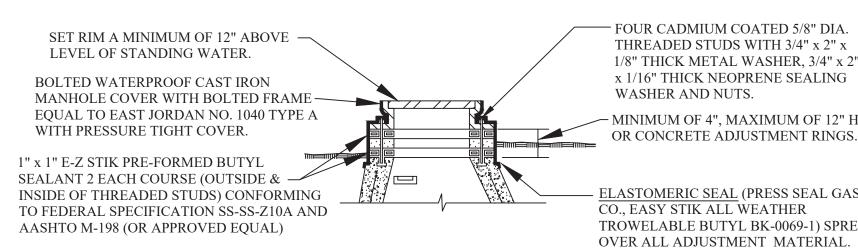
EXISTING

MANHOLE

DOWNSTREAM



FLAT TOP MANHOLE

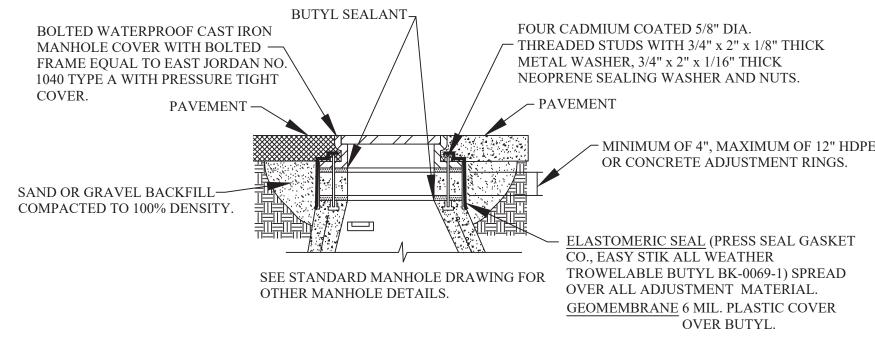


FOUR CADMIUM COATED 5/8" DIA. THREADED STUDS WITH 3/4" x 2" x 1/8" THICK METAL WASHER, 3/4" x 2" x 1/16" THICK NEOPRENE SEALING WASHER AND NUTS. MINIMUM OF 4", MAXIMUM OF 12" HDPE

LASTOMERIC SEAL (PRESS SEAL GASKET CO., EASY STIK ALL WEATHER TROWELABLE BUTYL BK-0069-1) SPREAD OVER ALL ADJUSTMENT MATERIAL.

SEE STANDARD MANHOLE DRAWING GEOMEMBRANE 6 MIL. PLASTIC COVER OVER BUTYL FOR OTHER MANHOLE DETAILS.

ADJUSTMENT DETAIL FOR MANHOLE TOPS WITHIN FLOOD PRONE AREAS



ADJUSTMENT DETAIL MANHOLE TOPS WITHIN PAVEMENT AREAS

> 3/4" TO 1 1/4" GAP TO BE PROVIDED TO MAINTAIN

JOINT FLEXIBILITY.

FORM SMOOTH AND UNIFORM CHANNELS IN CONCRETE FILL.

FLEXIBLE MANHOLE JOINTS

INSTALL CONCRETE FILL IN SUMP AFTER

PASSING PRELIMINARY ACCEPTANCE TEST AND PRIOR TO FINAL COUNTY

FLOW

-FLEXIBLE ===

FIRST MANHOLE UPSTREAM

FROM SANITARY TAP

NOTIFY ROCHESTER HILLS

ENGINEERING DIVISION @ 248-841-2510 48 HRS. PRIOR

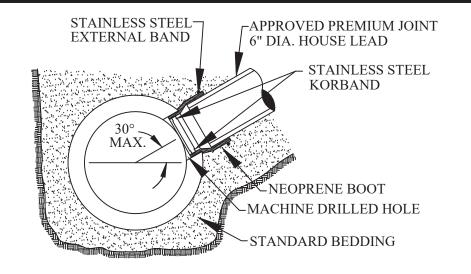
CONSTRUCTION

MANHOLE

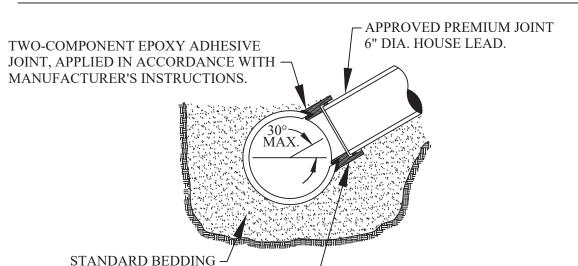
- INSTALL TEMPORARY MECHANICAL

PASSING APPLICABLE TESTING.

STYLE WATERTIGHT BULKHEAD. TO BE REMOVED ONLY AFTER SUCCESSFULLY



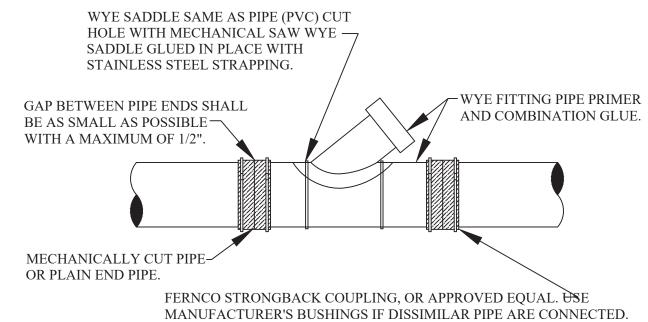
KOR-N-TEE TAP FOR CONCRETE PIPE



-CAST IRON OR CAST ALUMINUM OR PLASTIC PREMIUM JOINT SADDLE, SEWER TAP OR EQUAL. TO BE INSERTED IN MACHINE- DRILLED HOLE DESIGNED FOR THE PARTICULAR SADDLE.

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.

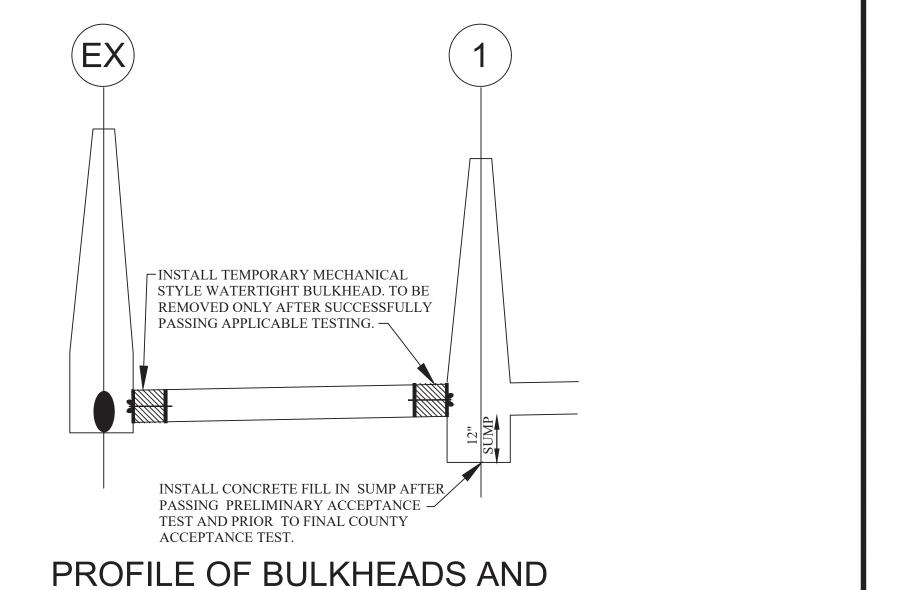
SEWER TAP-OVER 12" MAIN SEWER PIPES VITRIFIED CLAY



NOTE: PIPE SHALL BE BEDDED IN STANDARD PLASTIC PIPE BEDDING

WYE SADDLE OR WYE PIPE INSERTION WITH FLEXIBLE COUPLINGS

(RIGID PIPE)



ONE FOOT SUMP

CITY OF ROCHESTER HILLS **GRAVITY BUILDING LEAD** REQUIREMENTS AND DETAILS

- 1. ALL BUILDING LEAD WORK MUST BE PERFORMED UNDER THE CITY OF ROCHESTER HILLS INSPECTION
- 2. FOR ALL CITY OF ROCHESTER HILLS SYSTEMS CALL 248-841-2510 48-HOURS PRIOR TO SCHEDULING

FOR ALL OCWRC-OPERATED SYSTEMS, CALL 248-858-1110 48-HOURS IN ADVANCE PRIOR TO SCHEDULING INSPECTION.

3. SANITARY SEWER MAY NOT BE USED AS A DE-WATERING OUTLET.

- 4. WHERE AN EXISTING BUILDING LEAD IS BEING EXTENDED, DISSIMILAR TYPES AND SIZES OF PIPE SHALL BE JOINED USING A CITY OF ROCHESTER HILLS APPROVED ADAPTER.
- 5. APPROVED BUILDING LEAD PIPE FOR GRAVITY SEWER LEADS:

A.PVC PLASTIC, ASTM D3034, SDR 23.5

B.SOLID WALL PVC SCHEDULE 40, ASTM D-2665

C. ANY DEVIATIONS FROM ABOVE SPECIFICATIONS REQUIRES APPROVAL BY CITY ENGINEER.

6. ALLOWABLE TYPES OF SEWER PIPE ADAPTERS: FERNCO STRONGBACK COUPLING OR APPROVED EQUAL

7. 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

CITY OF ROCHESTER HILLS SANITARY SEWER SYSTEM AS-BUILT DRAWING SPECIFICATIONS

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

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

- 1. 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.
- 2. 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).
- 3. THE COVER SHEET SHALL BE SEALED BY THE PROJECT DESIGN ENGINEER, ALONG WITH THE FOLLOWING CERTIFICATION STATEMENT

IMPROVEMENTS	S NOTED AS "AS BUILT"	ND THAT TO THE BEST OF MY KNOWLEDGE THOS WERE CONSTRUCTED IN SUBSTANTIAL
		CONSTRUCTION PLANS; AND ALSO THAT THE AS CONSTRUCTED, LIE WITHIN THE EASEMENT
		OF ROCHESTER HILLS.
	(COMPAN	IY NAME)
(EN	IGINEER'S SIGNATURE)
PROFESSIONAL	ENGINEER NO	
PROFESSIONAL	ENGINEER NO	

ENGINEER SEAL

- 4. THE MAXIMUM SCALE SHALL BE ONE (1) INCH EQUALS FIFTY (50) FEET
- 5. THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED.
- 6. THE SIZE, MANUFACTURER AND MODEL NUMBERS OF ALL VALVES AND PUMPS INSTALLED SHALL BE
- 7. A TOTAL AS-BUILT DRAWING QUANTITY LIST SHALL BE INCLUDED
- 8. THE LOCATIONS SHALL BE SHOWN ON THE PLANS WITH AN ACCURACY OF ONE (1) FOOT
- 9. THE OFFSET OF THE SANITARY MAIN FROM PROPERTY LINES SHALL BE INDICATED.
- 10. ALL MANHOLES, VALVE WELLS, PUMPS AND ALL SANITARY SYSTEM APPURTENANCES SHALL BE LOCATED FROM TWO FIXED OBJECTS (MANHOLES, BUILDING CORNERS ETC.).
- 11. 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.
- 12. THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE VERTICAL SEPARATION IS LESS
- 13. AS-BUILTS SHALL BE PREPARED IN ACCORDANCE WITH CITY OF ROCHESTER HILLS AS-BUILT GUIDELINES AS PROVIDED AT THE PRE-CONSTRUCTION MEETING



REVISIONS APPROVED BY CITY COUNCIL, DATE: PREPARED BY ENGINEERING DIVISION TO START OF DEPARTMENT OF PUBLIC SERVICES

TESTING BULKHEAD

IN EXISTING MANHOLE

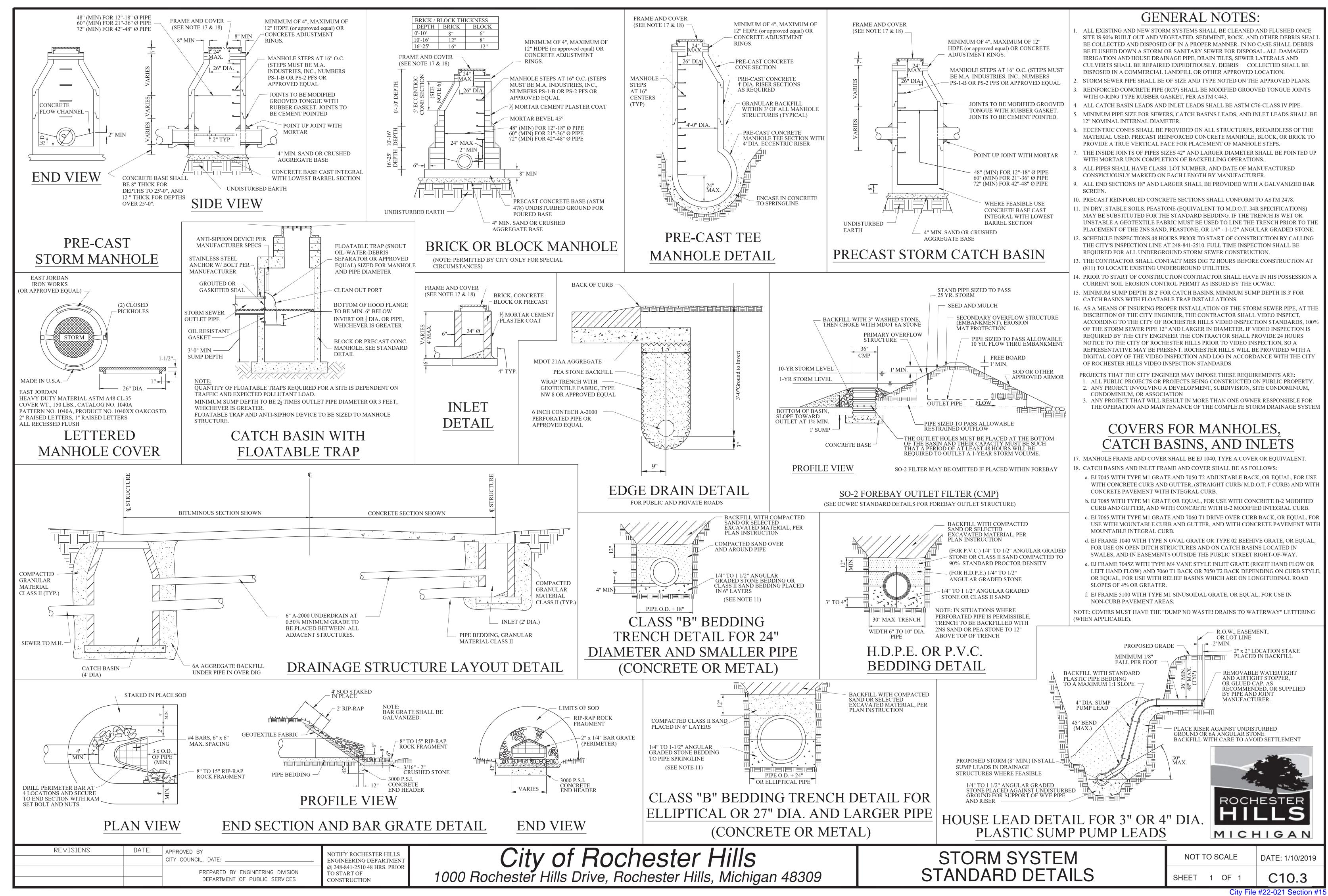
City of Rochester Hills

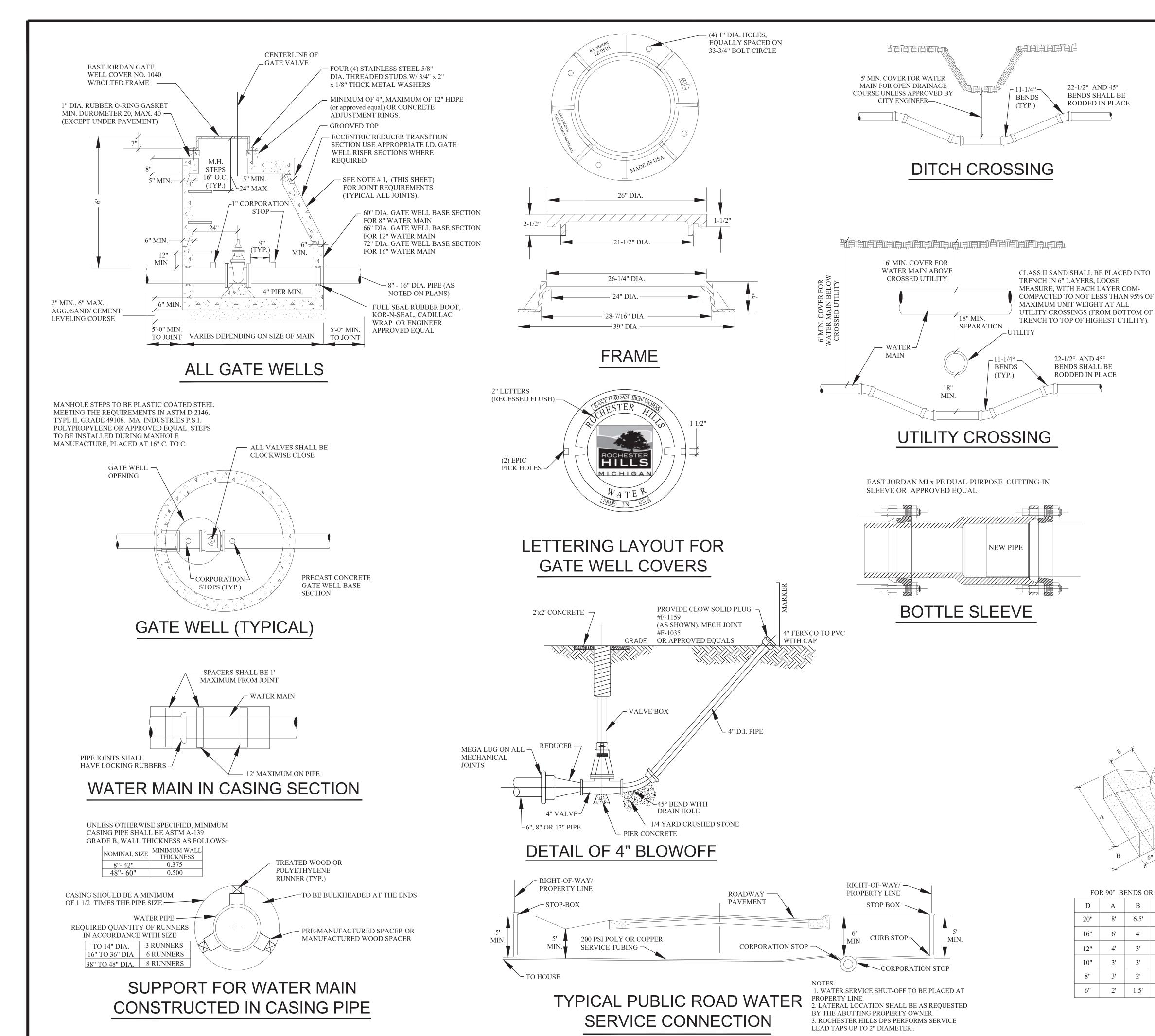
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

SANITARY SEWER STANDARD DETAILS

NOT TO SCALE DATE: 1/10/2019 C10.2 SHEET 2 OF 2

City File #22-021 Section #15





NOTIFY ROCHESTER HILLS

ENGINEERING DIVISION @ 248-841-2510 48 HRS. PRIOR

TO START OF

CONSTRUCTION

REVISIONS

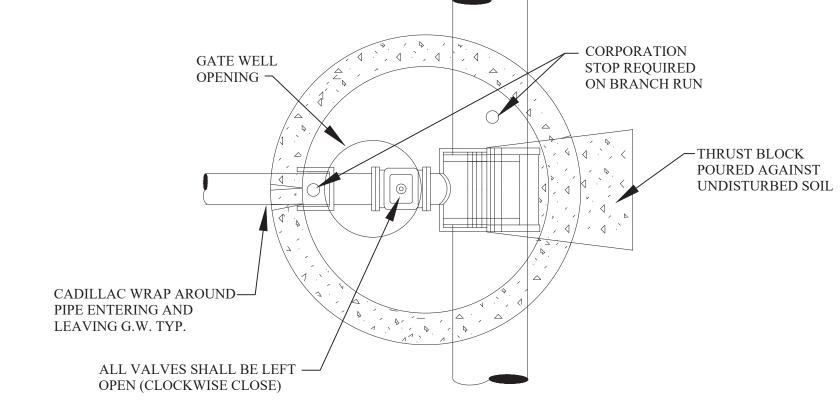
APPROVED BY

CITY COUNCIL, DATE:

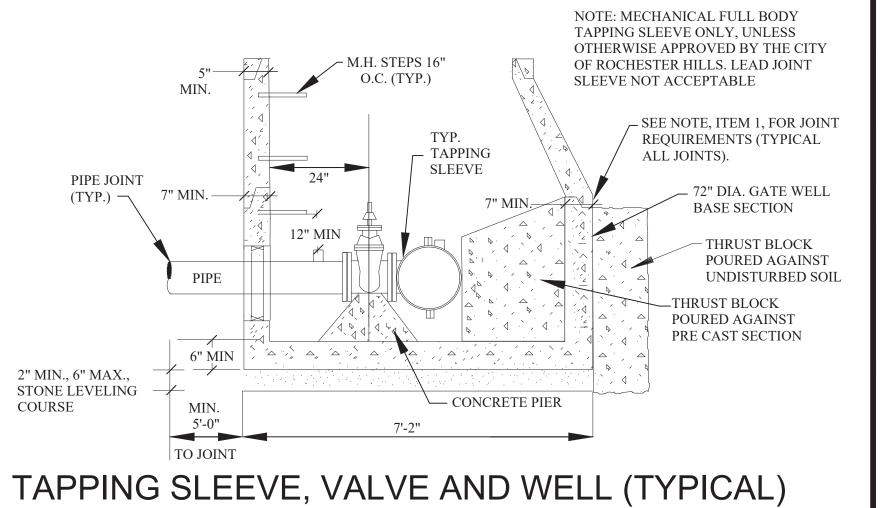
SEPTEMBER 23, 2019

PREPARED BY ENGINEERING DIVISION

DEPARTMENT OF PUBLIC SERVICES

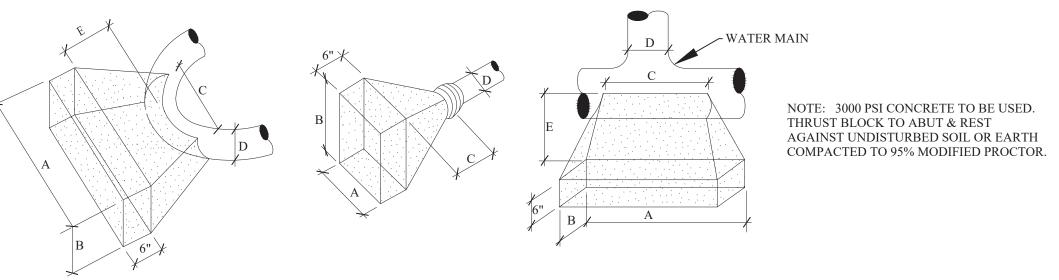


PLAN TAPPING SLEEVE VALVE & WELL (TYPICAL)



NOTES:

- ALL PRECAST CONCRETE GATE WELL SECTIONS SHALL BE MANUFACTURED TO CONFORM WITH A.S.T.M. C478,
- TAPPING SLEEVES SHALL BE MANUFACTURED BY ROMAC INDUSTRIES; MUELLER; EAST JORDAN; SMITH-BLAIR OR
- FOR ALL PIPE USE A 1" CORPORATION STOP. NO CORPS SHALL BE USED IN CONCRETE PRESSURE PIPE



FOR 90° BENDS OR SMALLER						FOR P	LUGS		_		F	OR TEES	S	
D	A	В	C	E MIN.	D	A	В	C MIN.		D	A	В	С	E MIN.
20"	8'	6.5'	3.5'	2.5'	20"	7'	5'	2.5'		20"	6.5'	4.5'	3.5'	3'
16"	6'	4'	2.5'	2'	16"	4'-10"	4'-10"	2'		16"	4'-8"	4'-8"	2.5'	2.75'
12"	4'	3'	2'	1.75'	12"	4'-4"	3'	1'-9"		12"	4'	3'	2.5'	2.5'
10"	3'	3'	2'	1.75'	10"	3'	2'	1'-6"		10"	3'	2'	2'	2.25'
8"	3'	2'	2'	1.5'	8"	2'-10"	2'-6"	1'-6"		8"	2'-6"	2'	2'	2.25'
6"	2'	1.5'	2'	1.25'	6"	1'-6"	1'-6"	3'		6"	2'	2'	2'	2.25'



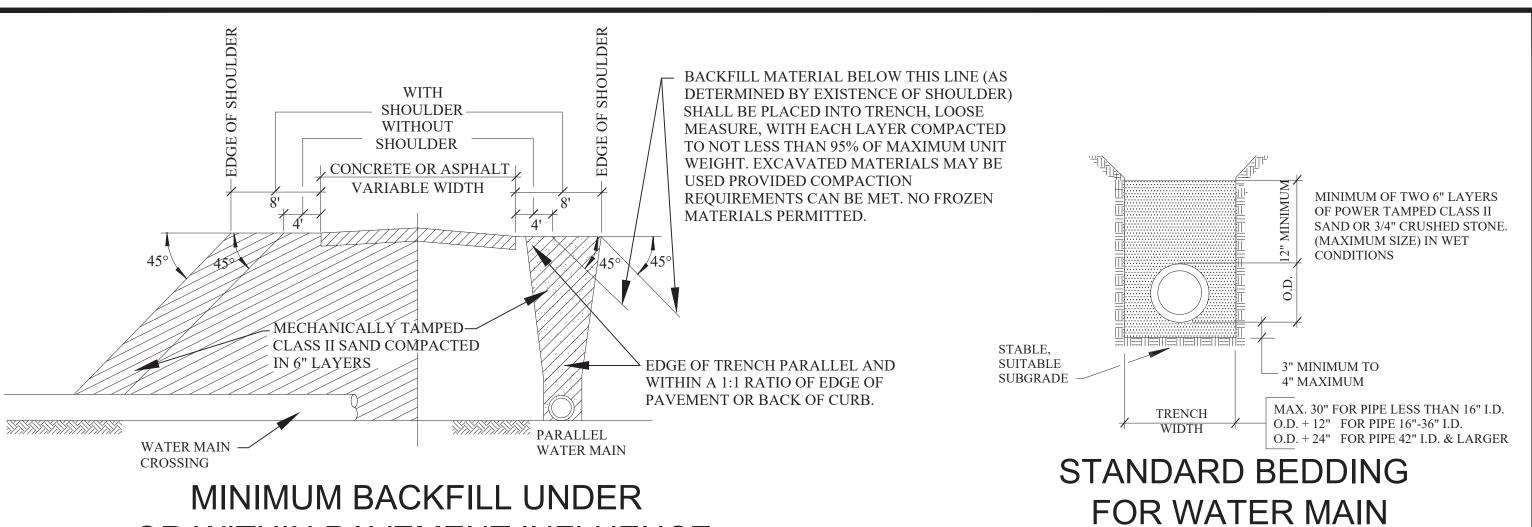
THRUST BLOCK DETAILS

WATER MAIN STANDARD DETAILS

DATE: 1/10/2018 NOT TO SCALE C10.4 SHEET 1 OF 2

City of Rochester Hills

1000 Rochester Hills Drive, Rochester Hills, Michigan 48309 City File #22-021 Section #15



ON HYDRANT LEAD TO MAINTAIN

MAXIMUM 6'-0" BURY WHERE WATER

MAIN DEPTH IS GREATER THEN 6'-0"

CONCRETE THRUST

BLOCK POURED AGAINST UNDISTURBED SOIL OR

EARTH COMPACTED TO

95% MODIFIED PROCTOR

OR WITHIN PAVEMENT INFLUENCE

FINISH GRADE TO BE 4" BELOW HYDRANT

BREAKAWAY FLANGE

· CONC. THRUST BLOCK

UNDISTURBED EARTH

VARIABLE

IF USING 2'

POURED AGAINST

ALL HYDRANTS TO BE FULLY

WITH HYDRANT OPERATION 2. TO BE INSTALLED IN ALL PAVED

REVISIONS

AREAS WHERE VEHICLE EQUIPMENT DAMAGE TO HYDRANT IS POSSIBLE

RESTRAINED BY MECHANICAL

JOINTS APPROVED BY ENGINEERS.

THRUST BLOCKS ALSO REQUIRED.

HYDRANTS SHALL NOTE: ALL WORK FROM CENTERLINE OF MAIN TO

PUMPER NOZZLE TO COMPLETE HYDRANT ASSEMBLY.

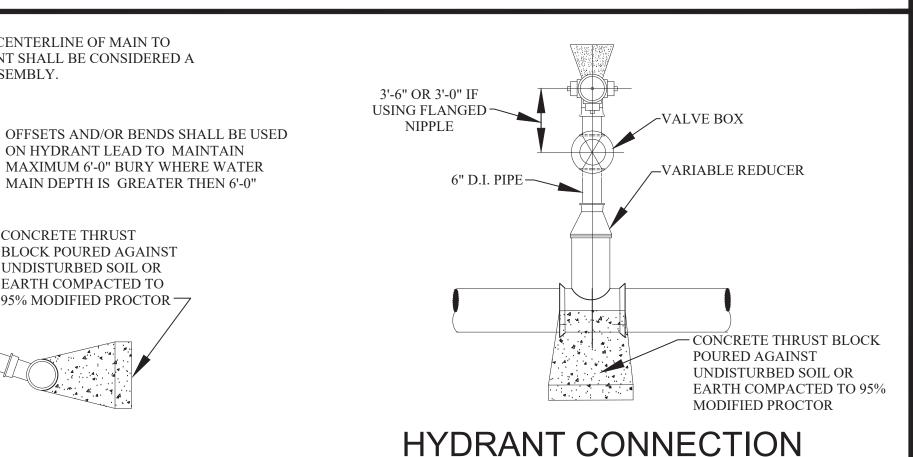
- VALVE BOX

6" GATE VALVE

- MEGALUG (TYP)

BOX ON BRICKS

BE FIELD PAINTED. AND INCLUDING HYDRANT SHALL BE CONSIDERED A



(TYPICAL

10' WIDE MIN

END SECTIONS REQUIRED

MATCH ORIGINAL DITCH GRADE FOR INVERT

AS NOTED ON PLANS.

ON ALL CULVERTS OVER 12" DIA. LENGTH OF CULVERT

HYDRANT

-GRASS ACCESS

-16 GAUGE CMP OR

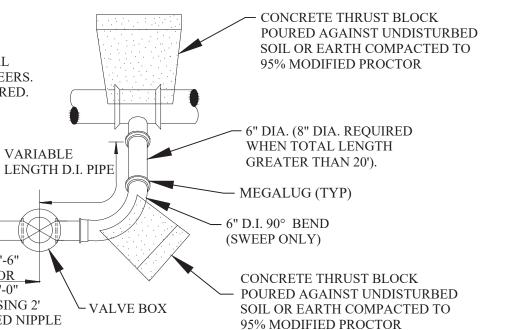
LENGTH OF CULVERT

AS NOTED ON PLANS

EQUIVALENT.

OVER DITCH

HYDRANT SIDE **OUTLET OPTION**

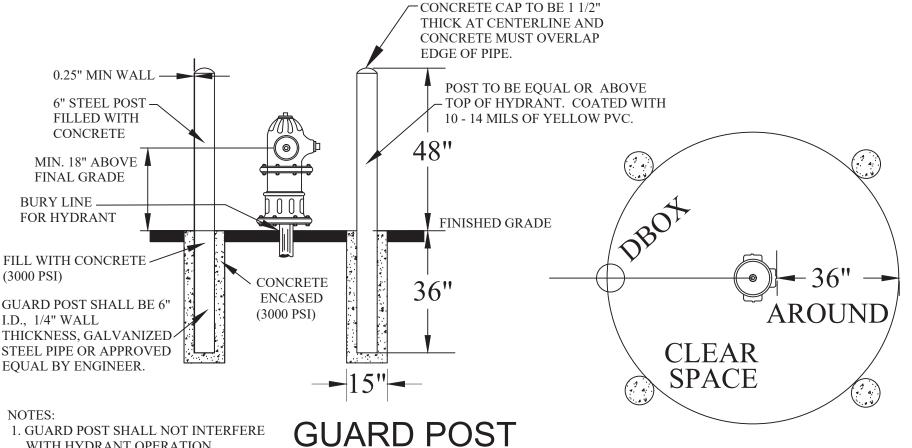


SEPTEMBER 23, 2019

PREPARED BY ENGINEERING DIVISION

DEPARTMENT OF PUBLIC SERVICES

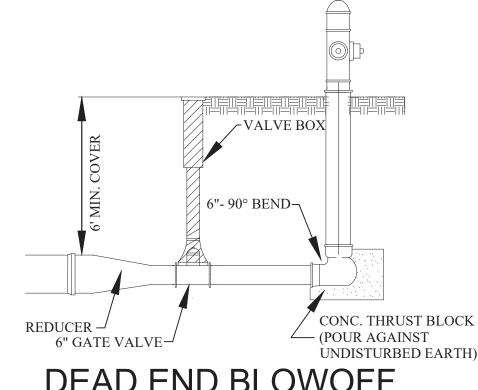
HYDRANT SIDE **OUTLET OPTION**



APPROVED BY

CITY COUNCIL, DATE:

EDGE OF ROAD DITCH ENCLOSURE AT HYDRANT/ GATE WELL



DEAD END BLOWOFF CONNECTION

HYDRANT & BLOWOFF DETAILS

NOTIFY ROCHESTER HILLS

ENGINEERING DIVISION @ 248-841-2510 48 HRS. PRIOR

TO START OF

CONSTRUCTION

GENERAL NOTES

- 1. ALL CONSTRUCTION PROCEDURES AND MATERIALS SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS.
- 2. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED BY THE CITY OF ROCHESTER HILLS AND HELD PRIOR TO THE START OF CONSTRUCTION
- 3. 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 4. ALL WATER MAIN EASEMENTS SHALL BE PROVIDED PRIOR TO CONSTRUCTION AND ACCEPTANCE OF THE WATER DISTRIBUTION SYSTEM.
- 5. WATER MAINS SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 6 FEET BELOW FINISHED GRADES, INCLUDING OPEN DRAINAGE COURSES.
- 6. 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).
- 7. WHERE TWO UTILITIES CROSS, PROVIDE CLASS II BACKFILL MATERIAL IN SIX (6) INCH COMPACTED LAYERS TO TOP OF HIGHEST UTILITY.

PROPERLY ANCHORED.

- 8. WHERE WATER MAINS DIP UNDER OTHER UTILITIES, THE SECTIONS WHICH ARE DEEPER THAN NORMAL SHALL BE CONSTRUCTED WITH 11-1/4° VERTICAL BENDS, 22 1/2° OR 45° BENDS MUST BE RODDED AND
- SPECIFICATIONS FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS. 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
- 10. CONTRACTOR SHALL INSTALL VALVES, TAPPING SLEEVES AND GATE WELL STRUCTURES IN STRICT COMPLIANCE WITH MEASUREMENTS PROVIDED ON SHEET 1 (2'-0" BETWEEN GATE WELL WALL & CENTERLINE OF OPERATING NUT) TO ALLOW PROPER OPERATION OF VALVE THROUGH GATE WELL OPENING.
- 11. ALL CROSS-CONNECTION CONTROL DEVICES SHALL BE INSTALLED AS REQUIRED BY THE ROCHESTER HILLS PLUMBING INSPECTOR AND IN ACCORDANCE WITH THE STANDARDS OF THE OAKLAND COUNTY WATER RESOURCE COMMISSIONER OPERATION AND MAINTENANCE DIVISION AND THE MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF DRINKING WATER AND RADIOLOGICAL PROTECTION.
- 12. ALL WATER SERVICE CONNECTIONS TWO (2) INCHES AND SMALLER SHALL BE MADE BY THE CITY OF ROCHESTER HILLS. DEPARTMENT OF PUBLIC SERVICES AFTER WATER MAIN ACCEPTANCE AND APPLICABLE PERMITS ARE OBTAINED.
- 13. ALL FITTINGS AND BENDS SHOULD BE BLOCKED IN ACCORDANCE WITH THRUST BLOCK DETAILS, UNLESS ALTERNATE THRUST RESTRAINT SYSTEM, AS INDICATED PLANS AND SPECIFICATIONS, IS APPROVED BY THE CITY OF ROCHESTER HILLS DEPARTMENT OF PUBLIC SERVICE

WATER MAIN MATERIALS NOTES

- 1. TEMPORARY CONNECTIONS, WHICH MAY BE MADE FOR CHLORINATING AND FLUSHING PURPOSES, SHALL INCLUDE A TESTABLE DOUBLE CHECK VALVE BACKFLOW PREVENTER WITH CURRENT CERTIFICATION.
- 2. 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.
- 3. 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.
- 4. THE DUCTILE IRON PIPE TO BE FURNISHED AND DELIVERED UNDER THIS SPECIFICATION SHALL MEET ALL THE REOUIREMENTS 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
- 6. 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.
- 7. MECHANICAL JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C111 (ANSI A21.11).
- 8. FLANGE JOINTS FOR DUCTILE IRON WATER MAIN SHALL BE IN ACCORDANCE WITH AWWA C110 (ANSI A21.10).
- 9. 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.
- 10. 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" (8-MILS). ADHESIVE TAPE SHALL BE A GENERAL PURPOSE ADHESIVE TAPE 2" WIDE AND APPROXIMATELY 10-MILS THICK, SUCH AS SCOTCHRAP, NO.50, POLYKEN NO. 900.

VALVE AND SLEEVE NOTES

- 1. 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)
- 2. 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 3. ALL GATE WELL COVERS SHALL BE CITY OF ROCHESTER HILLS STANDARD AS DETAILED
- 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.
- 6. 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.
- 7. 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

- 1. ALL HYDRANTS SHALL BE CONSTRUCTED WITH A SIX (6) INCH COMPANION GATE VALVE IN A THREE (3) PIECE, ADJUSTABLE DUCTILE IRON VALVE BOX, WHICH SHALL INCLUDE A FIVE AND ONE-OUARTER (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. 5-BR-250 TRAFFIC MODEL, OR CITY APPROVED EQUAL SELF-DRAINING HYDRANTS SHALL NOT BE USED. HYDRANTS SHALL HAVE BREAKAWAY FLANGE.
- 3. 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.
- 4. ALL FIRE HYDRANT JOINTS SHALL BE TOTALLY RESTRAINED BY THE USE OF RESTRAINED JOINT. THRUST BLOCKS ARE ALSO REQUIRED.

ACCEPTANCE OF NEW WATER MAINS

- 1. 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 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
- 2. 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.
- 3. 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.
- 4. WHERE CONTRACTOR SUPPLIED GAUGES ARE REQUIRED, MINIMUM SIZE SHALL BE 3 1/2" DIAMETER OR LARGER GRADUATED IN ONE (1) OR TWO (2) POUND INCREMENTS FROM 1 TO 160 P.S.I. OR HIGHER AND HAVE
- 5. PRESSURE TESTING AND BACTERIA TESTING MUST BE COMPLETED AND APPROVED PRIOR TO CONNECTING TO THE EXISTING WATER MAIN.

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:

- 1. 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.
- 2. ALONG WITH THE PDF PLAN SET PROVIDE TWO (2) SETS OF BLACK-LINED DRAWINGS AND THE PLANS ON ELECTRONIC MEDIA IN AUTOCAD FORMAT
- 3. 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

- 4. THE MAXIMUM SCALE SHALL BE ONE (1) INCH EQUALS FIFTY (50) FEET.
- 5. THE SIZE, LENGTH, CLASS AND MANUFACTURER OF PIPE INSTALLED SHALL BE INDICATED
- 6. THE SIZE, BRAND AND MODEL NUMBERS OF ALL VALVES AND HYDRANTS INSTALLED SHALL BE INDICATED
- 7. A TOTAL AS-BUILT DRAWING QUANTITY LIST SHALL BE INCLUDED, AS WELL AS AN AS-BUILT DRAWING QUANTITY LIST ON EACH INDIVIDUAL SHEET.
- 8. THE LOCATIONS SHALL BE SHOWN ON THE PLANS WITH AN ACCURACY OF ONE (1) FOOT.
- 9. THE OFFSET OF THE WATER MAIN FROM PROPERTY LINES SHALL BE INDICATED.
- 10. ALL GATE VALVE WELLS, HYDRANTS AND ALL WATER SYSTEM APPURTENANCES SHALL BE LOCATED FROM TWO FIXED OBJECTS (MANHOLES, BUILDING CORNERS ECT.).
- 11. 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.
- 12. THE LOCATION AND SIZE OF EVERY RESTRAINED JOINT SHALL BE NOTED
- 13. THE ACCURATE LOCATION OF ALL UTILITY CROSSINGS WHERE THE VERTICAL SEPARATION, IS LESS THAN 18" SHALL BE NOTED.
- 14. AS-BUILT SHALL BE PREPARED IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS AS-BUILT GUIDELINES AS PROVIDED AT THE PRE-CONSTRUCTION MEETING

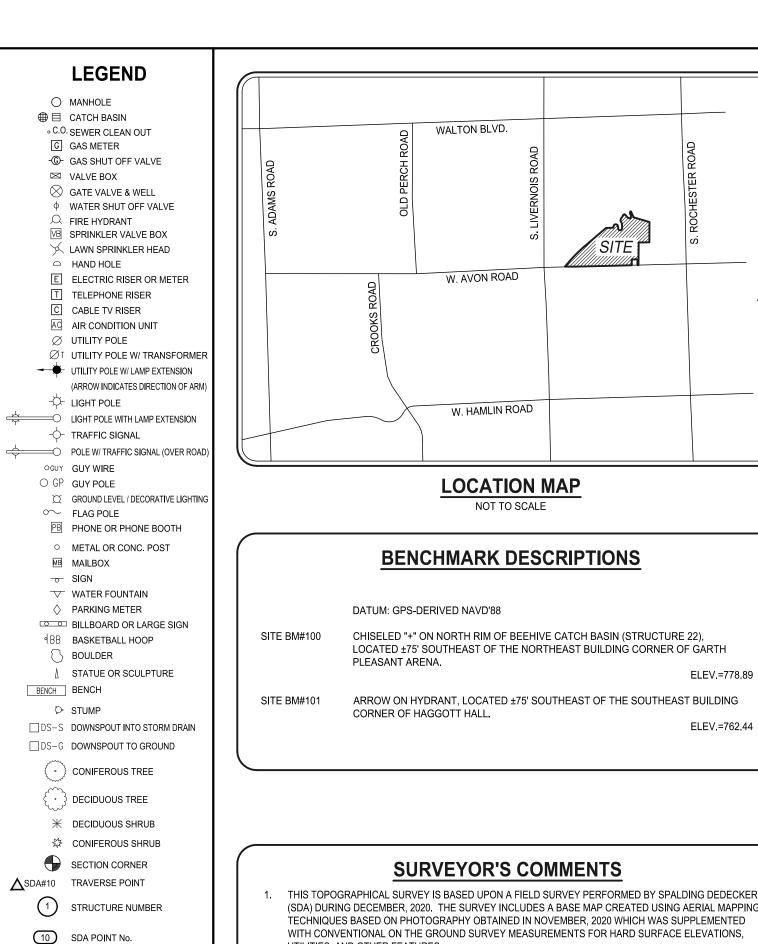


City of Rochester Hills

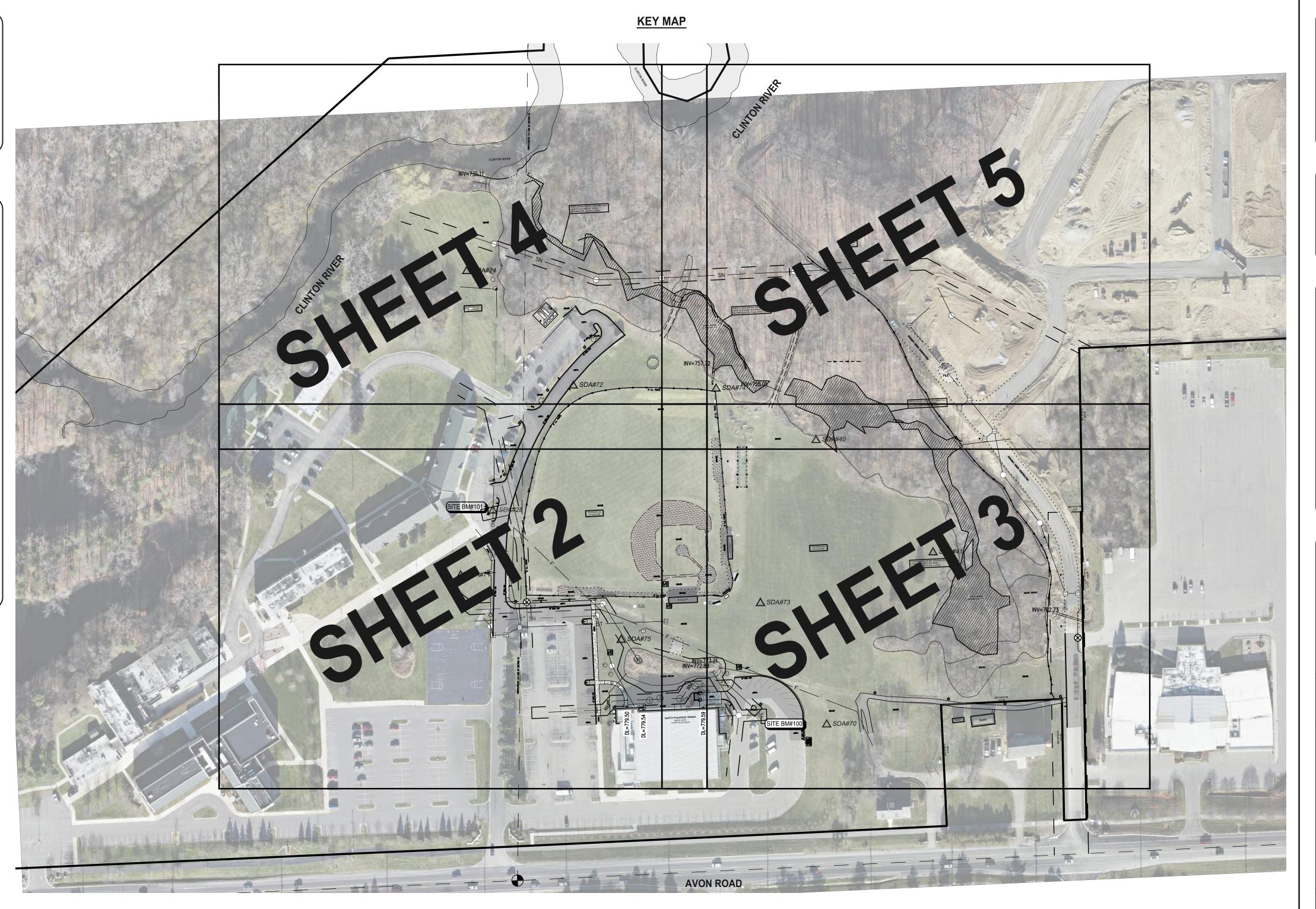
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

WATER MAIN STANDARD DETAILS

NOT TO SCALE DATE: 1/10/2019 C10.5 SHEET 2 OF 2



- THIS TOPOGRAPHICAL SURVEY IS BASED UPON A FIELD SURVEY PERFORMED BY SPALDING DEDECKER (SDA) DURING DECEMBER, 2020. THE SURVEY INCLUDES A BASE MAP CREATED USING AERIAL MAPPING UTILITIES, AND OTHER FEATURES.
- THE PROPERTY LINES/RIGHT-OF-WAY LINES SHOWN ON THIS TOPOGRAPHICAL SURVEY ARE BASED UPON A PRIOR ALTA/NSPS LAND TITLE SURVEY PERFORMED BY RAYMOND J. DONNELLY ASSOCIATES FOR THE OVERALL CAMPUS WHICH WAS MORE RECENTLY UPDATED BY SPALDING DeDECKER. THERE IS A NEW DEVELOPMENT UNDER CONSTRUCTION ON THE NORTHERLY AND EASTERLY EDGES OF THE SURVEY LIMITS WHICH IS PART OF A PLANNED URBAN DEVELOPMENT (PUD) BEING DEVELOPED BY PULTE HOMES. WE HAVE REVIEWED THE ENGINEERING PLANS FOR THE DEVELOPMENT, AND THERE IS A SEPARATE LEGAL DESCRIPTION FOR THE PUD AREA. HOWEVER, IT IS NOT CLEAR IF THE PARCEL HAS BEEN SPLIT YET AND IF THIS CONFIGURATION IS FINAL. THE BOUNDARY LINES FOR THE PUD ARE NOT CURRENTLY SHOWN ON THE SURVEY DRAWING FOR THESE REASONS.
- THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE SEARCH AND THEREFORE THIS PROPERTY MAY BE SUBJECT TO EASEMENTS, RIGHT-OF-WAY TAKINGS AND RESTRICTIVE COVENANTS THAT COULD ENCUMBER THIS PARCEL OF LAND.
- THE INITIAL BEARING BASE AND COORDINATES FOR THE FIRST RELEASE OF THE DRAWING WERE BASED UPON A LOCAL COORDINATE SYSTEM AND BASIS OF BEARINGS THAT WAS ESTABLISHED BASED ON THE PRIOR ALTA SURVEY FOR THE OVERALL CAMPUS. BASED ON A CLIENT REQUEST, THE SURVEY WAS UPDATED ON FEBRUARY 10, 2021 TO NOW USE THE STATE PLANE COORDINATE SYSTEM. THE (2113), BASED ON NAD83(2011). THE BASIS OF BEARINGS IS THE STATE PLANE COORDINATE SYSTEM GRID. UNITS ARE INTERNATIONAL FEET AND ALL DISTANCES ARE BASED ON GRID.
- THE VERTICAL DATUM OF THIS SURVEY IS BASED UPON NORTH AMERICAN VERTICAL DATUM OF 1988. CONTROL WAS ESTABLISHED BY GPS OBSERVATION USING THE AVAILABLE MDOT CONTINUOUSLY OPERATION STATIONS (CORS).
- THE UTILITY INFORMATION SHOWN ON THIS SURVEY IS BASED UPON A COMBINATION OF RECORD INFORMATION AND FIELD MEASUREMENTS. A MISS DIG DESIGN TICKET NUMBER OF A003070868-00A HAS BEEN REFERENCED TO THIS PROJECT AND A UTILITY PROVIDER CHART IS SHOWN ON THIS DRAWING. THERE ARE NO ASSURANCES THAT ALL PROVIDERS HAVE RESPONDED AND THE SURVEYOR DOES NOT GUARANTEE THAT ALL UNDERGROUND UTILITIES ARE SHOWN AND/OR POSITIONED PROPERLY ON THIS DRAWING DUE TO AMBIGUOUS PLANS AND RECORDS PROVIDED TO US. THE INFORMATION SHOWN ON THIS DRAWING IS INTENDED TO BE USED AS A GUIDE FOR POSSIBLE UNDERGROUND UTILITY CONFLICTS. IT IS THE RESPONSIBILITY OF OTHERS TO RESOLVE THE ACTUAL LOCATION OF ANY UNDERGROUND UTILITY THROUGH THE MISS DIG FIELD VERIFICATION SYSTEM PRIOR TO ANY SITE EXCAVATION. CALL 811 OR 800-482-7171.
- WETLANDS WERE FLAGGED BY OTHERS AND FIELD-LOCATED BY SDA.
- THE TREE SURVEY WAS PERFORMED BY REGISTERED FORESTER JOHN MOSES. MANY OF THE TREES HAD BEEN TAGGED BY OTHERS, AND IN THOSE CASES THE SAME TREE TAG NUMBER WAS USED IF THE TREE TAG WAS STILL VISIBLE.



UTILITY CHART

UTILITY PROVIDER	MISS-DIG RESULTS	DATE	CONTACT	CONTACT #	CONTACT EMAIL
ATT	RECEIVED	11/3/2020	LINDA DENNISUK	248-456-8256	ld2154@att.com
CROWN CASTLE	NOT RECEIVED YET	1/22/2021	FIBER DIG TEAM	888-632-0931	FIBER.DIG@CROWNCASTLE.COM
CONSUMERS ENERGY	RECEIVED	11/3/2020	KURT GOLDING	517-374-2002	MISSDIGDESIGNTICKETS@CMSENERGY.COM
COMCAST	RECEIVED	11/19/2020	CRAIG PUDAS	248-809-2715	CRAIG_PUDAS@CABLE.COMCAST.COM
DETROIT EDISON	RECEIVED	11/9/2020	UNKNOWN	313-235-5632	Design_MissDig@DTEenergy.com
DAKLAND COUNTY DRAIN COMMISSIONER	NOT RECEIVED YET	1/22/2021	CHRIS GIANAKOS	248-858-1116	GIANAKOSC@OAKGOV.COM
DAKLAND COUNTY ROAD COMMISSION	NOT RECEIVED YET	1/22/2021	AHMAD JAWAD	248-858-7250	AJAWAD@RCOC.ORG
ROCHESTER HILLS CITY	RECEIVED	11/9/2020	TRACEY BALINT	248-841-2504	BALINTT@ROCHESTERHILLS.ORG
ROCHESTER COMMUNITY SCHOOLS	NOT RECEIVED YET	1/22/2021	TIM FORTIN	248-726-3031	TFORTIN@ROCHESTER.K12.MI.US



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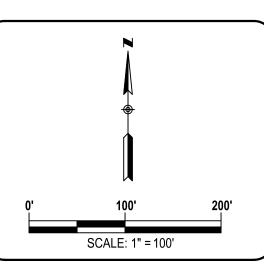
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ROCHESTER HILLS, MI

TOPOGRAPHICAL SURVEY

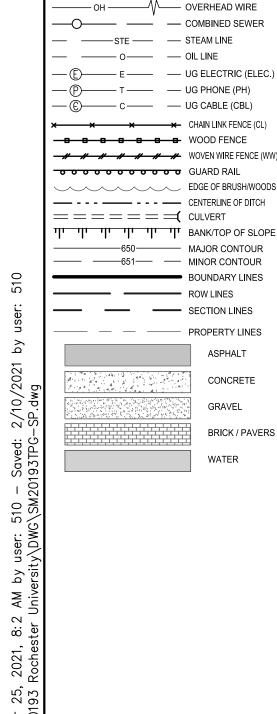
SECTION 15 TOWN 03 NORTH RANGE 11 EAST CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN

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1INER	M.DeDECKER
JECT MANAGER	DEPARTMENT MANAGER
DeDECKER	G.PLATZ
NO.	DRAWING NO.
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SPOT ELEVATION

B/WALL

FO

TOP OF CURB ELEVATION

TOP OF PAVEMENT ELEVATION

EDGE OF METAL ELEVATION

TOP OF WALK ELEVATION

TOP OF WALL ELEVATION

GROUND ELEVATION

FINISH FLOOR ELEVATION

DOOR LEDGE ELEVATION

UNDERGROUND

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• F.M. FOUND MONUMENT

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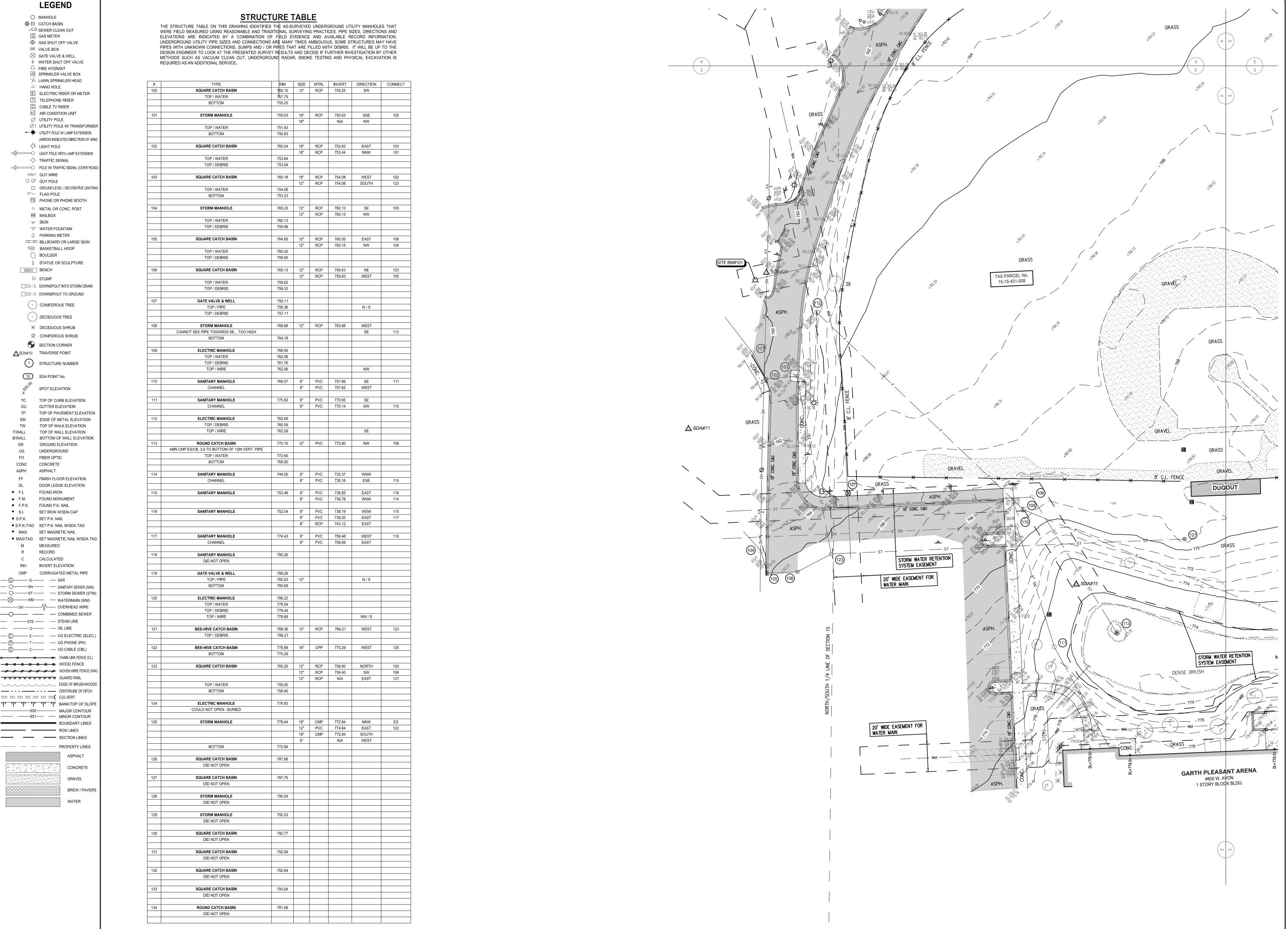
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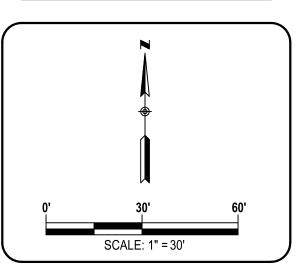
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A.MINER	M.DeDECKER
PROJECT MANAGER	DEPARTMENT MANAGER
M.DeDECKER	G.PLATZ
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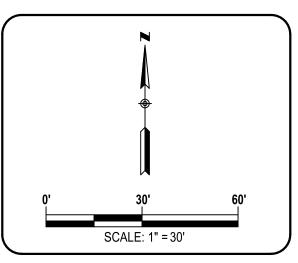
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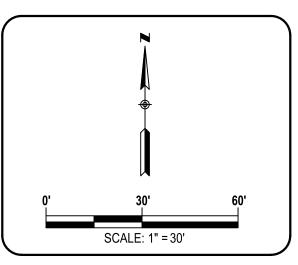
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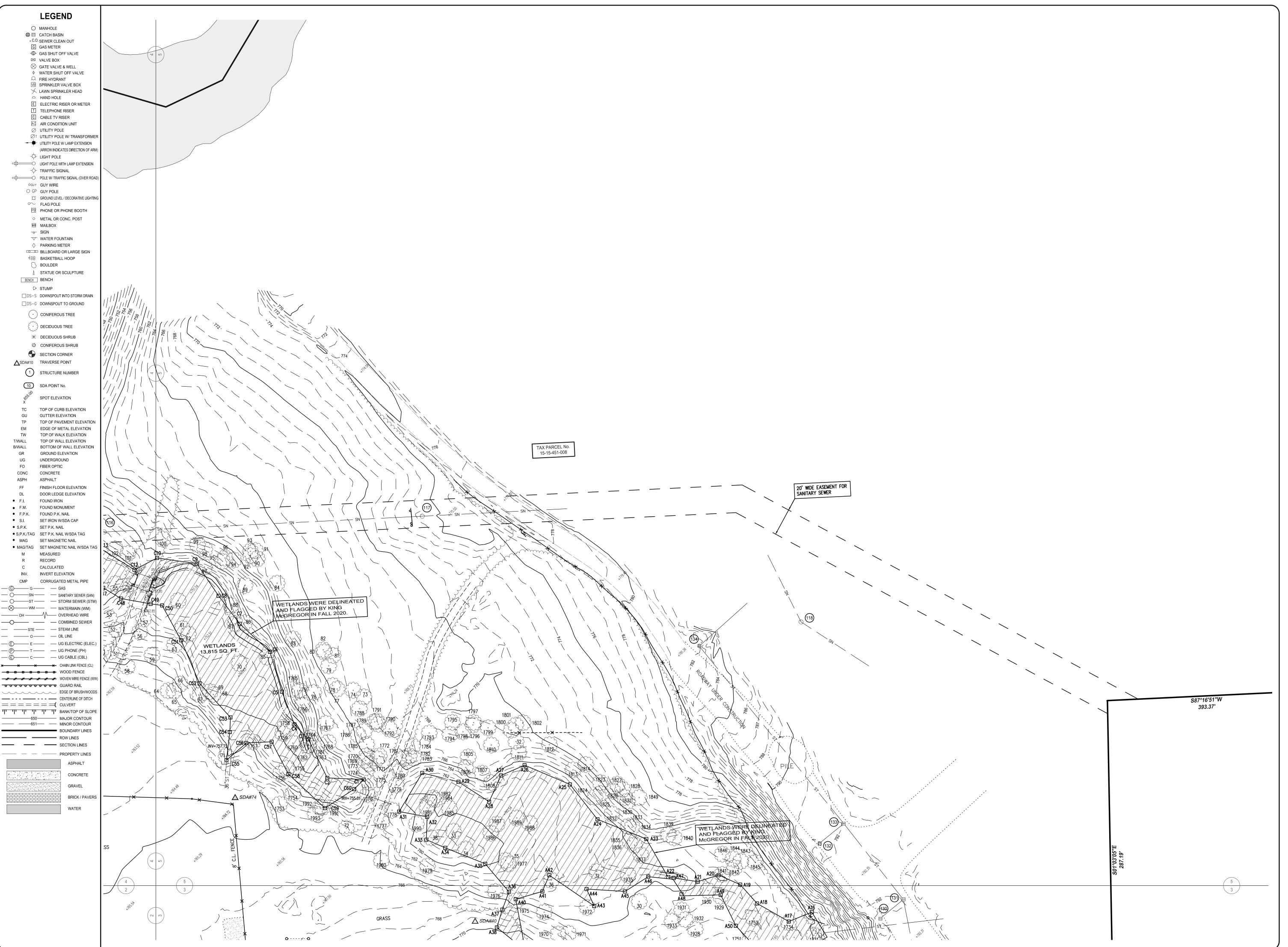
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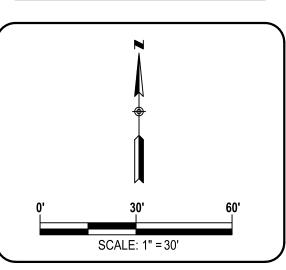
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SECTION 15
TOWN 03 NORTH RANGE 11 EAST
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SCALE:	SHEET NO.

1" = 30'

City File #22-021 Section #15

TREE INVENTORY

JOHN P. MOSES REGISTERED FORESTER - MICHIGAN ID# 3301045988

TREE RECOMMENDED FOR REPLACEMENT EXEMPTION PER ORDINANCE SECTION 126-266(5) - HEALTH

SPECIMEN TREE AS DEFINED PER ORDINANCE SECTION 126-397(3)

HEALTH DETERMINED USING INTERNATIONAL SOCIETY OF ARBORICULTURE GUIDELINES (9TH EDITION)

TREE TAG	D.B.H. IN INCHES	SPECIES NAME (COMMON—SCIENTIFIC)	HEALTH CONDITION*	CROWN SPREAD^	NOTES	TREE TA
2	6 9	European White Birch - Betula pendula Black Walnut - Juglans nigra	Poor Good	10 15		104
3 4	9	Black Walnut - Juglans nigra Eastern Red Cedar - Juniperus virginiana	Good Poor	20		106
5	9	Eastern Red Cedar - Juniperus virginiana	Good	10		108
7	8	Eastern Red Cedar - Juniperus virginiana White Ash - Fraxinus americana	Good Poor	10	EX	109
8	6	Black Walnut - Juglans nigra	Good	10		111
9	7 8,7	White Ash - Fraxinus americana White Ash - Fraxinus americana	Very Poor Very Poor	15 15	EX	113
11	7 8	Black Walnut - Juglans nigra American Elm - Ulmus americana	Fair Dead	15 15	FV	114
12 13	6	Black Walnut - Juglans nigra	Fair	10	EX	116
14 15	6 16,15,11	Black Walnut - Juglans nigra Black Willow - Salix nigra	Fair Good	15 55		117
16	6	Black Walnut - Juglans nigra	Fair	15		119
17 18	6,6	Apple - Malus spp. Buckthorn - Rhamnus spp.	Poor Poor	15 15		120
19	8	White Ash - Fraxinus americana	Very Poor	15	EX	122
20	<u>8</u> 6	White Ash - Fraxinus americana Black Cherry - Prunus serotina	Poor Very Poor	15	EX EX	123
22	17	Cottonwood - Populus deltoides	Dead	15	EX	125
23	33	Hawthorn - Crataegus spp. Black Walnut - Juglans nigra	Poor Fair	15 55	Specimen	126 127
25	20	Boxelder - Acer negundo	Dead	25	EX	128
26 27	15,12,10	Cottonwood - Populus deltoides Cottonwood - Populus deltoides	Dead Dead	20	EX EX	129
28	16,13	Cottonwood - Populus deltoides	Dead	20	EX	131
29 30	10 6	Cottonwood - Populus deltoides Shagbark Hickory - Carya ovata	Dead Good	10	EX	132
31	7	American Elm - Ulmus americana	Poor	25		134
32 33	6	Sugar Maple - Acer saccharum White Ash - Fraxinus americana	Fair Very Poor	15 10	EX	135
34	16	Black Willow - Salix nigra	Poor	25	LX	137
35 36	9	Norway Maple - Acer platanoides Black Walnut - Juglans nigra	Fair Good	15 15		138
37	6	Basswood - Tilia americana	Poor	15		140
38 39	21,16	Black Walnut - Juglans nigra Siberian Elm - Ulmus pumila	Fair Good	35 60	Specimen Specimen	141
40	9	Norway Maple - Acer platanoides	Fair	20	оресписи	143
41 42	9 7	American Elm - Ulmus americana Black Walnut - Juglans nigra	Fair Fair	15 10		144
43	6	Hawthorn - Crataegus spp.	Very Poor	15	EX	146
44 45	7 21	Sugar Maple - Acer saccharum Shagbark Hickory - Carya ovata	Good Fair	15 45	Specimen	147
46	22	Sugar Maple - Acer saccharum	Poor	35	Specimen	149
47 48	41 21	Black Oak - Quercus velutina White Oak - Quercus alba	Poor Poor	45 40	Specimen Specimen	150
49	24,20	White Oak - Quercus alba	Fair	45	Specimen	152
50 51	25 6	White Oak - Quercus alba Sugar Maple - Acer saccharum	Very Poor Fair	40	EX (Specimen)	153 154
52	29	White Oak - Quercus alba	Good	50	Specimen	155
53 54	7 6	Sugar Maple - Acer saccharum Sugar Maple - Acer saccharum	Fair Fair	15 10		156 157
55	7	Sugar Maple - Acer saccharum	Poor	15		158
56 57	6 10,9	Basswood - Tilia americana American Elm - Ulmus americana	Poor Fair	15 25		159 160
58	6	Sugar Maple - Acer saccharum	Fair	15		161
59 60	23,23	White Oak - Quercus alba Cottonwood - Populus deltoides	Good Fair	50 15	Specimen	162 163
61	12	Cottonwood - Populus deltoides	Good	35		164
62 63	6 31	American Elm - Ulmus americana Red Oak - Quercus rubra	Poor Poor	20 45	Specimen	165 166
64	10	Red Oak - Quercus rubra	Fair	20		167
65 66	7 8	Sugar Maple - Acer saccharum Sugar Maple - Acer saccharum	Fair Fair	15 15		168
67	8	Sugar Maple - Acer saccharum	Good	15		170
68 69	10 11	American Elm - Ulmus americana Basswood - Tilia americana	Poor Fair	25 15		171
70	21	Black Willow - Salix nigra	Very Poor	20	EX	173
71 72	9,7 12	Catalpa - Catalpa speciosa Siberian Elm - Ulmus pumila	Fair Good	15 20		174 175
73	10,10,7	Sugar Maple - Acer saccharum	Fair	25		176
74 75	11 8	Basswood - Tilia americana Sugar Maple - Acer saccharum	Fair Fair	20		177
76	8	Sugar Maple - Acer saccharum	Fair	15		179
77 78	10 8	Sugar Maple - Acer saccharum Sugar Maple - Acer saccharum	Fair Fair	20		180
79	8	Sugar Maple - Acer saccharum	Poor	15		182
80 81	7 8	Sugar Maple - Acer saccharum Sugar Maple - Acer saccharum	Poor Poor	10		249 250
82	9	Sugar Maple - Acer saccharum	Fair	15		251
83	30	Sugar Maple - Acer saccharum Sugar Maple - Acer saccharum	Good	55	Specimen Specimen	252 255
84 85	32 7	American Elm - Ulmus americana	Good Fair	60 15	ореоннен	256
86	9	Sugar Maple - Acer saccharum	Good	20		1622 1623
87 88	9	Basswood - Tilia americana Apple - Malus spp.	Poor Poor	20 20		1624
89	8	Red Elm - Ulmus rubra	Poor Very Poor	15	FV	1625 1626
90 91	7	Basswood - Tilia americana Basswood - Tilia americana	Poor	15 20	EX	1627
92	8	Basswood - Tilia americana	Poor	15		1628 1629
93 94	13,8	Basswood - Tilia americana Basswood - Tilia americana	Good Fair	30 25		1630
95	9	Basswood - Tilia americana	Fair	15		1631 1632
96 97	10 8	Basswood - Tilia americana Sugar Maple - Acer saccharum	Good Fair	20 15		1632
98	10	Sugar Maple - Acer saccharum	Fair	15		1634 1635
99 100	12 29	Basswood - Tilia americana White Oak - Quercus alba	Fair Good	25 50	Specimen	1635
101	11	Sugar Maple - Acer saccharum	Good	20		1637

102

103

Sugar Maple - Acer saccharum

Good 20

 Poor
 15

 Fair
 15

# 104	D.B.H. IN INCHES	SPECIES NAME (COMMON—SCIENTIFIC) Sugar Maple - Acer saccharum	HEALTH CONDITION*	CROWN SPREAD [*]	NOTES
105	6,6	Sugar Maple - Acer saccharum	Poor	15	
106	6	Sugar Maple - Acer saccharum	Poor	10	
107	7	Sugar Maple - Acer saccharum Boxelder - Acer negundo	Fair Fair	15 25	
109	7,7	Black Cherry - Prunus serotina	Fair	20	
110	6	Sugar Maple - Acer saccharum	Very Poor	15	EX
111	8	Sugar Maple - Acer saccharum	Good	20	
112	8	Sugar Maple - Acer saccharum	Fair	15	
113	8	Basswood - Tilia americana Basswood - Tilia americana	Poor Fair	20 15	
115	9	American Elm - Ulmus americana	Very Poor	25	EX
116	16	American Elm - Ulmus americana	Good	35	
117	9	Sugar Maple - Acer saccharum	Fair	20	
118	6	Basswood - Tilia americana	Poor	15	
119	6	Basswood - Tilia americana	Good	15 15	
121	48	Black Cherry - Prunus serotina White Oak - Quercus alba	Good	80	Specimen
122	6	Black Cherry - Prunus serotina	Fair	10	
123	6	Black Cherry - Prunus serotina	Fair	15	
124	8	Norway Maple - Acer platanoides	Fair	15	
125	13	Boxelder - Acer negundo	Very Poor	45	EX
126	9 8	Hawthorn - Crataegus spp. Boxelder - Acer negundo	Poor	25 15	
128	11	Basswood - Tilia americana	Good	20	
129	7	Black Cherry - Prunus serotina	Very Poor	10	EX
130	10	Black Cherry - Prunus serotina	Good	15	
131	10	Black Cherry - Prunus serotina	Fair	15	
132	6	Sugar Maple - Acer saccharum	Fair	10	
133	9	Norway Maple - Acer platanoides Norway Maple - Acer platanoides	Good	20	
135	10	Norway Maple - Acer platanoides Norway Maple - Acer platanoides	Good	20	
136	13,13,12	Red Maple - Acer rubrum	Poor	35	
137	6	American Elm - Ulmus americana	Poor	15	
138	30	Cottonwood - Populus deltoides	Good	75	Specimen
139	6	Hawthorn - Crataegus spp.	Poor	15	
140	6	Boxelder - Acer negundo American Elm - Ulmus americana	Poor Very Poor	20 15	EX
142	6	Sumac - Rhus spp.	Very Poor	15	EX
143	13	Boxelder - Acer negundo	Very Poor	35	EX
144	9,7,6	Basswood - Tilia americana	Fair	20	
145	10,10	Boxelder - Acer negundo	Very Poor	30	EX
146	9,6,6,6	Boxelder - Acer negundo	Very Poor	35	EX
147	7	Black Walnut - Juglans nigra American Elm - Ulmus americana	Good	10	
149	9	Cottonwood - Populus deltoides	Good	15	
150	11	Cottonwood - Populus deltoides	Good	15	
151	16	Cottonwood - Populus deltoides	Good	25	
152	8,7	Boxelder - Acer negundo	Very Poor	35	EX
153	7	Boxelder - Acer negundo	Very Poor	30	EX
154	13	Boxelder - Acer negundo White Mulberry - Morus alba	Very Poor Very Poor	25 25	EX
156	29	Cottonwood - Populus deltoides	Good	50	Specimen
157	19	Cottonwood - Populus deltoides	Poor	20	
158	24	Boxelder - Acer negundo	Poor	45	Specimen
159	16	Black Walnut - Juglans nigra	Poor	30	
160	11,10,8,6,6	Blasswood - Tilia americana Black Willow - Salix nigra	Fair Poor	30 10	
162	9	Basswood - Tilia americana	Fair	15	
163	7	American Elm - Ulmus americana	Fair	15	
164	8	Basswood - Tilia americana	Poor	15	
165	7	Sugar Maple - Acer saccharum	Fair	15	
166	7	Basswood - Tilia americana Basswood - Tilia americana	Poor	15	
168	10	Black Walnut - Juglans nigra	Poor	25	
169	7	Basswood - Tilia americana	Poor	20	
170	9	American Elm - Ulmus americana	Good	20	
171	15	Bitternut Hickory - Carya cordiformis	Fair	25	
172	9	Norway Maple - Acer platanoides	Fair	20	
173	7	Black Cherry - Prunus serotina Sugar Maple - Acer saccharum	Good	15 15	
174	6	Boxelder - Acer negundo	Poor	15	
176	6	Hawthorn - Crataegus spp.	Poor	15	
177	6	Linden - Tilia cordata spp.	Good	10	
178	6	Linden - Tilia cordata spp.	Good	10	
179	7	Linden - Tilia cordata spp.	Good	10	
180	7	Linden - Tilia cordata spp.	Good	10	
181	6	Linden - Tilia cordata spp. Black Walnut - Juglans nigra	Good Fair	30	
249	24	White Oak - Quercus alba	Fair	35	Specimen
250	28	White Oak - Quercus alba	Good	50	Specimen
251	31	White Oak - Quercus alba	Good	45	Specimen
252	29	White Oak - Quercus alba	Poor	35	Specimen
255 256	33	White Oak - Quercus alba	Very Poor Fair	50	EX (Specimen)
1622	17,12	White Oak - Quercus alba Boxelder - Acer negundo	Fair Very Poor	20	Specimen EX
1623	17,12	Black Walnut - Juglans nigra	Good	35	
1624	13	Boxelder - Acer negundo	Very Poor	20	EX
1625	17	Boxelder - Acer negundo	Poor	40	
1626	15	Black Walnut - Juglans nigra	Good	35	
1627	6	White Ash - Fraxinus americana	Fair	10	
1628	9	Black Walnut - Juglans nigra Black Walnut - Juglans nigra	Poor Good	25 40	
1620	9	Black Walnut - Juglans nigra Black Walnut - Juglans nigra	Good	20	
1629 1630	-	Black Walnut - Juglans nigra	Poor	20	
	9	Diack Wallut - Jugians nigra	1		
1630	9	Black Walnut - Juglans nigra	Fair	25	
1630 1631			Fair Good		
1630 1631 1632	16	Black Walnut - Juglans nigra		25	
1630 1631 1632 1633 1634 1635	16 18 7 19,13	Black Walnut - Juglans nigra Black Walnut - Juglans nigra Black Walnut - Juglans nigra Boxelder - Acer negundo	Good Fair Poor	25 30 15 40	
1630 1631 1632 1633 1634 1635 1636	16 18 7 19,13 9	Black Walnut - Juglans nigra Black Walnut - Juglans nigra Black Walnut - Juglans nigra Boxelder - Acer negundo Black Walnut - Juglans nigra	Good Fair Poor Good	25 30 15 40 20	
1630 1631 1632 1633 1634 1635	16 18 7 19,13	Black Walnut - Juglans nigra Black Walnut - Juglans nigra Black Walnut - Juglans nigra Boxelder - Acer negundo	Good Fair Poor	25 30 15 40	

EE TAG	D.B.H.	SPECIES NAME	HEALTH	CROWN	
#	IN INCHES	(COMMON—SCIENTIFIC) Black Willow - Salix nigra	CONDITION* Very Poor	SPREAD [*]	NOTES
1641	22,12	Cottonwood - Populus deltoides	Very Poor Very Poor	25	EX
1642	18	Cottonwood - Populus deltoides	Poor	35	=
1643 1645	7	White Ash - Fraxinus americana White Ash - Fraxinus americana	Poor Fair	10	EX
1646	6	Boxelder - Acer negundo	Poor	15	
1647	6	Boxelder - Acer negundo	Fair	15	EX
1648	21,8	Black Willow - Salix nigra Black Walnut - Juglans nigra	Dead	60	Specimen
1650	11	White Ash - Fraxinus americana	Fair	25	
1655	9	Shagbark Hickory - Carya ovata	Good	20	
1656	9	Norway Maple - Acer platanoides Black Walnut - Juglans nigra	Fair Fair	25	
1658	13	Black Walnut - Juglans nigra	Fair	25	
1659	15	Cottonwood - Populus deltoides	Very Poor	15	EX
1660	27,14	Black Willow - Salix nigra Black Willow - Salix nigra	Very Poor Fair	35	EX (Specimen)
1663	9	Boxelder - Acer negundo	Poor	20	
1664	10	Black Willow - Salix nigra	Very Poor	10	EX
1665	16,13	Cottonwood - Populus deltoides Cottonwood - Populus deltoides	Very Poor Fair	35	EX
1667	12	Cottonwood - Populus deltoides	Poor	15	
1668	20	Cottonwood - Populus deltoides	Good	30	
1669	14	Cottonwood - Populus deltoides	Poor	25	FV
1670	9	Cottonwood - Populus deltoides Cottonwood - Populus deltoides	Very Poor Very Poor	15	EX
1672	20	Cottonwood - Populus deltoides	Fair	35	
1673	7	Swamp White Oak - Quercus bicolor	Good	15	_
1674 1675	9	Black Walnut - Juglans nigra Black Cherry - Prunus serotina	Fair Fair	15 25	
1676	7	Black Cherry - Prunus serotina	Poor	15	
1677	7	Black Cherry - Prunus serotina	Poor	10	
1678 1679	6 11,9	Black Cherry - Prunus serotina Black Cherry - Prunus serotina	Very Poor Fair	10	EX
1680	7,7	Buckthorn - Rhamnus spp.	Poor	25	
1681	10,7	Black Cherry - Prunus serotina	Fair	30	
1682 1683	8	Black Walnut - Juglans nigra	Fair Good	15 20	
1684	11,7	Black Walnut - Juglans nigra Black Cherry - Prunus serotina	Very Poor	15	EX
1685	9	Black Cherry - Prunus serotina	Fair	15	
1686	11	Black Walnut - Juglans nigra	Good	30	
1687 1690	9	Black Cherry - Prunus serotina Black Cherry - Prunus serotina	Fair Poor	15 15	
1707	9	Eastern Red Cedar - Juniperus virginiana	Good	15	
1708	15	Pin Oak - Quercus palustris	Good	35	
1712 1713	13	Boxelder - Acer negundo Cottonwood - Populus deltoides	Poor Fair	25	
1714	17	Cottonwood - Populus deltoides	Poor	45	
1715	7	White Ash - Fraxinus americana	Fair	10	
1717 1718	7	Black Cherry - Prunus serotina Black Cherry - Prunus serotina	Fair Poor	10	
1719	8	Black Cherry - Prunus serotina	Fair	15	
1720	9	Black Cherry - Prunus serotina	Fair	25	
1721	6	Black Cherry - Prunus serotina	Fair Fair	10	
1731 1732	7	Cottonwood - Populus deltoides Shagbark Hickory - Carya ovata	Fair	15	
1733	11	Red Maple - Acer rubrum	Good	20	
1734	7	Sheeked Wishers Companyer	Poor	15	
1735 1736	11	Shagbark Hickory - Carya ovata Boxelder - Acer negundo	Fair Poor	15 25	
1737	6	Shagbark Hickory - Carya ovata	Good	10	
1738	16,12	Cottonwood - Populus deltoides	Poor	40	
1740 1741	8	Pin Oak - Quercus palustris Sumac - Rhus spp.	Fair Very Poor	25 15	EX
1742	29	Cottonwood - Populus deltoides	Good	50	Specimen
1743	7	Hawthorn - Crataegus spp.	Fair	15	
1744 1745	7	White Ash - Fraxinus americana Cottonwood - Populus deltoides	Fair Very Poor	10	EX
1746	15	Cottonwood - Populus deltoides	Very Poor	15	EX
1747	9	Cottonwood - Populus deltoides	Very Poor	20	EX
1748 1749	12	Cottonwood - Populus deltoides Cottonwood - Populus deltoides	Dead Very Poor	20	EX
1750	15	Black Cherry - Prunus serotina	Fair	40	
1751	7	Black Walnut - Juglans nigra	Fair	15	
1752 1753	23 8	Cottonwood - Populus deltoides Black Walnut - Juglans nigra	Good	30 15	
1754	6,6	Black Walnut - Juglans nigra Buckthorn - Rhamnus spp.	Poor	20	
1755	11	Black Cherry - Prunus serotina	Fair	25	
1756	18,17	Cottonwood - Populus deltoides	Fair	30	
1757	23	Cottonwood - Populus deltoides Black Willow - Salix nigra	Good Very Poor	30 15	EX
1759	22	Black Willow - Salix nigra	Very Poor	15	EX
1760	17	Black Willow - Salix nigra	Very Poor	15	EX
1761 1762	20	Black Willow - Salix nigra Black Willow - Salix nigra	Poor Very Poor	20	EX
1763	10	Sugar Maple - Acer saccharum	Fair	15	
1764	11,6	American Elm - Ulmus americana	Good	25	
1765 1766	7	Sugar Maple - Acer saccharum	Poor	15	
1766 1767	8	Shagbark Hickory - Carya ovata Siberian Elm - Ulmus pumila	Good Very Poor	10	EX
1768	12	Sugar Maple - Acer saccharum	Good	25	
1769	16	Black Oak - Quercus velutina	Good	25	
1770 1771	7 8	Sugar Maple - Acer saccharum Black Cherry - Prunus serotina	Poor Very Poor	15	EX
1771	10	Black Cherry - Prunus serotina Black Cherry - Prunus serotina	Very Poor Poor	15	EA
1773	12	Sugar Maple - Acer saccharum	Fair	20	
1774	11	Sugar Maple - Acer saccharum	Poor	20	
1775 1776	7	Siberian Elm - Ulmus pumila Basswood - Tilia americana	Very Poor Poor	20	EX
1777	6	Pear - Pyrus spp.	Poor	15	
1778	7	Boxelder - Acer negundo	Very Poor	25	EX
	44	-		 .	

Basswood - Tilia americana

TITLE AT PLUS OF	T WIINUS FI	VE (5) FEET IN DIAME	l			T	1	
HEALTH CONDITION*	CROWN SPREAD^	NOTES	TREE TAG	D.B.H. In inches	SPECIES NAME (COMMON-SCIENTIFIC)	HEALTH CONDITION*	CROWN SPREAD^	NOTES
Very Poor	15	EX	1781	7	Black Cherry - Prunus serotina	Very Poor	35	EX
Very Poor Poor	25 35	EX	1782 1783	11	Sugar Maple - Acer saccharum Sugar Maple - Acer saccharum	Good Very Poor	20 15	EX
Poor	10	EX	1783	8	Sugar Maple - Acer saccharum	Poor	15	EX
Fair	15		1785	12	Black Oak - Quercus velutina	Fair	15	
Poor Fair	15 15		1786	9,8	Sugar Maple - Acer saccharum Black Cherry - Prunus serotina	Fair Very Poor	25 10	EX
Dead	15	EX	1788	12,11	Black Cherry - Prunus serotina	Fair	25	
Good Fair	60	Specimen	1789	11	Basswood - Tilia americana Sugar Maple - Acer saccharum	Poor Fair	20	
Good	20		1791	13	Black Oak - Quercus velutina	Fair	20	
Fair	25		1792	7	Sugar Maple - Acer saccharum	Poor	15	
Fair Fair	20		1793	12	Sugar Maple - Acer saccharum Black Oak - Quercus velutina	Fair Poor	20 35	
Very Poor	15	EX	1795	13	Black Oak - Quercus velutina	Fair	20	
Very Poor Fair	35	EX (Specimen)	1796	6	Black Oak - Quercus velutina Sugar Maple - Acer saccharum	Fair Fair	15	
Poor	20		1798	8	Black Oak - Quercus velutina	Very Poor	10	EX
Very Poor	10	EX	1799 1800	15,13,11 7	Basswood - Tilia americana	Good	35 15	EX
Very Poor Fair	20 35	EX	1800	14	Basswood - Tilia americana Black Oak - Quercus velutina	Very Poor Fair	25	EX
Poor	15		1802	6	Black Oak - Quercus velutina	Very Poor	10	EX
Good	30		1805	7	Sugar Maple - Acer saccharum Sugar Maple - Acer saccharum	Poor Fair	15	
Very Poor	15	EX	1807	7	Norway Maple - Acer platanoides	Poor	15	
Very Poor	15	EX	1808	42	Black Oak - Quercus velutina	Poor	65	Specimen
Fair Good	35 15		1810	7	Basswood - Tilia americana Sugar Maple - Acer saccharum	Poor Very Poor	15	EX
Fair	15		1812	25	Shagbark Hickory - Carya ovata	Fair	45	Specimen
Fair Poor	25 15		1813	7	Sugar Maple - Acer saccharum Sugar Maple - Acer saccharum	Poor Fair	20	
Poor	10		1823	9	Black Oak - Quercus velutina	Poor	15	
Very Poor	10	EX	1824	9	Basswood - Tilia americana	Poor	15	
Fair Poor	20 25		1825	10	Basswood - Tilia americana Black Oak - Quercus velutina	Poor Fair	25	
Fair	30		1827	6	Black Oak - Quercus velutina	Very Poor	10	EX
Fair Good	15 20		1828 1830	9	Black Oak - Quercus velutina Sugar Maple - Acer saccharum	Fair Fair	20	
Very Poor	15	EX	1831	7	Black Cherry - Prunus serotina	Very Poor	15	EX
Fair	15		1832	12 7	Basswood - Tilia americana	Good	25	
Good Fair	30 15		1833	12	Sugar Maple - Acer saccharum Basswood - Tilia americana	Poor	15 15	
Poor	15		1835	18	Cottonwood - Populus deltoides	Fair	25	
Good	15		1836 1837	9 13,11	Cottonwood - Populus deltoides Cottonwood - Populus deltoides	Very Poor Poor	10 25	EX
Good	35 25		1839	11	Basswood - Tilia americana	Good	25	
Fair	20		1840	10,10	Basswood - Tilia americana	Poor	30	
Poor Fair	45 10		1841	7	Cottonwood - Populus deltoides Cottonwood - Populus deltoides	Poor Very Poor	15 15	EX
Fair	10		1843	16	Cottonwood - Populus deltoides	Fair	20	
Poor	10		1844	16	Cottonwood - Populus deltoides	Poor	20	
Fair Fair	15 25		1845	6	Shagbark Hickory - Carya ovata Basswood - Tilia americana	Good	15	
Fair	10		1849	7	Sugar Maple - Acer saccharum	Poor	15	
Fair Fair	15 15		1927	7 7	White Ash - Fraxinus americana Black Cherry - Prunus serotina	Very Poor Poor	10	EX
Good	20		1929	17	Cottonwood - Populus deltoides	Very Poor	15	EX
Poor	15		1930	17	Cottonwood - Populus deltoides	Fair	25	
Fair Poor	15 25		1931	7 11,10	Black Walnut - Juglans nigra Basswood - Tilia americana	Very Poor Fair	30	EX
Good	10		1933	13	Basswood - Tilia americana	Good	25	
Poor	40		1934	11 7	Basswood - Tilia americana Cottonwood - Populus deltoides	Good Very Poor	20	EX
Fair Very Poor	25 15	EX	1935	9	Basswood - Tilia americana	Fair	25	
Good	50	Specimen	1937	10,6	Basswood - Tilia americana	Fair	25	
Fair Fair	15 10		1939	9	Shagbark Hickory - Carya ovata Basswood - Tilia americana	Fair Poor	15	
Very Poor	10	EX	1941	10,7	Basswood - Tilia americana	Fair	25	
Very Poor	15	EX EX	1942 1943	10,9,8	Basswood - Tilia americana Basswood - Tilia americana	Poor Fair	25 15	
Very Poor Dead	20	EX EX	1943	12,9,8,6	Basswood - Tilia americana Basswood - Tilia americana	Fair	35	
Very Poor	20	EX	1946	18,17,6	Siberian Elm - Ulmus pumila	Good	45	
Fair Fair	40 15		1948	8,7	Basswood - Tilia americana Basswood - Tilia americana	Poor Poor	25 15	
Good	30		1950	7	Shagbark Hickory - Carya ovata	Fair	15	
Poor Poor	15 20		1951 1952	10 22	Shagbark Hickory - Carya ovata Basswood - Tilia americana	Good	20 40	Specimen
Poor Fair	25		1953	15	American Elm - Ulmus americana	Dead	25	EX
Fair	30		1954	14,13,13,13,12	Basswood - Tilia americana	Poor	45	
Good Very Poor	30 15	EX	1957	7	Basswood - Tilia americana Black Oak - Quercus velutina	Fair Fair	30	Specimen
Very Poor	15	EX	1959	21	Black Oak - Quercus velutina	Good	35	Specimen
Very Poor Poor	15 20	EX	1960 1961	6	Siberian Elm - Ulmus pumila Black Oak - Quercus velutina	Poor Fair	15 25	
Very Poor	25	EX	1962	14	Siberian Elm - Ulmus pumila	Fair	20	
Fair	15		1963	9,7	Shagbark Hickory - Carya ovata	Fair Fair	15 15	
Good	25 15		1965	8	Shagbark Hickory - Carya ovata Basswood - Tilia americana	Fair Fair	15	
Good	20		1967	7	Basswood - Tilia americana	Poor	10	
Very Poor	10	EX	1968 1969	15 12	Black Oak - Quercus velutina Black Cherry - Prunus serotina	Fair Fair	25 15	
Good	25 25		1970	9	Shagbark Hickory - Carya ovata	Poor	15	
Poor	15		1971	8	Shagbark Hickory - Carya ovata	Fair	15	
Very Poor Poor	10 15	EX	1972 1974	9	Shagbark Hickory - Carya ovata Black Cherry - Prunus serotina	Good	20 15	
Fair	20		1975	7	Eastern Red Cedar - Juniperus virginiana	Poor	10	
Poor	20		1976 1977	7 39,39,37,15	Black Cherry - Prunus serotina Black Willow - Salix nigra	Poor Very Poor	15 55	prior con
Very Poor Poor	20	EX	1977	10,7	Black Walnut - Juglans nigra	Fair	25	EX (Specimen)
Poor	15		1980	10	Black Walnut - Juglans nigra	Good	20	
Very Poor	25 50	EX (Specimen)	1981	13	Cottonwood - Populus deltoides Cottonwood - Populus deltoides	Very Poor Poor	25 15	EX
Fair	20	Ex (opecimen)	1984	25,11	Cottonwood - Populus deltoides	Good	45	Specimen

TREE TAG	D.B.H. IN INCHES	SPECIES NAME (COMMON-SCIENTIFIC)	HEALTH CONDITION*	CROWN SPREAD^	NOTE
1985	9	Basswood - Tilia americana	Fair	20	
1986	13	Red Maple - Acer rubrum	Fair	20	
1987	12	Cottonwood - Populus deltoides	Very Poor	15	EX
1988	13	Cottonwood - Populus deltoides	Very Poor	20	EX
1989	7	Cottonwood - Populus deltoides	Poor	10	
1990	9	Siberian Elm - Ulmus pumila	Poor	20	
1991	9	American Elm - Ulmus americana	Good	20	
1992	8	Buckthorn - Rhamnus spp.	Very Poor	20	EX
1993	8	Basswood - Tilia americana	Fair	15	
4106	10	European White Birch - Betula pendula	Fair	25	
4108	9	Cottonwood - Populus deltoides	Poor	15	
4139	12	Eastern Red Cedar - Juniperus virginiana	Good	15	
4141	8	Eastern Red Cedar - Juniperus virginiana	Good	10	
4142	12	Black Walnut - Juglans nigra	Fair	25	
4143	6,6	Buckthorn - Rhamnus spp.	Poor	15	
4144	13	Black Walnut - Juglans nigra	Fair	20	
9901	12	European White Birch - Betula pendula	Fair	20	
9902	11	European White Birch - Betula pendula	Poor	20	
9903	12	European White Birch - Betula pendula	Good	25	
9904	8	European White Birch - Betula pendula	Poor	15	

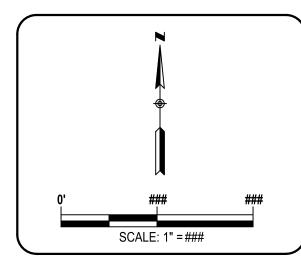


905 South Blvd. East Rochester Hills, MI 48307 Phone: (248) 844-5400 Fax: (248) 844-5404

400 Renaissance Center, Suite 2600 Detroit, MI 48243 Phone: (313) 309-7051 Fax: (313) 309-7101

27333 Meadowbrook Rd., Suite 210 Novi, MI 48377 Phone: (248) 844-6274

> www.sda-eng.com (800) 598-1600



CLIENT:

ROCHESTER UNIVERSITY 800 WEST AVON ROAD ROCHESTER HILLS, MI 48307



PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. CALL MISS DIG 3 WORKING DAYS PRIOR TO CONSTRUCTION.

UTILITY NOTE

UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES, CITY/COUNTY AGENCIES AND OTHER VARIOUS SOURCES. UNDERGROUND UTILITIES WHICH ARE ON PRIVATE PROPERTY ARE USUALLY NOT DELINEATED UPON A UTILITY COMPANY'S PUBLISHED PLANS. THEIR LOCATION, IF SHOWN UPON THIS SURVEY, ARE APPROXIMATED FROM FOUND PAINT MARKS/STAKES, ETC. AS LOCATED BY THIS FIRM FROM SOURCES WHICH ARE UNKNOWN. NO GUARANTEE IS

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> ROCHESTER UNIVERSITY ATHLETIC FIELD

ROCHESTER HILLS, MI

TOPOGRAPHICAL SURVEY

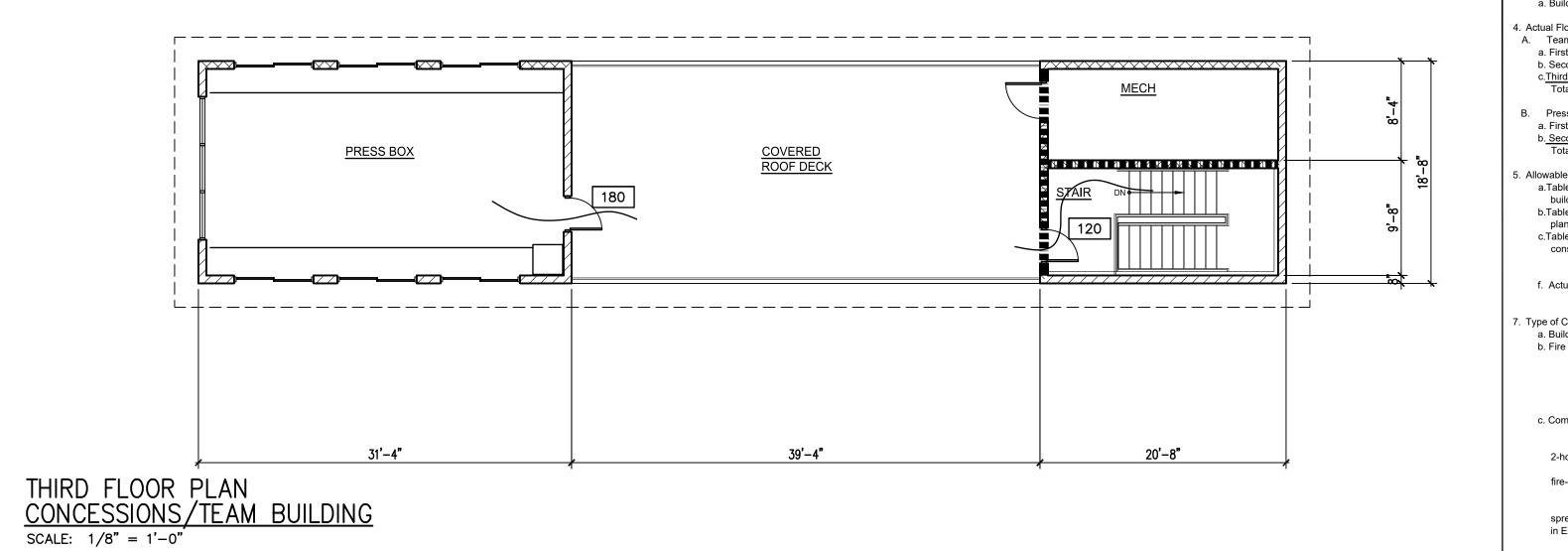
SECTION 15 TOWN 03 NORTH RANGE 11 EAST CITY OF ROCHESTER HILLS OAKLAND COUNTY, MICHIGAN

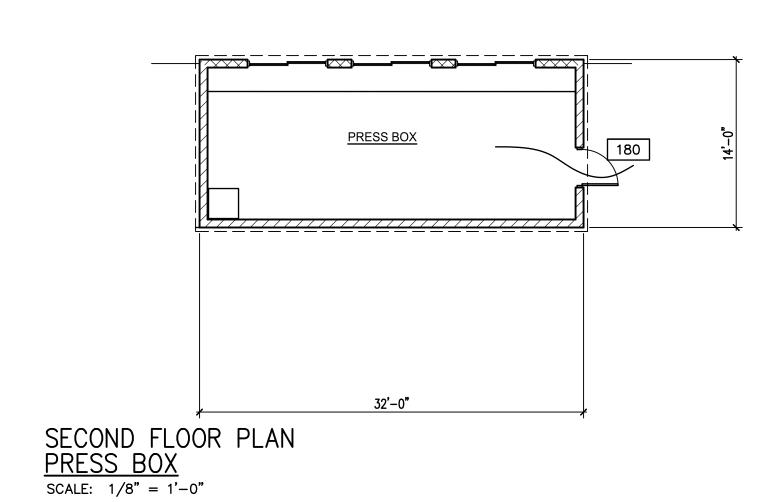
NO. DATE REVISION

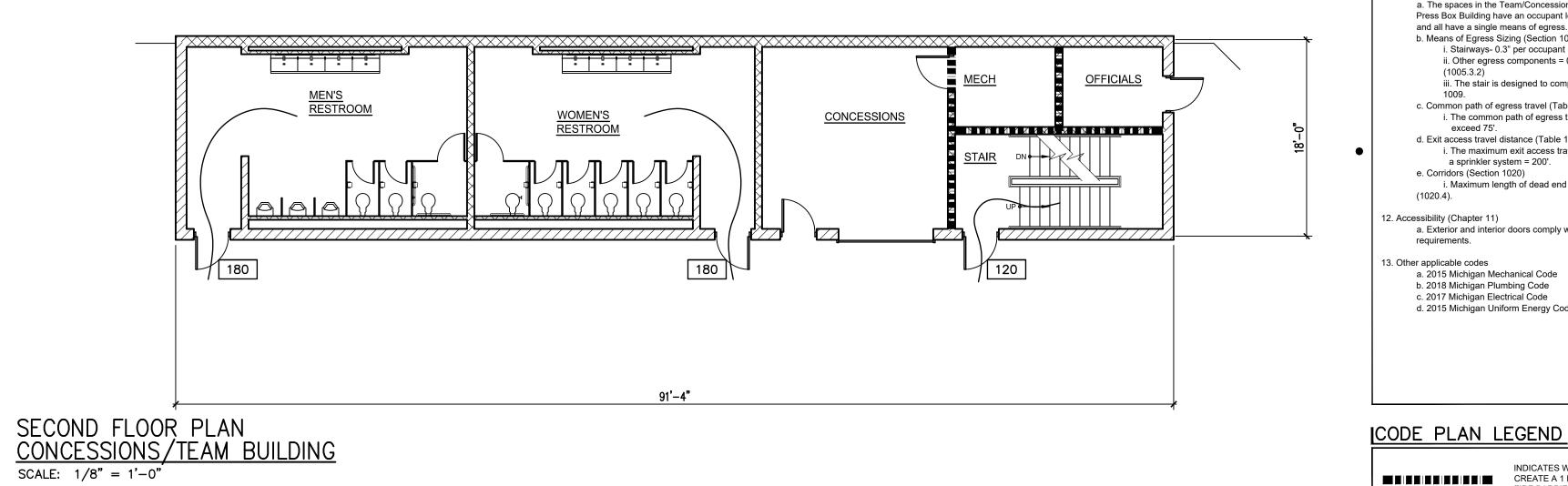
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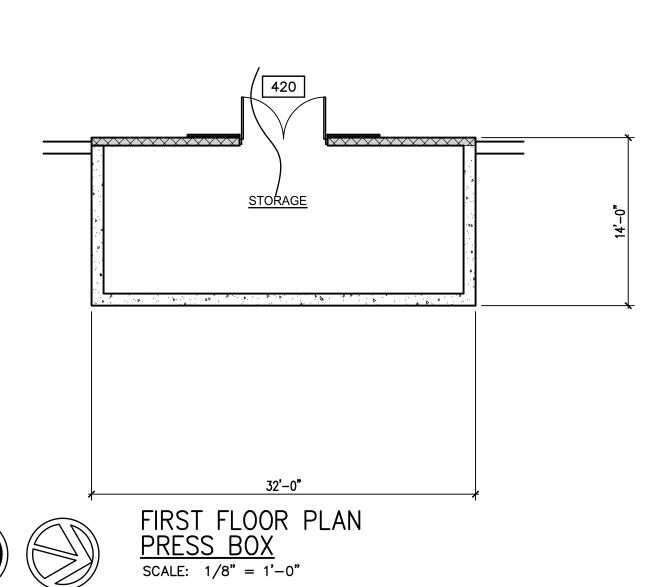
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET,
ADJUST SCALES ACCORDINGLY
DATE

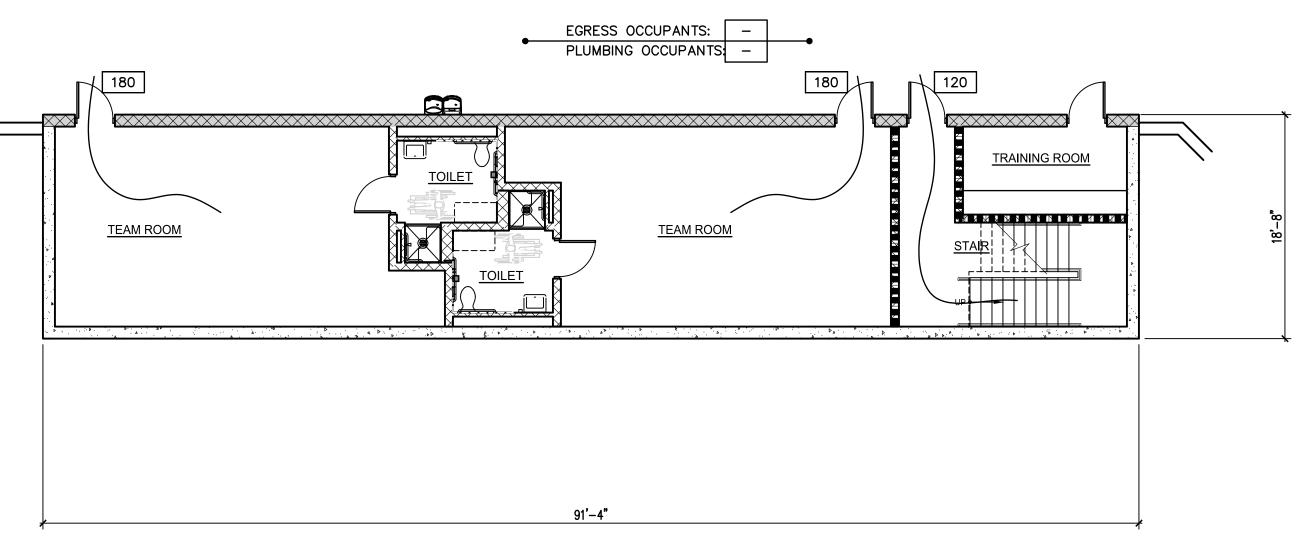
DIVALLEN	DAIL
S.BROWN	01-25-21
CHECKED	DATE
M.DeDECKER	01-25-21
FIELD LEADER	PROJECT SURVEYOR
A.MINER	M.DeDECKER
PROJECT MANAGER	DEPARTMENT MANAGER
M.DeDECKER	G.PLATZ
JOB NO.	DRAWING NO.
SM20193TPG	SM20193TPG-SP
00415	

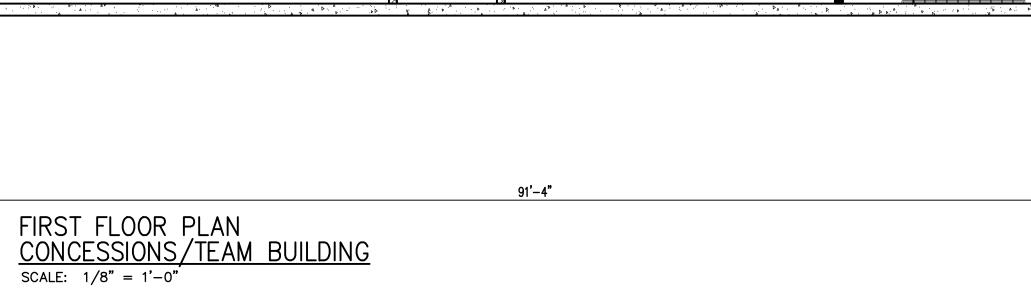














professional in responsible charge.

Design Professional in Responsible Charge (107.3.4)
 a. A representative of French Associates shall be the design

i. Interior exit stairways and exist passageways-

a. The Concession/Teams Building, and the Press Box

a. The spaces in the Team/Concessions Building and the Press Box Building have an occupant load of less than 50

i. Stairways- 0.3" per occupant (1005.3.1).

c. Common path of egress travel (Table 1006.2.1)

d. Exit access travel distance (Table 1016.2)

a sprinkler system = 200'.

ii. Other egress components = 0.2" per occupant

iii. The stair is designed to comply with section

i. The common path of egress travel does not

i. Maximum length of dead end corridors is 20'

a. Exterior and interior doors comply with accessibility

i. The maximum exit access travel distance without

ii. Rooms and enclosed spaces- Minimum Class C

Minimum Class B

10. Fire Protection Systems (Chapter 9)

Building are not sprinkled.

(1005.3.2)

e. Corridors (Section 1020)

13. Other applicable codes

a. 2015 Michigan Mechanical Code
b. 2018 Michigan Plumbing Code
c. 2017 Michigan Electrical Code
d. 2015 Michigan Uniform Energy Code

EGRESS OCCUPANTS: - SPACE OCCUPANTS

BUILDING CODE INFORMATION

1. BUILDING CLASSIFICATION = ASSEMBLY (A-5).

 PRESS BOX:

 FIRST FLOOR AREA =
 448 SQ. FT.

 SECOND FLOOR AREA =
 448 SQ. FT.

 TOTAL AREA =
 896 SQ. FT.

4. BUILDING CONSTRUCTION IS NOT SPRINKLED.

- EGRESS DOOR CAPACITY

EGRESS ROUTE

2. CONSTRUCTION TYPE = 2B

3. BUILDING AREAS:
TEAM/CONCESSION BUILDING
FIRST FLOOR AREA =
SECOND FLOOR AREA =
THIRD FLOOR AREA =
TOTAL AREA =

(1020.4).

12. Accessibility (Chapter 11)

and all have a single means of egress.. b. Means of Egress Sizing (Section 1005)

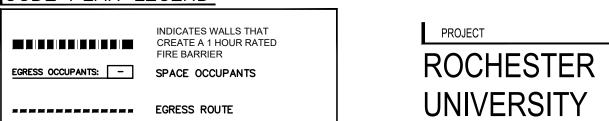
1. Means of Egress (Chapter 10)

Design Code
 a. 2015 Michigan Building Code

Use and Occupancy Classsification (Chapter 3) a. Building is Assembly Type A-5 Occupancy		
Actual Floor Area (Gross)		
A. Team/Concessions Building:		
a. First Floor = 1,705 square feet		
b. Second Floor = 1,705 square feet		
c.Third Floor = 1,705 square feet		
Total gross Area = 5,115 square feet		
B. Press Box		
a. First Floor = 448 square feet		
b. Second Floor = 448 square feet		
Total Gross Area = 896 square feet		
F. Allawahla Area and Haight (Chapter 5)		
Allowable Area and Height (Chapter 5) a.Table 504.3 - Allowable building height for unsprinkled	ISSUE DATE	ISSUED FOR
building and Type 2B construction = 55 feet above grade.	IOOUE DATE	IOOOLD I OIK
b.Table 504.4 - Allowable number of stories above grade	6/20/2022	SITE PLAN REVIEW
plane = Unlimited.	0/20/2022	OHE LEWINEVIEW
c.Table 506.2 - Allowable Area for Group A5, and Type 2b	I	
construction = Unlimited		
f. Actual Area and Height is:	•	
7. Time of Construction (Chanton C)		
7. Type of Construction (Chapter 6)		
a. Building is of Type II B construction b. Fire resistance rating for Building Elements (Table 601)	-	
i. Primary Structural Frame = 0		
ii. Bearings walls (Exterior and Interior) = 0		
iii. Nonbearing walls and partitions = 0		
iv. Floor Construction = 0		
v. Roof Construction = 0		
c. Combustible materials in Type II construction (Section 603)		
i. Fire retardant wood is permitted in:		
Non-bearing partitons with less than		
2-hour fire rating	DDAWN	
Non-bearing exterior walls where	DRAWN	REL
fire-resistant rated construction is not required.	OUEOVED.	
3.Roof construction	CHECKED	REL
ii. Thermal and acoustic insulation with a flame		
spread index of not more than 25 unless stated otherwise	APPROVED	DCJ
in Exceptions.		
8. Fire and Smoke Protection (Chapter 7)		
9. Interior Finishes (Chapter 8)		
a. Table 803.9 Interior Wall and Ceiling Finish		
Requirements by Occupancy		
i Interior exit stairways and exist nassageways-		

KEY PLAN





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CODE ANALYSIS

PROJECT NUMBER

2020-003

SHEET NUMBER



Assessment • Remediation • Compliance Compliance • Incentives

10448 Citation Drive, Suite 100 Brighton, MI 48116

Mailing Address: P.O. Box 2160 Brighton, MI 48116-2160

800 395-ASTI Fax: 810.225.3800

www.asti-env.com

Sent Via Email Only

July 26, 2022

Sara Roediger, Director
Department of Planning and
Economic Development
City of Rochester Hills
1000 Rochester Hills Drive
Rochester Hills, MI 48309-3033

Subject: Rochester University Athletic Improvements

Wetland Use Permit Review #1;

Plans received by the City of Rochester Hills on

June 21, 2022

ASTI File No. 11482-34

Applicant: French Associates, Inc.

Dear Ms. Roediger:

The above referenced project proposes to redevelop an existing outdoor athletic field into a multi-sport outdoor athletic field complex on Rochester University grounds. The site is located along Avon Road, east of Livernois and west of Rochester Road. The site includes wetland regulated by the City of Rochester Hills and likely the Michigan Department of Environment, Great Lakes, and Energy (EGLE).

ASTI has reviewed the site plans received by the City on June 21, 2022 (Current Plans) for conformance to the Wetland and Watercourse Protection Ordinance and the Natural Features Setback Ordinance and offers the following comments for your consideration.

COMMENTS

1. **Applicability of Chapter (§126-500).** The Wetland and Watercourse Protection Ordinance is applicable to the subject site because the subject site



is not included within a site plan which has received final approval, or a preliminary subdivision plat which received approval prior to January 17, 1990, which approval remains in effect and in good standing and the proposed activity has not been previously authorized.

 Wetland and Watercourse Determinations (§126-531). This Section lists specific requirements for completion of a Wetland and Watercourse Boundary Determination.

This review has been undertaken in the context of a valid Wetland and Watercourse Boundary Determination completed on the site by Atwell, LLC on April 30, 2019, as part of another project on Rochester University grounds, which was confirmed by ASTI in May of 2019. ASTI reinspected the wetland boundaries as depicted on the Current Plans on July 20, 2022. ASTI did not observe any significant changes to the wetland boundaries in the field as compared to the Current Plans.

Wetland was not identified within the project boundary; two wetlands were identified adjacent to the project boundary, both of which are regulated by the City and likely EGLE. Wetland impacts are not proposed as part of the project.

- 3. **Use Permit Required (§126-561).** This Section establishes general parameters for activity requiring permits, as well as limitations on nonconforming activity. This review of the Current Plans has been undertaken in the context of those general parameters, as well as the specific requirements listed below.
 - a. ASTI inspected the wetland boundaries adjacent to the proposed project on June 20, 2022; the Current Plans depict these wetlands to ASTI's satisfaction.
 - b. All wetland adjacent to the proposed project is regulated by the City and likely EGLE. No impacts to any wetlands are proposed as part of the project.
- 4. **Use Permit Approval Criteria (§126-565).** This Section lists criteria that shall govern the approval or denial of an application for a Wetland Use



Permit. The following items must be addressed on a revised and dated Wetland Use Permit application and additional documentation submitted for further review:

- a. A Wetland Use Permit from the City is not required for this project. Furthermore, it is ASTI's opinion that a Part 303 permit from EGLE is not required for this project, however, this should be confirmed with EGLE by the applicant prior to construction.
- 5. **Natural Features Setback (§21.23).** This Section establishes the general requirements for Natural Features Setbacks and the review criteria for setback reductions and modifications.
 - a. Should the City accept the Applicant's proposal to develop the property as a PUD, subject to final review and approval as part of the site plan review process, the on-site Natural Features Setback regulations can be waived by the City at its discretion. The Applicant should note that upon the request of the City, ASTI will re-evaluate any Natural Features Setback impacts if the City does not waive Natural Feature Setback regulations.

RECOMMENDATION

ASTI recommends the City approve the Current Plans.

Respectfully submitted,

ASTI ENVIRONMENTAL

Kyle Hottinger
Wetland Ecologist

Professional Wetland Scientist #2927

Dianne Martin
Vice President

Professional Wetland Scientist #1313



June 24, 2022

Jennifer MacDonald City of Rochester Hills 1000 Rochester Hills Drive Rochester Hills, MI 48309

Reference: Rochester University – 800 W. Avon, CAMS #202200522

Part of the SE 1/4 of Section 15, City of Rochester Hills

Dear Ms. MacDonald,

This office has received a set of plans for the Rochester University Project to be developed in part of the Southeast ¼ of Section 15, City of Rochester Hills.

Our stormwater system review indicates that the proposed project does not have an involvement with any legally established County Drain under the jurisdiction of this office. Therefore, a storm drain permit will not be required from this office.

The water system is operated and maintained by the City of Rochester Hills and plans must be submitted to the City of Rochester Hills for review.

The sanitary sewer is within the Clinton Oakland Sewage Disposal System. Any proposed sewers of 8" or larger may require a permit through this office.

Any related earth disruption must conform to applicable requirements of Part 91, Soil Erosion and Sedimentation Control of the Natural Resource and Environmental Protection Act, Act 451 of the Public Acts of 1994. Applications should be submitted to our office for the required soil erosion permit.

Please note that all applicable permits and approvals from federal, state or local authorities, public utilities and private property owners must be obtained.

If there are any questions regarding this matter, please contact Dan Butkus at 248-897-2744.

Sincerely,

Brian Bennett, P.E. Civil Engineer III

SITE PLAN.pdf Markup Summary

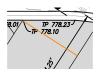
Building Department (10)



Subject: Building Department Author: Mark Artinian

Date: 12/22/2022 11:34:05 AM

Status:



Subject: Building Department

Author: Mark Artinian

Date: 12/22/2022 11:34:29 AM

Status:



Subject: Building Department

Author: Mark Artinian Date: 12/22/2022 11:35:06 AM

Status:

Subject: Building Department

Author: Mark Artinian

Date: 12/22/2022 11:36:07 AM

Status:



Subject: Building Department

Author: Mark Artinian Date: 12/22/2022 11:36:07 AM

Status:



Subject: Building Department

Author: Mark Artinian

Date: 12/22/2022 1:18:53 PM

Status:

All accessible parking spaces shall be van accessible and a minimum of 18' deep per City ordinance.

The access aisle for angled parking shall be on the passenger side of the vehicle per A117.1, Section 502.4.1.

.....

14'-8 1/2"

This shall be addressed on the submittal for building permit application.



Subject: Building Department

Author: Mark Artinian

Date: 12/22/2022 1:20:07 PM

Status:

The slope of this end of this parking space shall not exceed 2%.

This shall be addressed on the submittal for building permit application.



Subject: Building Department

Author: Mark Artinian

Date: 12/22/2022 12:03:04 PM

Status:

An accessible route is required per 2015 MBC, Section 1104.2 unless an exception from 1104.2 and/or 1103.2.3 thru 1103.2.15 is applicable.

Subject: Building Department

Author: Mark Artinian

Date: 12/22/2022 1:13:31 PM

Status:

Mark Artinian 248-841-2446 ArtinianM@RochesterHills.org No

Subject: Building Department **Author:** Mark Artinian

Date: 12/22/2022 1:13:53 PM

Status:

No

Engineering Department (10)



Subject: Engineering Department

Author: Jason Boughton Date: 12/12/2022 1:58:34 PM

Status:

The applicant needs to submit a Land Improvement Permit (LIP) application with engineer's estimate, fee and construction plans to proceed with the construction plan review process.



Subject: Engineering Department

Author: Jason Boughton Date: 12/12/2022 2:03:09 PM

Status:

All retaining walls over 4 feet in height will need to be structually engineered with fall protection at the construction plan phase of the project.



Subject: Engineering Department

Author: Jason Boughton Date: 12/12/2022 2:16:22 PM

Status:

Provide a secondary restrictor at the bankfull volume, revise the restrictor sizing that is proposed at the inlet and outlet invert.



Subject: Engineering Department

Author: Jason Boughton Date: 12/12/2022 2:20:23 PM

Status:

Revise WQV from 1/2" to 1" sizing for the mechanical treatment device per EGLE.



Subject: Engineering Department

Author: Jason Boughton Date: 12/12/2022 2:20:10 PM

Status:

Revise channel protection volume and release rate from 1.87inch to 2.39 inch rainfall design event per FGLF

EGLE

.....



Subject: Engineering Department

Author: Jason Boughton Date: 12/12/2022 2:21:56 PM

Status:

Utilize a two restrictor system with an overall weir wall at the 25 year elevation. Provide a detail with

the next submission.



Subject: Engineering Department

Author: Jason Boughton Date: 12/12/2022 2:24:48 PM

Status:

Revise to 1.00% slope



Subject: Engineering Department

Author: Jason Boughton Date: 12/12/2022 2:25:32 PM

Status:

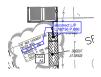


Subject: Engineering Department

Author: Jenny McGuckin Date: 12/14/2022 8:05:08 AM

Status:

Update to the current tax parcel description. The parcel was split after 2005.



Subject: Engineering Department

Author: Jenny McGuckin Date: 12/14/2022 8:37:37 AM

Status:

Incorrect L/P L.16736 P.686

Fire Department (2)



Subject: Fire Department

Author: Joshua

Date: 12/13/2022 2:48:26 PM

Status:

Verify that the fire lane has an unobstructed vertical clearance of 13 foot 6 inches.

Subject: Fire Department

Author: Joshua

Date: 12/13/2022 2:48:43 PM

Status:

Group (1)



Subject: Group Author: C.McLeod

Date: 12/8/2022 11:30:20 AM

Status:

Received 12/7/2022

City of Rochester Hills Planning & Economic

Development

Highlight (35)



Subject: Highlight **Author:** Mark Artinian

Date: 12/22/2022 10:57:40 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:04:16 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:06:03 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:06:05 AM

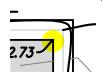
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Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:06:07 AM

Status:



Subject: Highlight Author: Mark Artinian

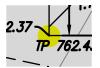
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Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:06:29 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:06:48 AM

Status:



Subject: Highlight **Author:** Mark Artinian

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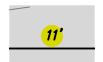
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Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:07:34 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:07:35 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:07:41 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:07:43 AM

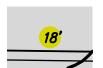
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Date: 12/22/2022 11:07:44 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:07:46 AM

Status:



Subject: Highlight **Author:** Mark Artinian

Date: 12/22/2022 11:07:49 AM



Subject: Highlight **Author:** Mark Artinian

Date: 12/22/2022 11:09:07 AM

Status:



Subject: Highlight **Author:** Mark Artinian

Date: 12/22/2022 11:09:09 AM

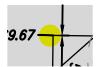
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Subject: Highlight **Author:** Mark Artinian

Date: 12/22/2022 11:09:10 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:09:12 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:09:27 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:09:29 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:09:49 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:11:30 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:11:32 AM

Status:



Subject: Highlight **Author:** Mark Artinian

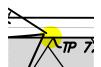
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Subject: Highlight **Author:** Mark Artinian

Date: 12/22/2022 11:44:05 AM

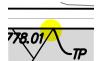
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Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:44:07 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:44:34 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:46:43 AM

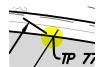
Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:46:45 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:46:51 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:47:35 AM

Status:



Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:47:36 AM

Status:



Matt Einheuser 248-841-2551 Yes EinheuserMR RochesterHills.org Subject: Highlight Author: Mark Artinian

Date: 12/22/2022 11:47:51 AM

Status:

Natural Resouces (1)

Subject: Natural Resouces Author: Matt Einheuser Date: 12/15/2022 1:09:56 PM

Planning Department (3)



Subject: Planning Department

Author: C.McLeod

Date: 12/14/2022 4:05:44 PM

Status:

Subject: Planning Department
Author: C.McLeod

Date: 12/14/2022 4:04:23 PM

Status:

Subject: Planning Department

Author: C.McLeod

Date: 12/22/2022 3:27:06 PM

Status:

Site Plan Review (1)



Subject: Site Plan Review **Author:** macdonaldj

Date: 12/7/2022 10:09:00 AM

Status:

Traffic (5)



Subject: Traffic Author: Keith

Date: 12/8/2022 11:09:45 AM

Status:

Show end limits of sidewalk work.

Provided pedestrian crosswalk



Subject: Traffic Author: Keith

Date: 12/8/2022 11:16:58 AM

Status:

Show Private Street name and ROW limits.



Subject: Traffic Author: Keith

Date: 12/8/2022 3:48:31 PM

Status:

Show curb drop and ramp detail for connection to

the road.

Subject: Traffic Author: Keith

Date: 12/19/2022 11:27:17 AM

Status:

Subject: Traffic Author: Keith

Date: 12/19/2022 11:29:45 AM

Status:

Per conditions on sheet C4.4, Grading Plan, Area