

MSR 710 South 2nd Street, 8th Floor
 Minneapolis, Minnesota 55401-2282
 Architecture 612.375.0336 tel
 Interiors and 612.342.2216 fax
 Urban Design www.msrdesign.com

Civil Engineer
Vierbicher Associates, Inc.
 999 Fourth Drive, Suite 201
 Madison, WI 53717
 608.826.0532 tel

Landscape Architect
Saiki Design, Inc.
 1110 South Park Street
 Madison, WI 53715
 608.251.3600 tel

Structural Engineer, Technology and AV
IMEG Corp.
 1800 Dering Way, Suite 200
 Middleton, WI 53562
 608.223.9600 tel

MEP Engineer
MEP Associates, LLC
 860 Blue Gentian Road, Suite 175
 Eagan, MN 55121
 651.379.9120 tel

Fire Protection Engineer and Code Consultant
Summit Fire Consulting
 575 Minnehaha Ave West
 St. Paul, MN 55103
 651.251.1880 tel

Greenhouse Design
Rough Brothers, Inc.
 5513 Vine Street
 Cincinnati, OH 45217
 513.242.0210 tel

Olbrich Botanical Gardens: Expansion Phase 1 3330 Atwood Avenue Madison, WI 53704

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the Laws of the State of Wisconsin.



Signature: _____
 Print Name: MATTHEW W. SCHREINER
 Date: 06.04.2018 License No.: E-41147

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	06.01.2018	BID ISSUE
	06.04.2018	PERMIT ISSUE

PROJECT NO. 2017016
 PROJECT PHASE BID DOCUMENTS
 DRAWN BY: MSCH
 CHECKED BY: MSCH

EXISTING CONDITIONS PLAN

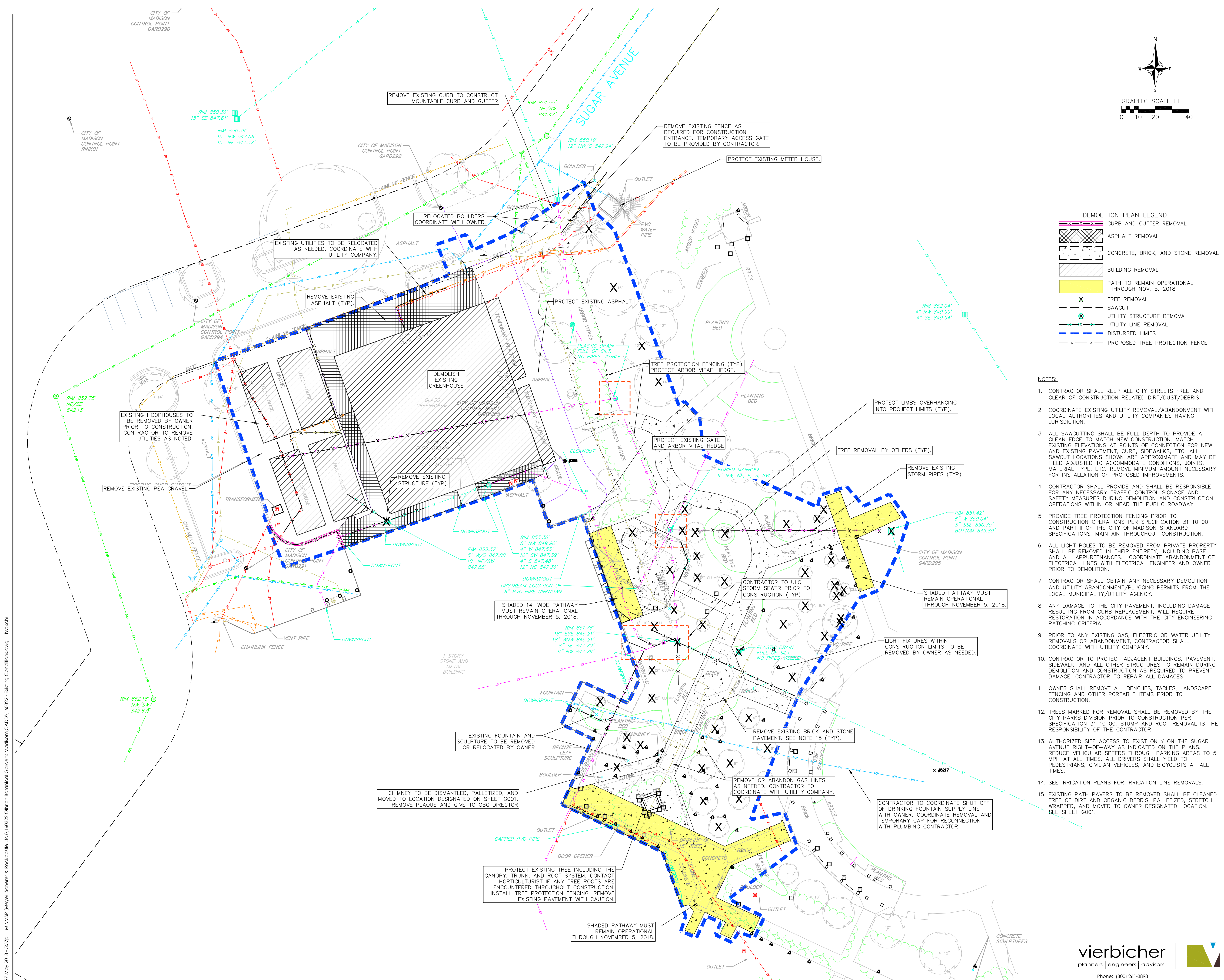
EXHIBIT D C100

- TOPOGRAPHIC LINEWORK LEGEND**
- F0 — F0 — EXISTING FIBER OPTIC LINE
 - UT — UT — EXISTING UNDERGROUND TELEPHONE
 - C — C — EXISTING CHAIN LINK FENCE
 - W — W — EXISTING WOOD FENCE
 - G — G — EXISTING GAS LINE
 - UE — UE — EXISTING UNDERGROUND ELECTRIC LINE
 - OUE — OUE — EXISTING OVERHEAD ELECTRIC LINE
 - OUG — OUG — EXISTING OVERHEAD GENERAL UTILITIES
 - SAN — SAN — EXISTING SANITARY SEWER LINE
 - ST — ST — EXISTING STORM SEWER LINE
 - ST — ST — EXISTING STORM SEWER (APPROXIMATE)
 - E — E — EXISTING EDGE OF TREES
 - WM — WM — EXISTING WATER MAIN
 - IM — IM — EXISTING IRRIGATION MAIN
 - 820 — 820 — EXISTING MAJOR CONTOUR
 - 818 — 818 — EXISTING MINOR CONTOUR

- TOPOGRAPHIC SYMBOL LEGEND**
- EXISTING BOLLARD
 - EXISTING POST
 - ▲ EXISTING SIGN
 - ▬ EXISTING ENDWALL
 - ▭ EXISTING FIELD INLET RECTANGULAR
 - ▭ EXISTING FIELD INLET
 - ▭ EXISTING ROOF DRAIN CLEANOUT
 - EXISTING STORM MANHOLE
 - EXISTING SANITARY MANHOLE
 - EXISTING FIRE HYDRANT
 - EXISTING WATER MAIN VALVE
 - EXISTING CURB STOP
 - EXISTING GAS METER
 - EXISTING AIR CONDITIONING PEDESTAL
 - ▭ EXISTING ELECTRIC RECTANGULAR MANHOLE
 - ▭ EXISTING ELECTRIC PEDESTAL
 - ▭ EXISTING TRANSFORMER
 - ▭ EXISTING ELECTRIC METER
 - ☆ EXISTING LIGHT POLE
 - ▲ EXISTING GENERIC LIGHT
 - EXISTING UTILITY POLE
 - EXISTING PLANTER
 - EXISTING CONIFEROUS TREE
 - EXISTING DECIDUOUS TREE
 - EXISTING BORING
 - EXISTING SPRINKLER CONTROL BOX
 - EXISTING BENCH

- NOTES:**
1. TOPOGRAPHIC MAP PREPARED SEPTEMBER 15, 2017 BY R.A. SMITH NATIONAL, INC FOR THE CITY OF MADISON. SURVEY NO. 5167238-SMC. ADDITIONAL EXISTING STORM SEWER INPUT FROM MONONA PLUMBING AND FIRE PROTECTION.
 2. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO. NO PIPE SIZES SHOULD BE RELIED UPON WITHOUT FURTHER VERIFICATION.
 3. DIGGERS HOTLINE TICKET NO. 2017-34-14222
 4. ELECTRICAL FOR SITE LIGHTING NOT SHOWN.
 5. EXISTING STORM SEWER LOCATIONS INDICATED AS APPROXIMATE BY R.A. SMITH NATIONAL INC AND MONONA. PLUMBING AND FIRE PROTECTION ARE SHOWN IN MAGENTA.

vierbicher
 planners | engineers | advisors
 Phone: (800) 261-3898



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 DRAWN BY: SCHR CHECKED BY: MSCH

DEMOLITION PLAN

**EXHIBIT D
 C200**

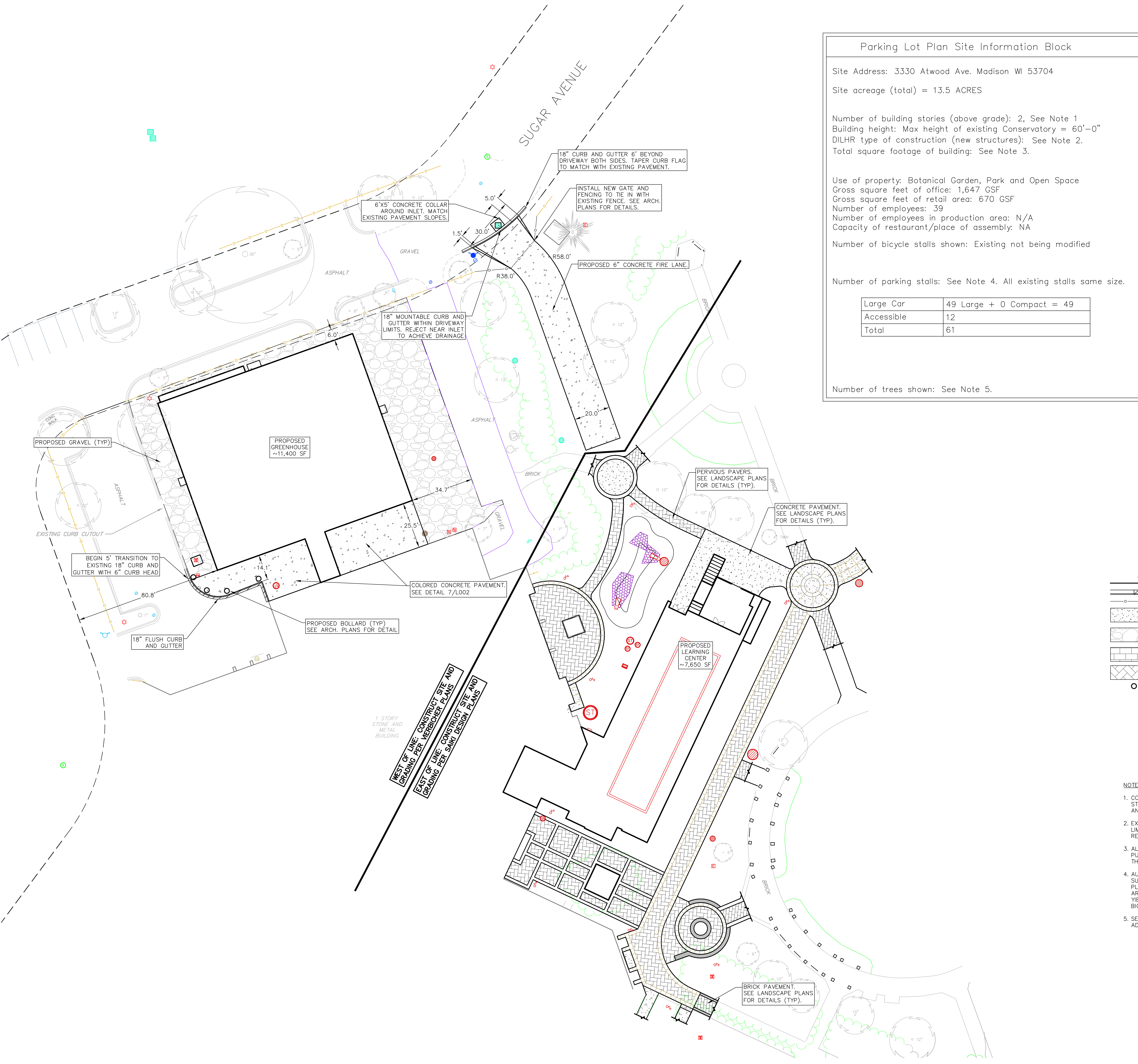
- DEMOLITION PLAN LEGEND**
- CURB AND GUTTER REMOVAL
 - ASPHALT REMOVAL
 - CONCRETE, BRICK, AND STONE REMOVAL
 - BUILDING REMOVAL
 - PATH TO REMAIN OPERATIONAL THROUGH NOV. 5, 2018
 - TREE REMOVAL
 - SAWCUT
 - UTILITY STRUCTURE REMOVAL
 - UTILITY LINE REMOVAL
 - DISTURBED LIMITS
 - PROPOSED TREE PROTECTION FENCE

- NOTES:**
- CONTRACTOR SHALL KEEP ALL CITY STREETS FREE AND CLEAR OF CONSTRUCTION RELATED DIRT/DUST/DEBRIS.
 - COORDINATE EXISTING UTILITY REMOVAL/ABANDONMENT WITH LOCAL AUTHORITIES AND UTILITY COMPANIES HAVING JURISDICTION.
 - ALL SAWCUTTING SHALL BE FULL DEPTH TO PROVIDE A CLEAN EDGE TO MATCH NEW CONSTRUCTION. MATCH EXISTING ELEVATIONS AT POINTS OF CONNECTION FOR NEW AND EXISTING PAVEMENT, CURB, SIDEWALKS, ETC. ALL SAWCUT LOCATIONS SHOWN ARE APPROXIMATE AND MAY BE FIELD ADJUSTED TO ACCOMMODATE CONDITIONS, JOINTS, MATERIAL TYPE, ETC. REMOVE MINIMUM AMOUNT NECESSARY FOR INSTALLATION OF PROPOSED IMPROVEMENTS.
 - CONTRACTOR SHALL PROVIDE AND SHALL BE RESPONSIBLE FOR ANY NECESSARY TRAFFIC CONTROL SIGNAGE AND SAFETY MEASURES DURING DEMOLITION AND CONSTRUCTION OPERATIONS WITHIN OR NEAR THE PUBLIC ROADWAY.
 - PROVIDE TREE PROTECTION FENCING PRIOR TO CONSTRUCTION OPERATIONS PER SPECIFICATION 31 10 00 AND PART II OF THE CITY OF MADISON STANDARD SPECIFICATIONS. MAINTAIN THROUGHOUT CONSTRUCTION.
 - ALL LIGHT POLES TO BE REMOVED FROM PRIVATE PROPERTY SHALL BE REMOVED IN THEIR ENTIRETY, INCLUDING BASE AND ALL APPURTENANCES. COORDINATE ABANDONMENT OF ELECTRICAL LINES WITH ELECTRICAL ENGINEER AND OWNER PRIOR TO DEMOLITION.
 - CONTRACTOR SHALL OBTAIN ANY NECESSARY DEMOLITION AND UTILITY ABANDONMENT/PLUGGING PERMITS FROM THE LOCAL MUNICIPALITY/UTILITY AGENCY.
 - ANY DAMAGE TO THE CITY PAVEMENT, INCLUDING DAMAGE RESULTING FROM CURB REPLACEMENT, WILL REQUIRE RESTORATION IN ACCORDANCE WITH THE CITY ENGINEERING PATCHING CRITERIA.
 - PRIOR TO ANY EXISTING GAS, ELECTRIC OR WATER UTILITY REMOVALS OR ABANDONMENT, CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY.
 - CONTRACTOR TO PROTECT ADJACENT BUILDINGS, PAVEMENT, SIDEWALK, AND ALL OTHER STRUCTURES TO REMAIN DURING DEMOLITION AND CONSTRUCTION AS REQUIRED TO PREVENT DAMAGE. CONTRACTOR TO REPAIR ALL DAMAGES.
 - OWNER SHALL REMOVE ALL BENCHES, TABLES, LANDSCAPE FENCING AND OTHER PORTABLE ITEMS PRIOR TO CONSTRUCTION.
 - TREES MARKED FOR REMOVAL SHALL BE REMOVED BY THE CITY PARKS DIVISION PRIOR TO CONSTRUCTION PER SPECIFICATION 31 10 00. STUMP AND ROOT REMOVAL IS THE RESPONSIBILITY OF THE CONTRACTOR.
 - AUTHORIZED SITE ACCESS TO EXIST ONLY ON THE SUGAR AVENUE RIGHT-OF-WAY AS INDICATED ON THE PLANS. REDUCE VEHICULAR SPEEDS THROUGH PARKING AREAS TO 5 MPH AT ALL TIMES. ALL DRIVERS SHALL YIELD TO PEDESTRIANS, CIVILIAN VEHICLES, AND BICYCLISTS AT ALL TIMES.
 - SEE IRRIGATION PLANS FOR IRRIGATION LINE REMOVALS.
 - EXISTING PATH PAVERS TO BE REMOVED SHALL BE CLEANED FREE OF DIRT AND ORGANIC DEBRIS, PALLETIZED, STRETCH WRAPPED, AND MOVED TO OWNER DESIGNATED LOCATION. SEE SHEET 0001.

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 planners | engineers | advisors
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27 May 2018 - 5:57p MA:MSR (Meyer, Scherer & Rockcastle Llc)\140322 Olbrich Botanical Gardens Madison\CAADD\140322 - Existing Conditions.dwg By: schr

27 May 2018 - 5:58p MA:MSR (Meyer, Scherer & Rockcastle Llc)\140322 Olbrich Botanical Gardens Madison\CADD\460322 - Base.dwg by: schr



Parking Lot Plan Site Information Block

Site Address: 3330 Atwood Ave. Madison WI 53704
 Site acreage (total) = 13.5 ACRES

Number of building stories (above grade): 2, See Note 1
 Building height: Max height of existing Conservatory = 60'-0"
 DILHR type of construction (new structures): See Note 2.
 Total square footage of building: See Note 3.

Use of property: Botanical Garden, Park and Open Space
 Gross square feet of office: 1,647 GSF
 Gross square feet of retail area: 670 GSF
 Number of employees: 39
 Number of employees in production area: N/A
 Capacity of restaurant/place of assembly: NA

Number of bicycle stalls shown: Existing not being modified

Large Car	49	Large + 0 Compact = 49
Accessible	12	
Total	61	

Number of parking stalls: See Note 4. All existing stalls same size.

Number of trees shown: See Note 5.

- Notes:
- There are 2 buildings with 2 stories: The Original Visitor Center and the proposed Learning Center.
 - See attached code navigation provided by Summit Fire Consulting.
 - Square Footage:
 - Existing Campus = 35,307 SF (Not including existing Greenhouse)
 - Existing Greenhouse to be demolished = 9,308 SF
 - New Learning Center
 - First Floor = 6,413 SF
 - Second Floor = 2,013 SF
 - New Greenhouse = 11,408 SF
 - Parking lot is being modified by the removal of 1 stall for a planting island required by Zoning. The island will be planted by Olbrich Horticultural Staff to match existing parking islands in the 2020 planting season.
 - No changes are being made on the parking lot side of the campus. All redeveloped hardscape was designed by a licensed LA and will be installed as part of the public works contract. Ornamental trees, shrubs and other plantings will be installed by the Olbrich Horticultural Staff beginning in the 2020 planting season.

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DRAWN BY:	SCHR
CHECKED BY:	MSCH

SITE PLAN

**EXHIBIT D
 C300**

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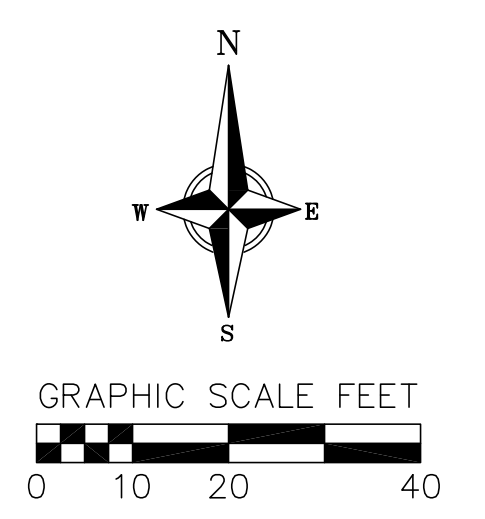
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 DRAWN BY: SCHR CHECKED BY: MSCH
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GRADING & EROSION CONTROL PLAN

**EXHIBIT D
 C400**



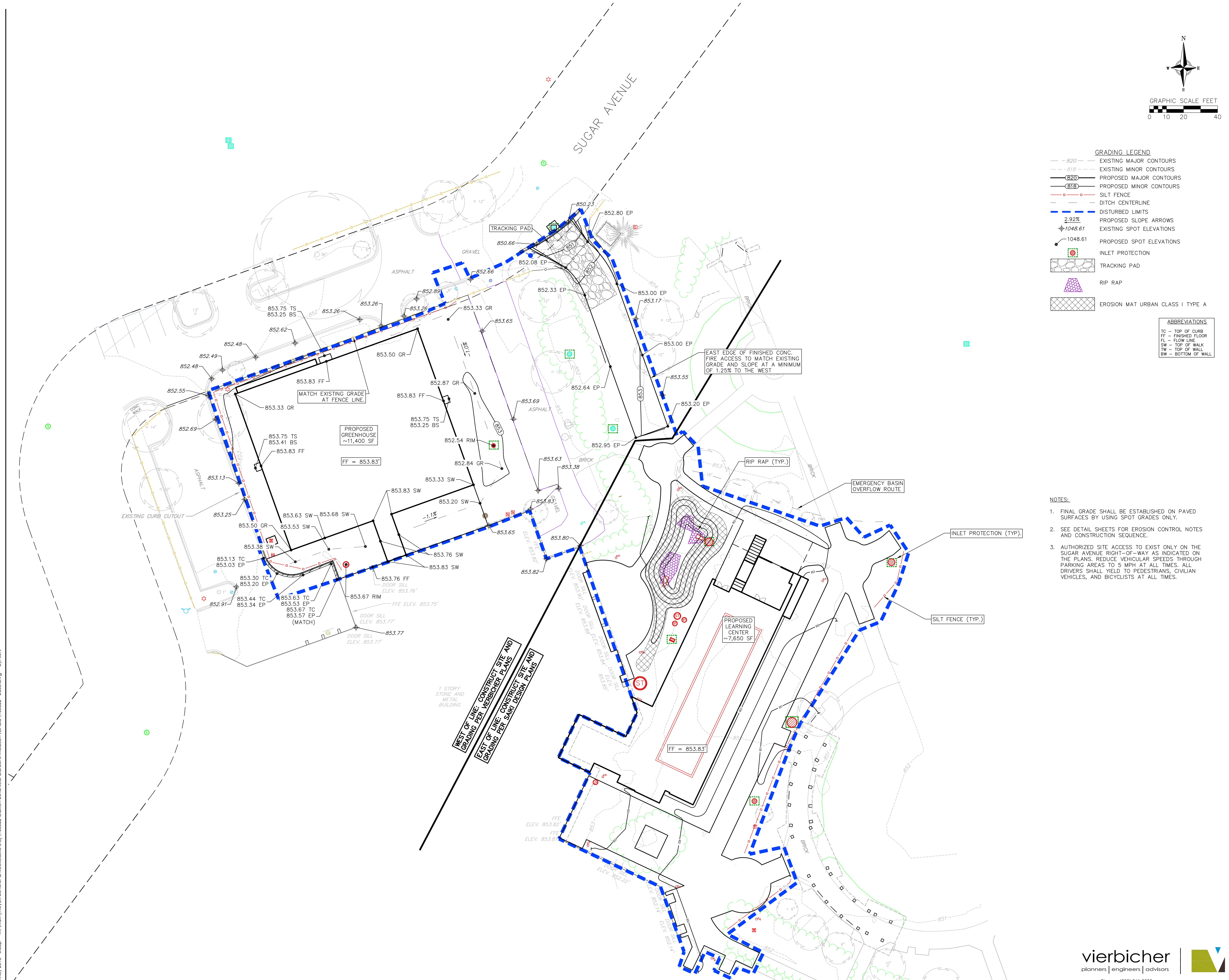
GRADING LEGEND

- - - 820 - - - EXISTING MAJOR CONTOURS
- - - 818 - - - EXISTING MINOR CONTOURS
- - - 820 - - - PROPOSED MAJOR CONTOURS
- - - 818 - - - PROPOSED MINOR CONTOURS
- - - - - SILT FENCE
- - - - - DITCH CENTERLINE
- - - - - DISTURBED LIMITS
- - - - - 2.92% PROPOSED SLOPE ARROWS
- - - - - 1048.61 EXISTING SPOT ELEVATIONS
- - - - - 1048.61 PROPOSED SPOT ELEVATIONS
- - - - - INLET PROTECTION
- - - - - TRACKING PAD
- - - - - RIP RAP
- - - - - EROSION MAT URBAN CLASS I TYPE A

ABBREVIATIONS

- TC - TOP OF CURB
- FF - FINISHED FLOOR
- FL - FLOW LINE
- TW - TOP OF WALK
- BW - BOTTOM OF WALL

- NOTES:**
- FINAL GRADE SHALL BE ESTABLISHED ON PAVED SURFACES BY USING SPOT GRADES ONLY.
 - SEE DETAIL SHEETS FOR EROSION CONTROL NOTES AND CONSTRUCTION SEQUENCE.
 - AUTHORIZED SITE ACCESS TO EXIST ONLY ON THE SUGAR AVENUE RIGHT-OF-WAY AS INDICATED ON THE PLANS. REDUCE VEHICULAR SPEEDS THROUGH PARKING AREAS TO 5 MPH AT ALL TIMES. ALL DRIVERS SHALL YIELD TO PEDESTRIANS, CIVILIAN VEHICLES, AND BICYCLISTS AT ALL TIMES.



27 May 2018 - 5:58p MA:MSR (Meyer, Schreiner & Rockcastle Ltd)\1\0322 Oilbrich Botanical Gardens Madison\CAADD\160322 - Base.dwg by: schr

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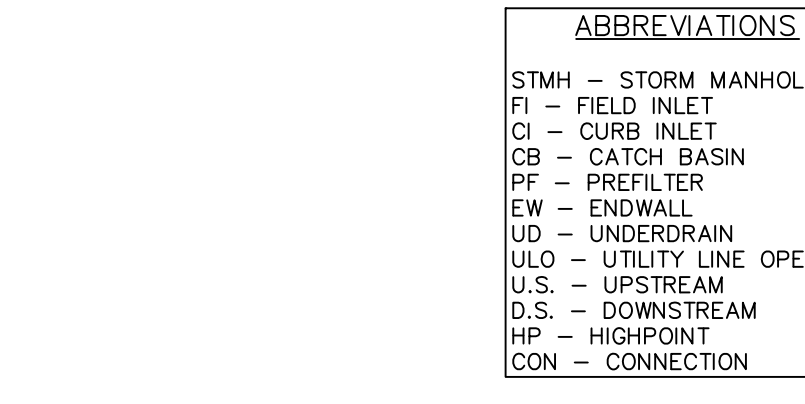
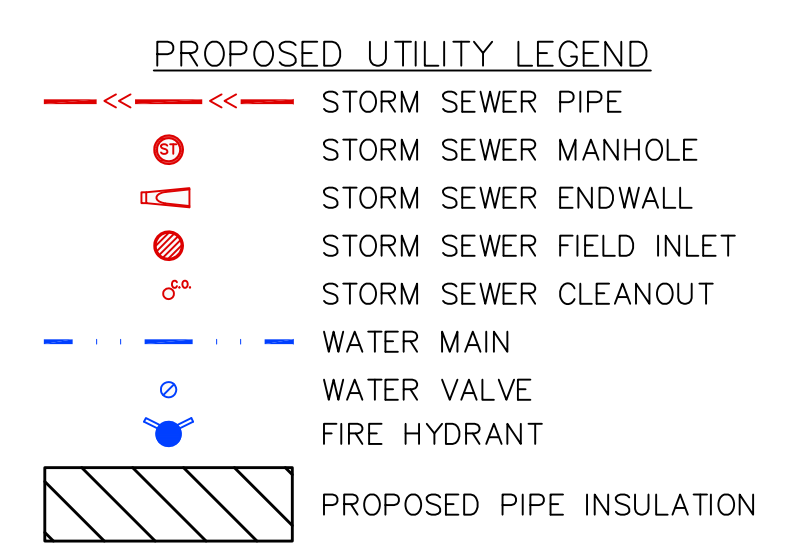
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PROJECT PHASE **BID DOCUMENTS**

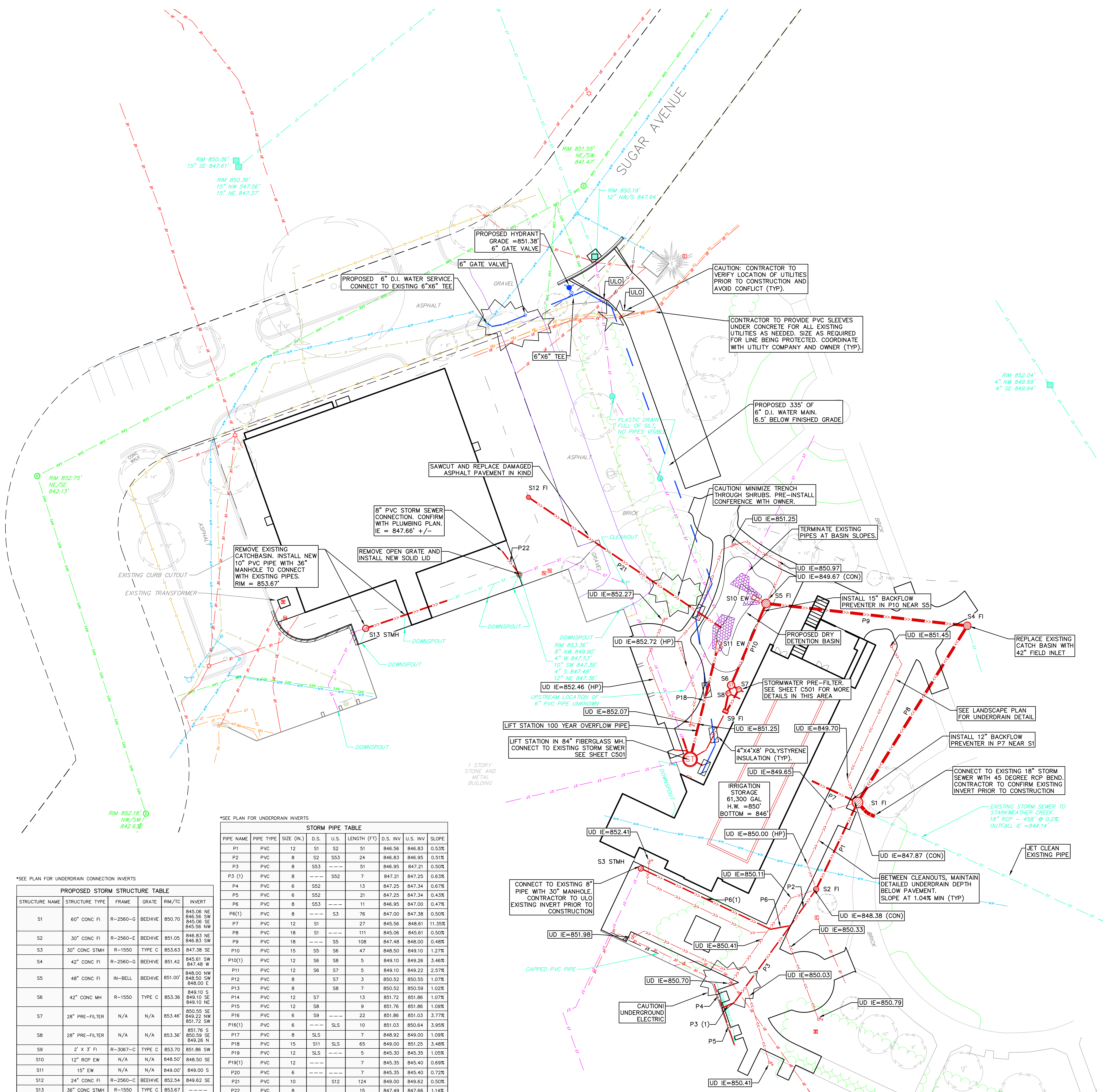
DRAWN BY: **SCHR** CHECKED BY: **MSCH**

UTILITY PLAN

**EXHIBIT D
 C500**



- NOTES:**
- SANITARY & STORM SEWER LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. STORM SEWER END SECTIONS ARE INCLUDED IN THE LENGTH AND SLOPE OF THE PIPE.
 - CONTRACTOR SHALL INVESTIGATE ALL UTILITY CROSSINGS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL UTILITY STRUCTURES (MANHOLE RIMS, WATER VALVES, AND CURB STOPS), IF NECESSARY.
 - CONTRACTOR SHALL OBTAIN ANY NECESSARY WORK IN RIGHT-OF-WAY, EXCAVATION, UTILITY CONNECTION, PLUGGING, ABANDONMENT, AND DRIVEWAY CONNECTION PERMITS PRIOR TO CONSTRUCTION.
 - FOR ALL SEWER AND WATER MAIN CROSSINGS: PROVIDE MINIMUM 18" SEPARATION WHEN WATER MAIN CROSSES BELOW SEWER AND MINIMUM 6" SEPARATION WHEN WATER MAIN CROSSES ABOVE SEWER.
 - IF DEWATERING OPERATIONS EXCEED 70 GALLONS PER MINUTE OF PUMPING CAPACITY, A DEWATERING WELL PERMIT SHALL BE OBTAINED FROM THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PRIOR TO STARTING ANY DEWATERING ACTIVITIES.
 - A COPY OF THE APPROVED UTILITY PLANS, SPECIFICATIONS AND PLUMBING PERMIT APPROVAL LETTER SHALL BE ON-SITE DURING CONSTRUCTION AND OPEN TO INSPECTION BY AUTHORIZED REPRESENTATIVES OF THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES AND OTHER LOCAL INSPECTORS.
 - STORM BUILDING SEWER PIPE SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN TABLE 384.30-6 OF SPS 384.30(3)(c).
 - PRIVATE WATER SERVICES AND PRIVATE WATER MAINS SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN TABLE 384.30-7 OF SPS 384.30(4)(d).
 - PRIVATE WATER HYDRANTS SHALL BE RED IN COLOR.
 - PRIVATE SANITARY SEWER AND LATERALS SHALL BE POLYVINYL CHLORIDE (PVC) ASTM D3034 - SDR 35 OR APPROVED EQUAL MATERIAL THAT CONFORMS TO ONE OF THE STANDARDS LISTED IN TABLE 384.30-3 OF SPS 384.30(2)(c).
 - A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON-METALLIC SEWERS/MAINS AND WATER SERVICES/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED PER SPS 382.10(11)(h) AND SPS 382.40(8)(k).
 - EXTERIOR WATER SUPPLY PIPING SETBACKS AND CROSSINGS SHALL BE IN ACCORDANCE WITH SPS 382.40(8)(b).
 - NO PERSON MAY ENGAGE IN PLUMBING WORK IN THE STATE UNLESS LICENSED TO DO SO BY THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES PER S.145.06.
 - SITE CONTRACTOR SHALL LEAVE SANITARY AND WATER LATERALS FIVE (5) FEET SHORT (HORIZONTALLY) FROM THE BUILDING. BUILDING PLUMBER SHALL VERIFY SIZE, LOCATION, AND INVERT ELEVATION OF PROPOSED SANITARY AND WATER LATERALS.
 - CONTRACTOR SHALL FIELD VERIFY THE SIZE, TYPE, LOCATION, AND ELEVATION OF EXISTING UTILITIES PRIOR TO INSTALLING ANY ON-SITE UTILITIES OR STRUCTURES. CONTACT ENGINEER PRIOR TO INSTALLATION IF DISCREPANCY EXISTS WITHIN THESE PLANS.
 - PROPOSED UTILITY SERVICE LINES SHOWN ARE APPROXIMATE. COORDINATE THE EXACT LOCATIONS WITH THE PLUMBING DRAWINGS. COORDINATE THE SIZE, INVERTS, AND LOCATIONS WITH THE PLUMBING CONTRACTOR AND/OR OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO INSTALLATION OF ANY NEW UTILITIES.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF ANY UTILITIES ENCOUNTERED AND REPLACEMENT OF ANY UTILITIES DAMAGED WITHIN INFLUENCE ZONE OF NEW CONSTRUCTION. CONTACT ENGINEER IF THE EXISTING UTILITIES VARY APPRECIABLY FROM THE PLANS.
 - ALL WATER MAIN AND SERVICES SHALL BE INSTALLED AT A MINIMUM DEPTH OF 6.5' FROM TOP OF FINISHED GROUND ELEVATION TO TOP OF MAIN.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THE EXISTING VALVES WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. THE CITY IS NOT RESPONSIBLE FOR ANY COSTS INCURRED DUE TO THE CONTRACTOR NOT VERIFYING THAT THE EXISTING VALVE WILL HOLD THE PRESSURE TEST PRIOR TO CONNECTION. IF A NEW VALVE IS REQUIRED, THE APPLICANT WILL BE REQUIRED TO INSTALL ONE AT THEIR EXPENSE, AT THE POINT OF CONNECTION.
 - CLEAN OUT ALL EXISTING AND PROPOSED STORM INLETS AND CATCH BASINS AT THE COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL CLEANING, JETTING, OR REPLACEMENT OF WORK FOLLOWING A TV INSPECTION COMPLETED BY OTHERS. CONTRACTOR SHALL NOT FLUSH MATERIALS INTO STARKWEATHER CREEK.
 - AUTHORIZED SITE ACCESS TO EXIST ONLY ON THE SUGAR AVENUE RIGHT-OF-WAY AS INDICATED ON THE PLANS. REDUCE VEHICULAR SPEEDS THROUGH PARKING AREAS TO 5 MPH AT ALL TIMES. ALL DRIVERS SHALL YIELD TO PEDESTRIANS, CIVILIAN VEHICLES, AND BICYCLISTS AT ALL TIMES.
 - CHANGES IN UNDERDRAIN DIRECTION TO BE ACCOMPLISHED USING FITTINGS WITH A MAXIMUM SWEEP OF 45 DEGREES. WHERE MULTIPLE FITTINGS ARE REQUIRED, THEY SHALL BE SEPARATED BY A STRAIGHT PIPE WITH A MINIMUM LENGTH OF 18 INCHES.



*SEE PLAN FOR UNDERDRAIN INVERTS

PIPE NAME	PIPE TYPE	SIZE (IN)	D.S.	U.S.	LENGTH (FT)	D.S. INV.	U.S. INV.	SLOPE
P1	PVC	12	S1	S2	51	846.56	846.83	0.53%
P2	PVC	8	S2	S53	24	846.83	846.95	0.51%
P3	PVC	8	S53	---	51	846.95	847.21	0.50%
P3 (1)	PVC	8	---	S52	7	847.21	847.25	0.63%
P4	PVC	6	S52	S13	13	847.25	847.34	0.67%
P5	PVC	6	S52	---	21	847.25	847.34	0.43%
P6	PVC	8	S53	---	11	846.95	847.00	0.47%
P6(1)	PVC	8	---	S3	76	847.00	847.38	0.50%
P7	PVC	12	S1	---	27	845.56	848.61	11.35%
P8	PVC	18	S1	---	111	845.06	845.61	0.50%
P9	PVC	18	---	S5	108	847.48	848.00	0.48%
P10	PVC	15	S5	S6	47	848.50	849.10	1.27%
P10(1)	PVC	12	S6	S8	5	849.10	849.26	3.46%
P11	PVC	12	S6	S7	5	849.10	849.22	2.57%
P12	PVC	8	S7	S3	3	850.52	850.55	1.07%
P13	PVC	8	S7	S8	7	850.52	850.59	1.02%
P14	PVC	12	S7	S13	13	851.72	851.86	1.07%
P15	PVC	12	S7	S9	9	851.72	851.86	1.09%
P16	PVC	6	S9	---	22	851.86	851.03	3.77%
P16(1)	PVC	6	---	S15	10	851.03	850.64	3.95%
P17	PVC	8	SLS	S7	7	848.92	849.00	1.09%
P18	PVC	15	S11	S15	65	849.00	851.25	3.48%
P19	PVC	12	S15	---	5	845.30	845.35	1.05%
P19(1)	PVC	12	---	---	7	845.35	845.40	0.69%
P20	PVC	6	---	---	7	845.35	845.40	0.72%
P21	PVC	10	S12	S12	124	849.00	849.62	0.50%
P22	PVC	8	---	---	15	847.49	847.66	1.14%

*SEE PLAN FOR UNDERDRAIN CONNECTION INVERTS

STRUCTURE NAME	STRUCTURE TYPE	FRAME	GRATE	RIM/TC	INVERT
S1	60" CONC FI	R-2560-G	BEEHIVE	850.70	845.06 NE 846.56 SW 845.08 SE 845.58 NW
S2	30" CONC FI	R-2560-E	BEEHIVE	851.05	846.83 NE 846.83 SW
S3	30" CONC STMH	R-1550	TYPE C	853.63	847.38 SE
S4	42" CONC FI	R-2560-G	BEEHIVE	851.42	845.61 SW 847.49 W
S5	48" CONC FI	IN-BELL	BEEHIVE	851.00	848.00 NW 848.50 SW 848.00 E
S6	42" CONC MH	R-1550	TYPE C	853.36	849.10 S 849.10 SE 849.10 NE
S7	28" PRE-FILTER	N/A	N/A	853.46	850.55 SE 849.22 NW 851.72 SW
S8	28" PRE-FILTER	N/A	N/A	853.36	851.76 S 850.59 SE 849.26 N
S9	2' X 3' FI	R-3067-C	TYPE C	853.70	851.86 SW
S10	12" RCP EW	N/A	N/A	848.50	848.50 SE
S11	15" EW	N/A	N/A	849.00	849.00 S
S12	24" CONC FI	R-2560-C	BEEHIVE	852.54	849.62 SE
S13	36" CONC STMH	R-1550	TYPE C	853.67	---

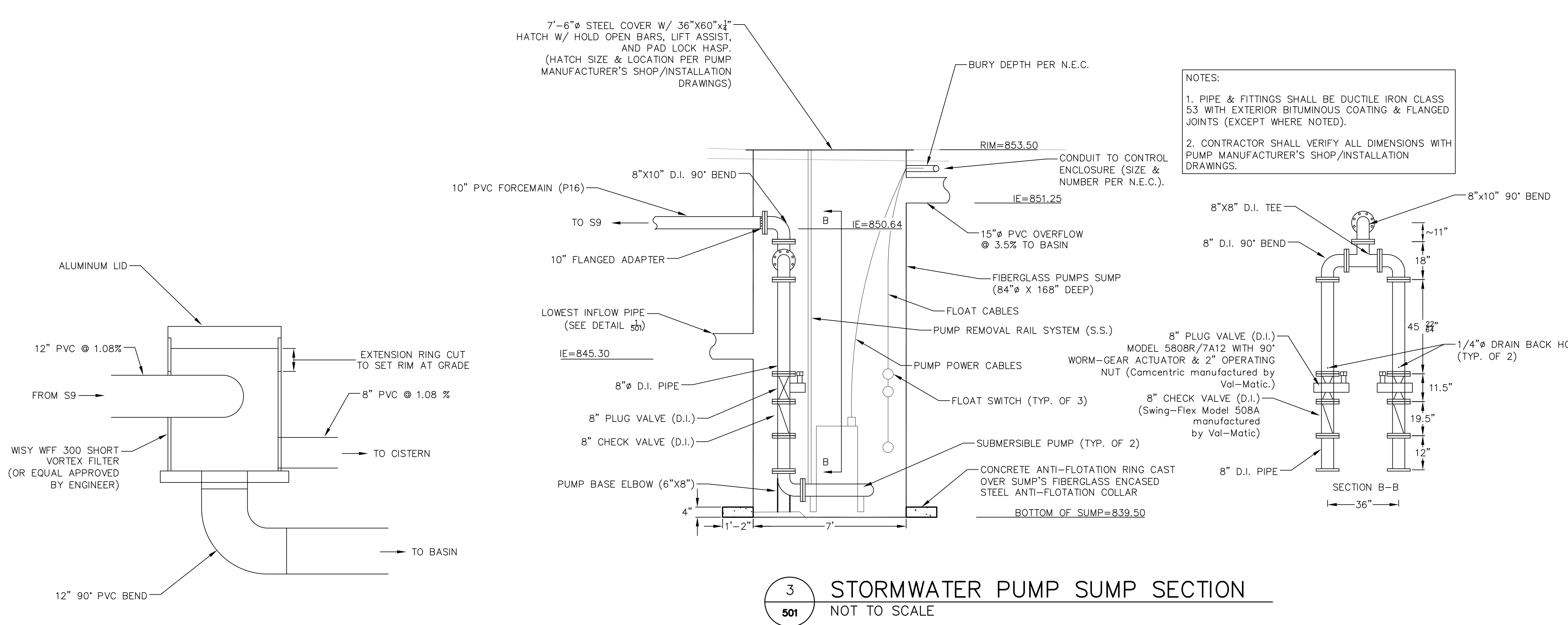
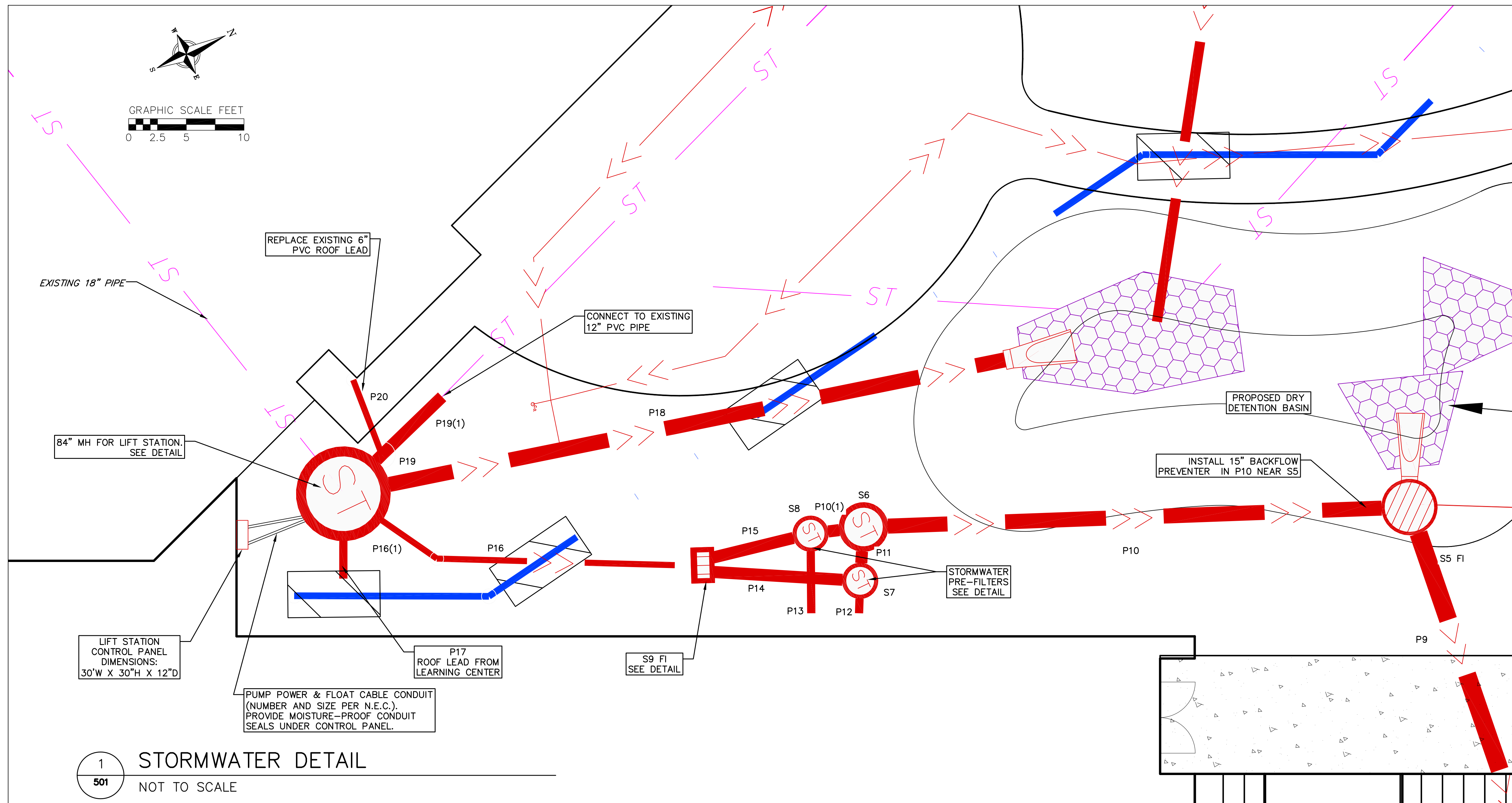
STORMWATER PUMPING SYSTEM

DESIGN REQUIREMENTS SUMMARY:

Olbrich Botanical Gardens - Madison, Wisconsin

MSR

PUMPS:	
Pump Manufacturer	Hydromatic or approved equal.
Pump Model	S6L
Single Pump Pumping Rate	1,070 gpm
Piping System TDH @ Single Pumping	14.5 ft
Minimum Efficiency	70.8%
Two Pump Pumping Rate	1,700 gpm
Piping System TDH @ Two Pump Rate	20.9 ft
Impeller Type	Balanced, Enclosed, 2 Vane
Minimum Solids Passage	3.25 inches
Impeller Diameter	10 1/8 inches
Maximum Speed	1,165 rpm
Motor	7.5 hp, 1150 rpm, Oil Filled, NEMA B Design, Class H Insulation, VFD Suitable, 1.2 Service Factor.
Motor Voltage & Phase	208 VAC, 3 - ϕ
Motor Protection	Bi-metallic Temperature Sensitive Disc.
Casing & Motor Housing	Cast Iron ASTM A-48 Class 30
Impeller	Ductile Iron ASTM A-536
Casing Wear Ring	Bronze ASTM B-584-836 Alloy 115
Motor Shaft	416 Stainless Steel
Seals	Carbon/ Ceramic/Nitrile, Type 21
Bearings	Upper & Lower Single Row Ball
Pump Removal System	S.S. Lift Rails w/ S.S. Brackets & Lift Chain
PIPING & VALVES:	
Permanent Pump Base/Discharge Elbow	6" x 8"
Pumping Station /Pump Discharge Piping	8" Ductile Iron Class 53
Check Valves	Swing-Flex Model 508A as manufactured by Val-Matic. Concentric Plug Valves, Model 5808R/7A12 with 90° Worm-Gear Actuator & 2" Operating Nut as manufactured by Val-Matic.
Plug Valves	Swing-Flex Model 508A as manufactured by Val-Matic. Concentric Plug Valves, Model 5808R/7A12 with 90° Worm-Gear Actuator & 2" Operating Nut as manufactured by Val-Matic.
Force Main	10" PVC C 900 DR 18
SUMP:	
Diameter	7.0 ft
Concrete Base Collar Min. Overhang	14 inches
Concrete Base Base Min. Thickness	4 inches
Elevations:	
Rim	853.50
Influent Sewer IE	845.30
Lag Pump On Float	844.80
Lead Pump On Float	844.30
All Pumps Off Float (min. pump submergence)	841.80
Bottom of Sump	839.50
Sump Depth	14.00 ft.
CONTROL SYSTEM:	
Manufacturer	Altronex, USEMCO, or approved equal.
Enclosure	Stainless Steel NEMA 4X with lockable latch and inner door.
Pump Motor Protection	IEC HP Rated Motor Starter, Class 10 Ambient Overload Module (providing overload-short circuit, phase failure-imbalance, and ground fault protection), Thermal Cutout/Heat Sensor with Auto Reset (2 sets)
Level Control System	Float Based Controller with Pump Alteration
Level Sensors	Non-Mercury Float Switches (3)
Pump Switches	Hand-Off-Auto Selector Switch (2)
Pump Run Time Meters	Eloapse Time Meter (2)
Pilot Lights	Inner Door Mounted "Pump Run" (green), "Seal Fail" & "Over-Temperature" (red) (2 sets)
Alarm System	Alarm Light On Top Of Enclosure. Alarm Horn. Exterior Mounted Manual Alarm Test/Normal/Silence Switch.
Other Features	Lightning Arrestor, Anti-Condensation Heater, Main Disconnect



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Urban Design www.msrdesign.com

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**Olbrich Botanical Gardens:
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PROJECT PHASE BID DOCUMENTS
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DATE: 2018 Copyright Vierbicher Associates, Inc.

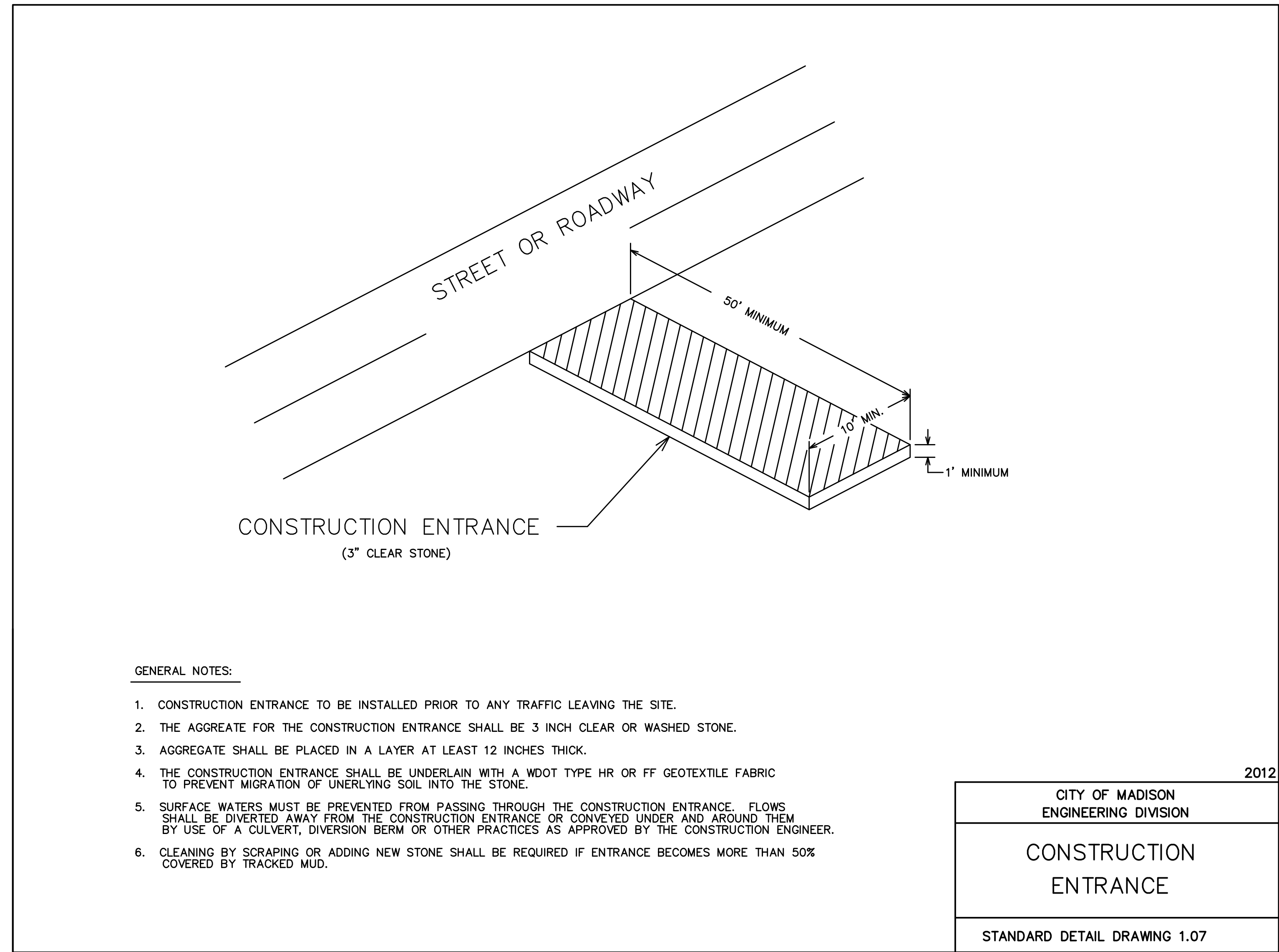
LIFT STATION DETAIL

EXHIBIT D
C501

vierbicher
planners | engineers | advisors
Phone: (800) 261-3898

EROSION CONTROL MEASURES

- EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON EROSION CONTROL ORDINANCE AND CHAPTER NR 216 OF THE WISCONSIN ADMINISTRATIVE CODE.
- CONSTRUCT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH WISCONSIN DNR TECHNICAL STANDARDS (<http://dnr.wi.gov/runoff/stormwater/techstds.htm>) AND WISCONSIN CONSTRUCTION SITE BEST MANAGEMENT PRACTICE HANDBOOK.
- INSTALL SEDIMENT CONTROL PRACTICES (TRACKING PAD, PERIMETER SILT FENCE, SEDIMENT BASINS, ETC.) PRIOR TO INITIATING OTHER LAND DISTURBING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR IS REQUIRED TO MAKE EROSION CONTROL INSPECTIONS AT THE END OF EACH WEEK AND WHEN 0.5 INCHES OF RAIN FALLS WITHIN 24 HOURS. INSPECTION REPORTS SHALL BE PREPARED AND FILED AS REQUIRED BY THE DNR AND/OR CITY. ALL MAINTENANCE WILL FOLLOW AN INSPECTION WITHIN 24 HOURS.
- EROSION CONTROL IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ACCEPTANCE OF THIS PROJECT. EROSION CONTROL MEASURES AS SHOWN SHALL BE THE MINIMUM PRECAUTIONS THAT WILL BE ALLOWED. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE DEVELOPER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
- A 3" CLEAR STONE TRACKING PAD SHALL BE INSTALLED AT THE END OF ROAD CONSTRUCTION LIMITS TO PREVENT SEDIMENT FROM BEING TRACKED ONTO THE ADJACENT PAVED PUBLIC ROADWAY. SEDIMENT TRACKING PAD SHALL CONFORM TO WISDNR TECHNICAL STANDARD 1057. SEDIMENT REACHING THE PUBLIC ROAD SHALL BE REMOVED BY STREET CLEANING (NOT HYDRAULIC FLUSHING) BEFORE THE END OF EACH WORK DAY.
- CHANNELIZED RUNOFF:** FROM ADJACENT AREAS PASSING THROUGH THE SITE SHALL BE DIVERTED AROUND DISTURBED AREAS.
- STABILIZED DISTURBED GROUND:** ANY SOIL OR DIRT PILES WHICH WILL REMAIN IN EXISTENCE FOR MORE THAN 7-CONSECUTIVE DAYS, WHETHER TO BE WORKED DURING THAT PERIOD OR NOT, SHALL NOT BE LOCATED WITHIN 25- FEET OF ANY ROADWAY, PARKING LOT, PAVED AREA, OR DRAINAGE STRUCTURE OR CHANNEL (UNLESS INTENDED TO BE USED AS PART OF THE EROSION CONTROL MEASURES). TEMPORARY STABILIZATION AND CONTROL MEASURES (SEEDING, MULCHING, TARPING, EROSION MATTING, BARRIER FENCING, ETC.) ARE REQUIRED FOR THE PROTECTION OF DISTURBED AREAS AND SOIL PILES, WHICH WILL REMAIN UN-WORKED FOR A PERIOD OF MORE THAN 14-CONSECUTIVE CALENDAR DAYS. THESE MEASURES SHALL REMAIN IN PLACE UNTIL SITE HAS STABILIZED.
- SITE DE-WATERING:** WATER PUMPED FROM THE SITE SHALL BE TREATED BY TEMPORARY SEDIMENTATION BASINS OR OTHER APPROPRIATE CONTROL MEASURES. SEDIMENTATION BASINS SHALL HAVE A DEPTH OF AT LEAST 3 FEET, BE SURROUNDED BY SNOWFENCE OR EQUIVALENT BARRIER AND HAVE SUFFICIENT SURFACE AREA TO PROVIDE A SURFACE SETTLING RATE OF NO MORE THAN 750 GALLONS PER SQUARE FOOT PER DAY AT THE HIGHEST DEWATERING PUMPING RATE. WATER MAY NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, A NEIGHBORING SITE, OR THE BED OR BANKS OF THE RECEIVING WATER. POLYMERS MAY BE USED AS DIRECTED BY DNR TECHNICAL STANDARD 1061 (DE-WATERING).
- IN NO CASE WILL RIP-RAP BE SMALLER THAN 3" TO 6".
- INLET FILTERS ARE TO BE PLACED IN STORMWATER INLET STRUCTURES AS SOON AS THEY ARE INSTALLED. ALL PROJECT AREA STORM INLETS NEED WISCONSIN D.O.T. TYPE D INLET PROTECTION. THE FILTERS SHALL BE MAINTAINED UNTIL THE CITY HAS ACCEPTED THE BINDER COURSE OF ASPHALT.
- RESTORATION (SEED, FERTILIZE AND MULCH) SHALL BE PER SPECIFICATIONS ON THIS SHEET UNLESS SPECIAL RESTORATION IS CALLED FOR ON THE LANDSCAPE PLAN.
- TERRACES SHALL BE RESTORED WITH 6" TOPSOIL, PERMANENT SEED, FERTILIZER AND MULCH. LOTS SHALL BE RESTORED WITH 6" TOPSOIL, TEMPORARY SEED, FERTILIZER AND MULCH.
- SEED, FERTILIZER AND MULCH SHALL BE APPLIED WITHIN 7 DAYS AFTER FINAL GRADE HAS BEEN ESTABLISHED. IF DISTURBED AREAS WILL NOT BE RESTORED IMMEDIATELY AFTER ROUGH GRADING, TEMPORARY SEED SHALL BE PLACED.
- FOR THE FIRST SIX WEEKS AFTER RESTORATION (E.G. SEED & MULCH, EROSION MAT, SOD) OF A DISTURBED AREA, INCLUDE SUMMER WATERING PROVISIONS OF ALL NEWLY SEEDED AND MULCHED AREAS WHENEVER 7 DAYS ELAPSE WITHOUT A RAIN EVENT.
- EROSION MAT (CLASS I, TYPE A URBAN PER WISCONSIN D.O.T. P.A.L.) SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER BUT LESS THAN 1:1.
- SILT FENCE OR EROSION MAT SHALL BE INSTALLED ALONG THE CONTOURS AT 100 FOOT INTERVALS DOWN THE SLOPE ON THE DISTURBED SLOPES STEEPER THAN 5% AND MORE THAN 100 FEET LONG THAT SHEET FLOW TO THE ROADWAY UNLESS SOIL STABILIZERS ARE USED.
- SILT FENCE TO BE USED ACROSS AREAS OF THE LOT THAT SLOPE TOWARDS A PUBLIC STREET OR WATERWAY. SEE DETAILS.
- SEDIMENT SHALL BE CLEANED FROM CURB AND GUTTER AFTER EACH RAINFALL AND PRIOR TO PROJECT ACCEPTANCE.
- ACCUMULATED CONSTRUCTION SEDIMENT SHALL BE REMOVED FROM ALL PERMANENT BASINS TO THE ELEVATION SHOWN ON THE GRADING PLAN FOLLOWING THE STABILIZATION OF DRAINAGE AREAS.
- ANY PROPOSED CHANGES TO THE EROSION CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CITY OF MADISON AND DNR.
- THE CITY, OWNER AND/OR ENGINEER MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AT ANY TIME DURING CONSTRUCTION.



SEEDING RATES:

TEMPORARY:

- USE ANNUAL OATS AT 3.0 LB./1,000 S.F. FOR SPRING AND SUMMER PLANTINGS.
- USE WINTER WHEAT OR RYE AT 3.0 LB./1,000 SF FOR FALL PLANTINGS STARTED AFTER SEPTEMBER 15.

PERMANENT:

- USE WISCONSIN D.O.T. SEED MIX #40 AT 2 LB./1,000 S.F.

FERTILIZING RATES:

TEMPORARY AND PERMANENT:

USE WISCONSIN D.O.T. TYPE A OR B AT 7 LB./1,000 S.F.

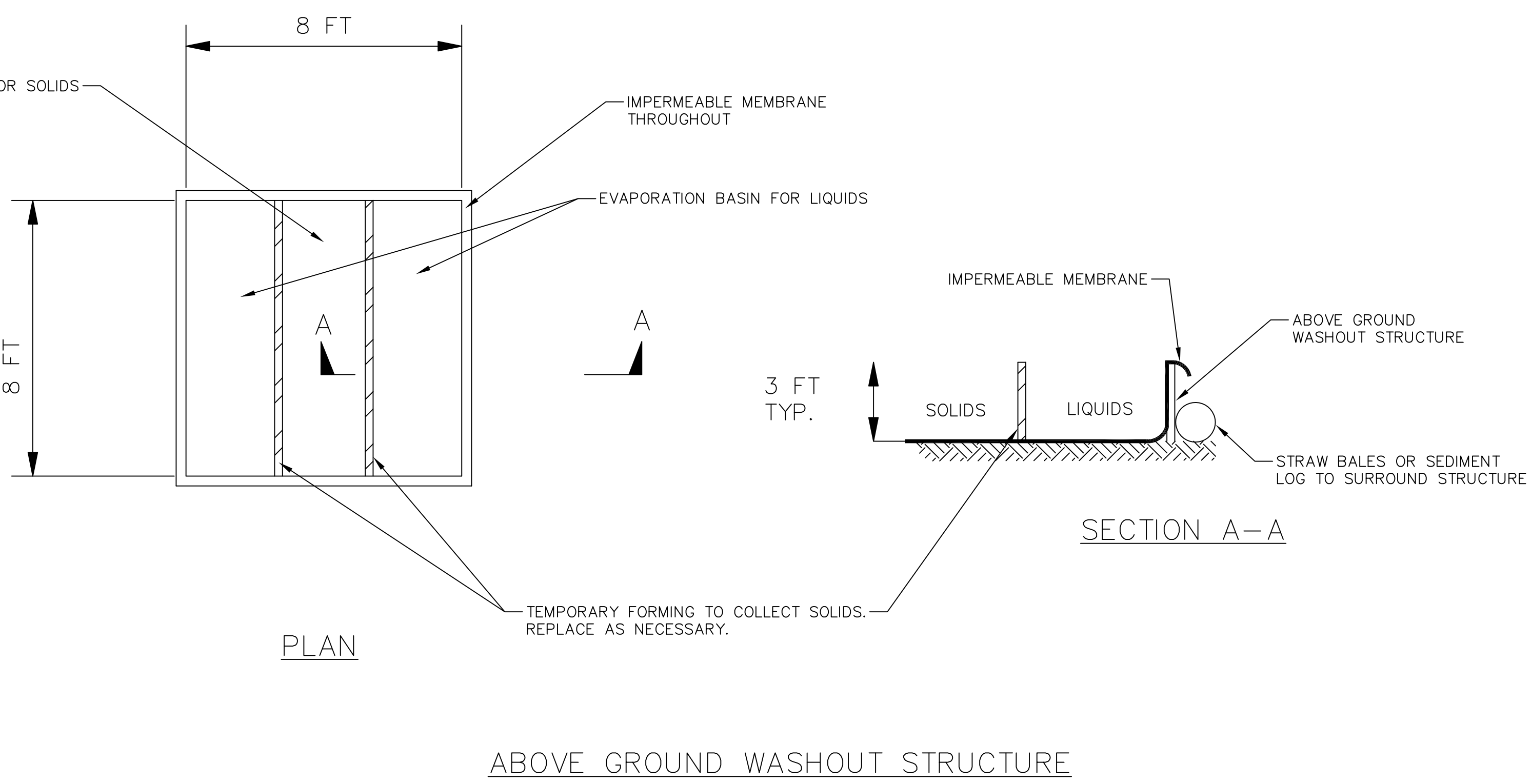
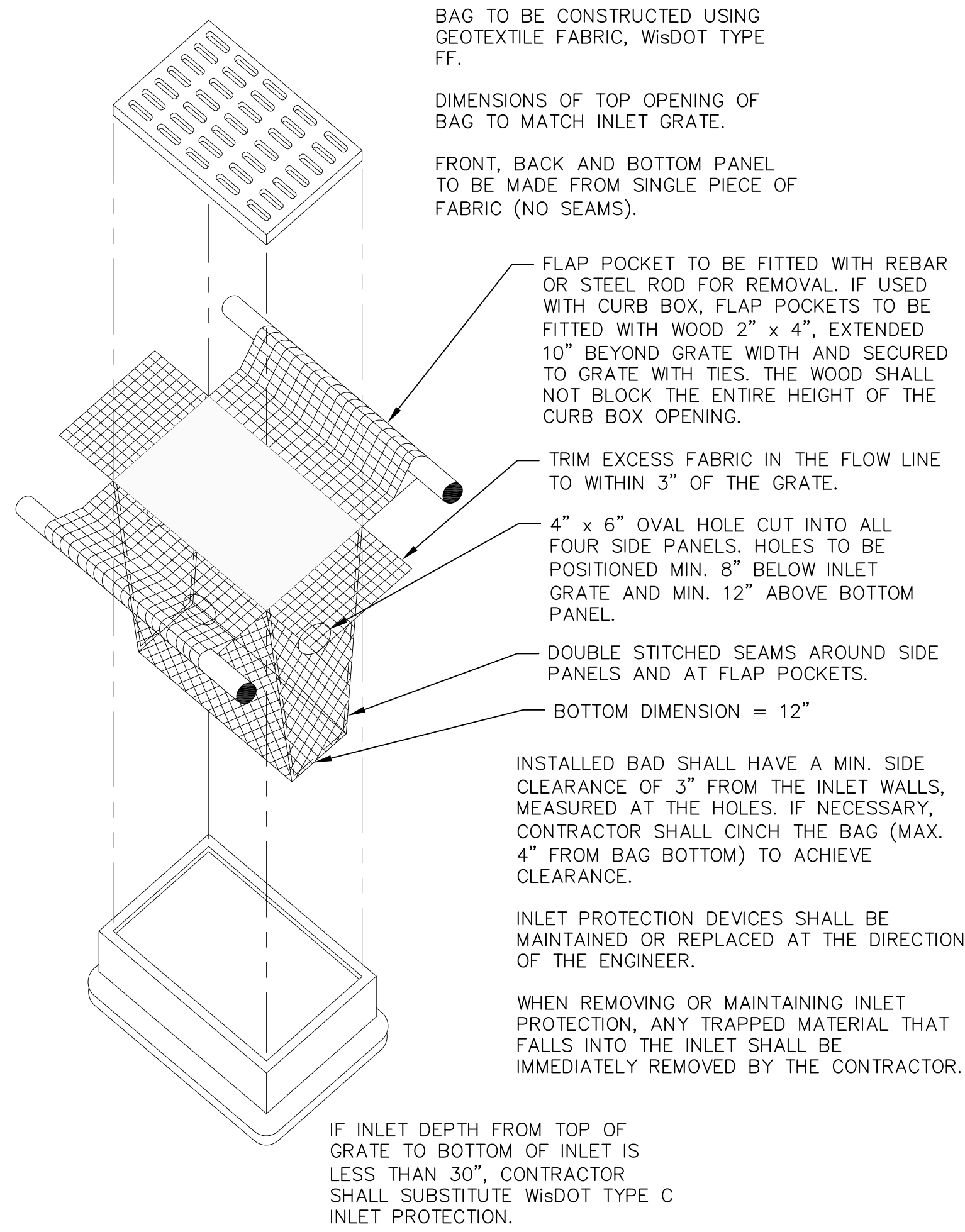
MULCHING RATES:

TEMPORARY AND PERMANENT:

USE 1/2" TO 1-1/2" STRAW OR HAY MULCH, CRIMPED PER SECTION 607.3.2.3, OR OTHER RATE AND METHOD PER SECTION 627. WISCONSIN D.O.T. STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION

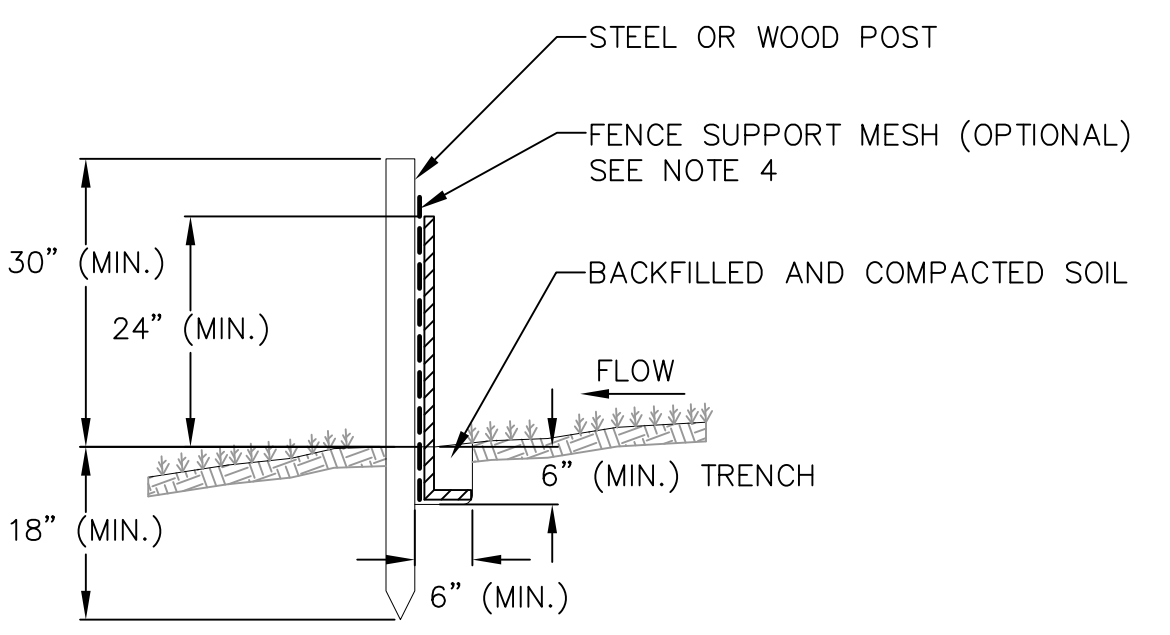
CONSTRUCTION SEQUENCE:

- INSTALL EROSION CONTROL MEASURES
- CONDUCT DEMOLITION
- STRIP TOPSOIL
- ROUGH GRADE SITE
- CONSTRUCT UNDERGROUND UTILITIES
- CONSTRUCT BUILDING
- CONSTRUCT PAVEMENTS (STONE BASE, CURB & CUTTER, AND SIDEWALK)
- RESTORE DISTURBED AREAS
- REMOVE EROSION CONTROL MEASURES AFTER DISTURBED AREAS ARE RESTORED



CONSTRUCTION SPECIFICATIONS

- WASHOUT STRUCTURE SHALL MEET THE REQUIREMENTS OF THE ABOVE DETAIL OR AS APPROVED BY THE ENGINEER.
- LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
- PREPARE BASE TO BE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
- KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.



1 SILT FENCE
NOT TO SCALE

2 INLET PROTECTION TYPE D
NOT TO SCALE

3 TEMPORARY CONCRETE WASHOUT (ABOVE GROUND)
NOT TO SCALE

MSR 710 South 2nd Street, 8th Floor
Minneapolis, Minnesota 55401-2282
Architecture 612.375.0336 tel
Interiors and Urban Design 612.342.2216 fax
www.msrdesign.com

Civil Engineer
Vierbicher Associates, Inc.
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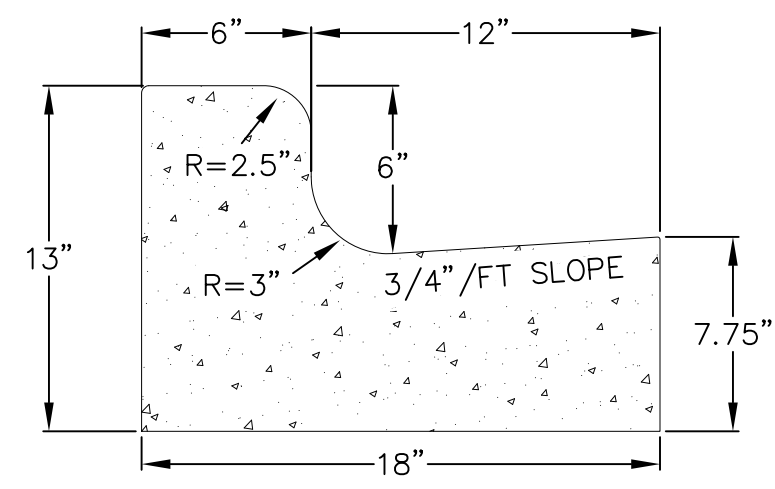


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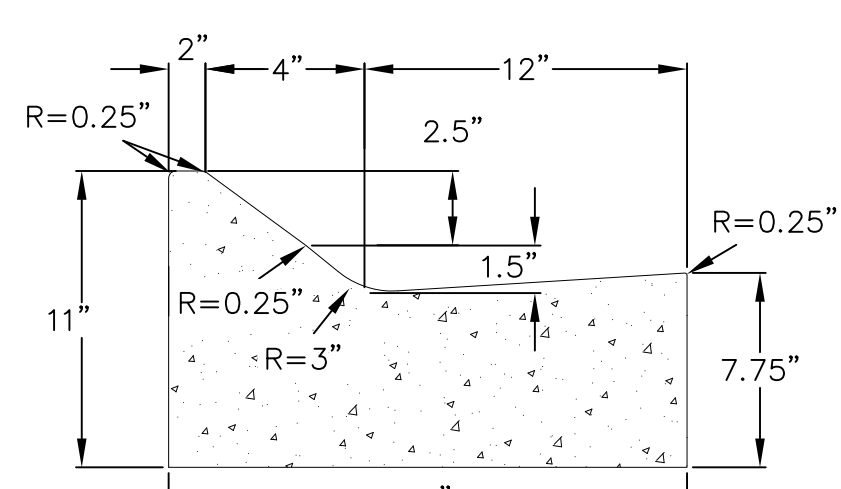
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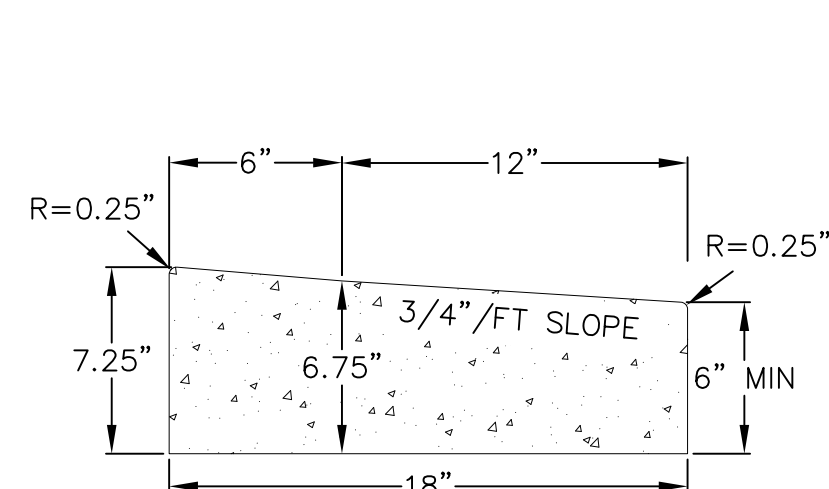
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EXHIBIT D
C600



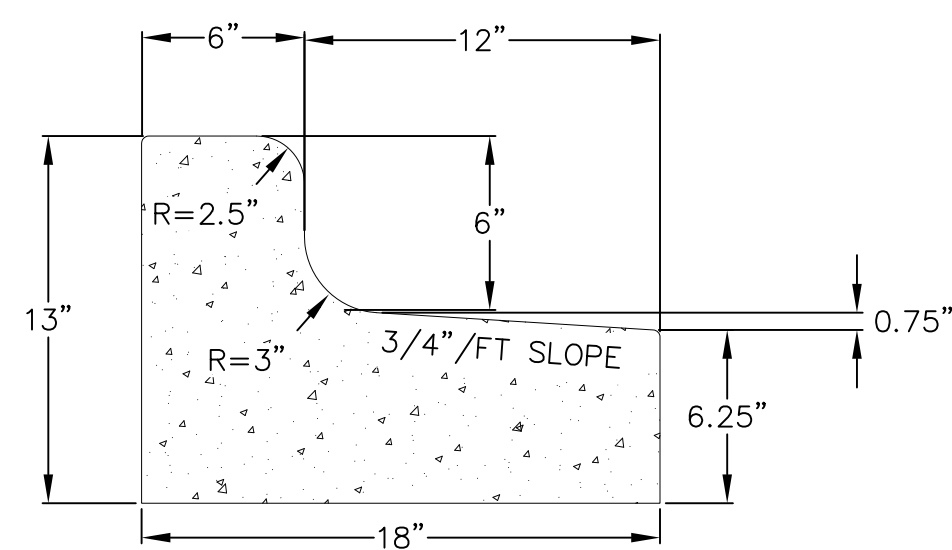
CURB AND GUTTER CROSS SECTION



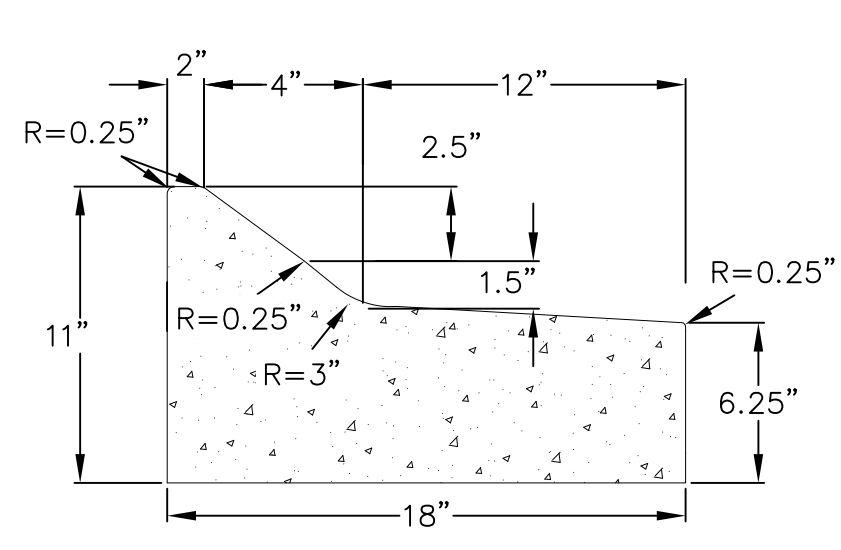
MOUNTABLE CURB AND GUTTER SECTION



FLUSH GUTTER REJECT SECTION



CURB AND GUTTER REJECT SECTION



MOUNTABLE CURB AND GUTTER REJECT SECTION

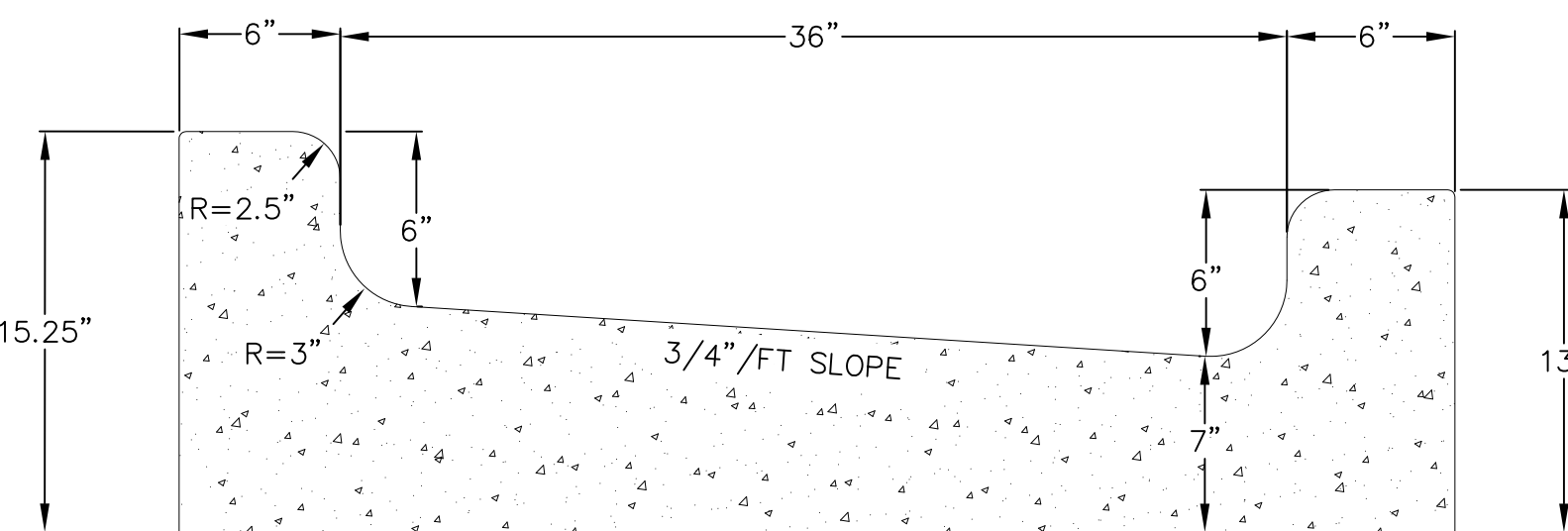
GENERAL NOTES:

LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15' NOR LESS THAN 6' IN LENGTH. THE JOINTS SHALL BE A MINIMUM OF 3" IN DEPTH.

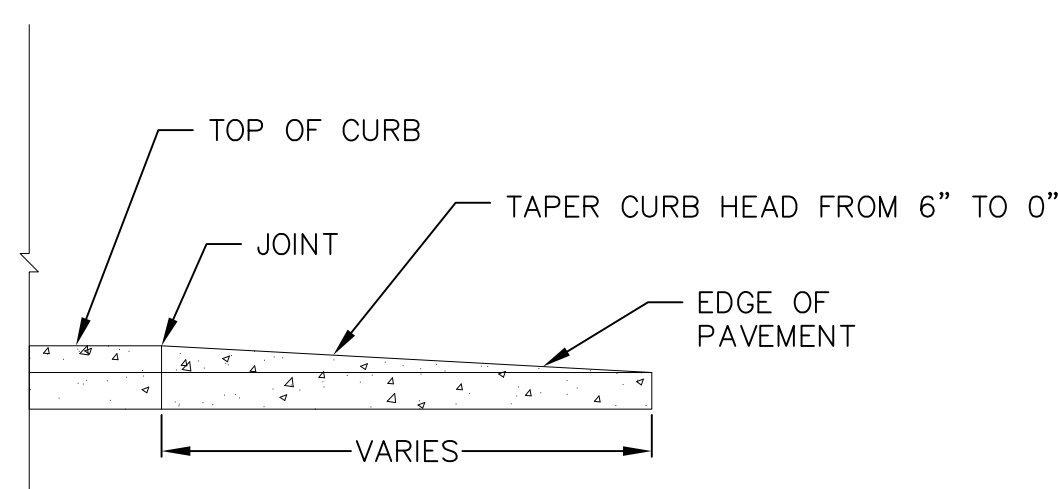
EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200' OR LESS, AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER. THE EXPANSION JOINT SHALL BE A ONE PIECE ASPHALTIC MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 0.5" THICK.

IN ALL CASES, CONCRETE CURB AND GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.

1 18" CONCRETE CURB AND GUTTER NOT TO SCALE



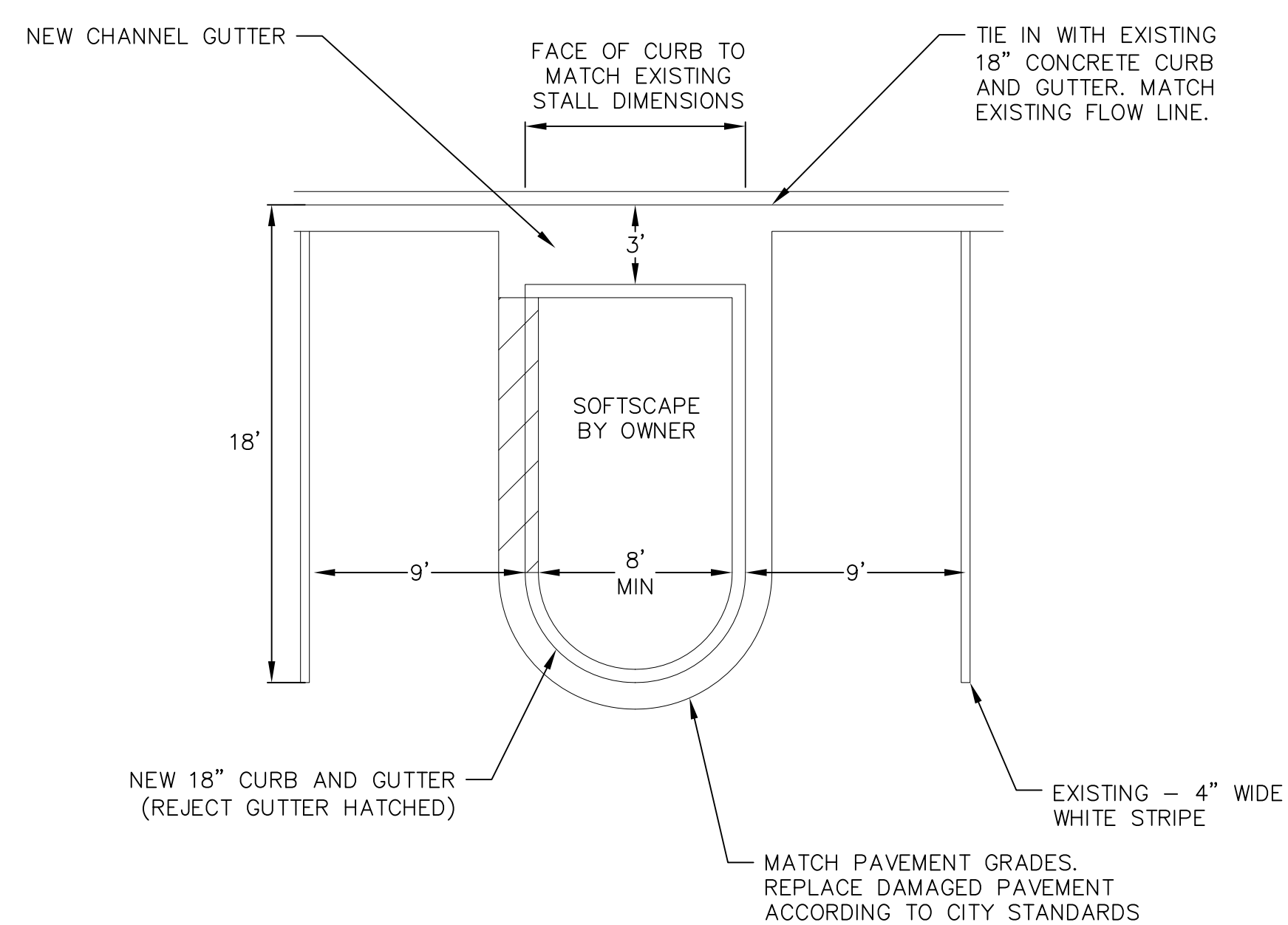
CHANNEL GUTTER SECTION



PROFILE VIEW

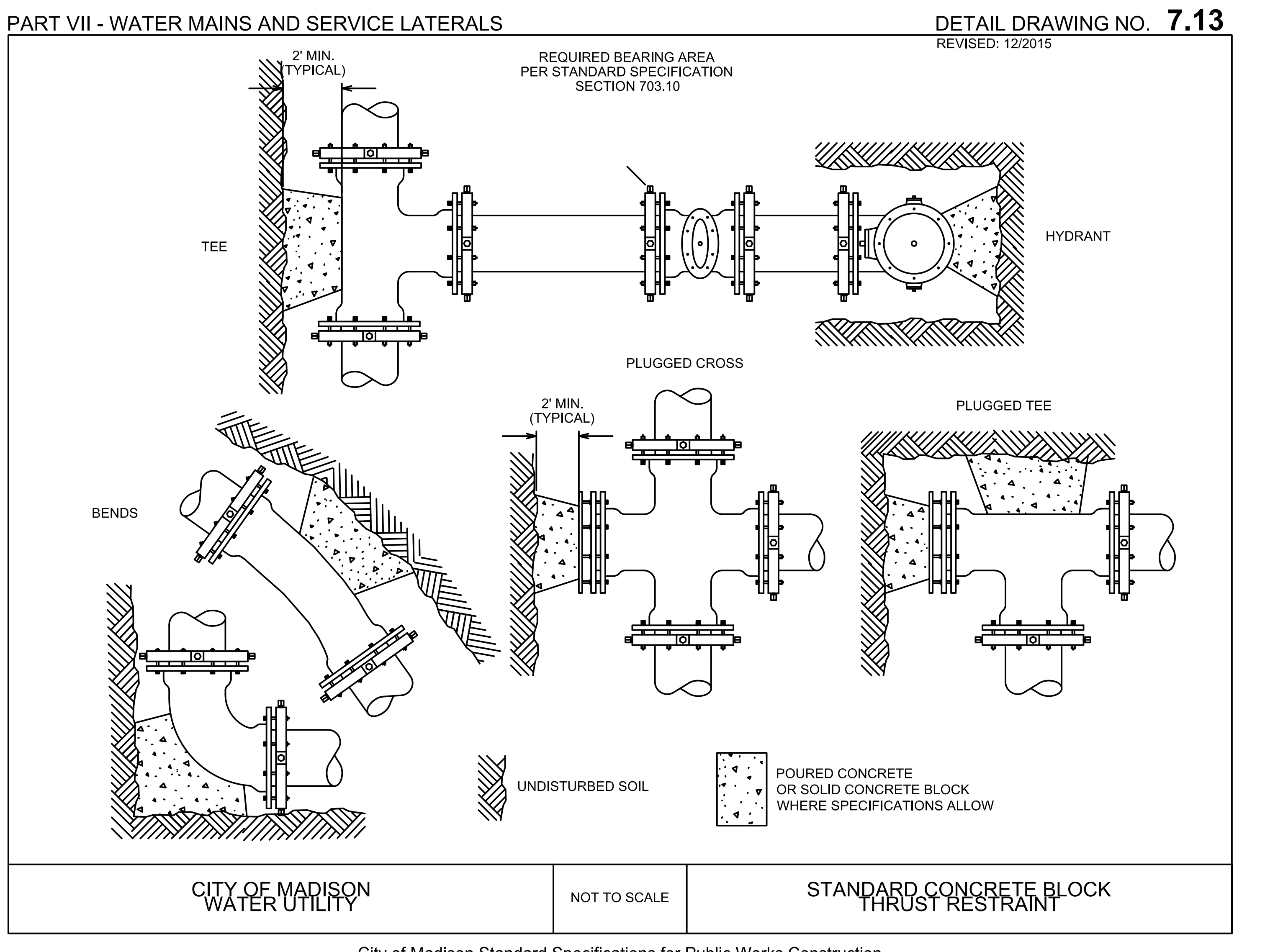
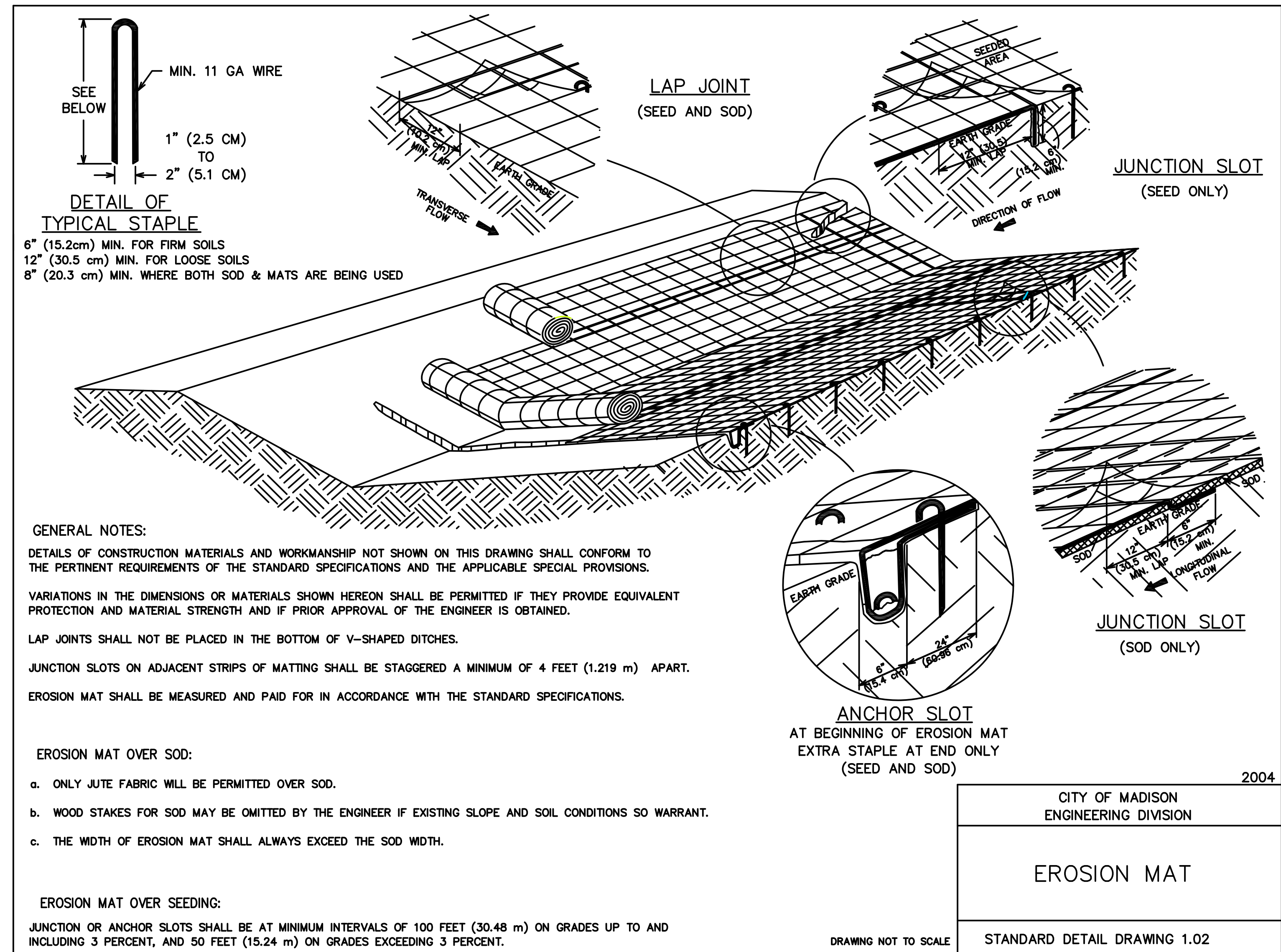
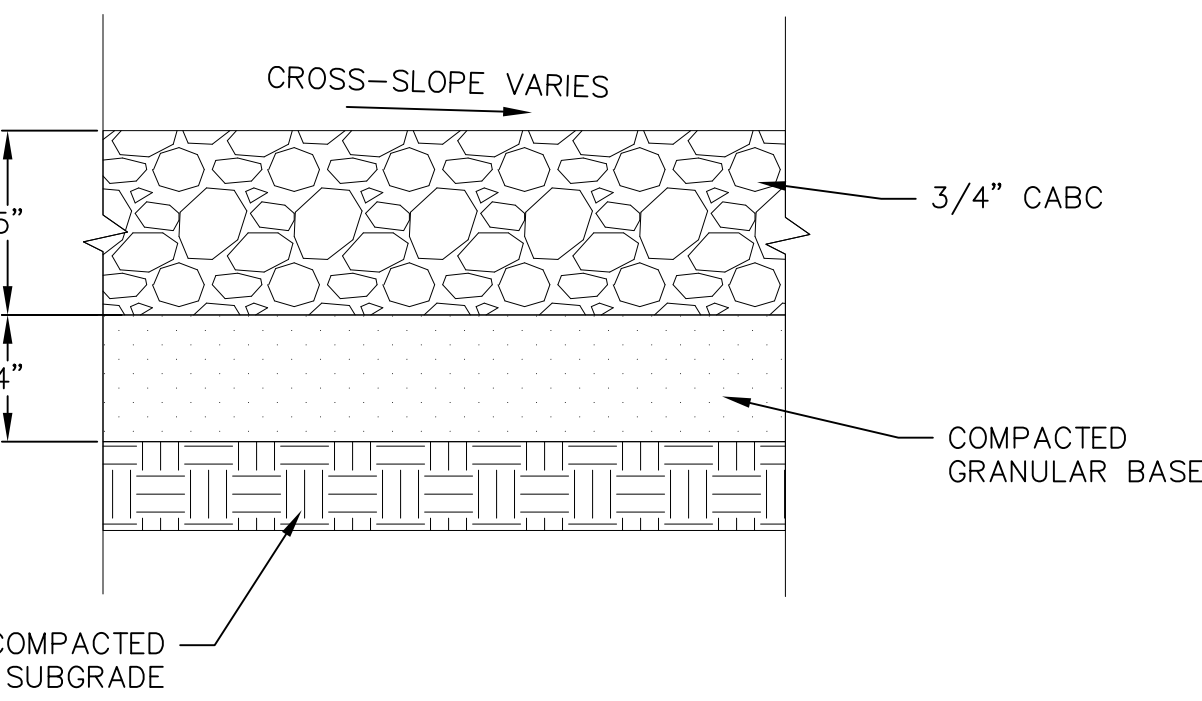
2 CHANNEL GUTTER NOT TO SCALE

3 CURB & GUTTER TERMINATION NOT TO SCALE



4 LANDSCAPED ISLAND NOT TO SCALE

5 COMPACTED GRAVEL NOT TO SCALE



CITY OF MADISON WATER UTILITY NOT TO SCALE STANDARD CONCRETE BLOCK THRUST RESTRAINT

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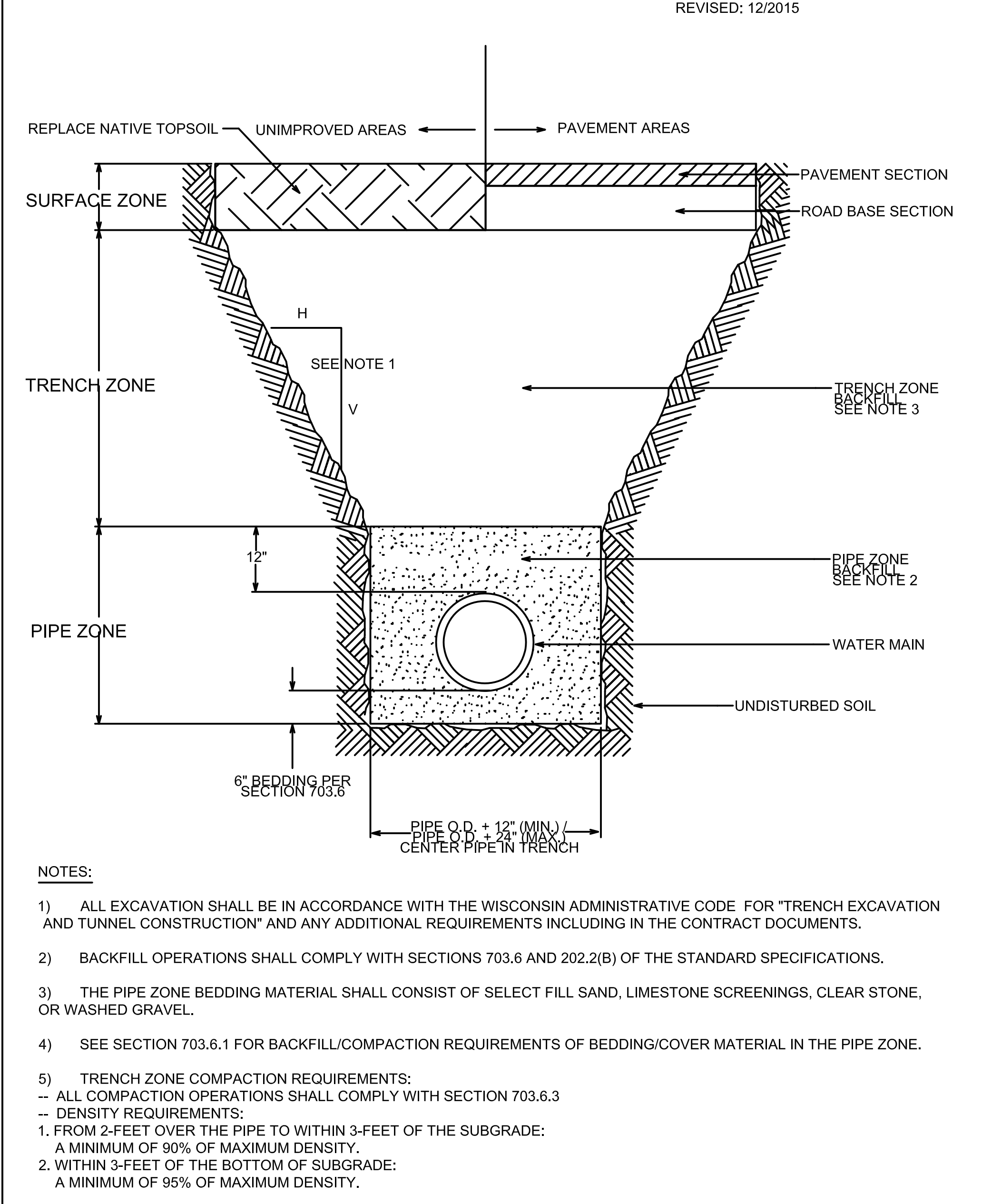
PROJECT NO.	2017016
PROJECT PHASE	BID DOCUMENTS
DRAWN BY:	SCHR
CHECKED BY:	MSCH

CONSTRUCTION DETAILS - 2

EXHIBIT D
C601

27 May 2018 - 4:00p MA,MSR (Meyer, Scherer & Rockcastle Llc)\140322 Oilbrich Botanical Gardens Madison\CADD\60322 - Construction Details.dwg by: schr

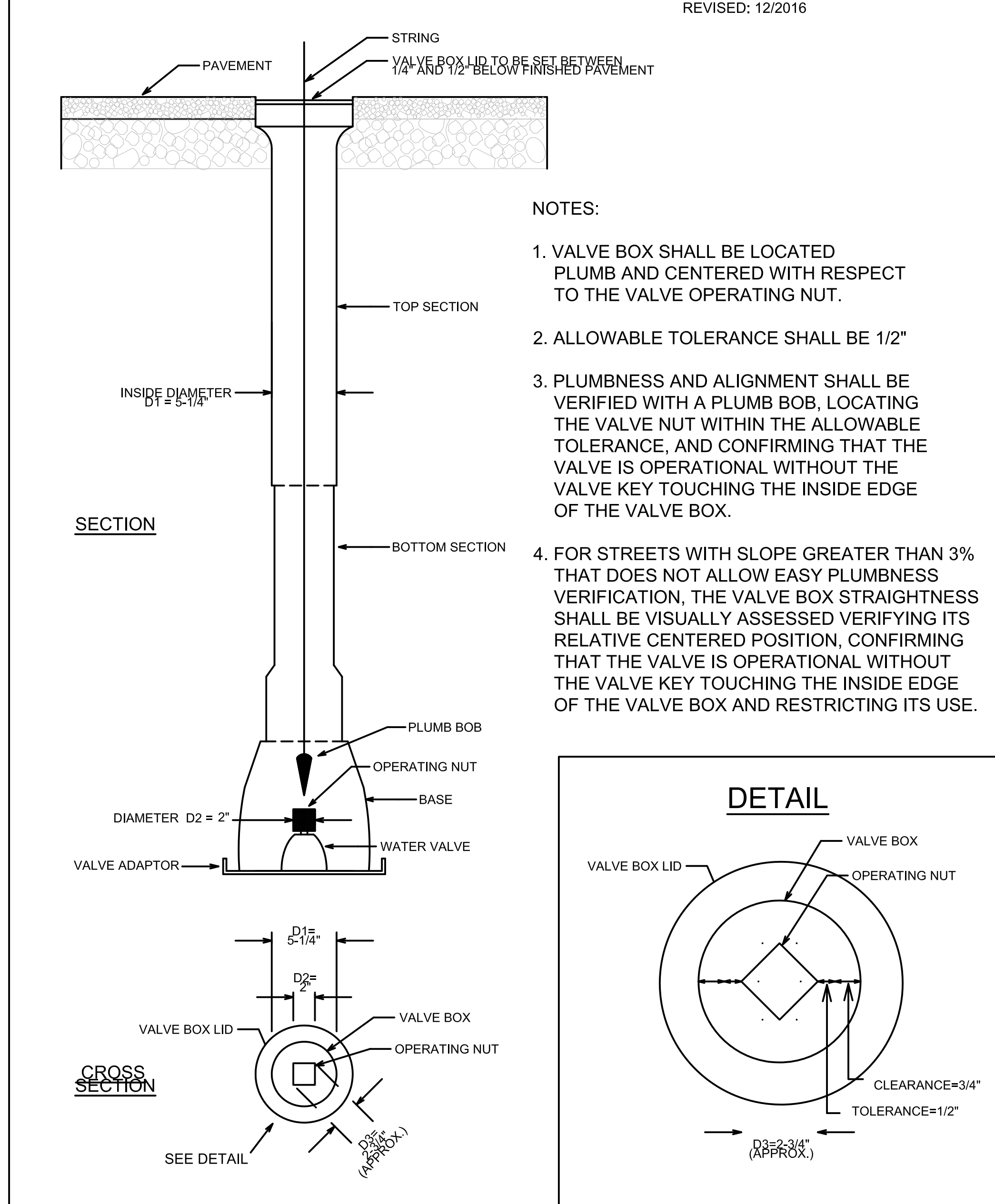
PART VII - WATER MAINS AND SERVICE LATERALS
 DETAIL DRAWING NO. 7.01
 REVISED: 12/2015



CITY OF MADISON WATER UTILITY
 NOT TO SCALE
 TYPICAL WATER PIPE TRENCH

City of Madison Standard Specifications for Public Works Construction

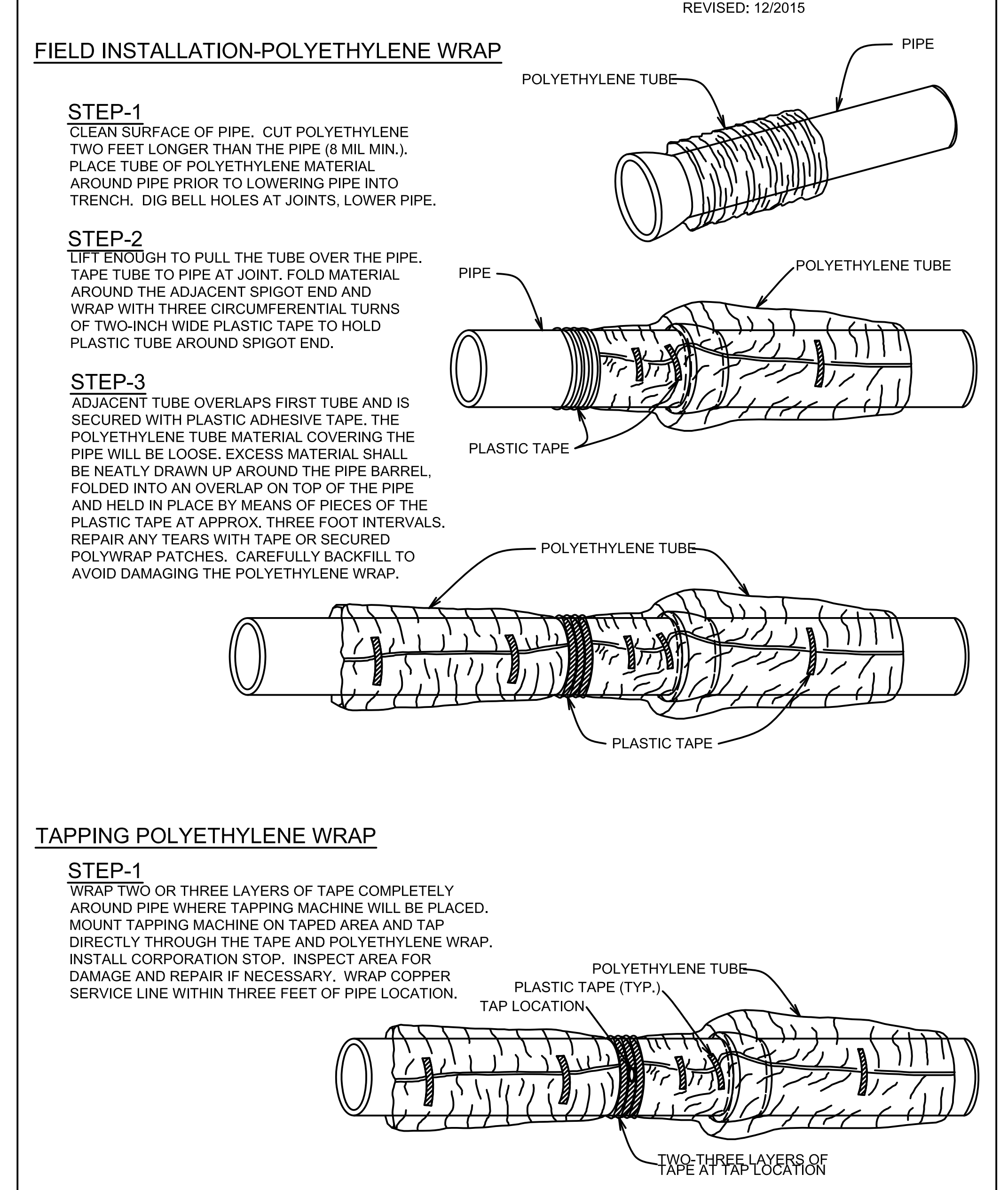
PART VII - WATER MAINS AND SERVICE LATERALS
 DETAIL DRAWING NO. 7.06
 REVISED: 12/2016



CITY OF MADISON WATER UTILITY
 NOT TO SCALE
 WATER VALVE BOX ALIGNMENT

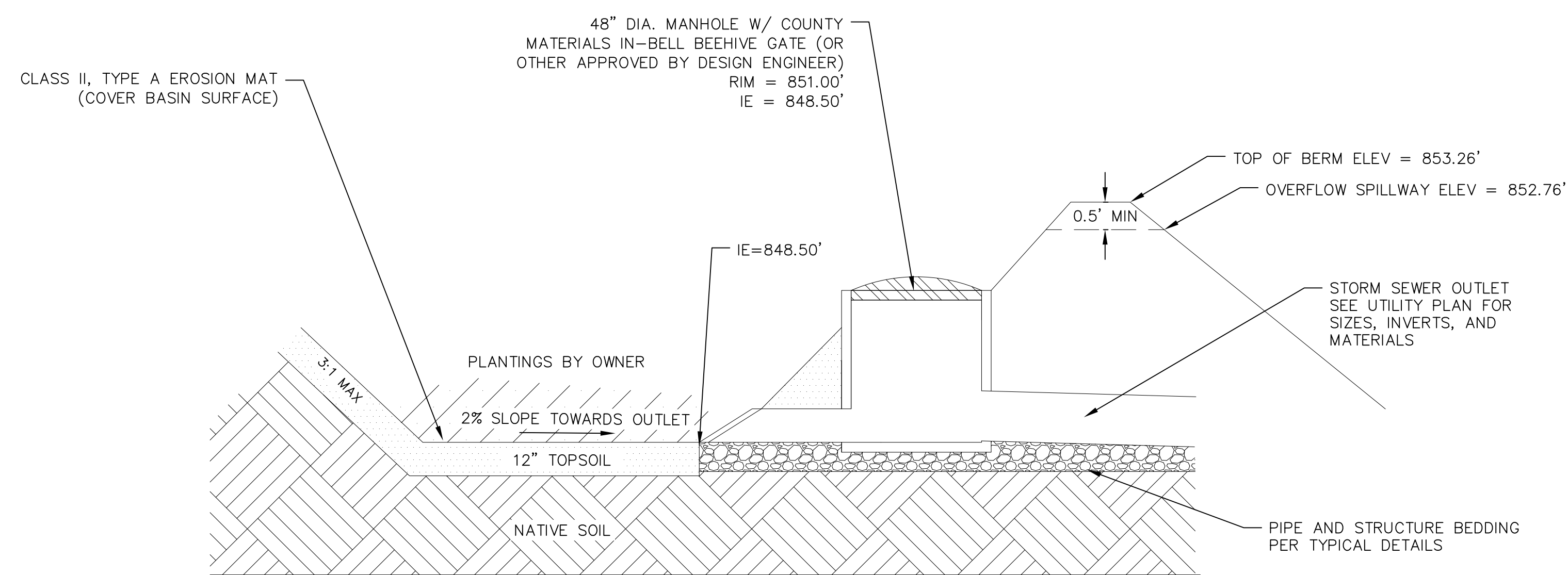
City of Madison Standard Specifications for Public Works Construction

PART VII - WATER MAINS AND SERVICE LATERALS
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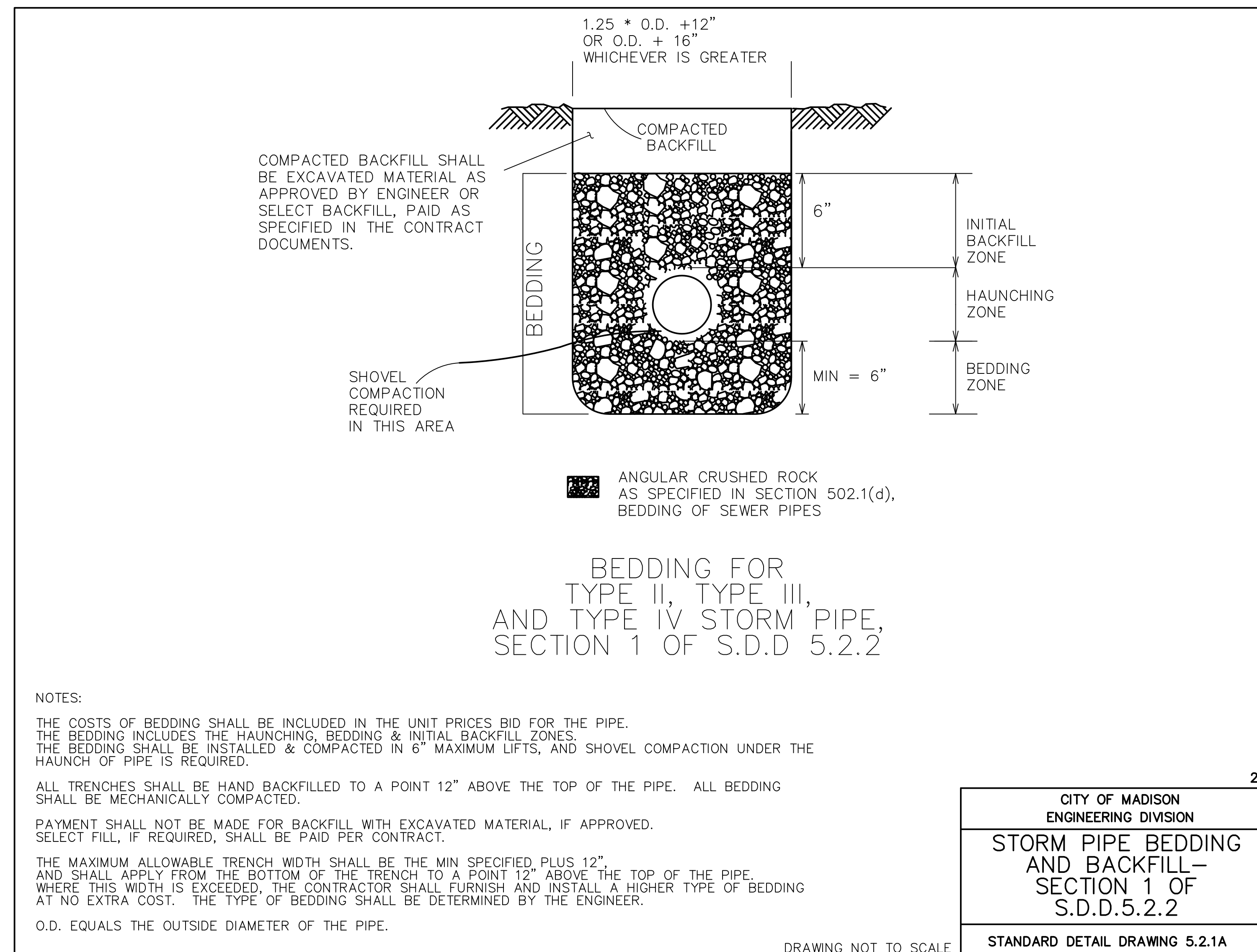
CITY OF MADISON WATER UTILITY
 NOT TO SCALE
 FIELD INSTALLATION POLYETHYLENE WRAP / TAPPING POLYETHYLENE WRAP

City of Madison Standard Specifications for Public Works Construction



1 DRY DETENTION BASIN
 602 NOT TO SCALE

City of Madison Standard Specifications for Public Works Construction



2017
 CITY OF MADISON ENGINEERING DIVISION
 STORM PIPE BEDDING AND BACKFILL - SECTION 1 OF S.D.D. 5.2.2
 STANDARD DETAIL DRAWING 5.2.1A

City of Madison Standard Specifications for Public Works Construction

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 www.msrdesign.com

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 5513 Vase Street
 Cincinnati, OH 45217
 513.242.0210 tel

**Olbriich Botanical Gardens:
 Expansion Phase 1**
 3330 Atwood Avenue
 Madison, WI 53704

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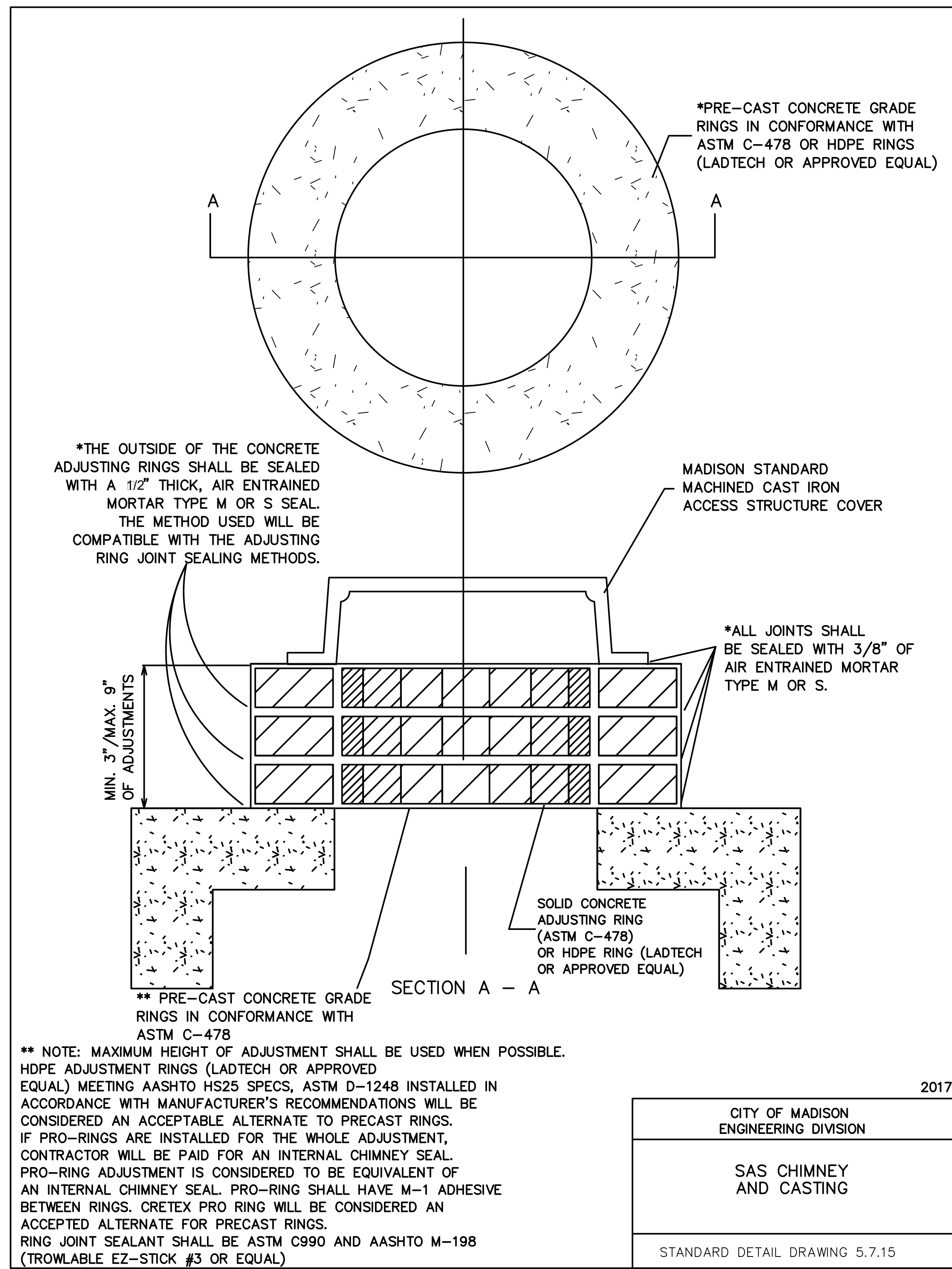
Signature: _____
 Print Name: MATTHEW W. SCHREINER
 Date: 06.04.2018 License No.: E-41147

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	12.08.2017	CD PRICING SET
	01.10.2018	DESIGN DEVELOPMENT SUBMISSION
	01.17.2018	UDC SUBMISSION
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	06.04.2018	PERMIT ISSUE

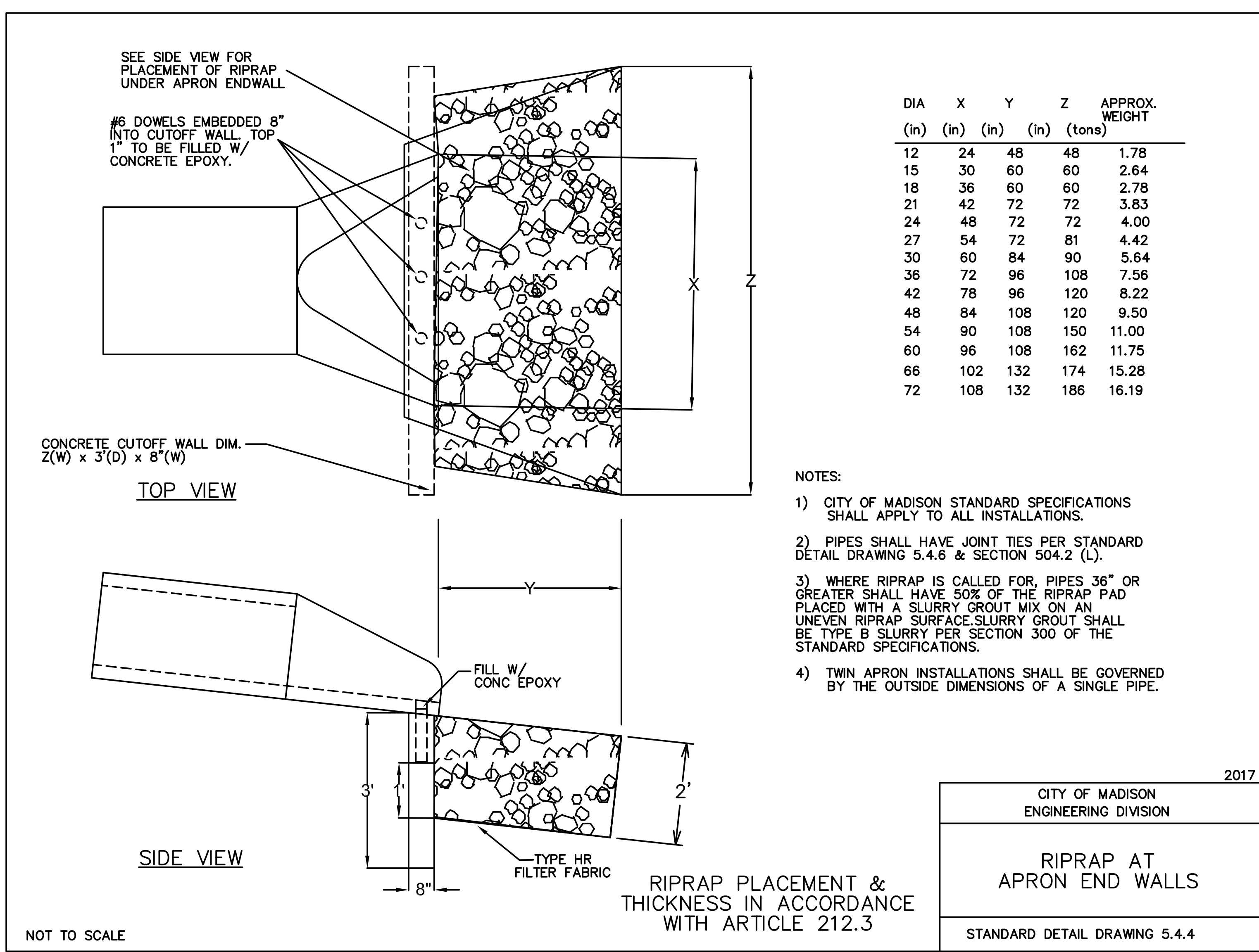
PROJECT NO. 2017016
 PROJECT PHASE BID DOCUMENTS
 DRAWN BY: MSCH CHECKED BY: MSCH
COSNTRUCTION DETAILS - 3

EXHIBIT D
C602

27 May 2018 - 6:00p MA:MSR (Meyer, Schreier & Rockcastle Ltd)\140322 Olbriich Botanical Gardens Madison\CADD\60322 - Construction Details.dwg by: sctf



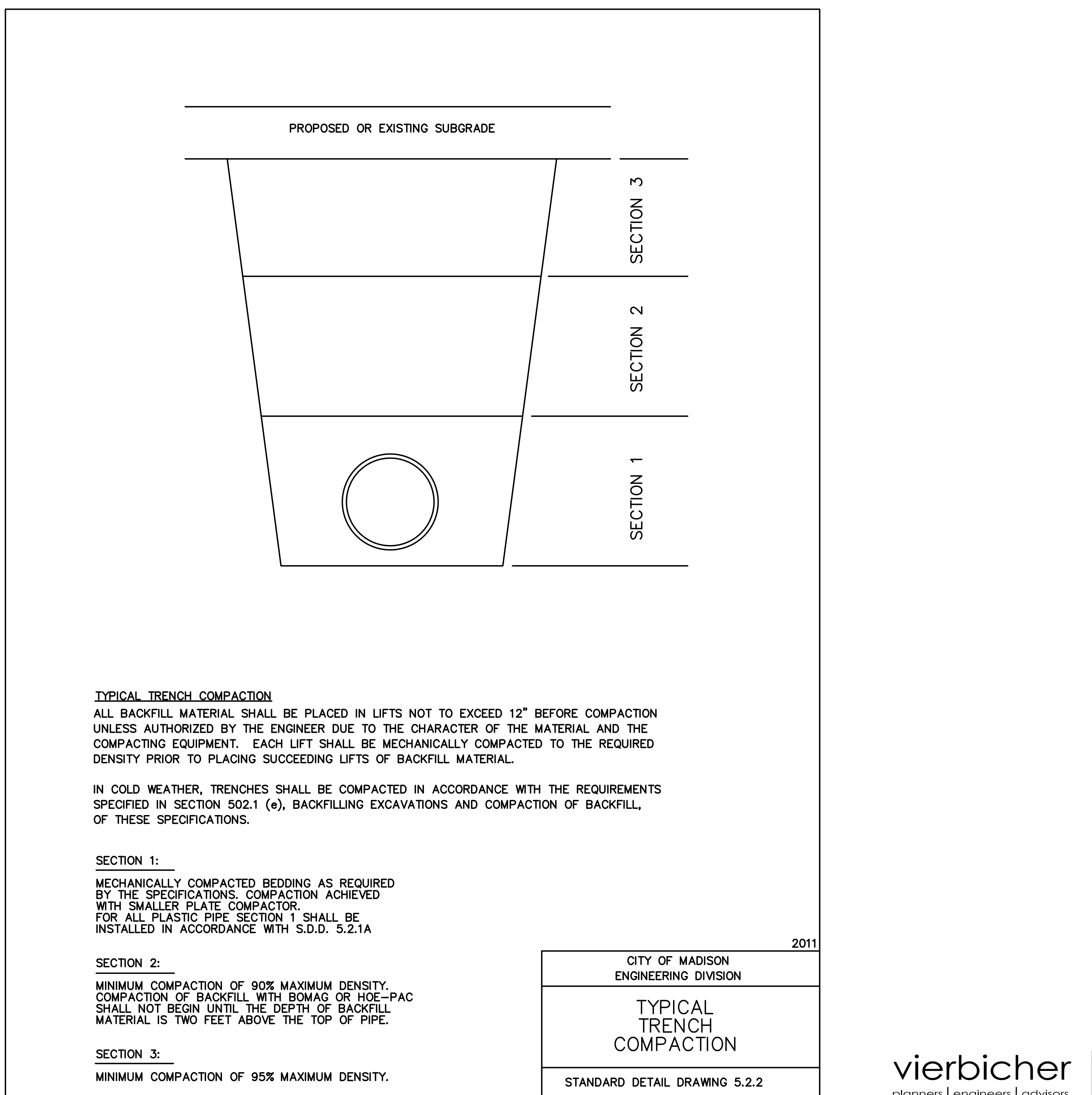
CITY OF MADISON ENGINEERING DIVISION
SAS CHIMNEY AND CASTING
STANDARD DETAIL DRAWING 5.7.15



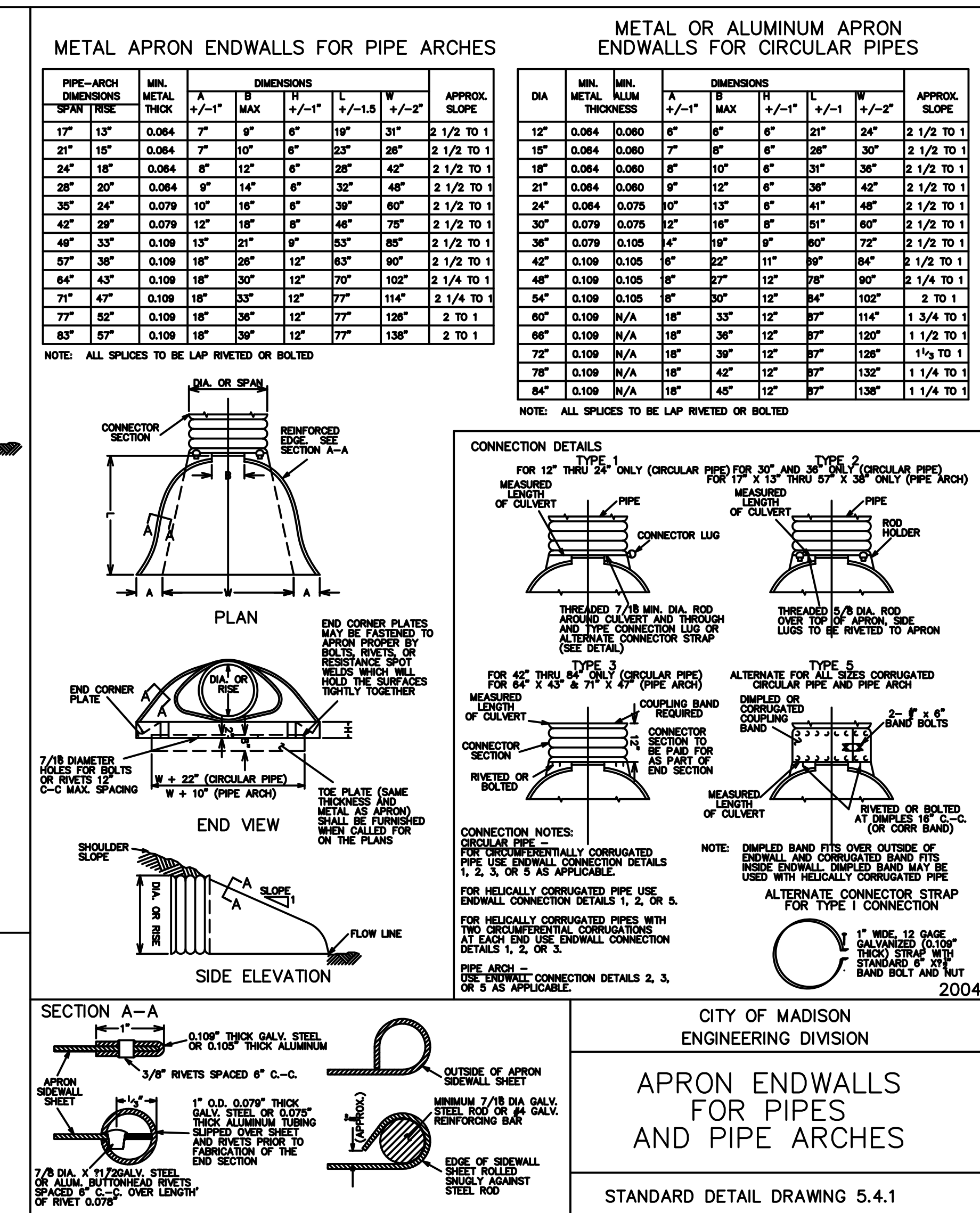
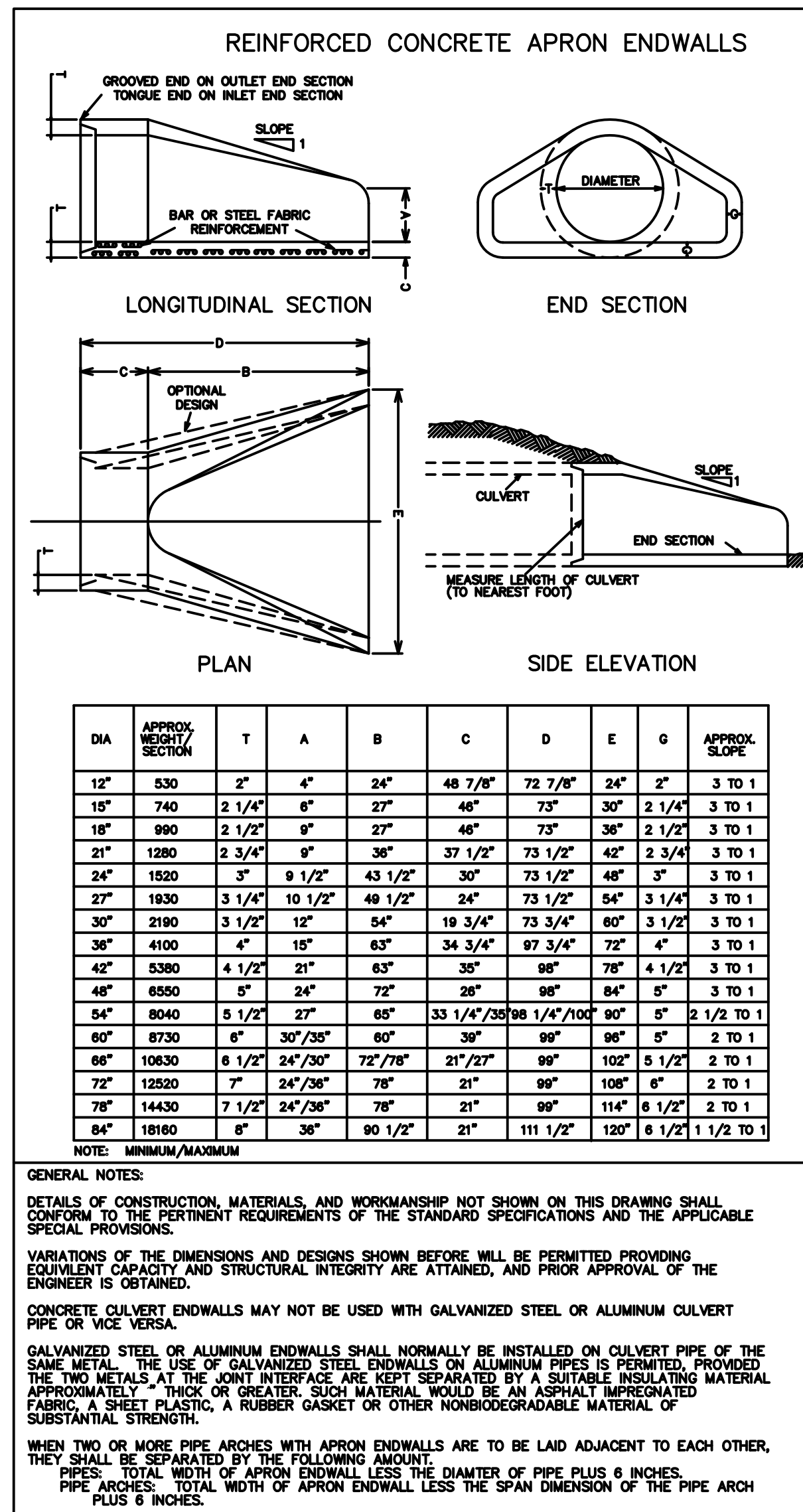
- NOTES:
- 1) CITY OF MADISON STANDARD SPECIFICATIONS SHALL APPLY TO ALL INSTALLATIONS.
 - 2) PIPES SHALL HAVE JOINT TIES PER STANDARD DETAIL DRAWING 5.4.6 & SECTION 504.2 (L).
 - 3) WHERE RIPRAP IS CALLED FOR, PIPES 36" OR GREATER SHALL HAVE 50% OF THE RIPRAP PAD PLACED WITH A SLURRY GROUT MIX ON AN UNEVEN RIPRAP SURFACE. SLURRY GROUT SHALL BE TYPE B SLURRY PER SECTION 300 OF THE STANDARD SPECIFICATIONS.
 - 4) TWIN APRON INSTALLATIONS SHALL BE GOVERNED BY THE OUTSIDE DIMENSIONS OF A SINGLE PIPE.

DIA (in)	X (in)	Y (in)	Z (in)	APPROX. WEIGHT (tons)
12	24	48	48	1.78
15	30	60	60	2.64
18	36	60	60	2.78
21	42	72	72	3.83
24	48	72	72	4.00
27	54	72	81	4.42
30	60	84	90	5.64
36	72	96	108	7.56
42	78	96	120	8.22
48	84	108	120	9.50
54	90	108	150	11.00
60	96	108	162	11.75
66	102	132	174	15.28
72	108	132	186	16.19

CITY OF MADISON ENGINEERING DIVISION
RIPRAP AT APRON WALLS
STANDARD DETAIL DRAWING 5.4.4



CITY OF MADISON ENGINEERING DIVISION
TYPICAL TRENCH COMPACTION
STANDARD DETAIL DRAWING 5.2.2



CITY OF MADISON ENGINEERING DIVISION
APRON ENDWALLS FOR PIPES AND PIPE ARCHES
STANDARD DETAIL DRAWING 5.4.1

MSR 710 South 2nd Street, 8th Floor
Minneapolis, Minnesota 55401-2822
612.375.0336 tel
612.342.2216 fax
www.msrdesign.com

Architecture
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Civil Engineer
Vierbicher Associates, Inc.
999 Fourth Drive, Suite 201
Madison, WI 53717
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Cincinnati, OH 45217
513.242.0310 tel

**Oilbrich Botanical Gardens:
Expansion Phase 1**
3330 Atwood Avenue
Madison, WI 53704

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the Laws of the State of Wisconsin.

MATTHEW W. SCHREINER
E-41147
MADISON WI
Professional Engineer
6.4.18

Signature: _____
Print Name: **MATTHEW W. SCHREINER**
Date: 06.04.2018 License No: E-41147

ISSUE	DATE	DESCRIPTION
09.29.2017	SCHEMATIC DESIGN SUBMISSION	
12.08.2017	DD PRICING SET	
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06.04.2018	PERMIT ISSUE	

PROJECT NO. 2017016
PROJECT PHASE BID DOCUMENTS
DRAWN BY: SCHR CHECKED BY: MSCH
CITY OF MADISON ENGINEERING DIVISION

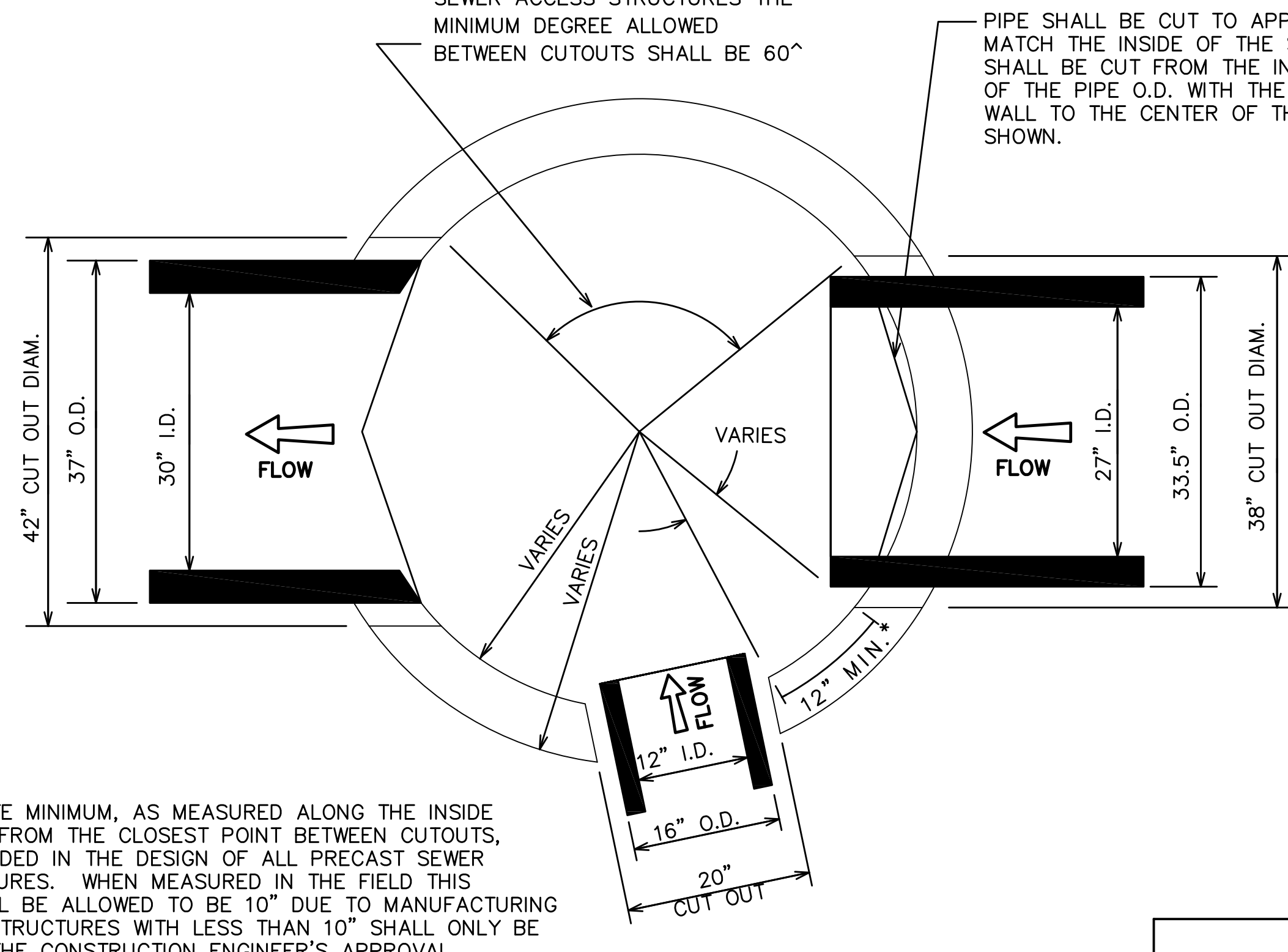
CONSTRUCTION DETAILS - 4
EXHIBIT D
C603

vierbicher planners | engineers | architects
Phone: (800) 261-3898

NOTE: ALL STORM SEWER ACCESS STRUCTURES (S.A.S.) SHALL BE CONSTRUCTED IN COMPLIANCE WITH ASTM C478

NOTE: FOR STRAIGHT THROUGH PIPE ALIGNMENTS IN STORM SEWER ACCESS STRUCTURES THE MINIMUM DEGREE ALLOWED BETWEEN CUTOUTS SHALL BE 60°

PIPE SHALL BE CUT TO APPROXIMATELY MATCH THE INSIDE OF THE S.A.S.. PIPES SHALL BE CUT FROM THE INTERSECTION OF THE PIPE O.D. WITH THE STRUCTURE WALL TO THE CENTER OF THE PIPE AS SHOWN.



* 12" OF CONCRETE MINIMUM, AS MEASURED ALONG THE INSIDE WALL RADIALLY FROM THE CLOSEST POINT BETWEEN CUTOUTS, SHALL BE PROVIDED IN THE DESIGN OF ALL PRECAST SEWER ACCESS STRUCTURES. WHEN MEASURED IN THE FIELD THIS DIMENSION SHALL BE ALLOWED TO BE 10" DUE TO MANUFACTURING TOLERANCES. STRUCTURES WITH LESS THAN 10" SHALL ONLY BE ALLOWED WITH THE CONSTRUCTION ENGINEER'S APPROVAL.

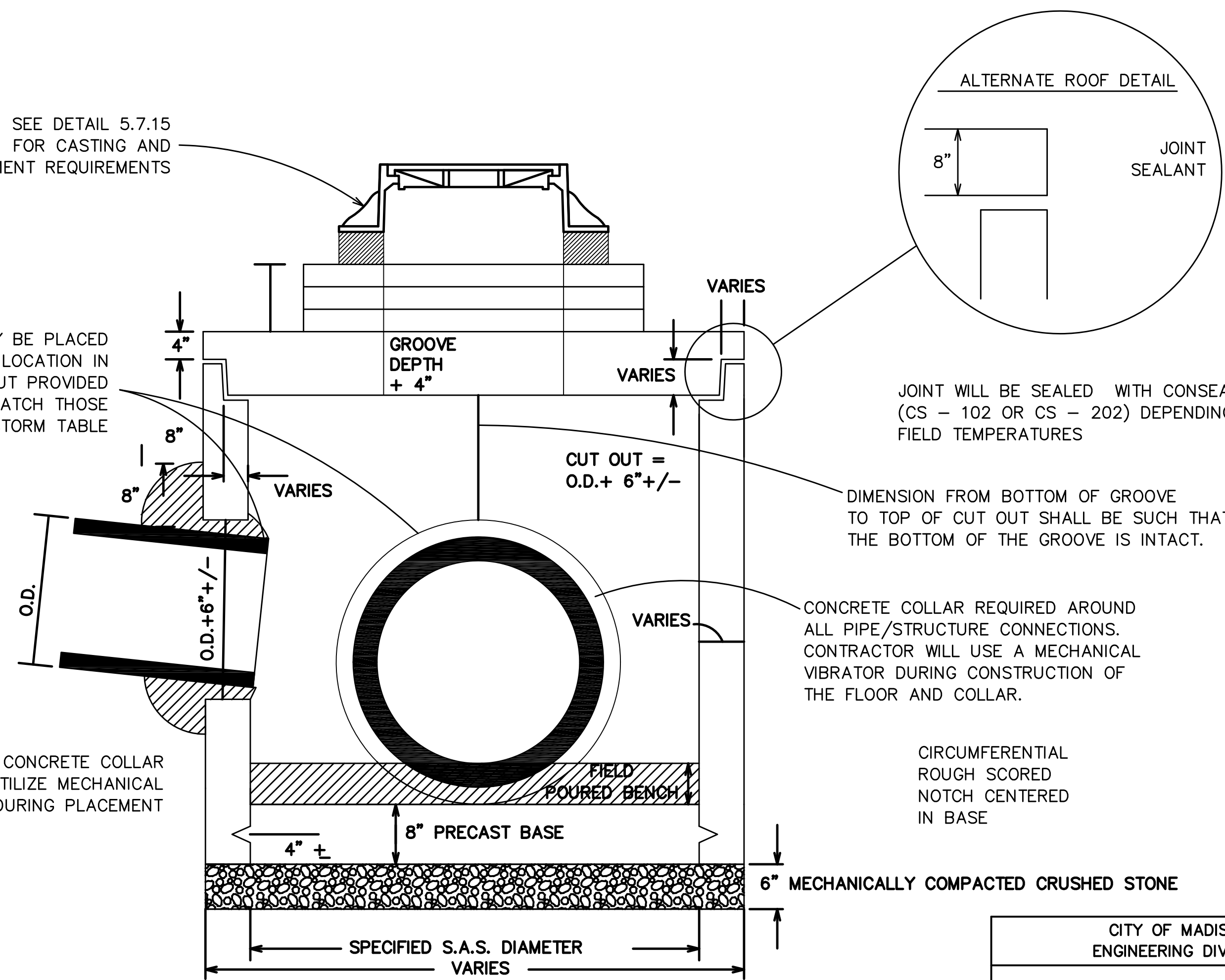
** NOTE: PIPES SHOWN IN VARIOUS CONSTRUCTION STAGES FOR ILLUSTRATIVE PURPOSES.

2004
CITY OF MADISON ENGINEERING DIVISION
STORM SEWER PRECAST SAS (TOP VIEW)
STANDARD DETAIL DRAWING 5.7.6

SEE DETAIL 5.7.15 FOR CASTING AND ADJUSTMENT REQUIREMENTS

PIPE MAY BE PLACED AT ANY LOCATION IN CUT OUT PROVIDED INVERTS MATCH THOSE IN THE STORM TABLE

CONCRETE COLLAR SHALL UTILIZE MECHANICAL VIBRATOR DURING PLACEMENT



JOINT WILL BE SEALED WITH CONSEAL (CS - 102 OR CS - 202) DEPENDING ON FIELD TEMPERATURES

DIMENSION FROM BOTTOM OF GROOVE TO TOP OF CUT OUT SHALL BE SUCH THAT THE BOTTOM OF THE GROOVE IS INTACT.

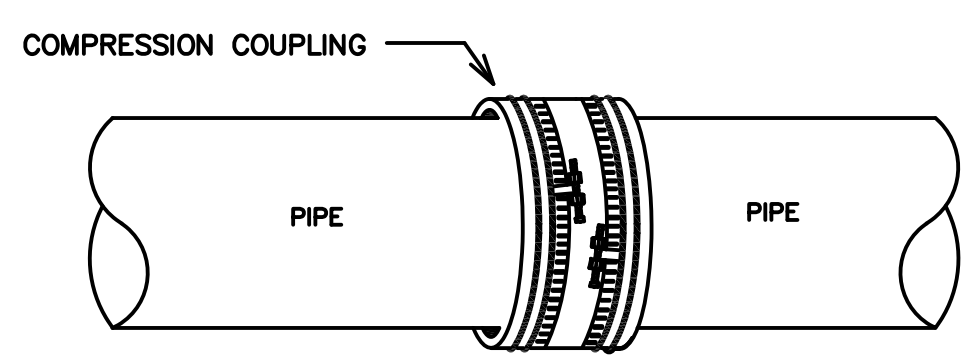
CONCRETE COLLAR REQUIRED AROUND ALL PIPE/STRUCTURE CONNECTIONS. CONTRACTOR WILL USE A MECHANICAL VIBRATOR DURING CONSTRUCTION OF THE FLOOR AND COLLAR.

CIRCUMFERENTIAL ROUGH SCORED NOTCH CENTERED IN BASE

2006
CITY OF MADISON ENGINEERING DIVISION
STORM SEWER PRECAST SAS (THROUGH SECTION VIEW)
STANDARD DETAIL DRAWING 5.7.5

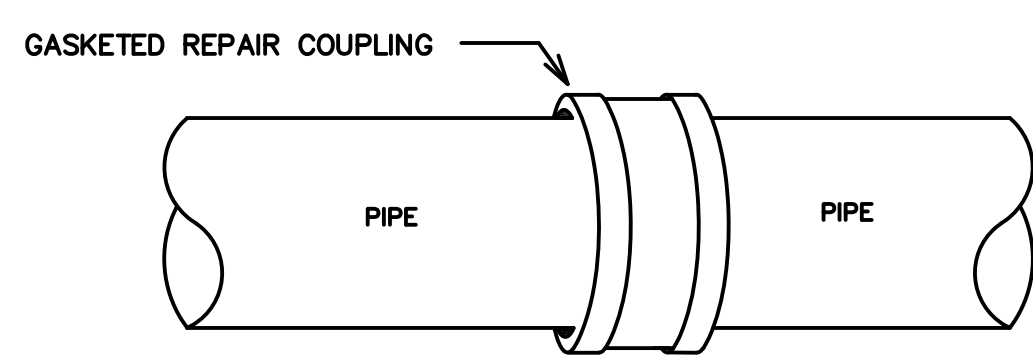
COMPRESSION COUPLING

PIPES WITH DIFFERENT MATERIAL TYPES
PIPES WITH DIFFERENT OUTSIDE DIAMETERS



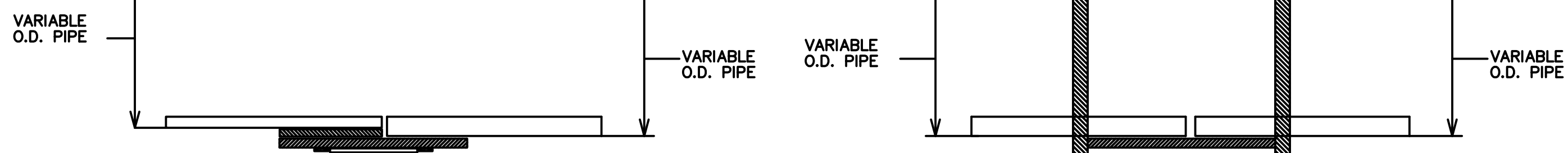
GASKETED REPAIR COUPLING

PVC TO PVC CONNECTION



COMPRESSION COUPLING, CONFORMING TO:
ASTM C-425 ALL PIPES REPAIR CONNECTIONS INVOLVING PIPE SMALLER THAN 8" IN DIAMETER.
ASTM C-1173 ALL PIPE REPAIR CONNECTIONS INVOLVING PIPE GREATER THAN OR EQUAL TO 8" IN DIAMETER TO PIPES GREATER OR THAN EQUAL TO 8" IN DIAMETER

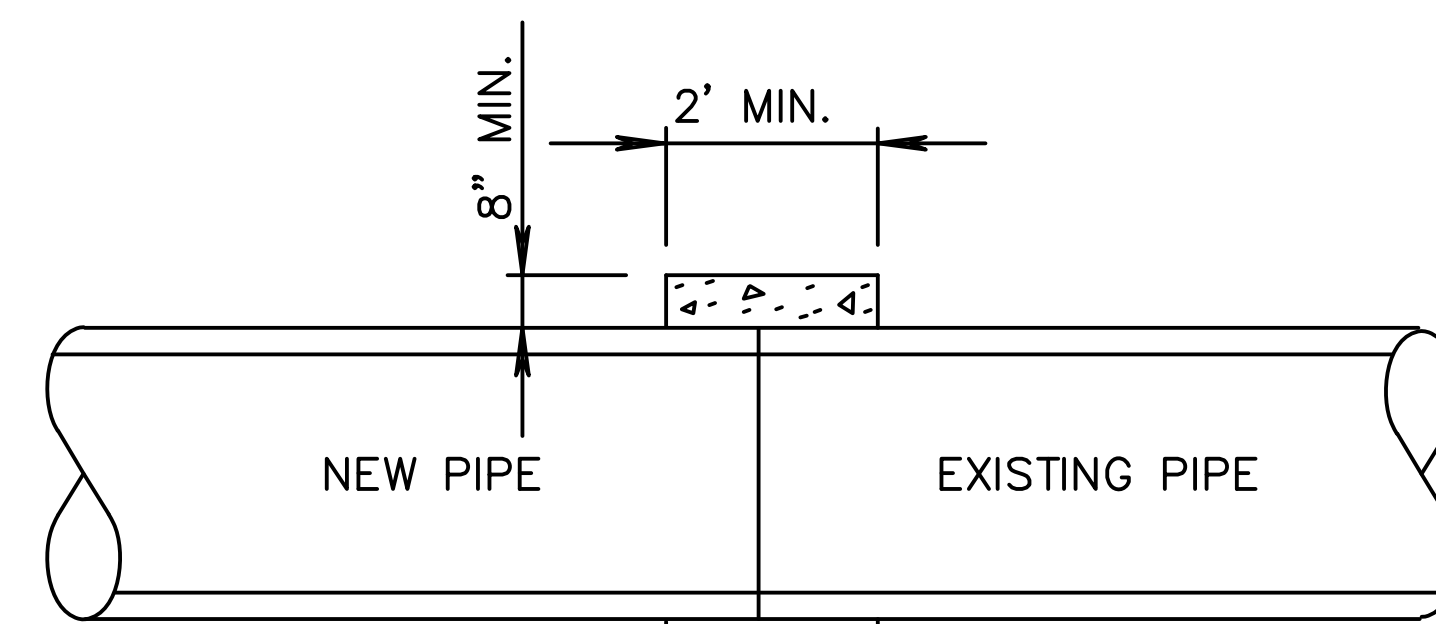
GASKETED REPAIR COUPLING CONFORMING TO ASTM D3034 SDR 35, ASTM D5962, AND ASTM C1173



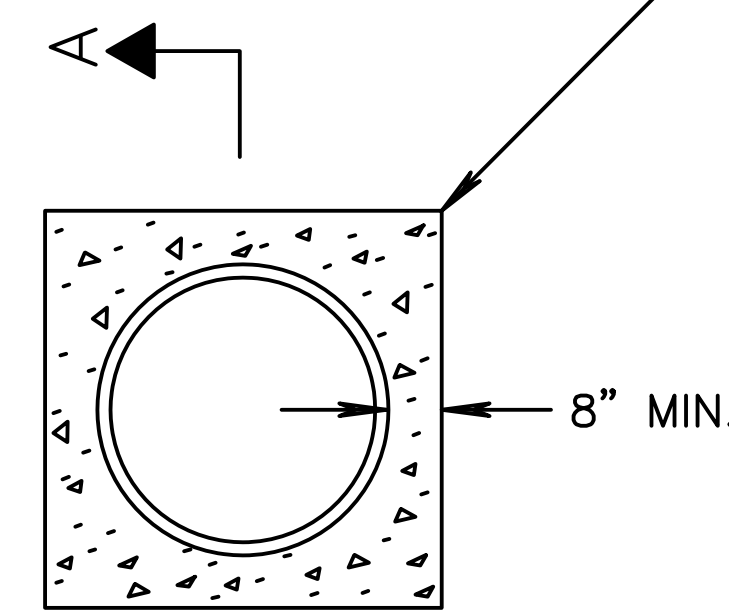
ALL REPAIRS INVOLVING PIPE CONNECTIONS 8" IN DIAMETER TO 8" IN DIAMETER OR LARGER SHALL UTILIZE THE FERROX RC STRONGBACK OR EQUIVALENT REPAIR COUPLING. (ASTM C1173).

2012
CITY OF MADISON ENGINEERING DIVISION
COUPLING DETAILS
STANDARD DETAIL DRAWING 5.3.3

SECTION A-A



FIELD POURED CONCRETE COLLAR WHERE REQUIRED TO SEAL PIPE



NOTE:
IF REQUESTED BY THE CONSTRUCTION ENGINEER, FIBER REINFORCED CONCRETE SHALL BE PROVIDED

2004
CITY OF MADISON ENGINEERING DIVISION
CONCRETE COLLAR
STANDARD DETAIL DRAWING 5.4.5

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Minneapolis, Minnesota 55401-2282
612.375.0336 tel
612.342.2216 fax
www.msrdesign.com

Civil Engineer
Vierbicher Associates, Inc.

999 Fourth Drive, Suite 201
Madison, WI 53717
608.626.0532 tel

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**Oilbrich Botanical Gardens:
Expansion Phase 1**
3330 Atwood Avenue
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Signature: _____
Print Name: MATTHEW W. SCHREINER
Date: 06.04.2018 License No.: E-41147

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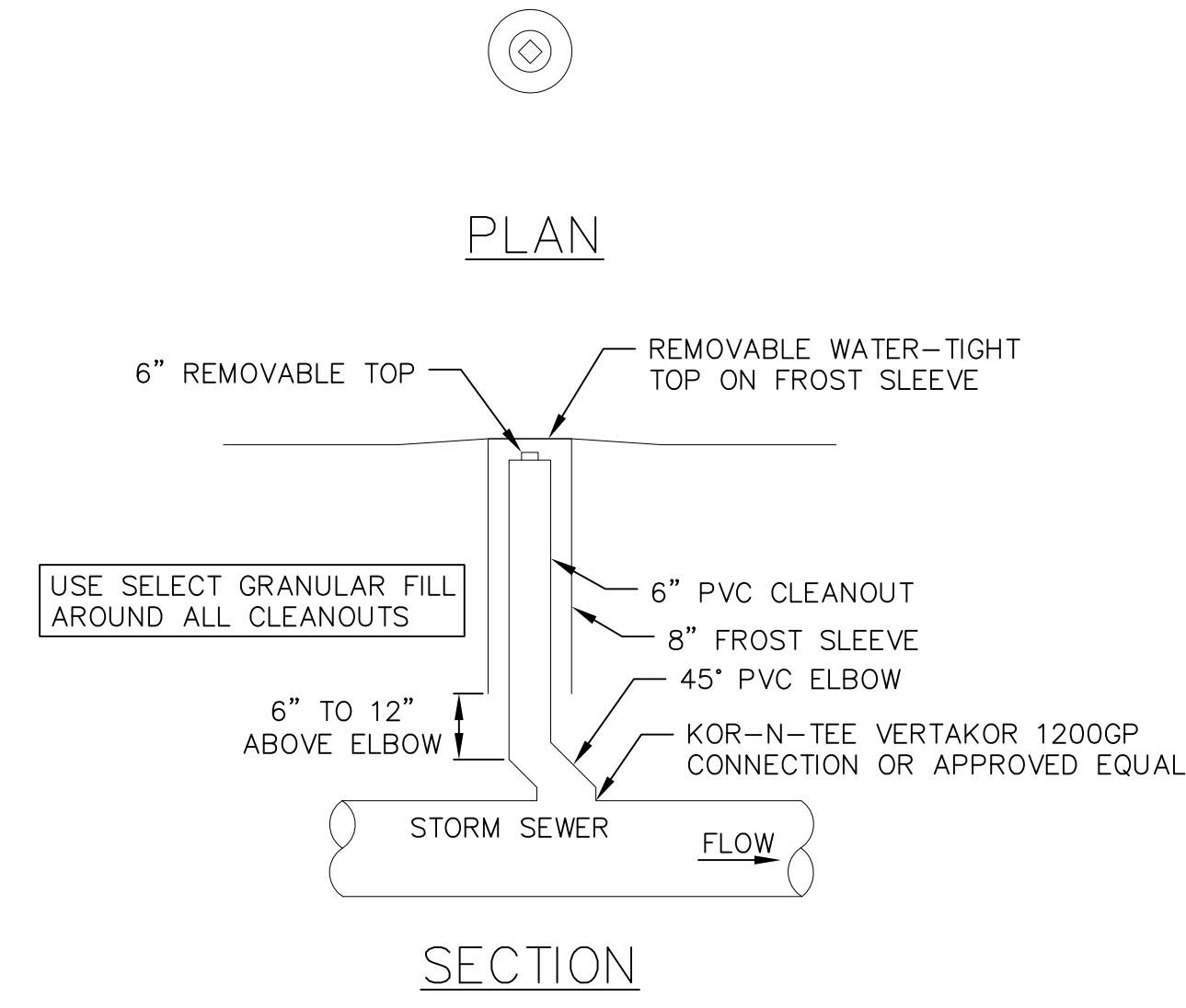
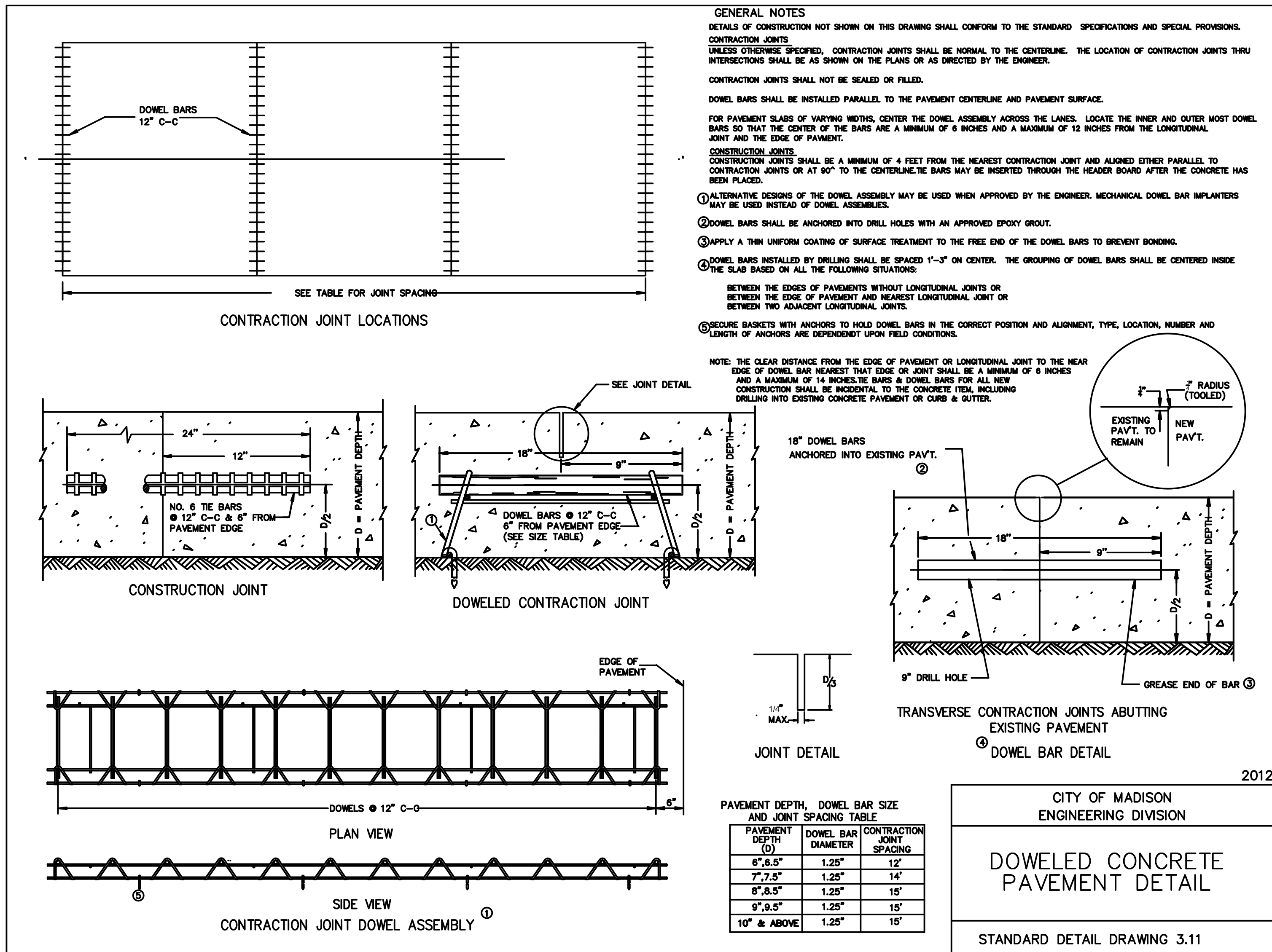
PROJECT NO. 2017016

PROJECT PHASE BID DOCUMENTS

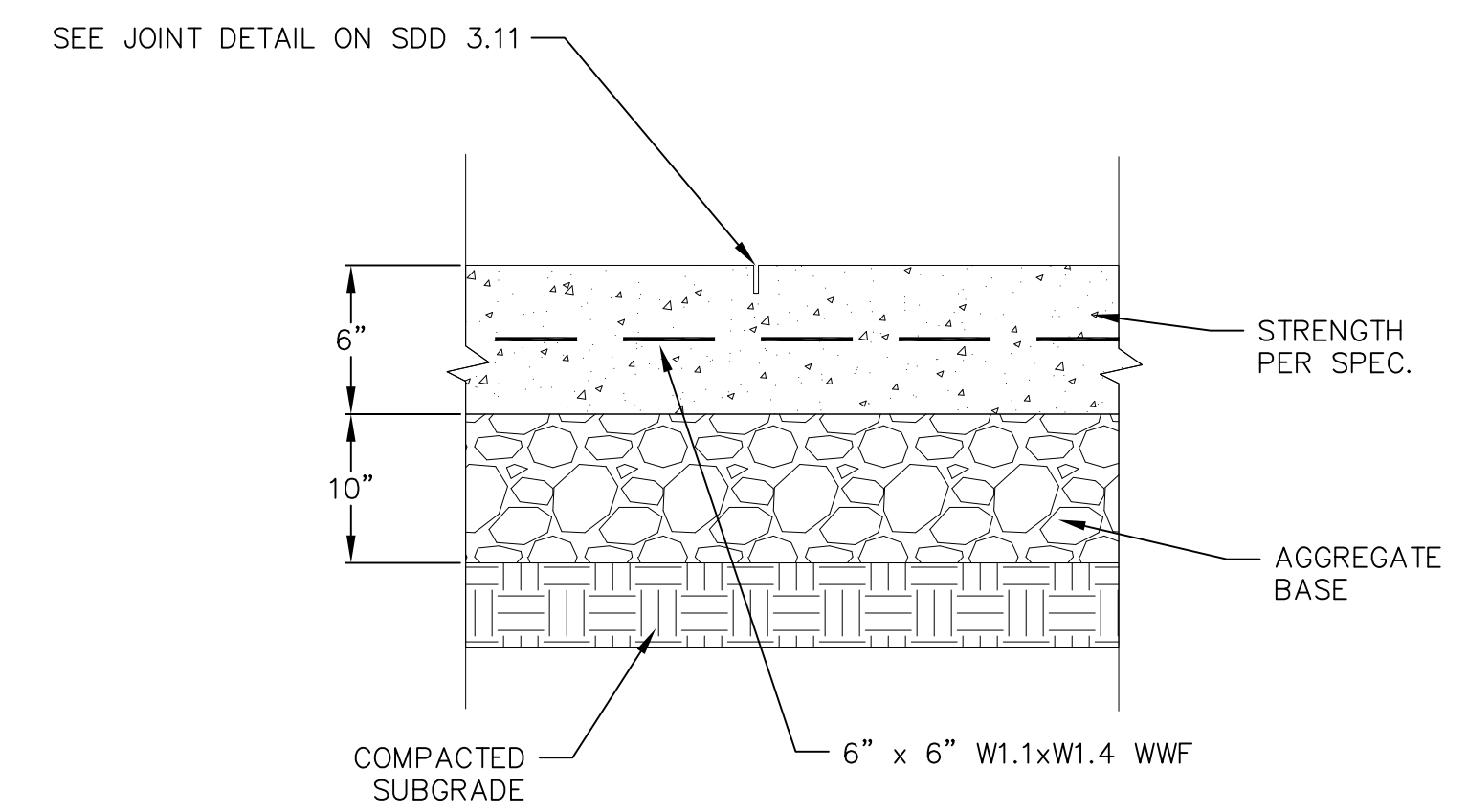
DRAWN BY: SCHR CHECKED BY: MSCH

**CONSTRUCTION
DETAILS - 5**

**EXHIBIT D
C604**

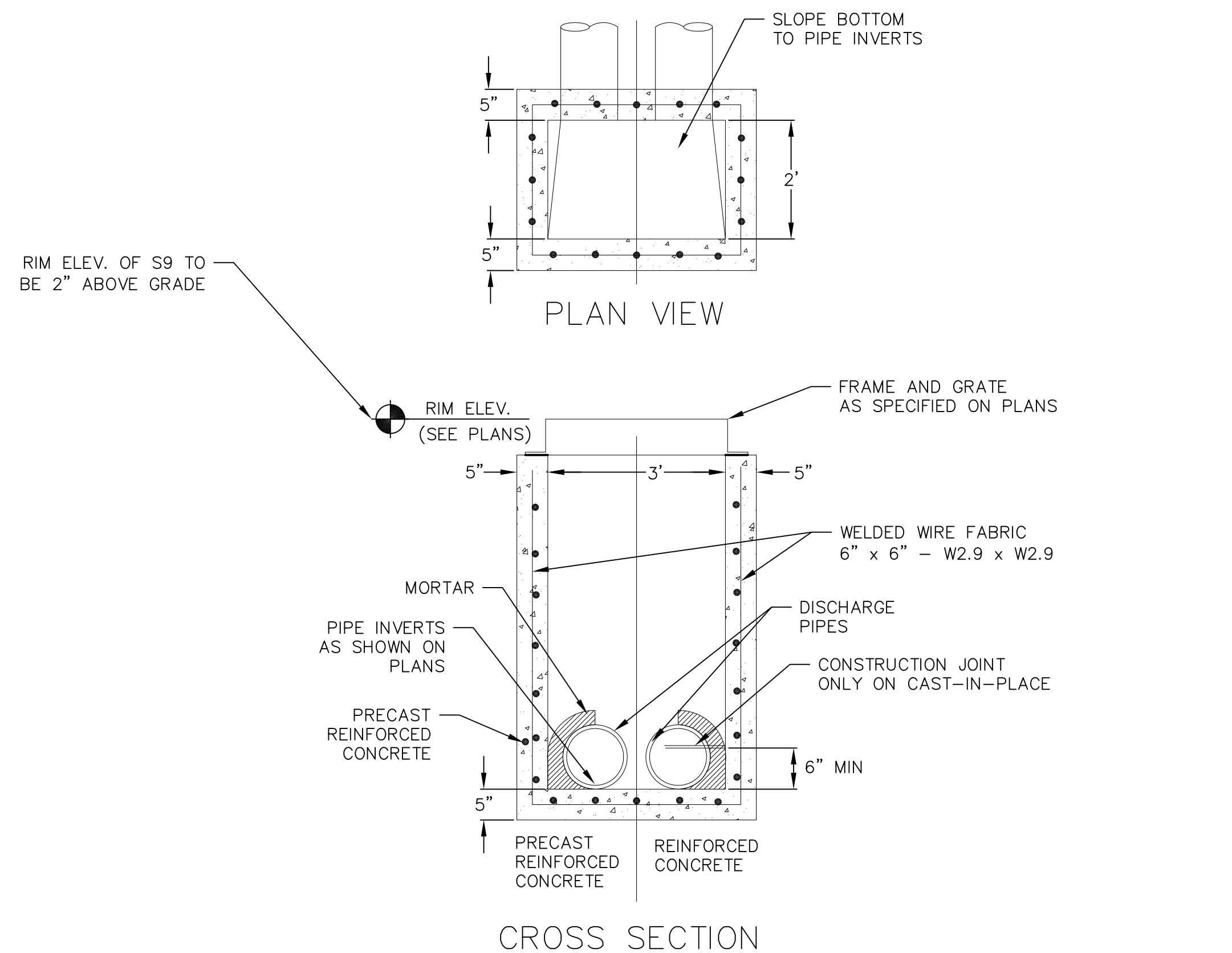


1 STORM SEWER CLEANOUT
 605 NOT TO SCALE

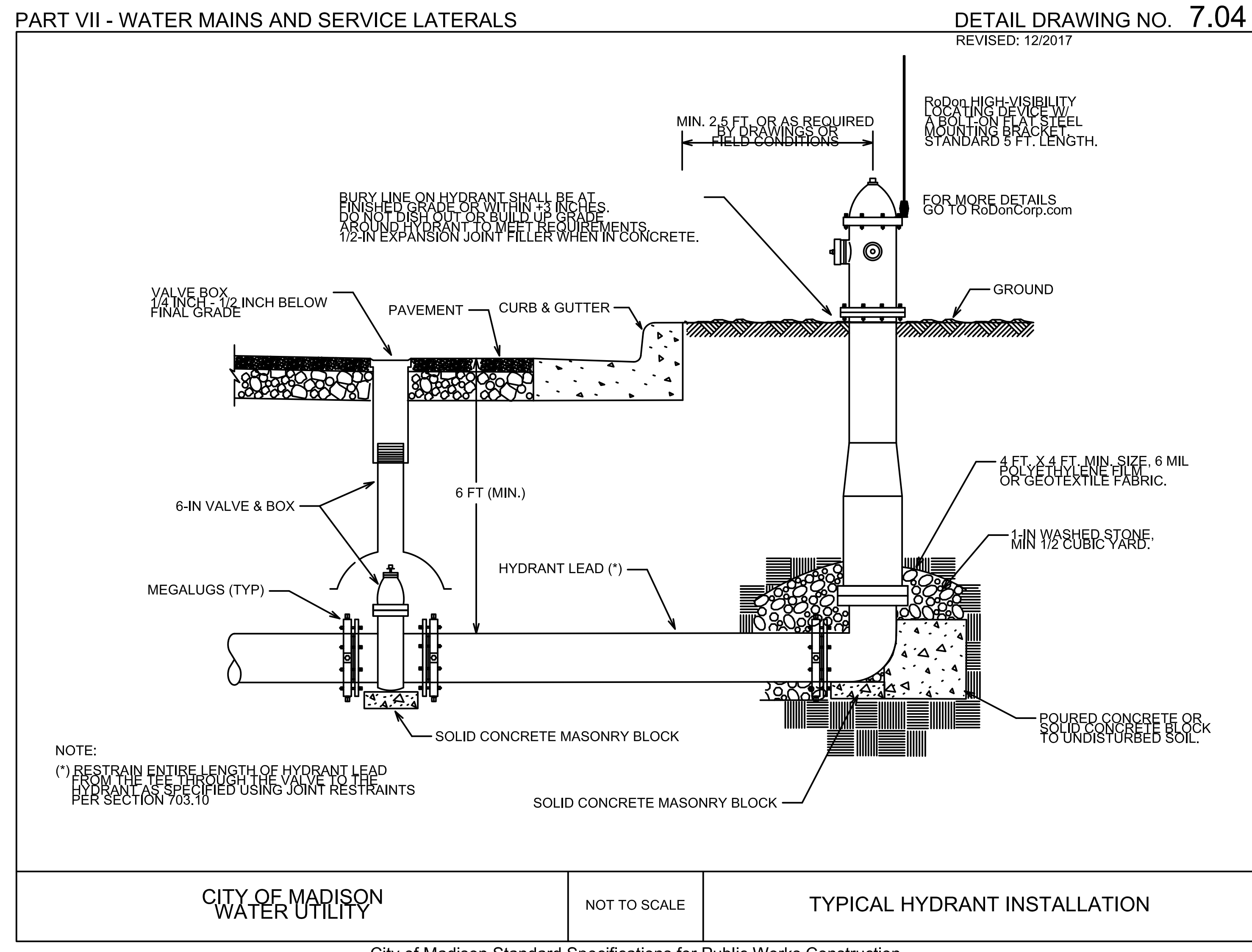


3 FIRE LANE PAVEMENT SECTION
 605 NOT TO SCALE

CITY OF MADISON
 ENGINEERING DIVISION
DOWELED CONCRETE PAVEMENT DETAIL
 STANDARD DETAIL DRAWING 3.11



2 2' x 3' BASIN (S9)
 605 NOT TO SCALE



CITY OF MADISON WATER UTILITY
 NOT TO SCALE
 TYPICAL HYDRANT INSTALLATION
 City of Madison Standard Specifications for Public Works Construction

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	06.04.2018	PERMIT ISSUE

PROJECT NO. 2017016
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CONSTRUCTION DETAILS - 6
EXHIBIT D
C605