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TYPE OF CASTING	MDOT DESIGNATION	EJ CASTING NO.	NEENAH CASTING NO.
MANHOLE AND GATE WELL FRAME AND COVER	Q/B	1040Z W/ TYPE A COVER*	R-1642 W/ TYPE C COVER*
BARRIER CURB INLET FRAME AND COVER	K	7045Z W/ TYPE M1 GRATE	R-3031-B W/ TYPE S GRATE
BARRIER CURB LOW POINT INLET FRAME AND COVER	K	7035Z W/ TYPE M2 GRATE	N/A
GUTTER INLET FRAME AND COVER	R	5080Z W/ TYPE 5000M2 GRATE	R-3448C, W/ TYPE S GRATE
HIGH CAPACITY INLET FRAME AND COVER		7034Z W/ TYPE M GRATE	N/A
MOUNTABLE CURB INLET ASSEMBLY		7065	N/A
YARD DRAIN (BEE HIVE) FRAME AND COVER	G	1040Z, TYPE 02 GRATE	R-2560-E1
WATER VALVE BOX ASSEMBLY IN PAVEMENT		8560	N/A
MONUMENT BOX ASSEMBLY		8360	N/A
ADA COMPLIANT		5000Z4 W/ TYPE M5 GRATE	

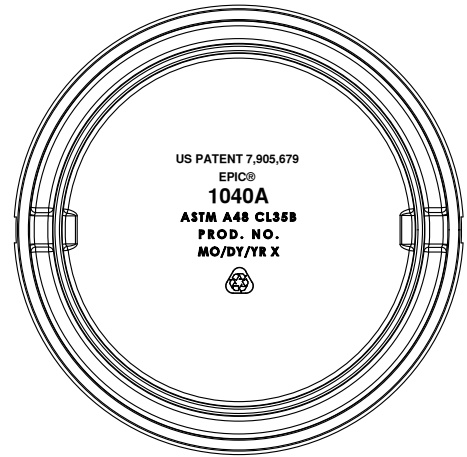
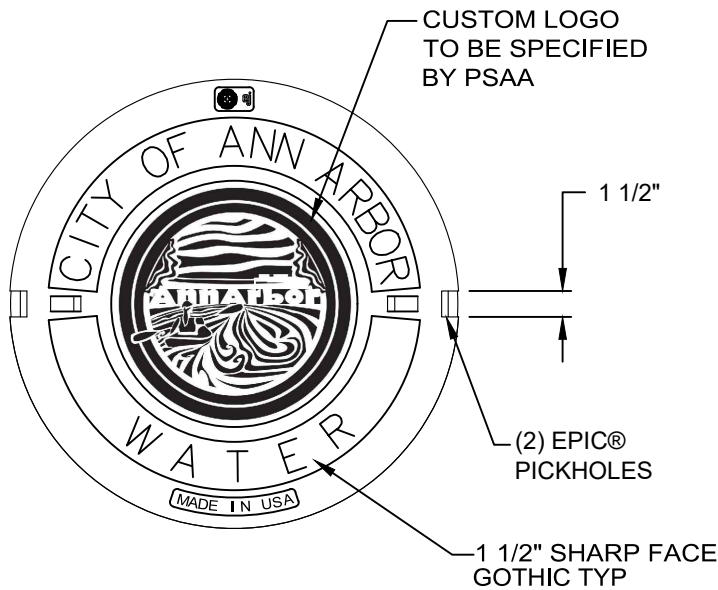
NOTES:

*EACH COVER SHALL HAVE "SANITARY", "STORM", OR "WATER" CAST IN THE SURFACE, WHICHEVER IS APPLICABLE. SANITARY SEWER COVERS SHALL BE GASKETED IN FLOOD PRONE AREAS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE PSAA. FRAMES AND COVERS MUST HAVE MACHINED BEARING SURFACES.

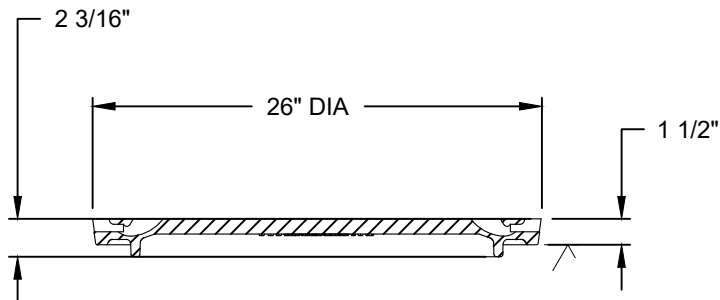


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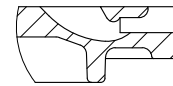
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STANDARD CASTING SCHEDULE			
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BOTTOM VIEW



SECTION



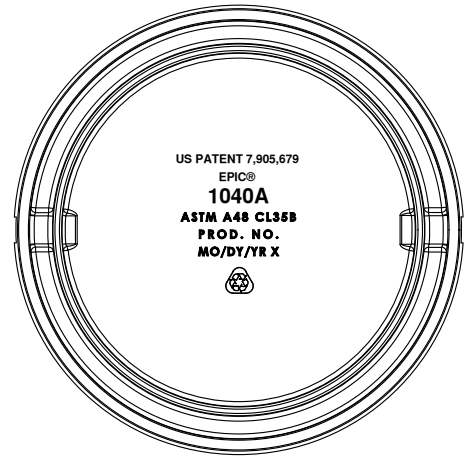
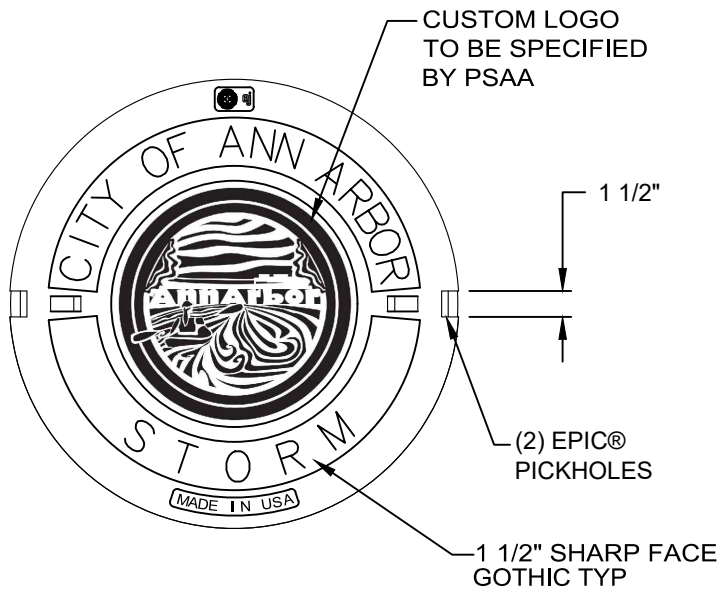
EPIC® DETAIL

EJ PRODUCT #001040570

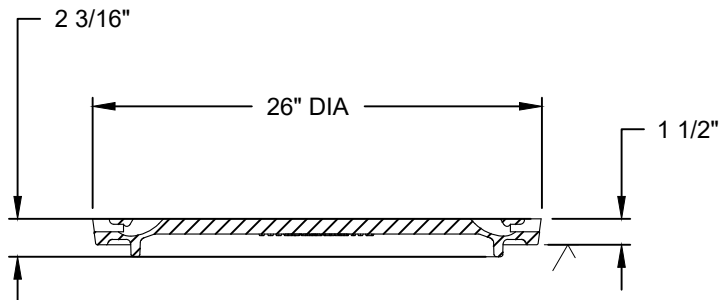


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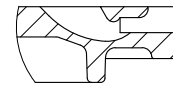
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SPECIAL STRUCTURE COVER WATER			
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BOTTOM VIEW



SECTION



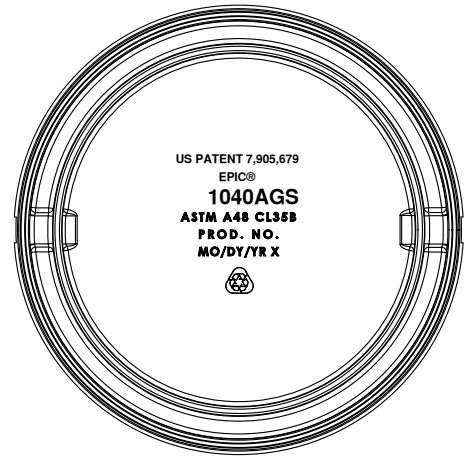
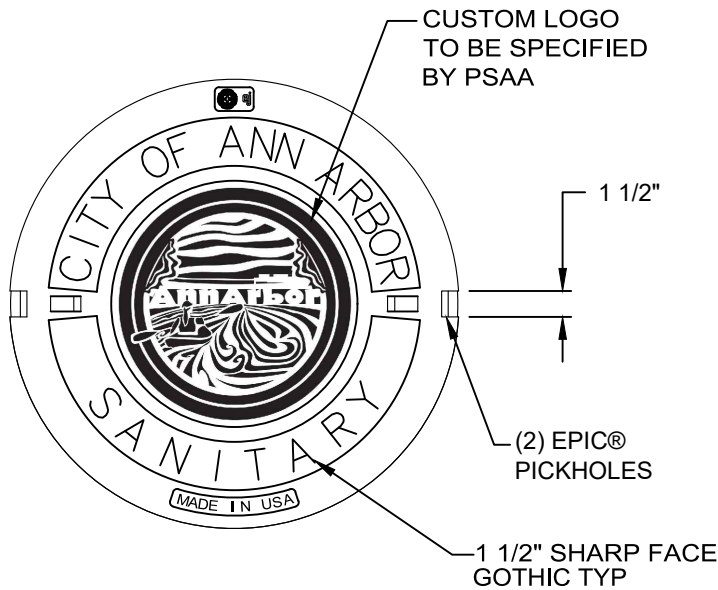
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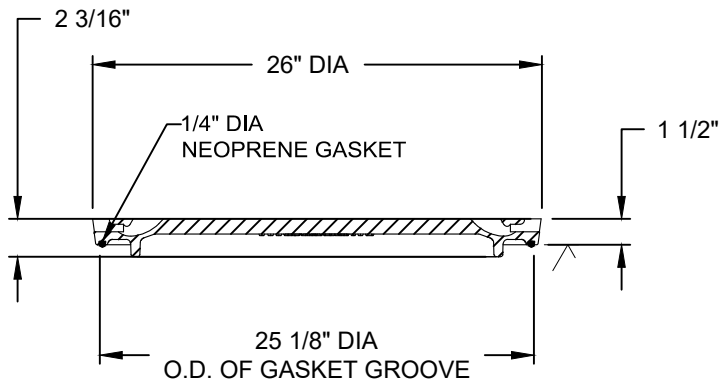


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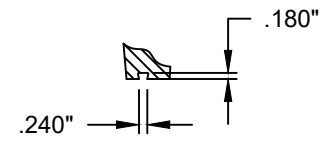
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SPECIAL STRUCTURE COVER STORM			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-GU-3	



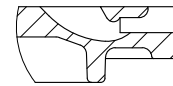
BOTTOM VIEW



SECTION



GROOVE DETAIL



EPIC® DETAIL

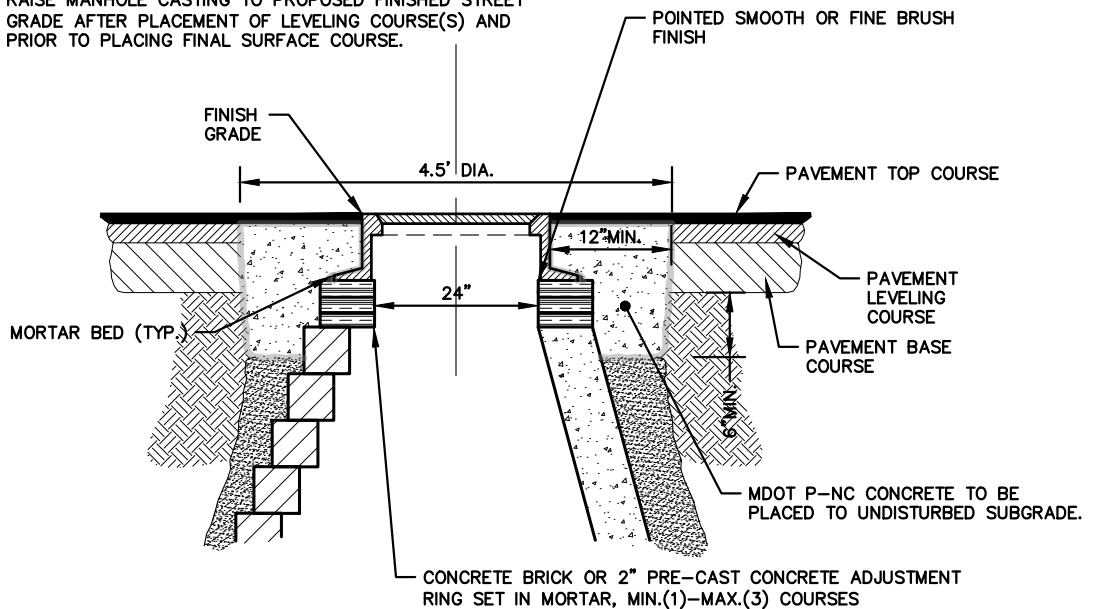
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RAISE MANHOLE CASTING TO PROPOSED FINISHED STREET GRADE AFTER PLACEMENT OF LEVELING COURSE(S) AND PRIOR TO PLACING FINAL SURFACE COURSE.



NOTES:

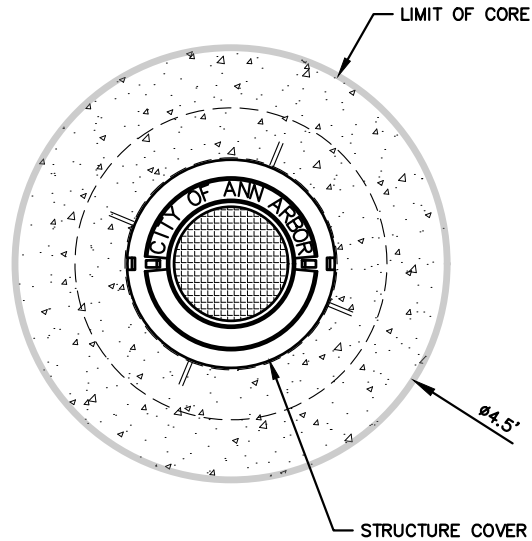
1. IF MANHOLE WILL BE PLACED IN GRAVEL ROAD, CASTING TO BE SET 6" TO 8" BELOW ROADWAY GRADE. ALL CONSTRUCTION METHODS SHALL REMAIN AS SHOWN ABOVE.
2. P-NC CONCRETE MIXTURE SHALL CONTAIN 658 POUNDS PER CUBIC YARD (7 SACKS) OF CEMENT WHEN THE FORECASTED AIR TEMPERATURE IS ABOVE 59°F AND 752 POUNDS PER CUBIC YARD (8 SACKS) OF CEMENT WHEN THE FORECASTED AIR TEMPERATURE IS 59°F OR LESS.
3. CONSTRUCT EPOXY COATED LANE TIES TO ANCHOR THE CONCRETE TO ADJACENT COMPOSITE PAVEMENT OR CONCRETE SURFACE COURSE, AS NECESSARY.



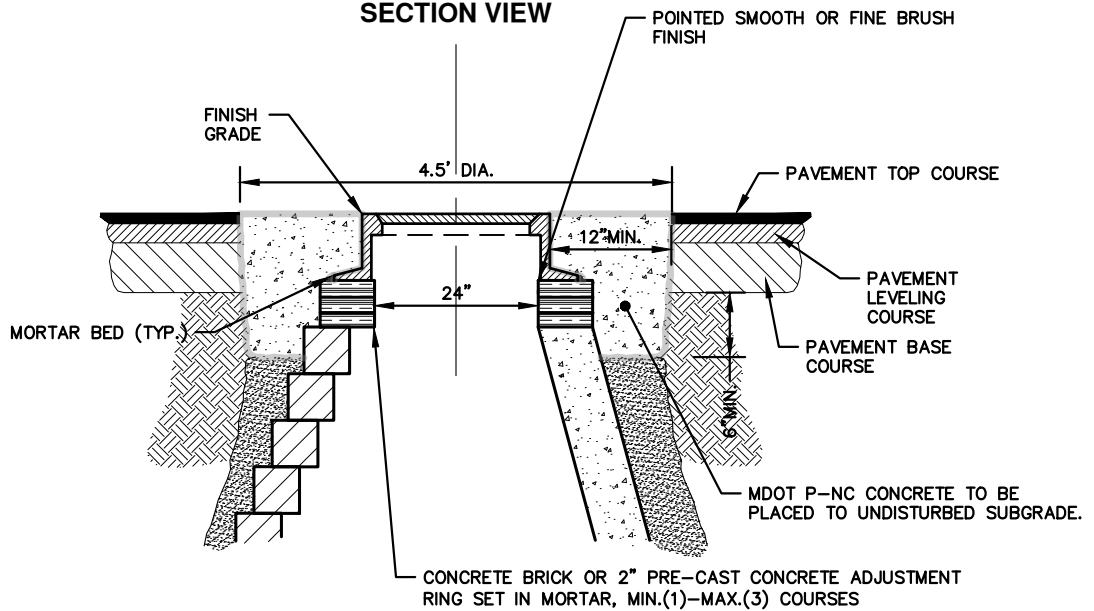
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PLAN VIEW



SECTION VIEW



NOTES:

1. IF MANHOLE WILL BE PLACED IN GRAVEL ROAD, CASTING TO BE SET 6" TO 8" BELOW ROADWAY GRADE. ALL CONSTRUCTION METHODS SHALL REMAIN AS SHOWN ABOVE.
2. P-NC CONCRETE MIXTURE SHALL CONTAIN 658 POUNDS PER CUBIC YARD (7 SACKS) OF CEMENT WHEN THE FORECASTED AIR TEMPERATURE IS ABOVE 59°F AND 752 POUNDS PER CUBIC YARD (8 SACKS) OF CEMENT WHEN THE FORECASTED AIR TEMPERATURE IS 59°F OR LESS.
3. CONSTRUCT EPOXY COATED LANE TIES TO ANCHOR THE CONCRETE TO ADJACENT COMPOSITE PAVEMENT OR CONCRETE SURFACE COURSE, AS NECESSARY.

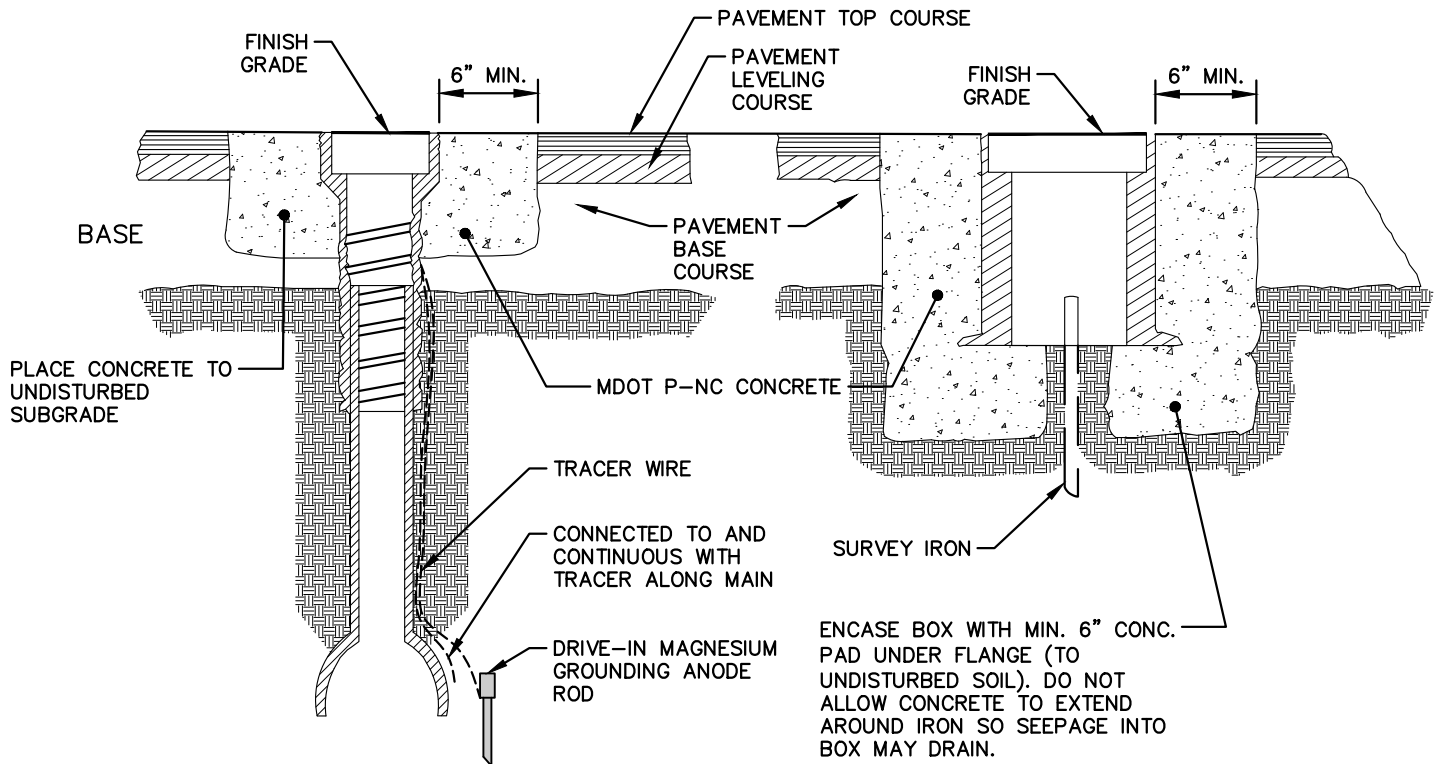


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WATER OR GAS VALVE BOX ADJUSTMENT

MONUMENT BOX ADJUSTMENT



NOTES:

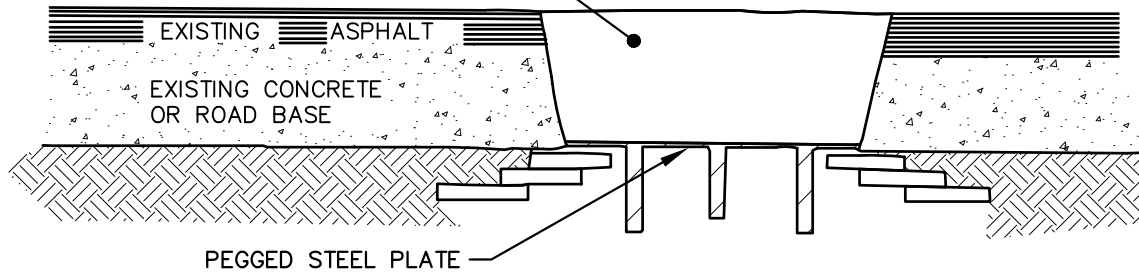
1. GAS VALVE BOXES TO BE ADJUSTED BY THE GAS COMPANY.
2. PLACE CENTER OF [MONUMENT] BOX OVER SURVEY IRON.
3. RAISE CASTINGS TO PROPOSED FINISH GRADE AFTER PLACEMENT OF FINAL SURFACE COURSE.
4. WHERE SERVICE VALVES ARE LOCATED WITHIN A PARKING LOT OR UNDER PAVED AREA, A CITY STANDARD GATE BOX COVER SHALL BE USED OVER THE CURB STOP, REGARDLESS OF THE SERVICE MATERIAL.



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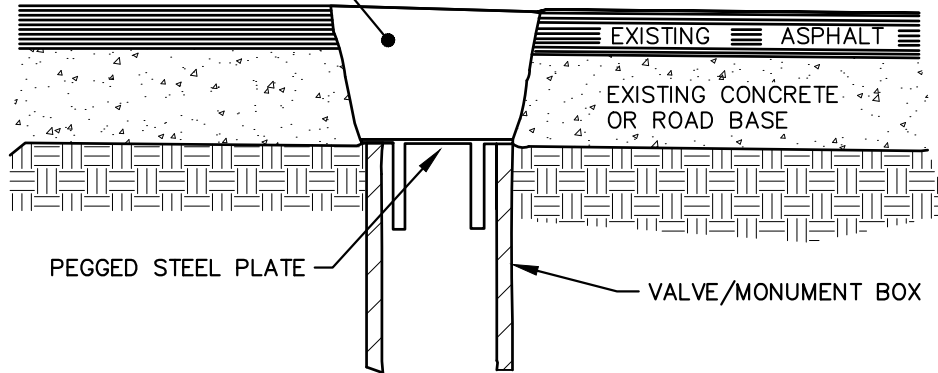
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VALVE AND MONUMENT BOX ADJUSTMENT			
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SCALE N.T.S.	DATE 12/8/2023	SD-GU-6	

MDOT HMA MIX AS SPECIFIED BY
PSAA (SEE NOTE 1)



MANHOLE LOWERING DETAIL

MDOT HMA MIX AS SPECIFIED BY
PSAA (SEE NOTE 1)



**VALVE BOX/MONUMENT BOX
LOWERING DETAIL
(SEE NOTE 3)**

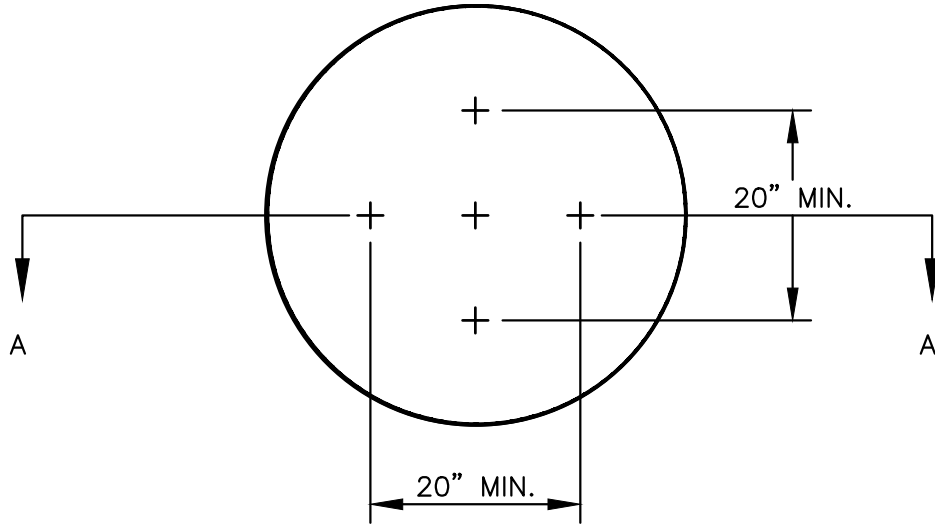
NOTES:

1. IF TRAFFIC IS TO BE MAINTAINED ON THE ROADWAY BEFORE OR AFTER THE COLD MILLING OPERATION, THE STRUCTURE SHALL BE LOWERED TO THE EXTENT THAT A MINIMUM OF THREE(3) INCHES ASPHALT MATERIAL MDOT HMA MIX AS SPECIFIED BY PSAA. OR ENGINEER APPROVED EQUAL, REMAINS TO SUPPORT TRAFFIC.
2. IF THE ROADWAY BEING MILLED IS CLOSED TO TRAFFIC, THE STRUCTURE SHALL BE LOWERED SUCH THAT THE STEEL PLATE IS A MINIMUM OF FOUR(4) INCHES BELOW THE PROPOSED ROAD GRADE AND THE RESULTING VOID SHALL BE FILLED WITH MDOT HMA MIX AS SPECIFIED BY PSAA OR ENGINEER APPROVED EQUAL.
3. WHERE A MONUMENT IS TO BE LOWERED, THE CONTRACTOR SHALL GIVE THE ENGINEER A MINIMUM OF 48 HOURS WRITTEN NOTICE SO THAT THE MONUMENT CAN BE PROPERLY WITNESSED OR PROTECTED. FAILURE TO DO SO SHALL RESULT IN THE ENGINEER REPLACING SAID MONUMENT AT THE CONTRACTORS EXPENSE.



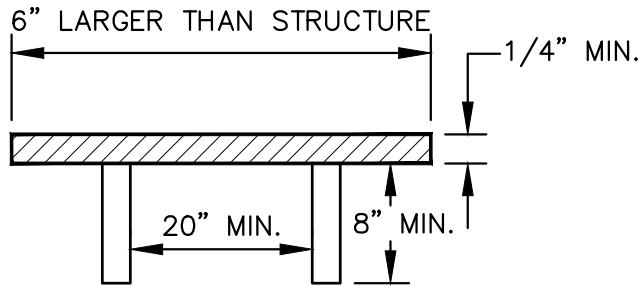
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MANHOLE AND VALVE MONUMENT BOX LOWERING			
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SCALE N.T.S.	DATE 12/8/2023	SD-GU-7	



NOTE: PLATE MAY BE CIRCULAR, SQUARE OR RECTANGULAR

SECTION A - A

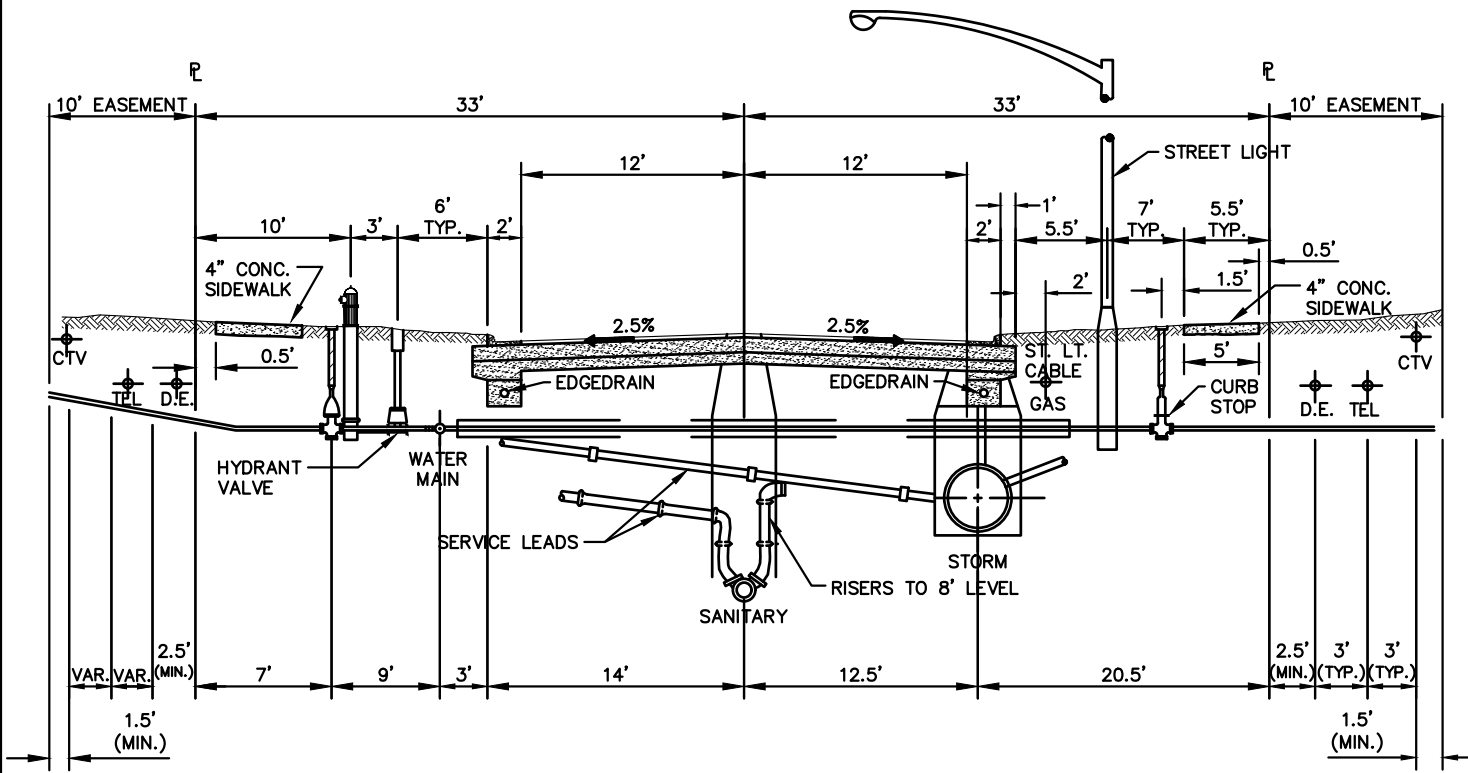


1/4" MIN. THICKNESS AND SUFFICIENT TO CARRY THE CONSTRUCTION LOAD.



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STRUCTURE PLATE			
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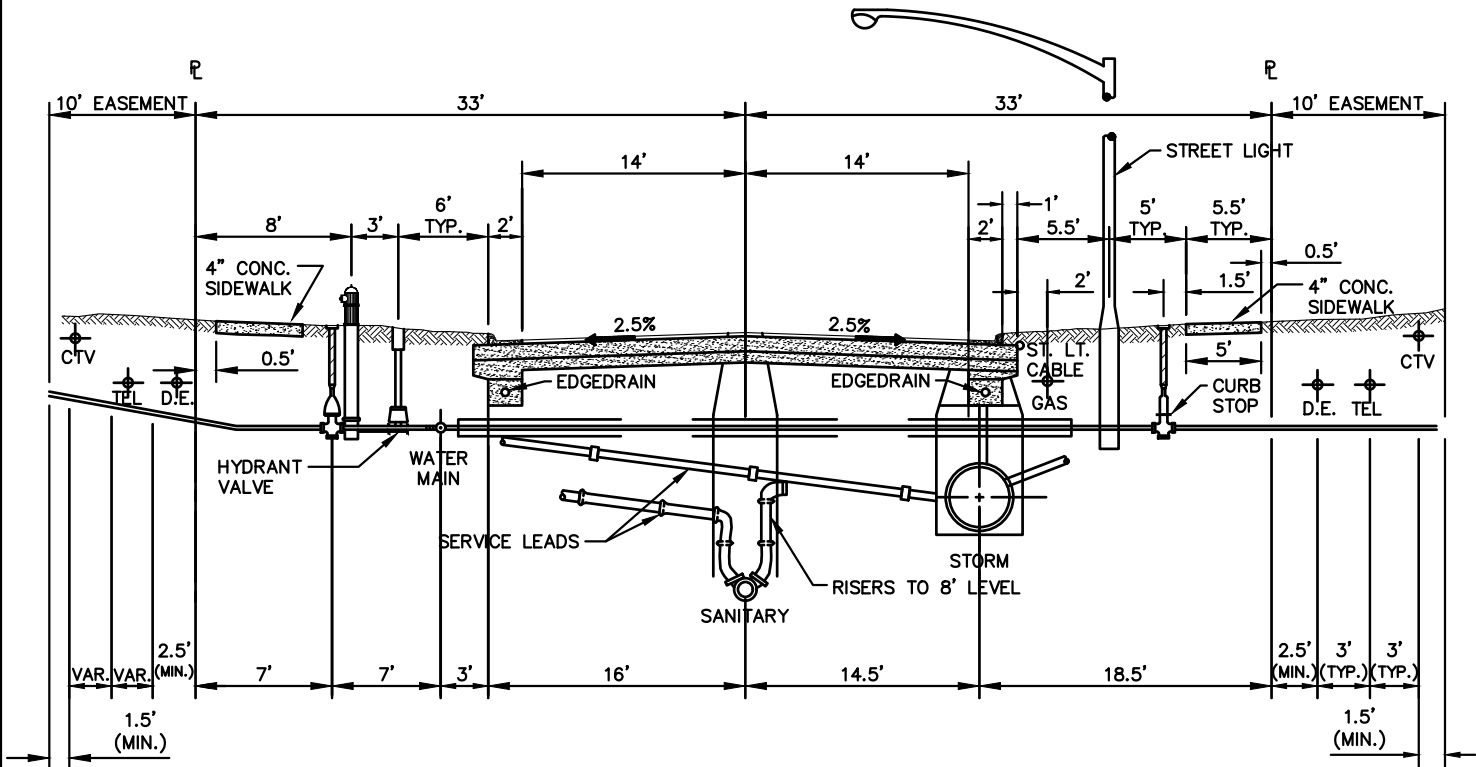


24 FT. RESIDENTIAL STREET
LOOKING NORTH OR EAST



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UTILITY LOCATION PLAN (66' R.O.W. WITH 24' PAVEMENT)			
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SCALE N.T.S.	DATE 12/8/2023	SD-GU-9	

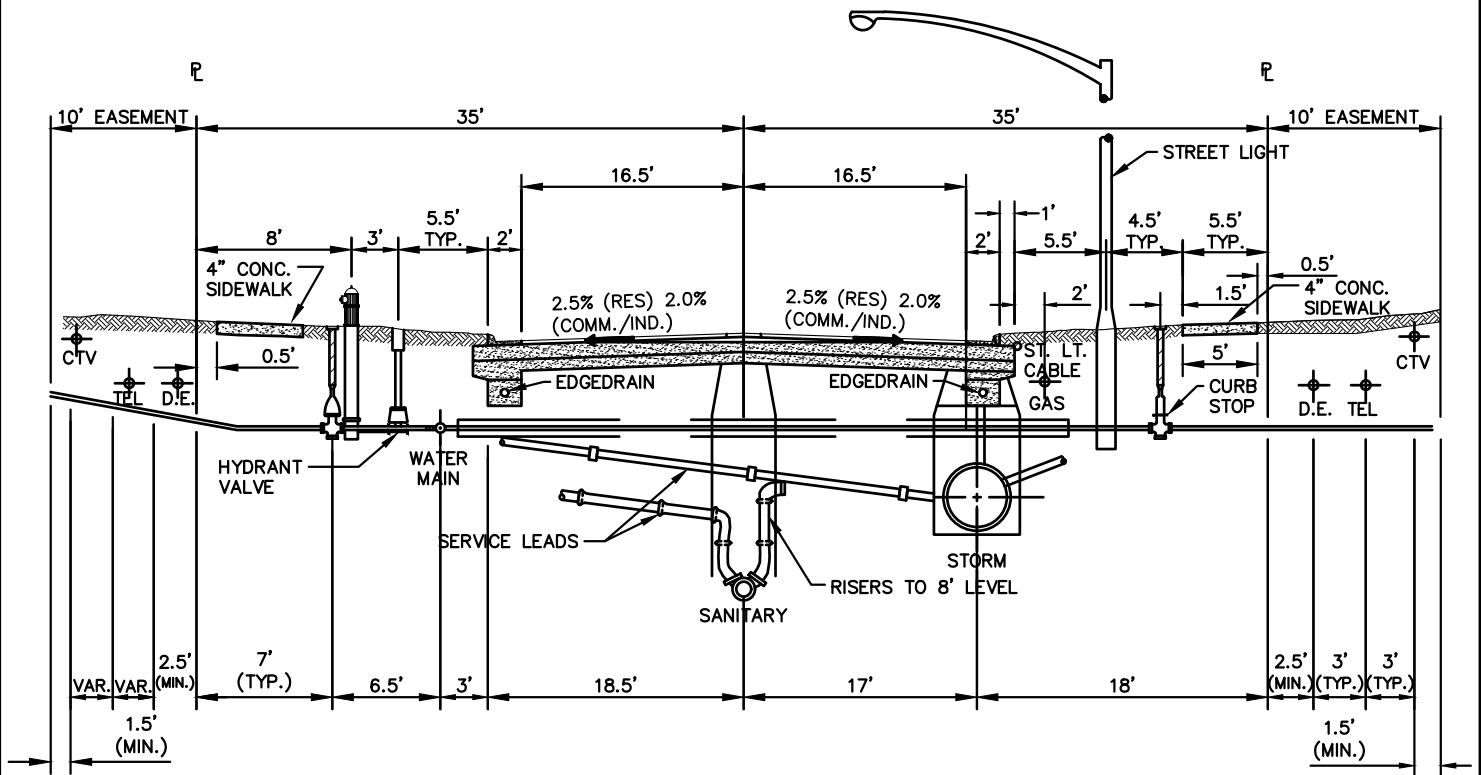


28 FT. RESIDENTIAL STREET
LOOKING NORTH OR EAST



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UTILITY LOCATION PLAN (66' R.O.W. WITH 28' PAVEMENT)			
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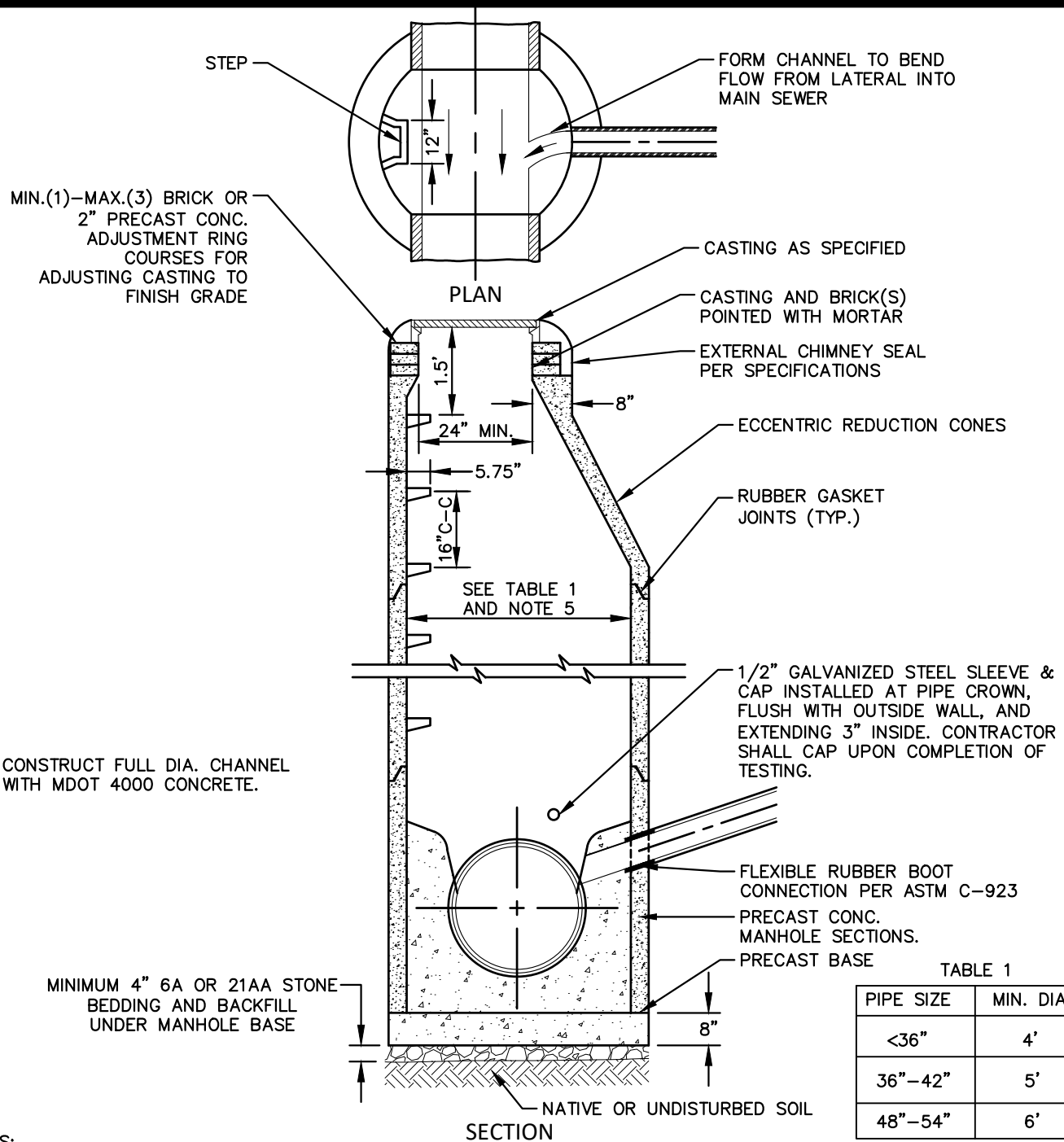


28 FT. RESIDENTIAL STREET
LOOKING NORTH OR EAST



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UTILITY LOCATION PLAN (70' R.O.W.)			
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SCALE N.T.S.	DATE 12/8/2023	SD-GU-11	



CONSTRUCT FULL DIA. CHANNEL WITH MDOT 4000 CONCRETE.

MINIMUM 4" 6A OR 21AA STONE BEDDING AND BACKFILL UNDER MANHOLE BASE

TABLE 1

PIPE SIZE	MIN. DIA.
<36"	4'
36"-42"	5'
48"-54"	6'

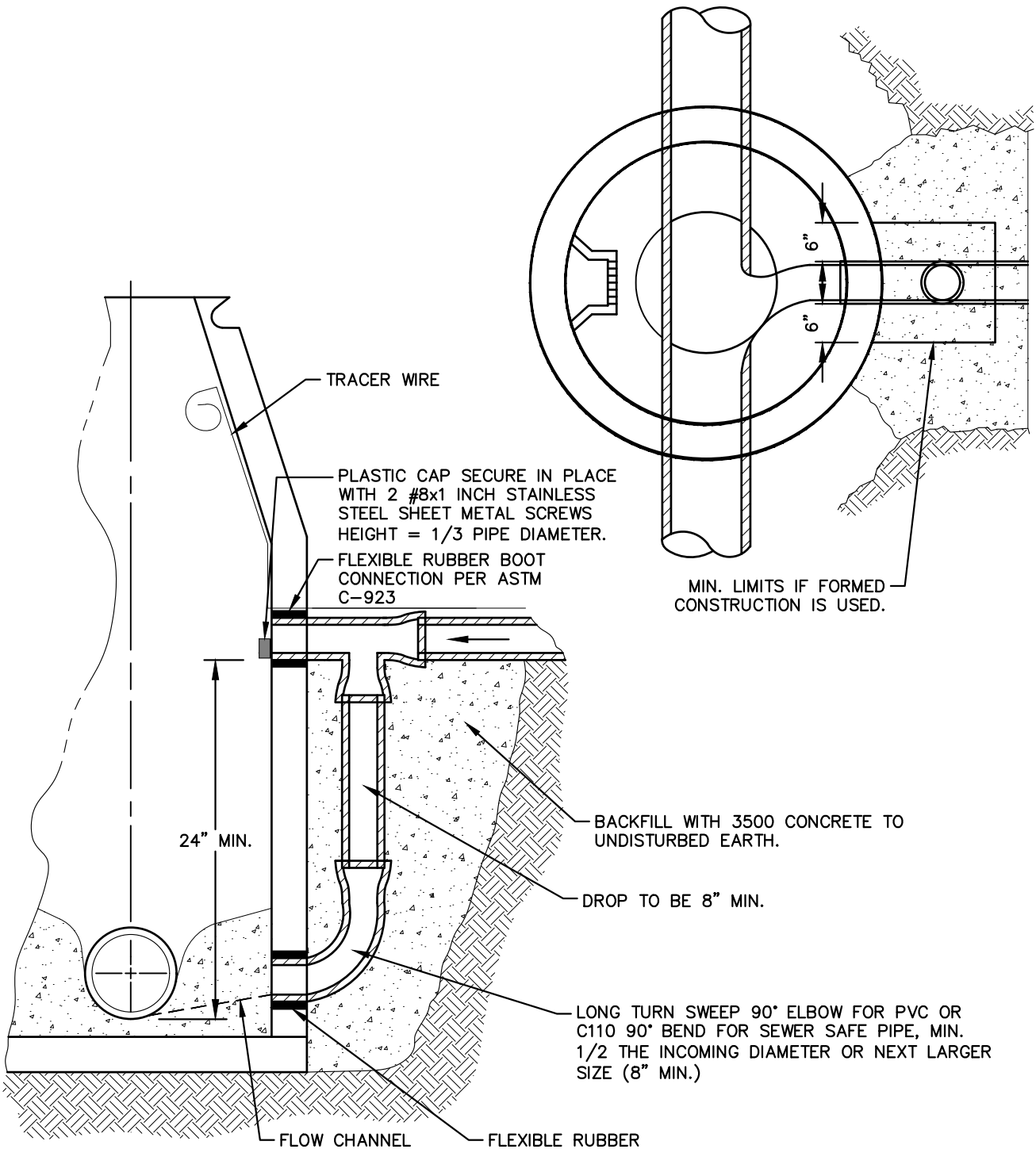
NOTES:

1. ALL SANITARY MANHOLES SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C478 UNLESS APPROVED BY PSAA FOR SHALLOW APPLICATION.
2. ALL MANHOLES MUST HAVE ECCENTRIC CONES.
3. ALL SANITARY SEWER OPENINGS SHALL BE PRECAST WITH RUBBER BOOT CONNECTIONS CONFORMING TO ASTM C923.
4. ALL JOINTS SHALL CONFORM TO ASTM C443.
5. MINIMUM MANHOLE DIAMETER SHOWN IN TABLE 1 SHALL BE INCREASED AS NEEDED BASED ON NUMBER OF PIPES AND ANGLE BETWEEN PIPES WITH 12" MIN. BETWEEN OPENINGS.
6. NO OPENINGS SHALL BE MADE IN PRECAST UNITS WHICH WOULD LEAVE LESS THAN 18 INCHES OF UNDISTURBED CIRCUMFERENTIAL WALL LENGTH, OR WHICH WOULD REMOVE MORE THAN 40% OF THE CIRCUMFERENCE ALONG ANY HORIZONTAL PLANE.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SANITARY MANHOLE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SN-1	

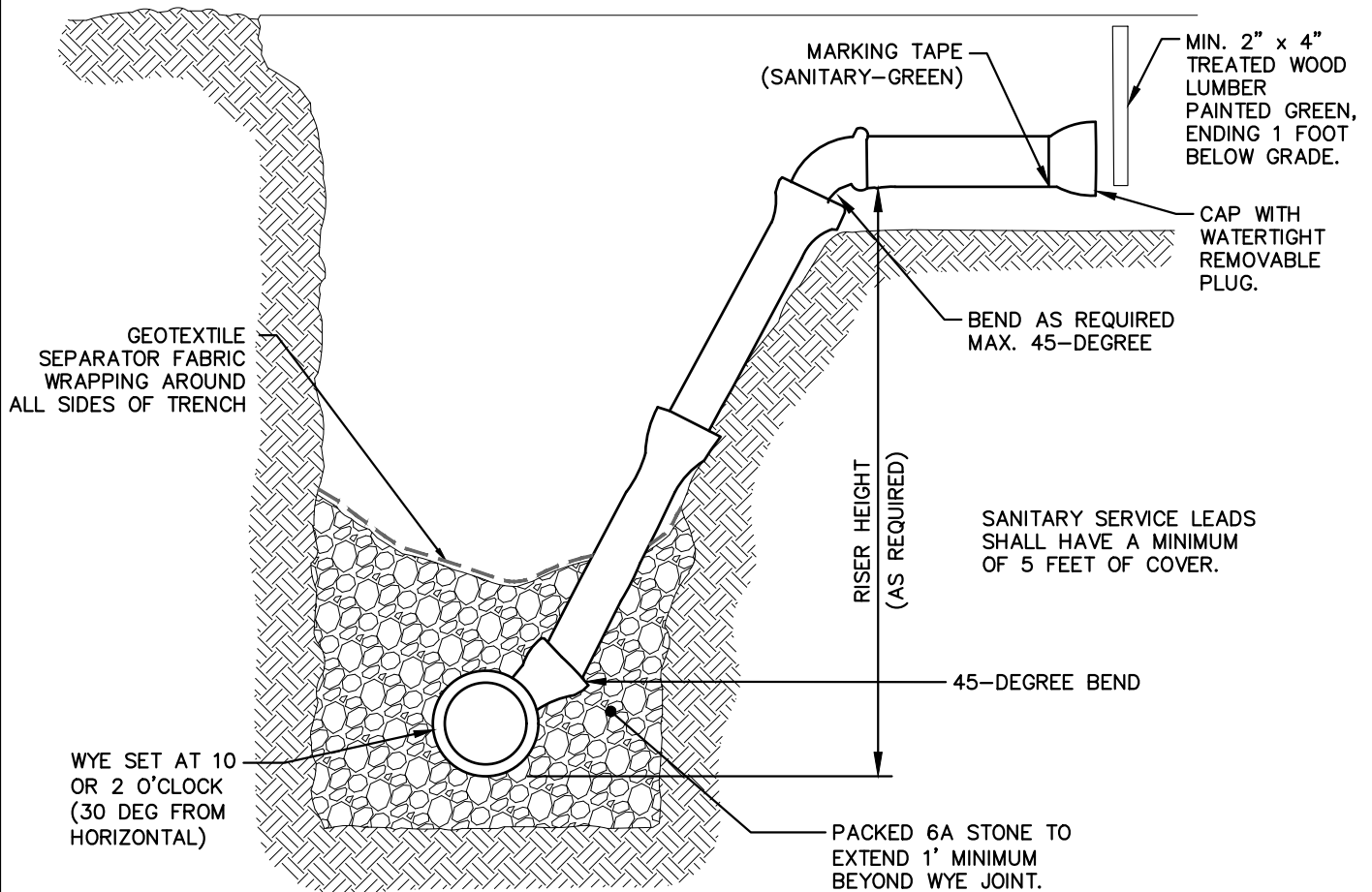


NOTES:
 1. P.V.C. SDR 26 OR CL 50 SEWER SAFE PIPE SHALL BE UTILIZED FOR DROP CONNECTION.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DROP M.H. CONNECTION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SN-2	



NOTES:

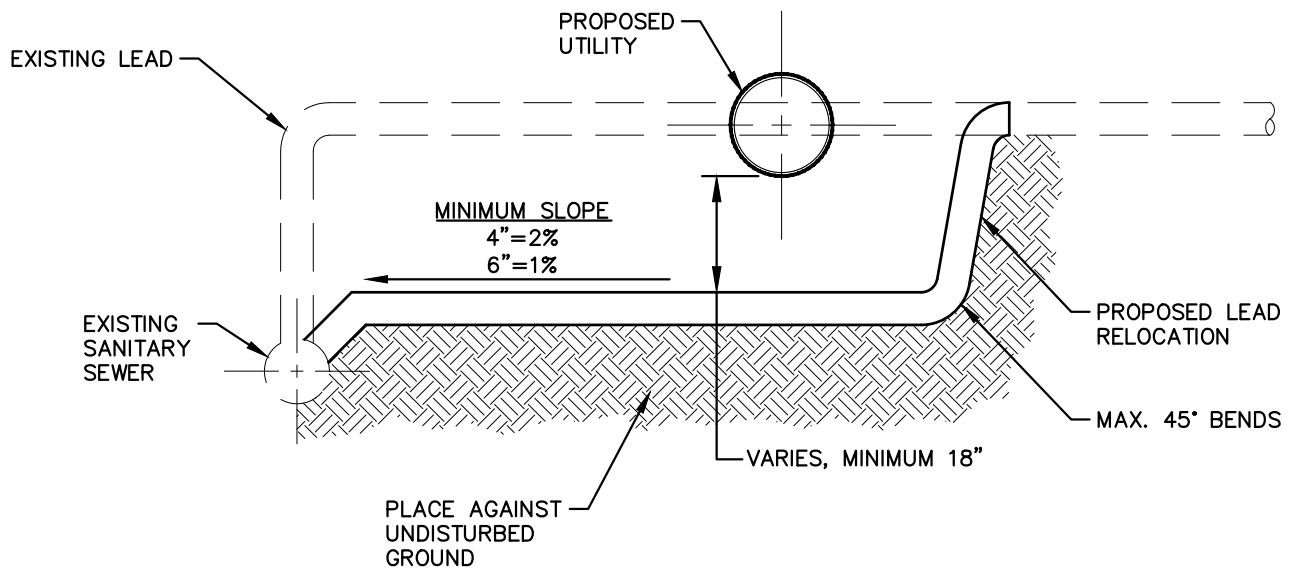
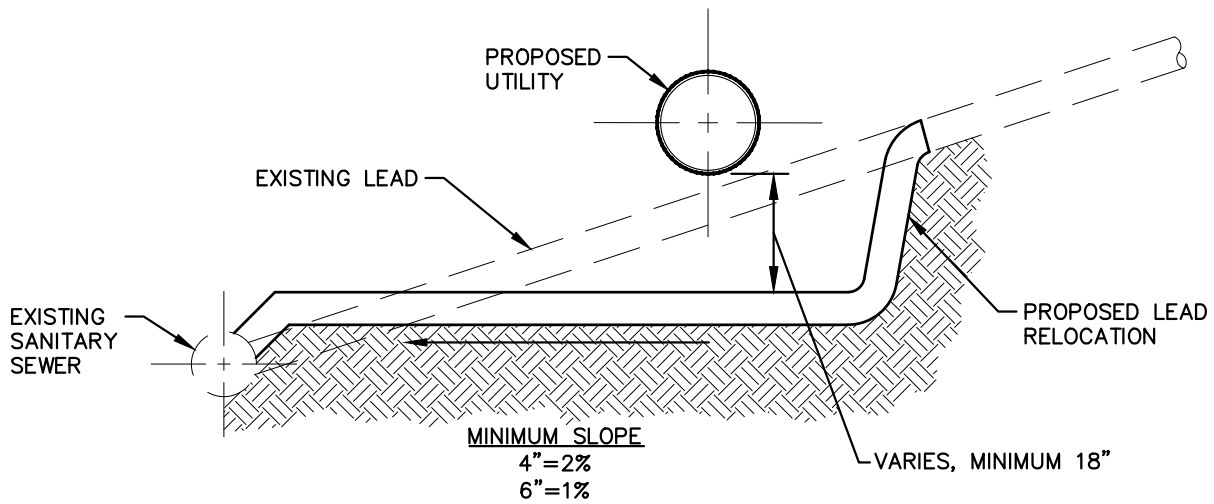
RISERS AND BUILDING LEADS

- A) RISERS SHALL BE INSTALLED WHERE THE SEWER IS MORE THAN 12 FEET BELOW THE ESTABLISHED GRADE OR FUTURE GRADE AND CARRIED TO BETWEEN 9 AND 10 FEET OF THE ESTABLISHED GRADE OR FUTURE GRADE, UNLESS OTHERWISE DETERMINED BY THE PSAA.
- B) RISER OPENINGS SHALL BE CLOSED WITH A STOPPER, AS RECOMMENDED BY THE MANUFACTURER, TO MAKE A WATERTIGHT CLOSURE.
- C) BUILDING LEADS SHALL CONFORM TO ARTICLE 2 (SANITARY), SECTION I.L (SANITARY SERVICE LEADS) AND DEPTH REQUIREMENTS PER SECTION I.G (DEPTH AND COVER) OF THAT ARTICLE.
- D) EACH BUILDING LEAD SHALL BE CLOSED WITH A STOPPER, AS RECOMMENDED BY THE MANUFACTURER, TO MAKE A WATERTIGHT CLOSURE.
- E) UNLESS OTHERWISE DETERMINED BY THE PSAA, PRIOR TO THE BACKFILLING OF A WYE, RISER, OR BUILDING LEAD, A 2-INCH x 2-INCH (MINIMUM CROSS SECTION) WOODEN MARKER SHALL BE PLACED AT A POINT IMMEDIATELY IN FRONT OF THE SERVICE CONNECTION TO 1 FOOT BELOW THE FINISH GROUND SURFACE. DO NOT REST THE MARKER ON ANY PORTION OF THE SERVICE CONNECTION OR STOPPER.



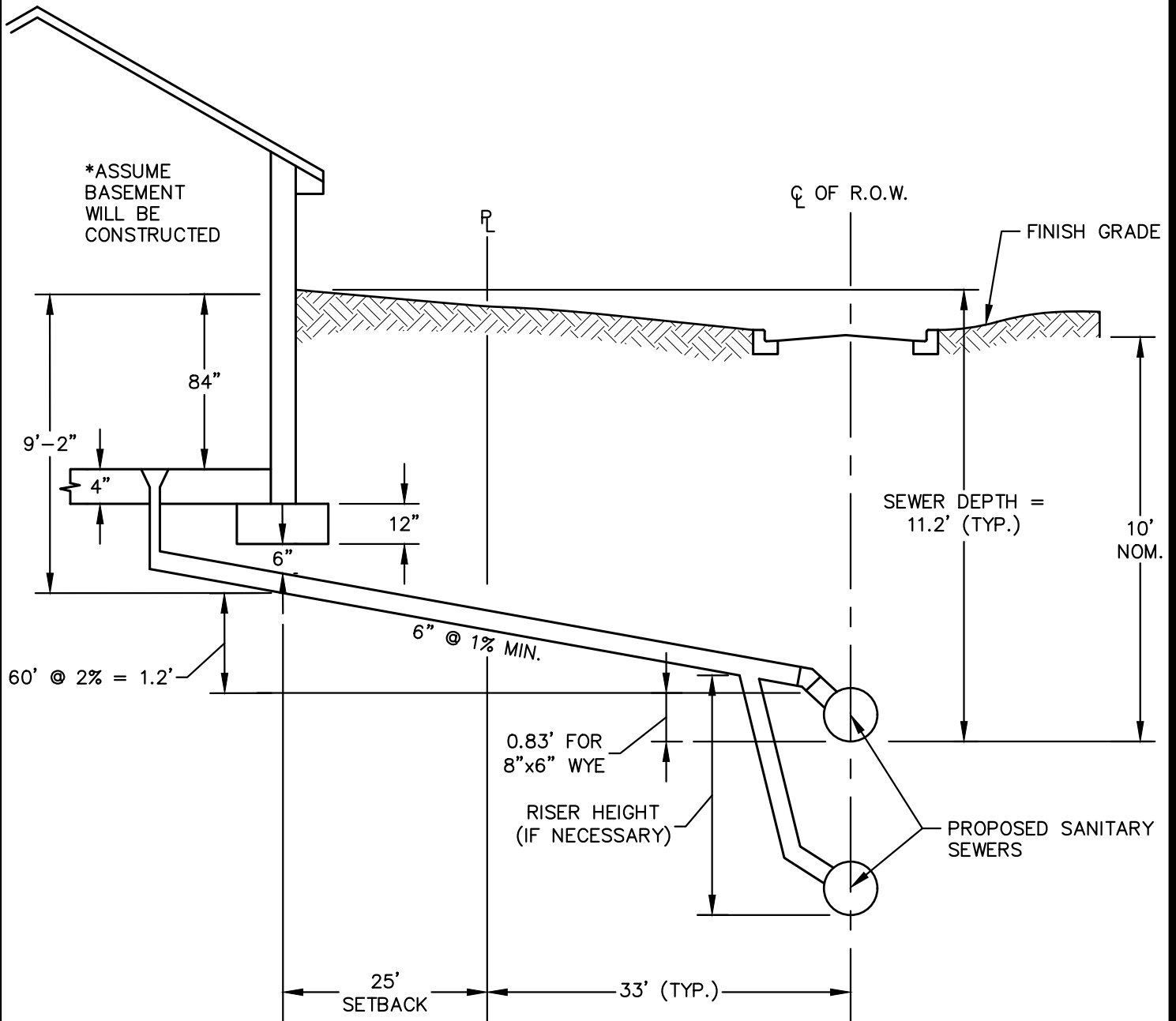
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REV. NO.	DATE	DRAWN BY	CHECKED BY
SANITARY SEWER CONNECTION WITH RISER			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SN-3	



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SANITARY LEAD RELOCATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SN-4	

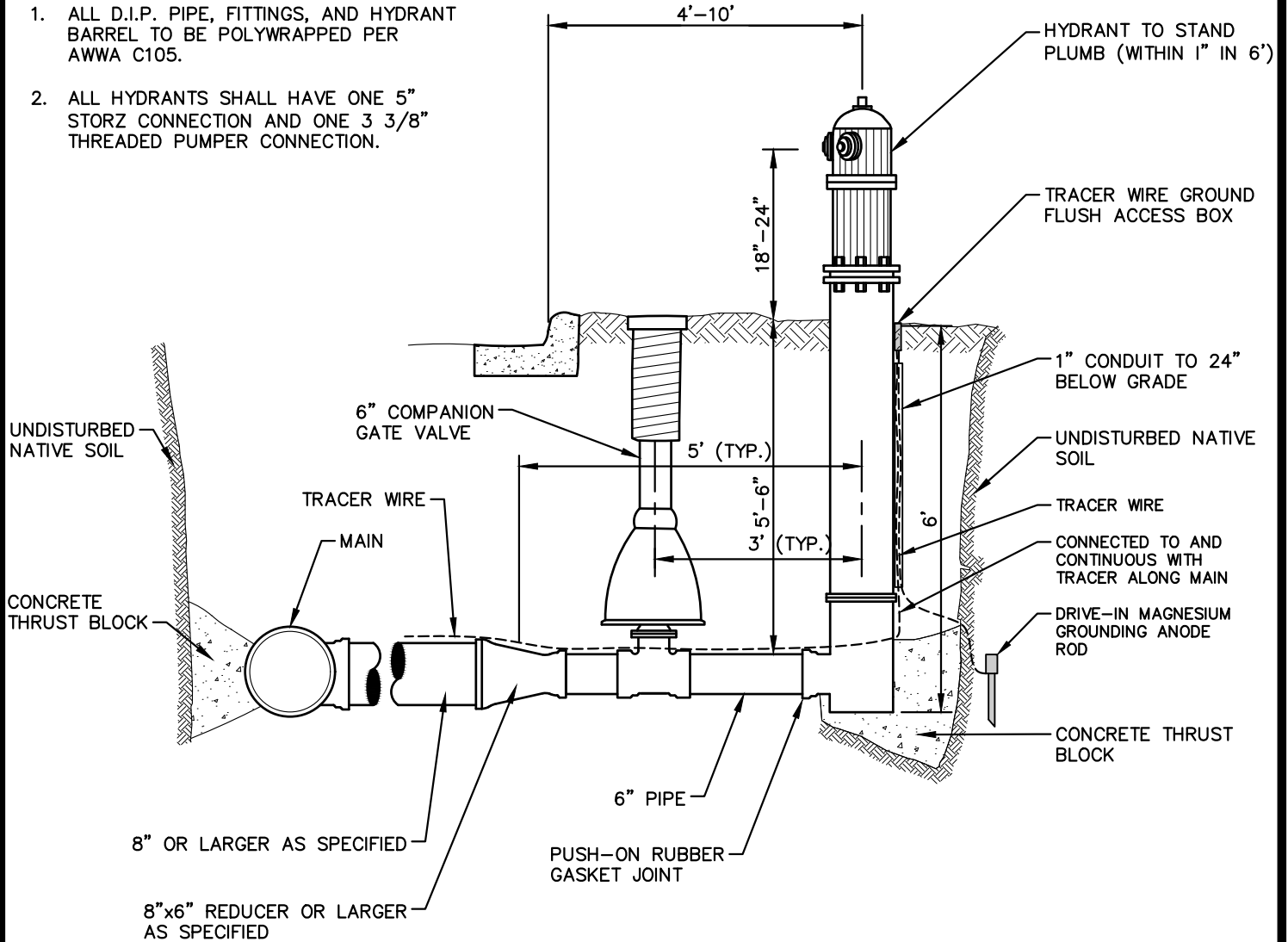


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REV. NO.	DATE	DRAWN BY	CHECKED BY
SANITARY SEWER DEPTH			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SN-5	

NOTES:

1. ALL D.I.P. PIPE, FITTINGS, AND HYDRANT BARREL TO BE POLYWRAPPED PER AWWA C105.
2. ALL HYDRANTS SHALL HAVE ONE 5" STORZ CONNECTION AND ONE 3 3/8" THREADED PUMPER CONNECTION.



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00	2/5/2024	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
FIRE HYDRANT ASSEMBLY			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-1	

MINIMUM STANDARDS

THE MDOT GRADE 3500 OR P-NC CONCRETE AT THE FITTING FACE SHALL EXTEND TO WITHIN 2" OF THE BELL AND SHALL EXTEND FROM THE FITTING FACE A MINIMUM OF 2' TO THE UNDISTURBED SOLID GROUND.

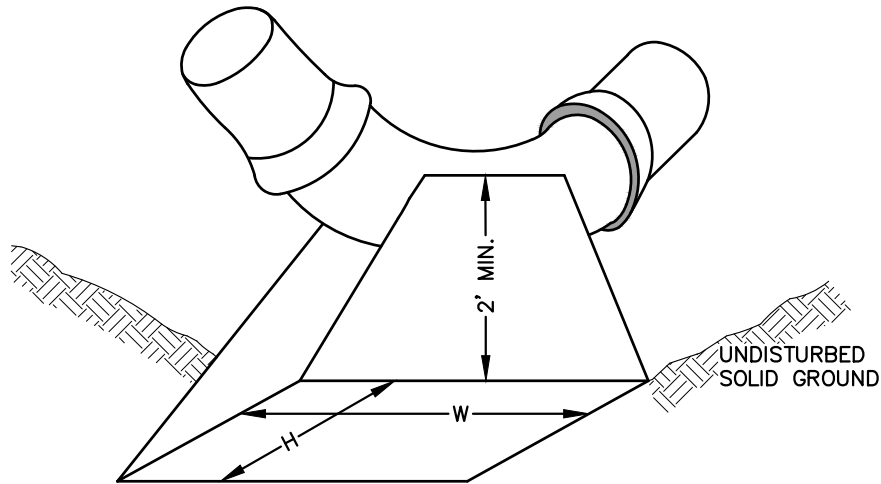
THE DIMENSIONS OF THE THRUST BLOCK AT THE FACE OF THE UNDISTURBED SOLID GROUND SHALL BE AS SHOWN IN THE TABLE BELOW.

IF THERE ISN'T SUFFICIENT SPACE FOR THE INSTALLATION OF THE THRUST BLOCK WITHOUT INTERFERENCE WITH OTHER SERVICES, ANOTHER ARRANGEMENT SATISFACTORY TO THE ENGINEER SHALL BE USED.

FITTINGS I.D.	PLUG TEE CROSS		BENDS								HYDRANT	
			90°		45°		22½°		11¼°			
INCHES	W	H	W	H	W	H	W	H	W	H	W	H
4	1.0	1.0	1.0	1.0	1.0	1.0						
6	2.0	1.5	2.0	2.0	2.0	1.0	1.0	1.0	1.0	1.0	2.0	1.5
8	2.5	2.0	3.5	2.0	2.0	2.0	2.0	1.0	1.0	1.0	2.5	2.0
12	3.5	3.0	5.5	3.0	3.5	2.5	2.0	2.0	2.0	1.0		
16	6.0	3.5	6.0	4.0	5.0	3.0	3.5	2.5	2.0	2.0		

FOR FITTING SIZES LARGER THAN 16", THRUST BLOCK DIMENSIONS SHALL BE AS SPECIFIED BY ENGINEER.

W = WIDTH IN FEET
H = HEIGHT IN FEET



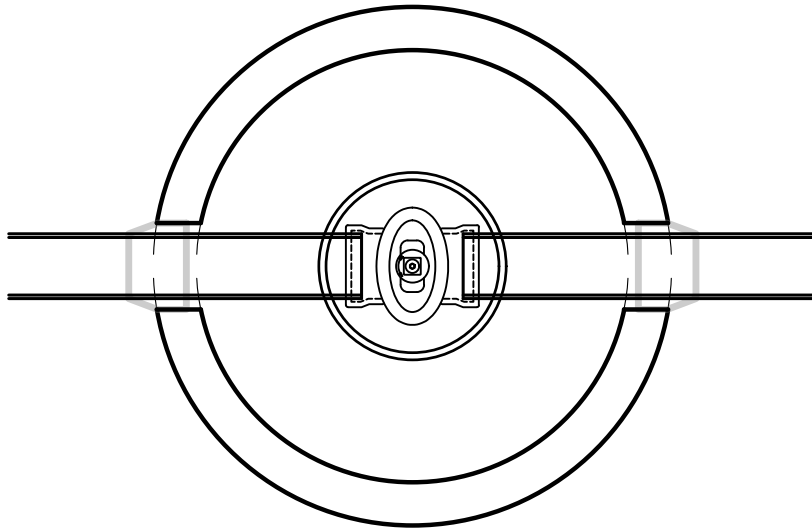
NOTE:

THESE ARE MINIMUM STANDARDS. WHERE SOIL CONDITIONS DICTATE, ADJUSTMENTS IN SIZE SHALL BE MADE AS DIRECTED BY THE PUBLIC SERVICES AREA ADMINISTRATOR.

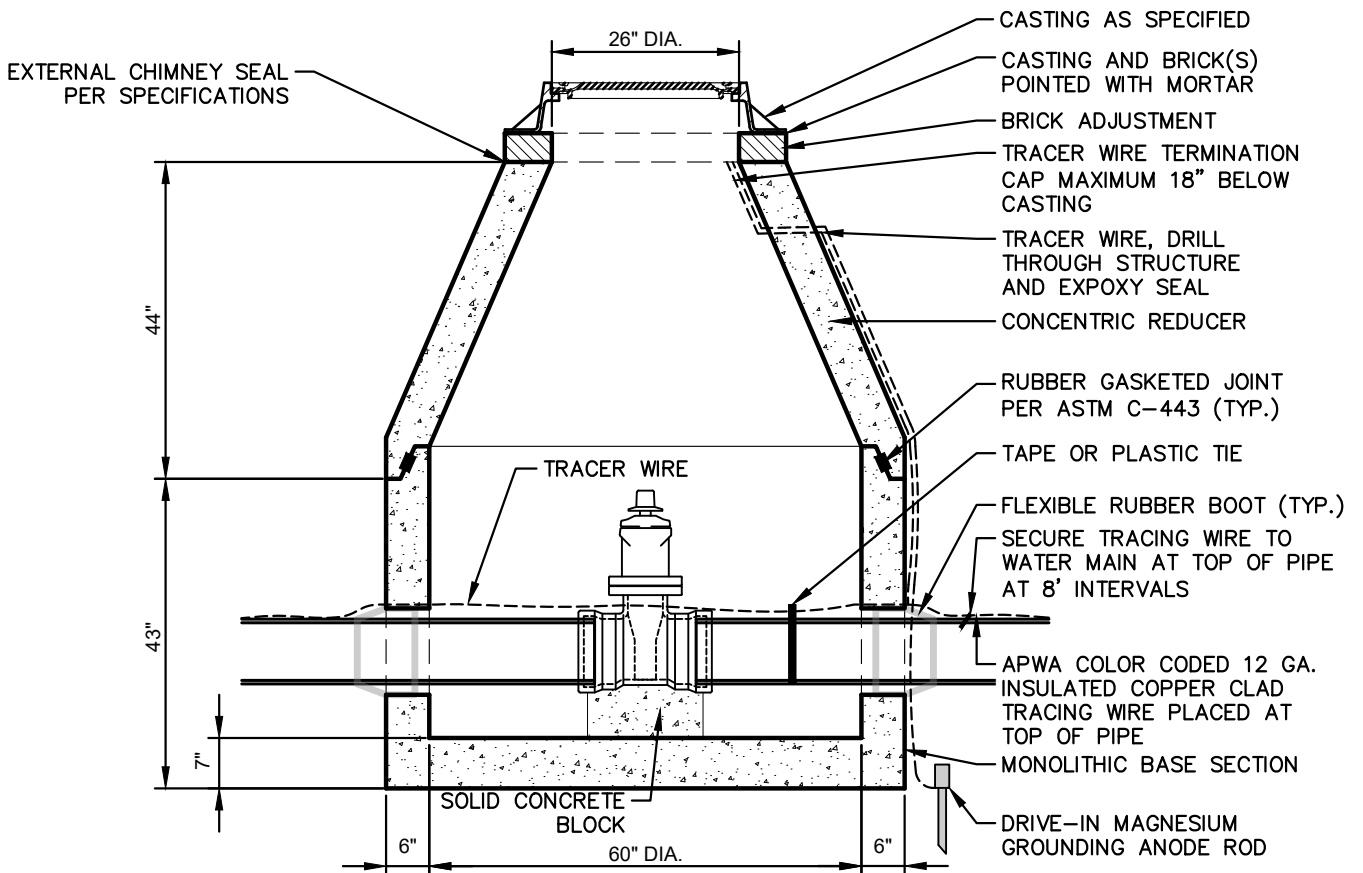


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REV. NO.	DATE	DRAWN BY	CHECKED BY
THRUST BLOCK			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-2	



TOP VIEW



TYPICAL MANHOLE SECTION

NOTES:

1. PRECAST MANHOLE PER ASTM C-478.
2. REINFORCING IN WALLS TO BE ONE LAYER OF 2" X 8" W3/W2.9 WELDED WIRE MESH. CIRCUMFERENTIAL REINFORCEMENT = 0.18 SQ. IN./VERT. FT.
3. BASE SLAB TO BE REINFORCED WITH ONE LAYER OF #4 REBAR AT 12" C-C, E.W. AREA/STEEL = .20 SQ. IN./FT E.W.

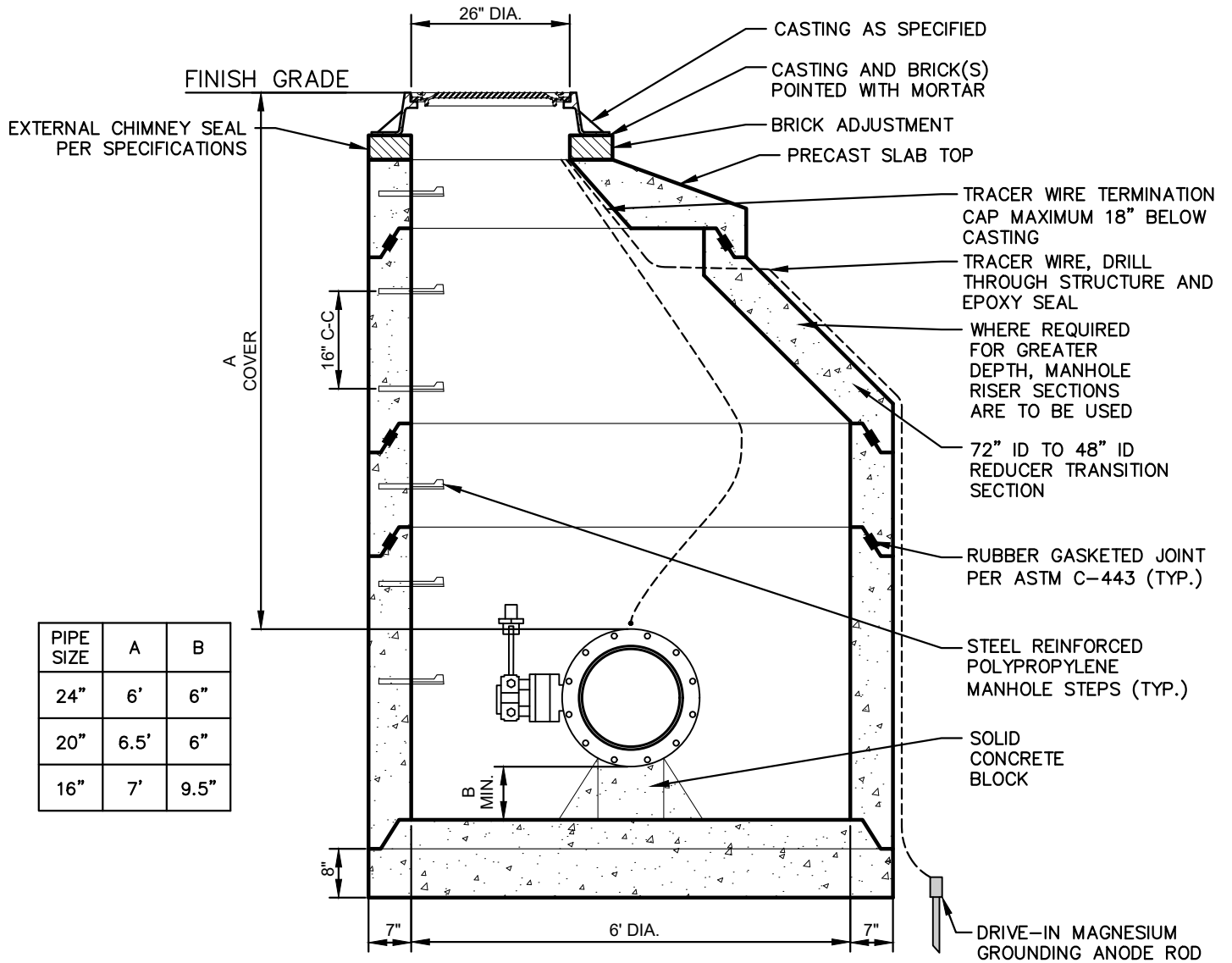


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00	10/17/2024	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
PRECAST GATE WELL (WATERMAINS 16 INCH AND SMALLER)			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-3	

NOTES:

1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE
2. ALL JOINTS SHALL BE MADE WATER TIGHT WITH RUBBER GASKET JOINTS
3. MANHOLE SECTIONS SHALL MEET ASTM C-478
4. CONE TO BE ECCENTRIC TYPE
5. FOR PIPE SIZES LARGE THAN 24", DIAMETER OF MANHOLE AS DIRECTED BY ENGINEER

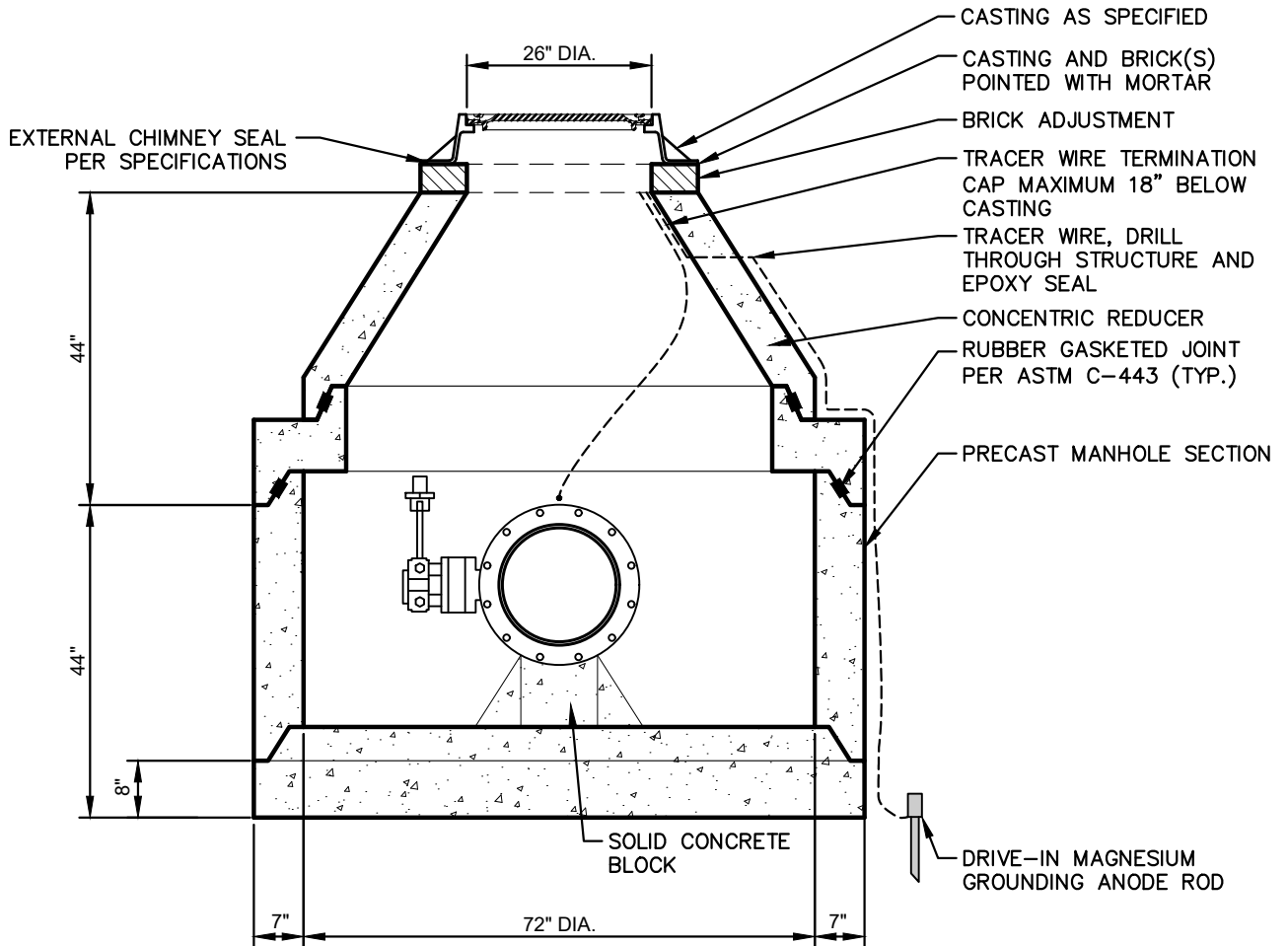


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00	10/17/2024	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
PRECAST GATE WELL (BUTTERFLY VALVES)			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-4	

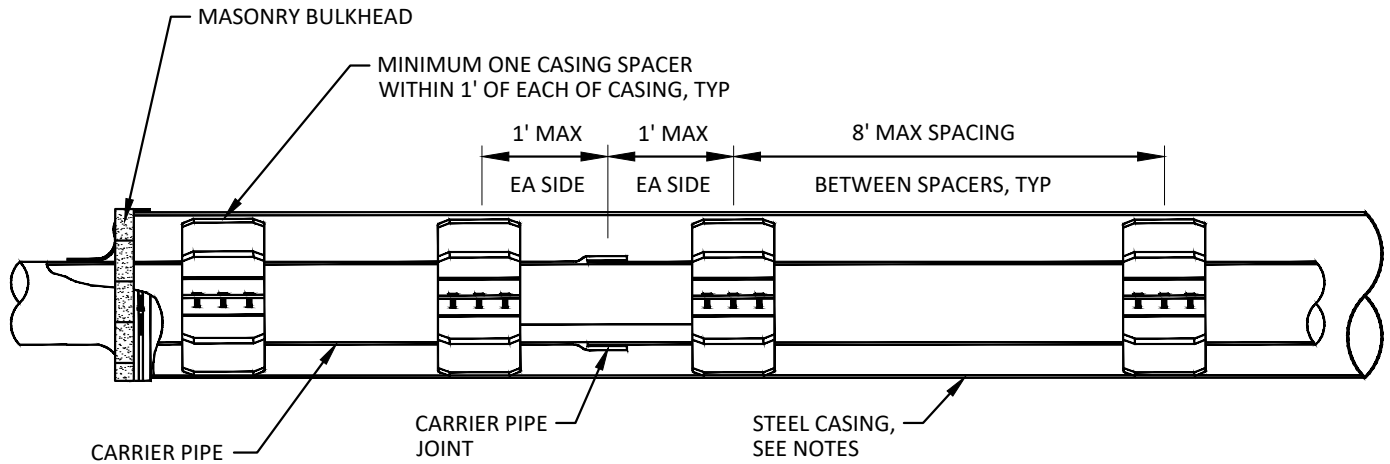
NOTES:

1. ALL LIFT HOLES AND JOINTS SHALL BE MORTARED BOTH INSIDE AND OUTSIDE
2. ALL JOINTS SHALL BE MADE WATER TIGHT WITH RUBBER GASKET JOINTS
3. NO STEPS ARE PERMITTED
4. MANHOLE SECTIONS SHALL MEET ASTM C-478
5. CONE TO BE ECCENTRIC TYPE



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00	10/17/2024	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
PRECAST GATE WELL FOR TAPPING SLEEVE AND VALVE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-5	



NOTES:

1. THE AREA BETWEEN THE CASING PIPE AND WATER MAIN SHALL BE LEFT OPEN EXCEPT FOR SOLID BRICK MASONRY BULKHEAD AT EACH END, AND MANUFACTURED SPACERS WHEN REQUIRED.
2. EACH JOINT OF CASING PIPE SHALL BE WELDED TOGETHER ALONG ENTIRE CIRCUMFERENCE OF PIPE.
3. MANUFACTURED SPACERS SHALL BE USED.
4. WOOD BLOCK SPACERS ARE NOT ALLOWED.
5. BORING SHALL BE AT 90 DEGREES TO ALL CROSSINGS UNLESS OTHERWISE APPROVED. THE BORING OF THE HOLE AND INSTALLATION OF THE CASING PIPE SHALL BE SIMULTANEOUS. BORE HOLE DIAMETER SHALL ESSENTIALLY BE THE SAME AS THE OUTSIDE DIAMETER OF THE CASING PIPE TO BE INSTALLED.
6. STEEL PIPE CASING SHALL BE SMOOTH STEEL PIPE FABRICATED IN SECTIONS IN ACCORDANCE WITH ASTM A53, TYPE E OR S, GRADE B OR ASTM A139, GRADE B. LENGTHS OF CASING PIPE SHALL BE AS LONG AS PRACTICAL FOR SITE CONDITIONS.
7. JOINTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM. JOINTS BETWEEN SECTIONS SHALL BE COMPLETELY WELDED TO THE PRECEDING SECTIONS. PRIOR TO WELDING JOINTS, THE CONTRACTOR SHALL ENSURE THAT BOTH ENDS OF THE CASING SECTIONS BEING WELDED ARE SQUARE.
8. STEEL PIPE CASING SIZE AND WALL THICKNESS SHALL BE AS SPECIFIED IN ARTICLE I OF THESE STANDARDS. VERIFY CASING SIZES PRIOR TO ORDERING AND SIZING CASING INSULATORS.
9. CASING SPACERS SHALL BE RESTRAINED-TYPE BOLTED SPACERS AND SHALL HAVE A MAXIMUM SPACING AS SHOWN, OR AS RECOMMENDED BY MANUFACTURER, WHICHEVER IS CLOSER.
10. REFER TO ARTICLE 1, XXVI CASING PIPE, FOR PIPE SIZES.



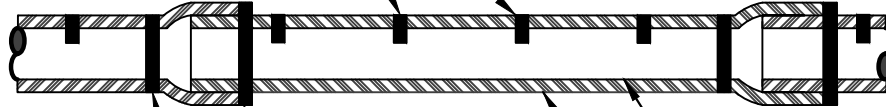
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REV. NO.	DATE	DRAWN BY	CHECKED BY
TYPICAL PIPE CASING DETAIL			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-6	

FOLD AND SECURE POLYETHYLENE ENCASEMENT AROUND PIPE WITH PLASTIC TIE STRAPS OR TAPE EVERY TWO (2) FEET (TYP).

12" MINIMUM OVERLAP (TYP)

2' (TYP)



WRAP PIPE WITH PLASTIC TIE STRAPS OR TAPE (TYP).

DUCTILE IRON PIPE
POLYETHYLENE ENCASEMENT (TYP)

NOTE: FOLLOW ANSI/AWWA C105/A21.5 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

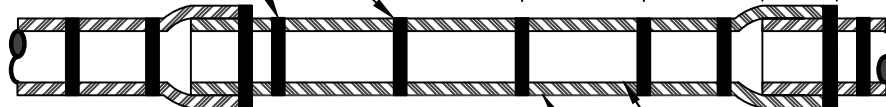
APPLIES TO: POLYETHYLENE WRAPPED D.I. WATERMAIN
SEE PLANS FOR LOCATIONS

POLYETHYLENE ENCASEMENT (DRY INSTALLATION)

WRAP POLYETHYLENE ENCASEMENT PIPE COMPLETELY WITH PLASTIC TIE STRAPS OR TAPE EVERY TWO (2) FEET (TYP).

12" MINIMUM OVERLAP (TYP)

2' (TYP)



NOTE: FOLLOW ANSI/AWWA C105/A21.5 FOR CONSTRUCTION AND INSTALLATION METHODS. USE MODIFIED METHOD A

DUCTILE IRON PIPE
POLYETHYLENE ENCASEMENT (TYP)

APPLIES TO: POLYETHYLENE WRAPPED D.I. WATERMAIN
SEE PLANS FOR LOCATIONS

POLYETHYLENE ENCASEMENT (WET INSTALLATION)



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REV. NO.	DATE	DRAWN BY	CHECKED BY
POLYETHYLENE ENCASEMENT			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-7	

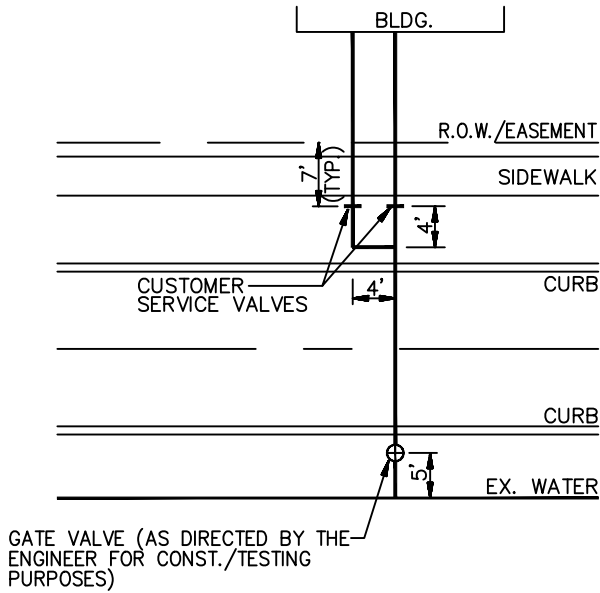
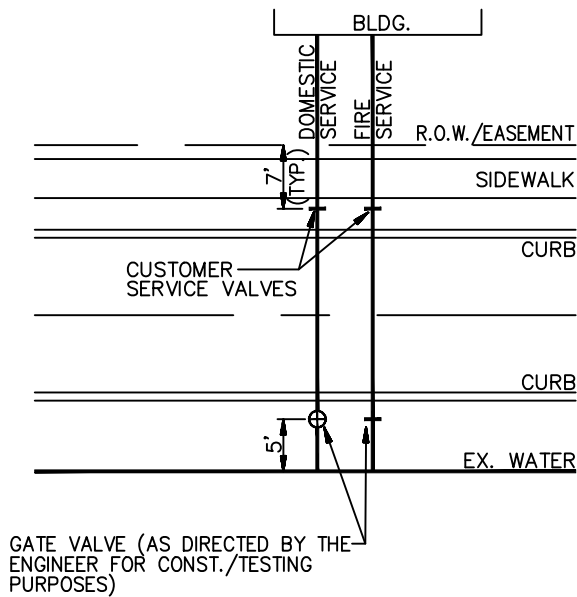
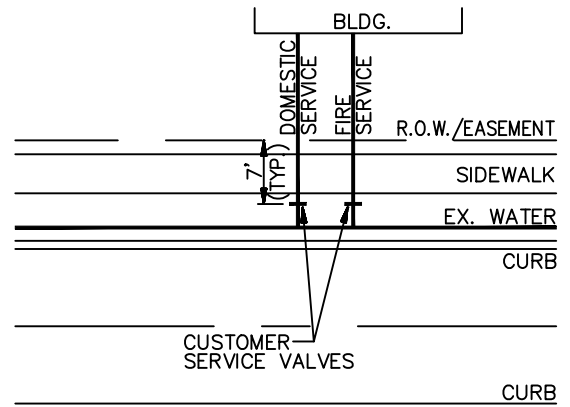


FIGURE 4 CONFIGURATION



**SEPARATE SERVICES
LONG SIDE**



**SEPARATE SERVICES
SHORT SIDE**

NOTE:

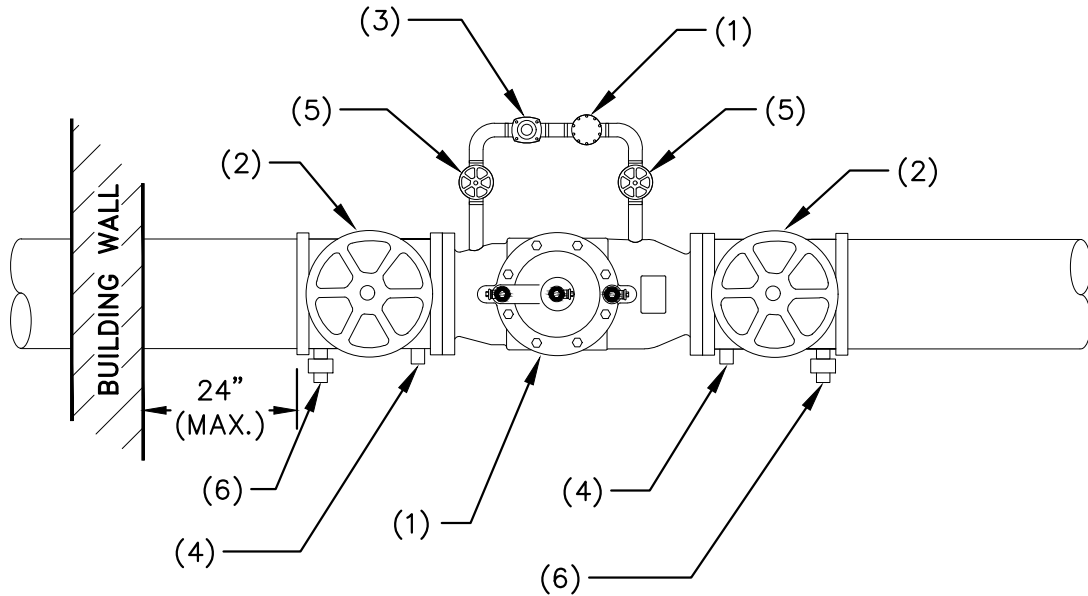
1. CITY WILL MAINTAIN LEAD UNDER ROAD UP TO AND INCLUDING THE CUSTOMER SERVICE VALVE LOCATION.
2. FOR 13D SPRINKLER SYSTEMS, AS APPROVED BY PLANNING AND DEVELOPMENT SERVICES UNIT, A COMBINATION FIRE AND DOMESTIC LEAD IS PERMITTED.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DOMESTIC AND FIRE SERVICE CONFIGURATIONS			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-W-8	

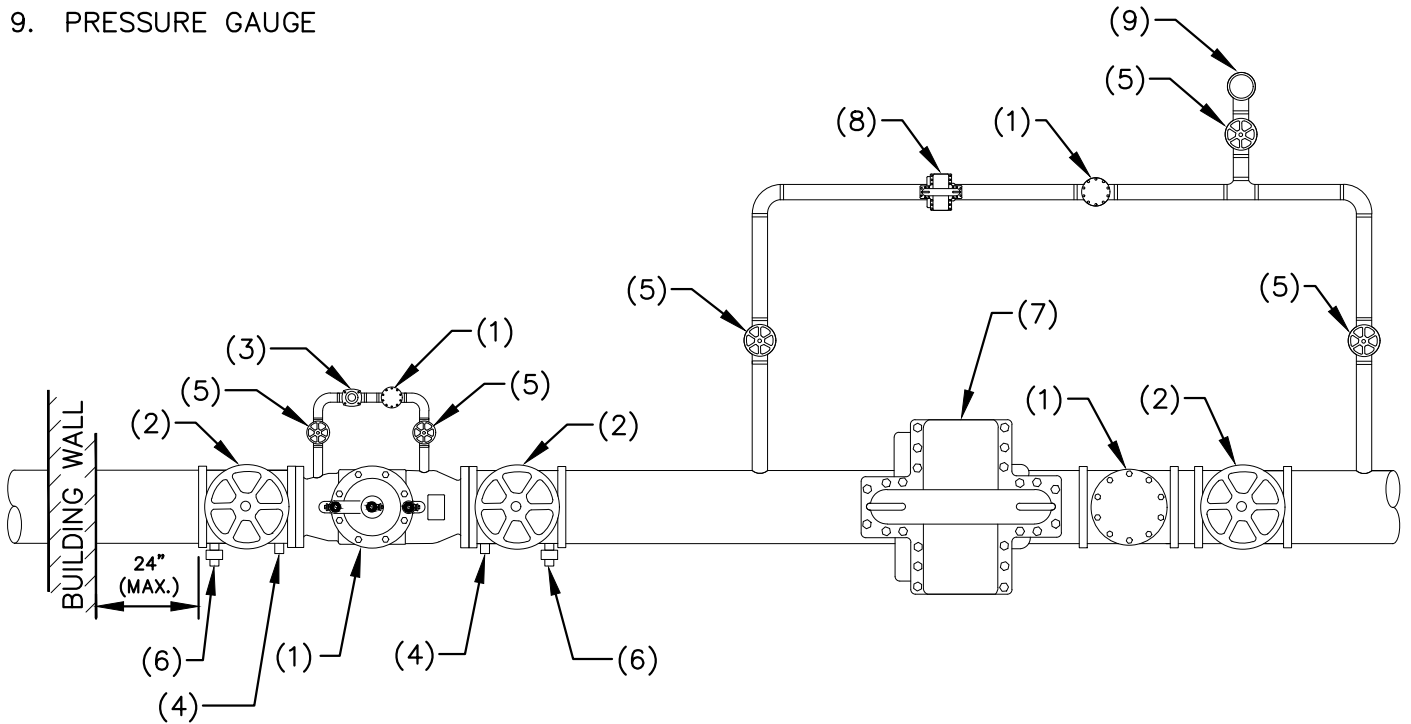
1. TESTABLE BACK FLOW PREVENTER WITH DETECTOR FLOW METER (RPZ OR DOUBLE CHECK VALVE DEPENDING ON HAZARD LEVEL) – AS DETERMINED BY THE CITY
2. GATE VALVE
3. 3/4" METER
4. 3/4" THREADED PLUG
5. BALL VALVE
6. BALL VALVE WITH 5/8" MALE THREADED HOSE BIBB CONNECTION



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REV. NO.	DATE	DRAWN BY	CHECKED BY
FIRE SERVICE METERING			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-MT-1	

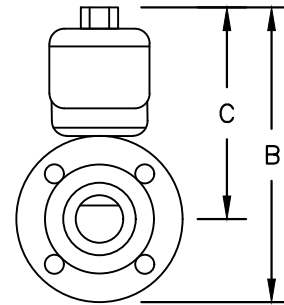
1. TESTABLE BACK FLOW PREVENTER WITH DETECTOR FLOW METER (RPZ OR DOUBLE CHECK VALVE DEPENDING ON HAZARD LEVEL) – AS DETERMINED BY THE CITY
2. GATE VALVE
3. 3/4" METER
4. 3/4" THREADED PLUG
5. BALL VALVE
6. BALL VALVE WITH 5/8" MALE THREADED HOSE BIBB CONNECTION
7. FIRE PUMP
8. JOCKEY PUMP
9. PRESSURE GAUGE



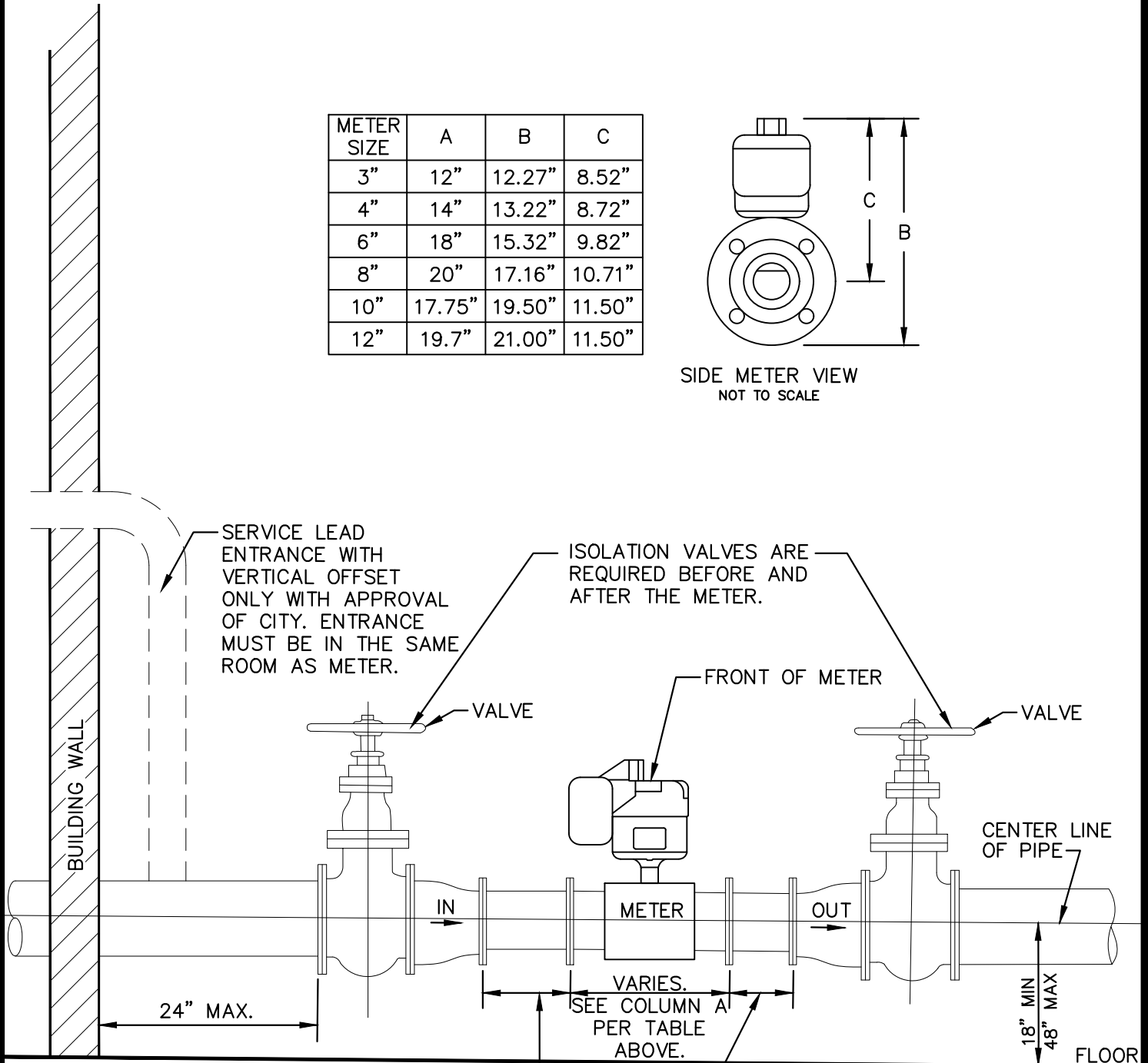
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REV. NO.	DATE	DRAWN BY	CHECKED BY
FIRE SERVICE METERING - FIRE PUMP SYSTEM			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-MT-2	

METER SIZE	A	B	C
3"	12"	12.27"	8.52"
4"	14"	13.22"	8.72"
6"	18"	15.32"	9.82"
8"	20"	17.16"	10.71"
10"	17.75"	19.50"	11.50"
12"	19.7"	21.00"	11.50"



SIDE METER VIEW
NOT TO SCALE



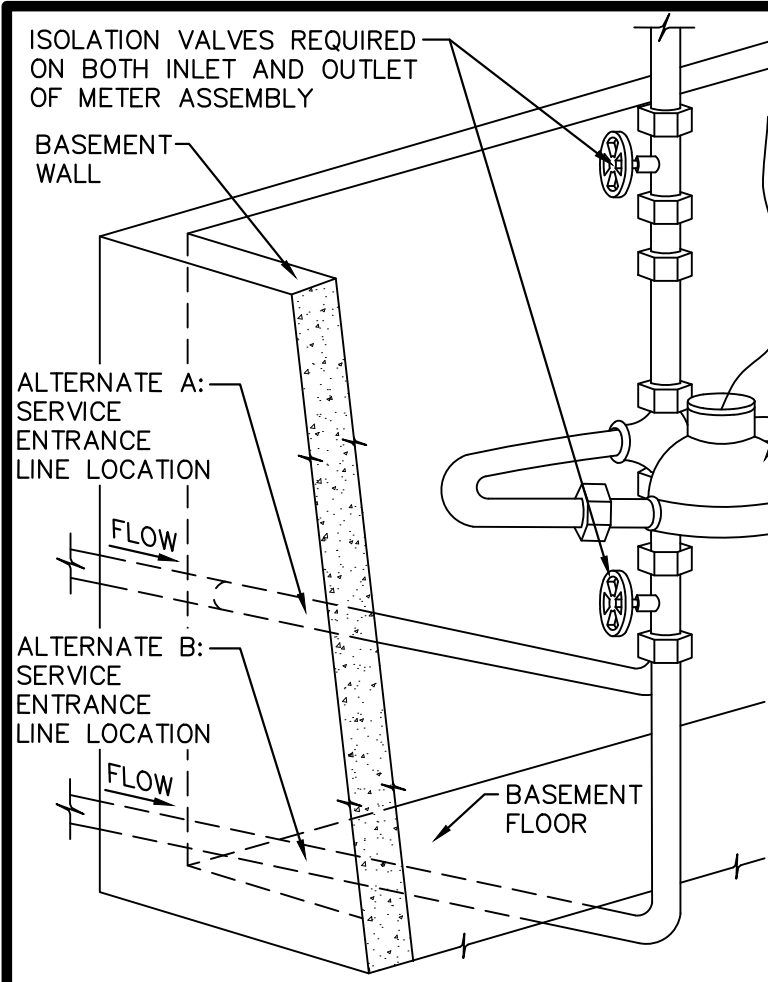
DISTANCE BETWEEN VALVE AND METER SHALL BE MINIMUM 5X THE DIAMETER OF THE PIPE COMING INTO THE METER AND PIPE SIZE SHALL MATCH METER SIZE.

DISTANCE BETWEEN VALVE AND METER SHALL BE MINIMUM 2X THE DIAMETER OF THE PIPE EXITING THE METER AND PIPE SIZE SHALL MATCH METER SIZE.



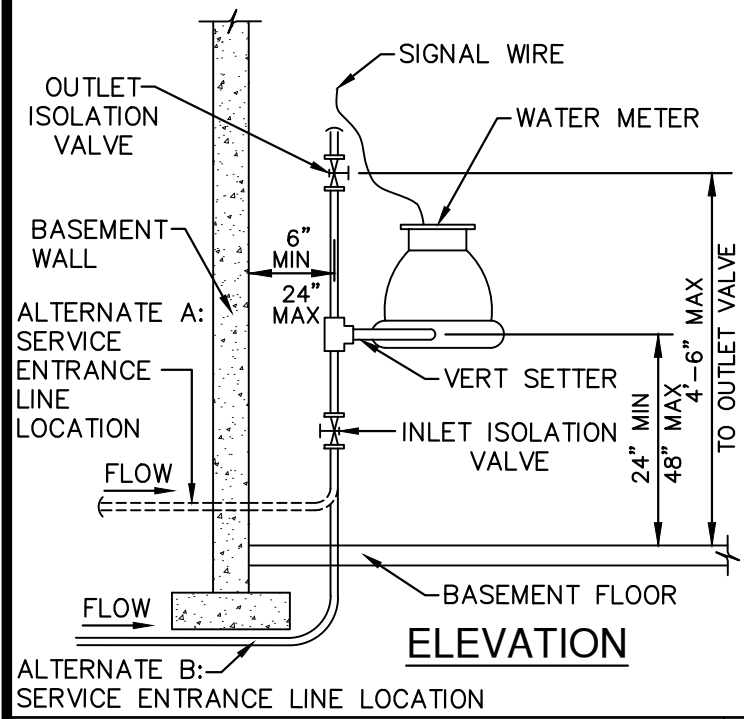
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REV. NO.	DATE	DRAWN BY	CHECKED BY
ELECTROMAGNETIC METER INSTALLATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-MT-3	



ISOMETRIC VIEW

- NOTES:**
1. METER ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
 2. IF METER ASSEMBLY CANNOT BE SET ACCORDING TO REQUIREMENTS SET FORTH IN THIS DETAIL AND THE STANDARD SPECIFICATIONS, THEN A PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION.
 3. 3/4" AND 1" WATER METERS SHALL BE INSTALLED WITH A METER HORN AS SHOWN. METER HORN TO BE PROVIDED BY THE CITY.
 4. METER ASSEMBLY AND ISOLATION VALVES MUST BE EASILY ACCESSIBLE BY CITY STAFF AT ALL TIMES FOR MAINTENANCE. METERS CANNOT BE BOXED IN WITHOUT WRITTEN APPROVAL FROM THE CITY.
 5. METER TRANSMITTING UNIT (MTU) TO BE MOUNTED WITHIN 15' OF THE WATER METER ASSEMBLY. THE MTU WILL BE MOUNTED BY CITY STAFF.
 6. IF THE WATER SERVICE ENTERS THROUGH THE BASEMENT WALL, IT SHALL BE LOCATED AT LEAST 12" MIN. AND 36" MAX. ABOVE THE BASEMENT FLOOR.
 7. IF A PRESSURE REDUCING VALVE (PRV) IS REQUIRED BY BUILDING CODE, OR DESIRED BY THE PROPERTY OWNER, IT SHALL BE INSTALLED WITH THE USE OF AN INLINE TANDEM RESETTER.
 8. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET EXCEPT AS SHOWN.

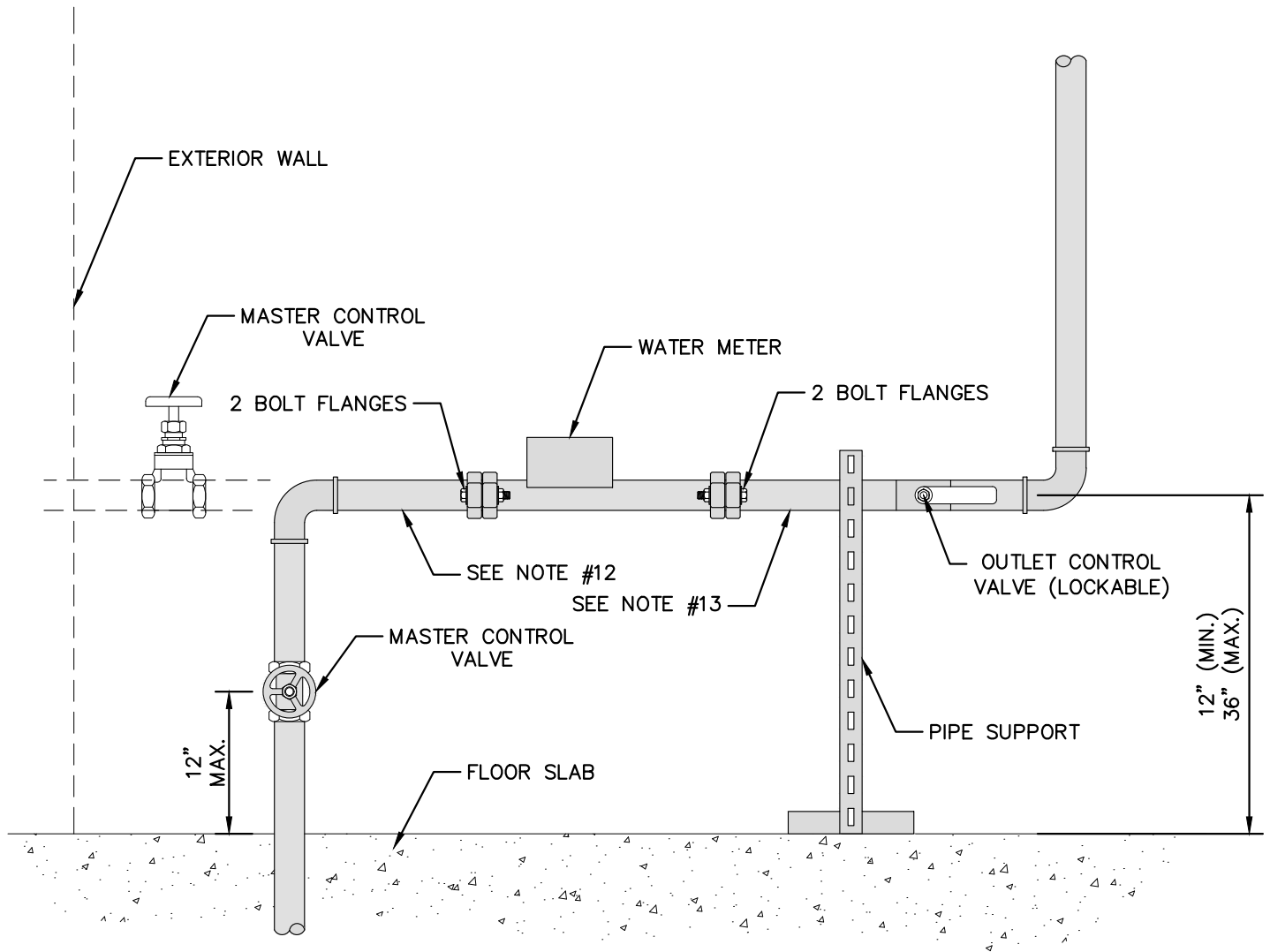


ELEVATION



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REV. NO.	DATE	DRAWN BY	CHECKED BY
ULTRASONIC METER INSTALLATION 0.75 INCH AND 1 INCH			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-MT-4	



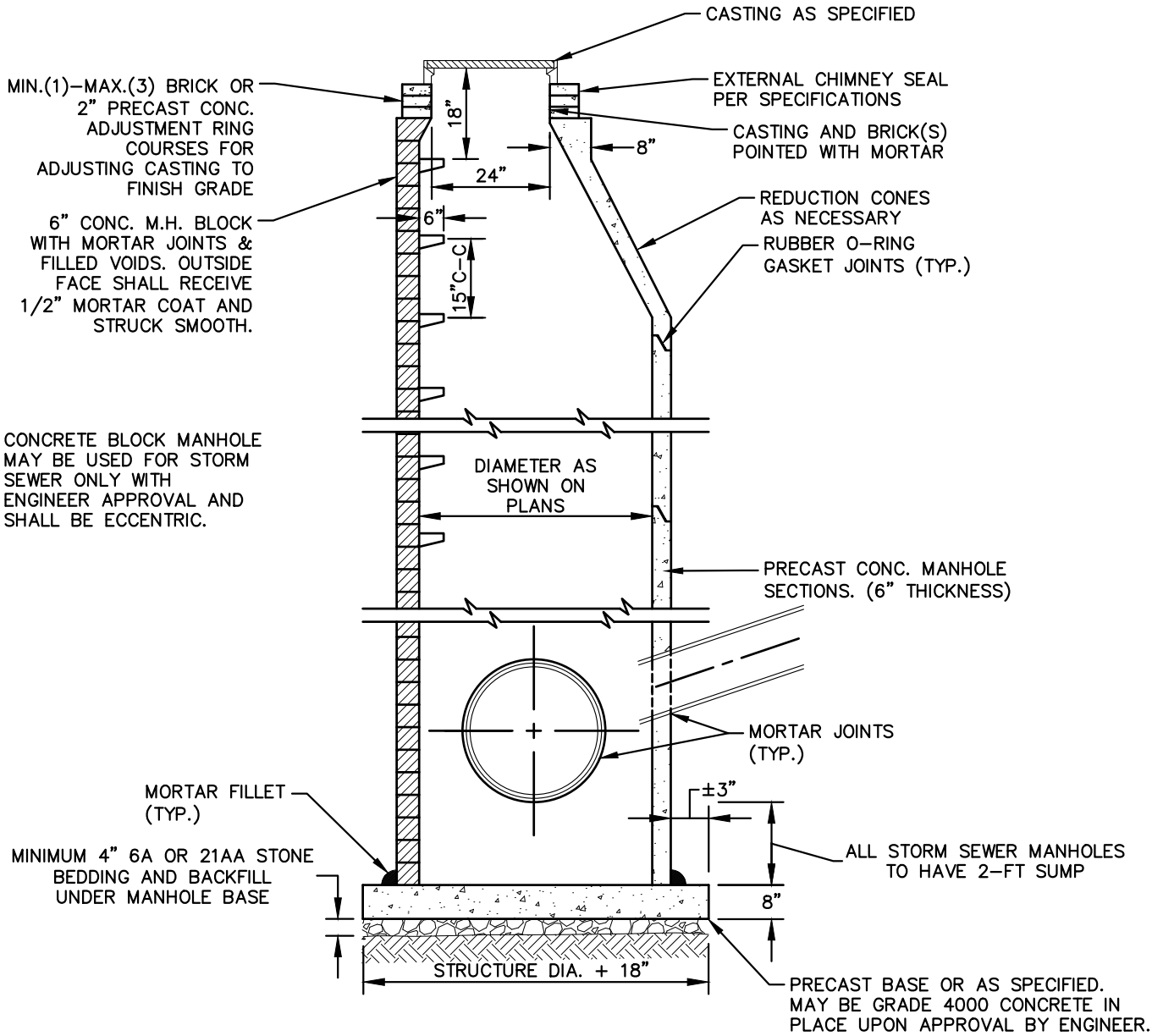
NOTES:

1. PIPING ADJACENT TO THE METER SPACE MUST BE ON A HORIZONTAL PLANE.
2. METER SETTINGS ARE TO BE CONSTRUCTED BY THE CONSUMER.
3. MINIMUM DISTANCE FROM THE CENTERLINE OF PIPING ADJACENT TO METER SPACER IS TO BE 18" FROM ANY ENTRANCE OR OUTSIDE WALL.
4. METER SUPPORT AS REQUIRED (IE. QLINE).
5. A LOCKABLE BALL VALVE SHALL BE INSTALLED AFTER THE FIRE BRANCH AND AFTER ANY BY-PASS BRANCH AT VALVE.
6. METER ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND DAMAGE.
7. IF METER ASSEMBLY CANNOT BE SET ACCORDING TO REQUIREMENTS SET FORTH IN THIS DETAIL AND THE STANDARD SPECIFICATIONS, THEN A PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION.
8. METER ASSEMBLY AND ISOLATION VALVES MUST BE EASILY ACCESSIBLE BY CITY STAFF AT ALL TIMES FOR MAINTENANCE. METERS CANNOT BE BOXED IN WITHOUT WRITTEN APPROVAL FROM THE CITY.
9. METER TRANSMITTING UNIT (MTU) TO BE MOUNTED WITHIN 15' OF THE WATER METER ASSEMBLY. THE MTU WILL BE MOUNTED BY CITY STAFF.
10. IF THE WATER SERVICE ENTERS THROUGH THE BASEMENT WALL, IT SHALL BE LOCATED AT LEAST 12" MIN. AND 36" MAX. ABOVE THE BASEMENT FLOOR.
11. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN PIPE SIZE ARE PERMITTED ON THE SERVICE LINE FROM THE CORPORATION STOP TO THE METER OUTLET EXCEPT AS SHOWN.
12. DISTANCE BETWEEN ANY FITTING AND METER SHALL BE MINIMUM 5X THE DIAMETER OF THE PIPE COMING INTO THE METER AND PIPE SIZE SHALL MATCH METER SIZE.
13. DISTANCE BETWEEN ANY FITTING AND METER SHALL BE MINIMUM 2X THE DIAMETER OF THE PIPE EXITING THE METER AND PIPE SIZE SHALL MATCH METER SIZE.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
ULTRASONIC METER INSTALLATION 1.5 INCH AND 2 INCH			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-MT-5	



NOTES:

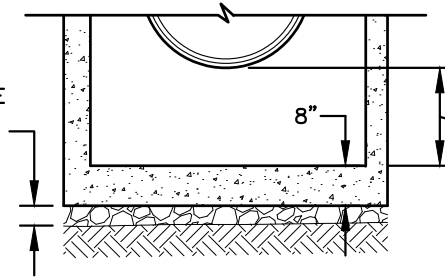
1. ALL STORM MANHOLES MAY BE PRECAST CONCRETE OR MANHOLE BLOCK.
2. ALL MANHOLES MUST HAVE ECCENTRIC CONES.
3. ALL MANHOLE SECTIONS SHALL BE REINFORCED PER ASTM-185.
4. 2' SUMP REQUIRED ON ALL DRAINAGE STRUCTURES.
5. IF A FLAT TOP IS REQUIRED, THEN IT SHALL BE REINFORCED IN BOTH DIRECTIONS TO MEET ASTM C-615.



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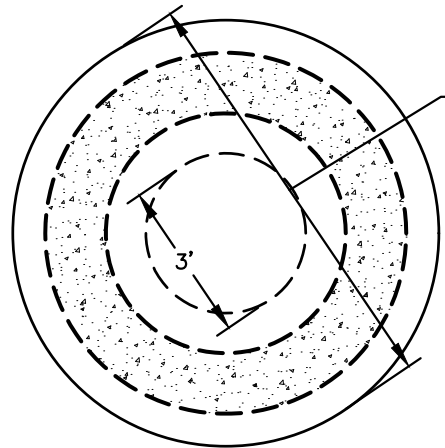
00	12/30/2024	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
STANDARD STORM MANHOLE (SEPARATE BASE)			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-ST-1A	

MINIMUM 4" 6A OR 21AA STONE
BEDDING AND BACKFILL
UNDER MANHOLE BASE
AND TO FIRST PIPE JOINT



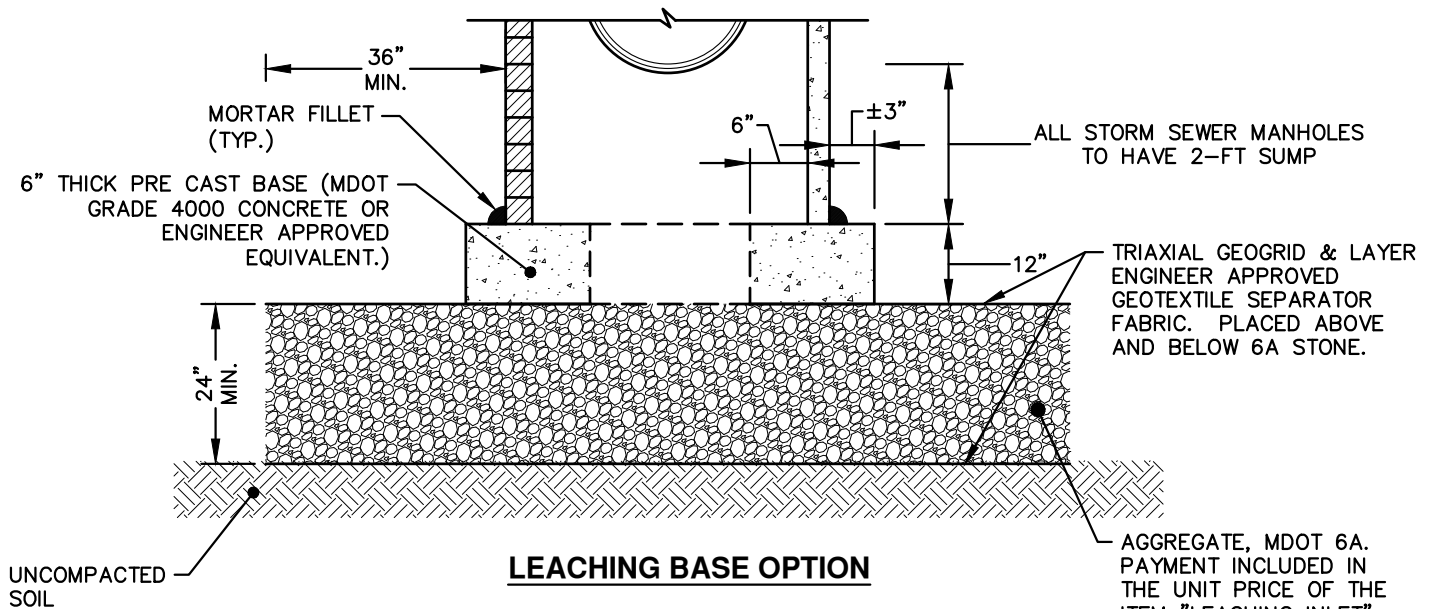
ALL STORM SEWER MANHOLES
TO HAVE 2-FT SUMP

INTEGRAL BASE OPTION



DIA. = I.D. + (WALL) +
(2X WALL THICKNESS)

PLAN VIEW



ALL STORM SEWER MANHOLES
TO HAVE 2-FT SUMP

TRIAXIAL GEOGRID & LAYER
ENGINEER APPROVED
GEOTEXTILE SEPARATOR
FABRIC. PLACED ABOVE
AND BELOW 6A STONE.

AGGREGATE, MDOT 6A.
PAYMENT INCLUDED IN
THE UNIT PRICE OF THE
ITEM "LEACHING INLET"
AND WILL NOT BE PAID
FOR SEPARATELY.

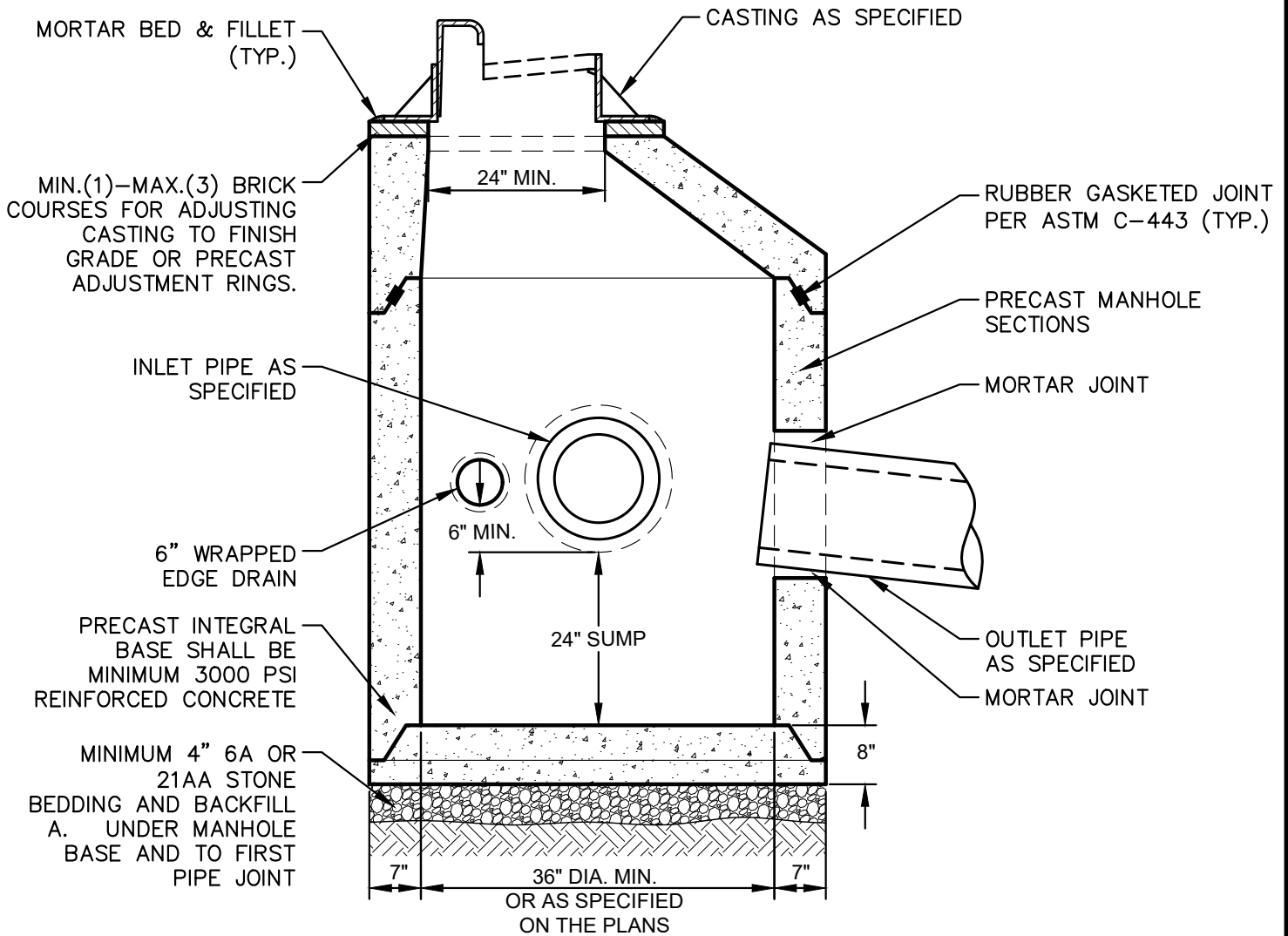
LEACHING BASE OPTION

UNCOMPACTED
SOIL



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01	12/30/24	A2D	SSORT
00	8/20/12	AG	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
STANDARD STORM MANHOLE (PRECAST AND LEACHING BASES)			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-ST-1B	



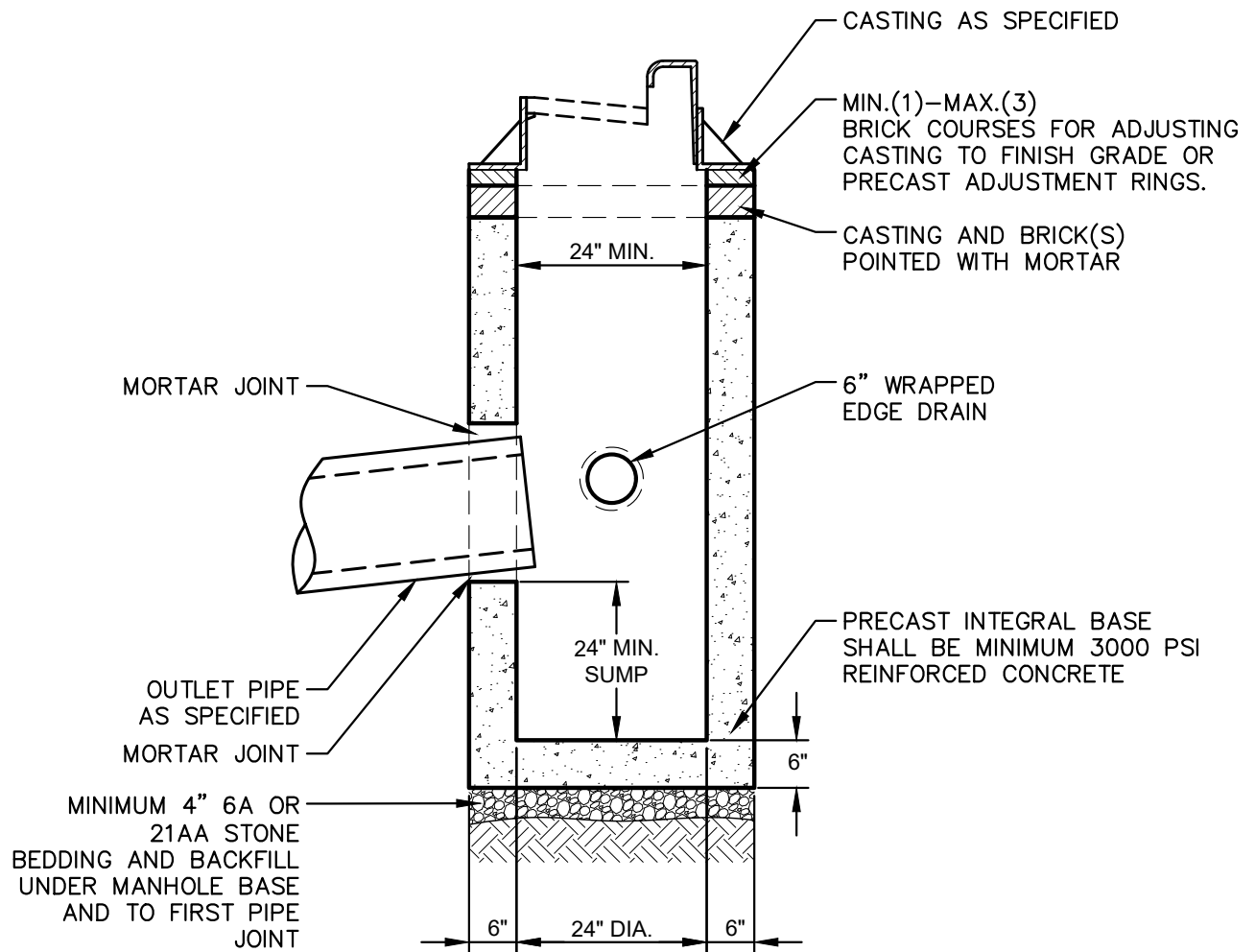
NOTES:

- FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)



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00	12/30/2024	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
PRECAST JUNCTION INLET			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-ST-2	



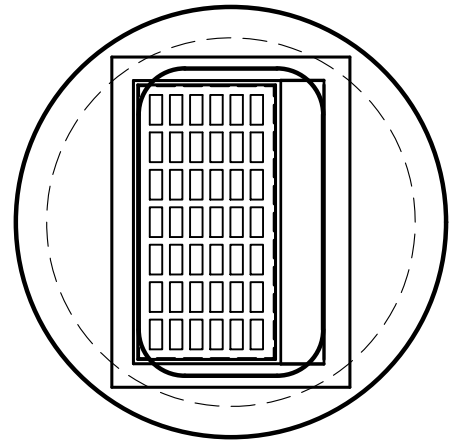
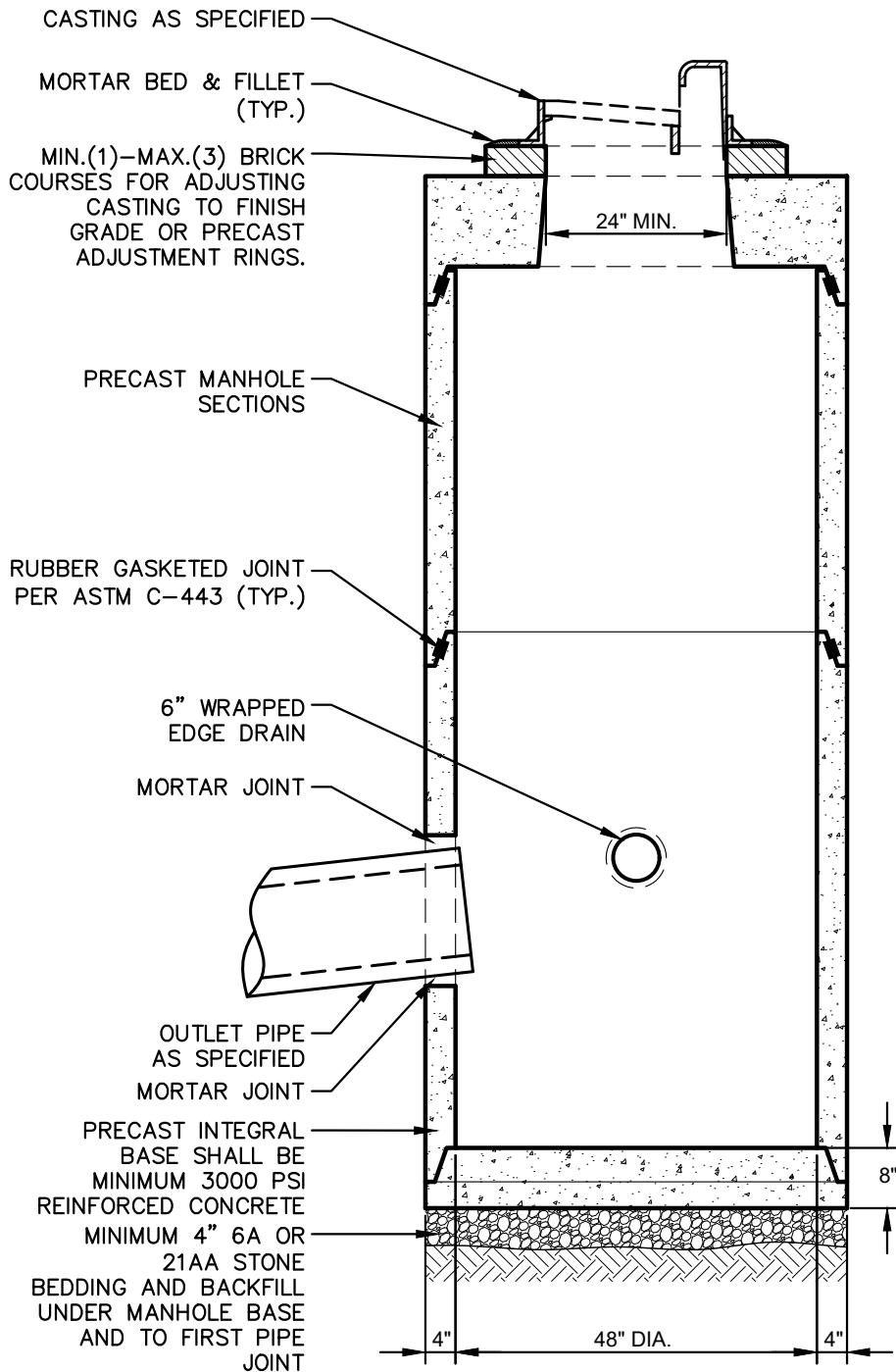
NOTES:

1. MAY BE USED WITH SINGLE OUTLET PIPE AND SINGLE INLET PIPE.
2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)

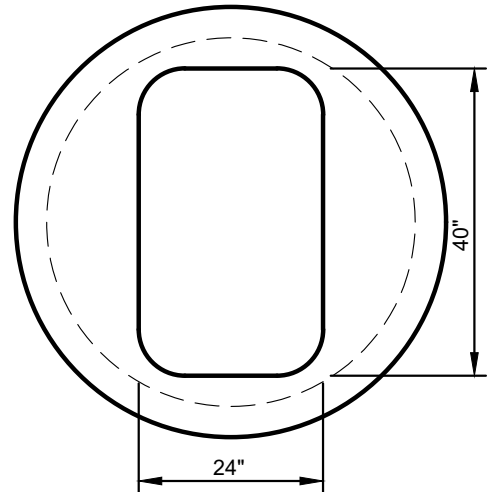


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REV. NO.	DATE	DRAWN BY	CHECKED BY
PRECAST SINGLE INLET			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-ST-3	



TOP VIEW



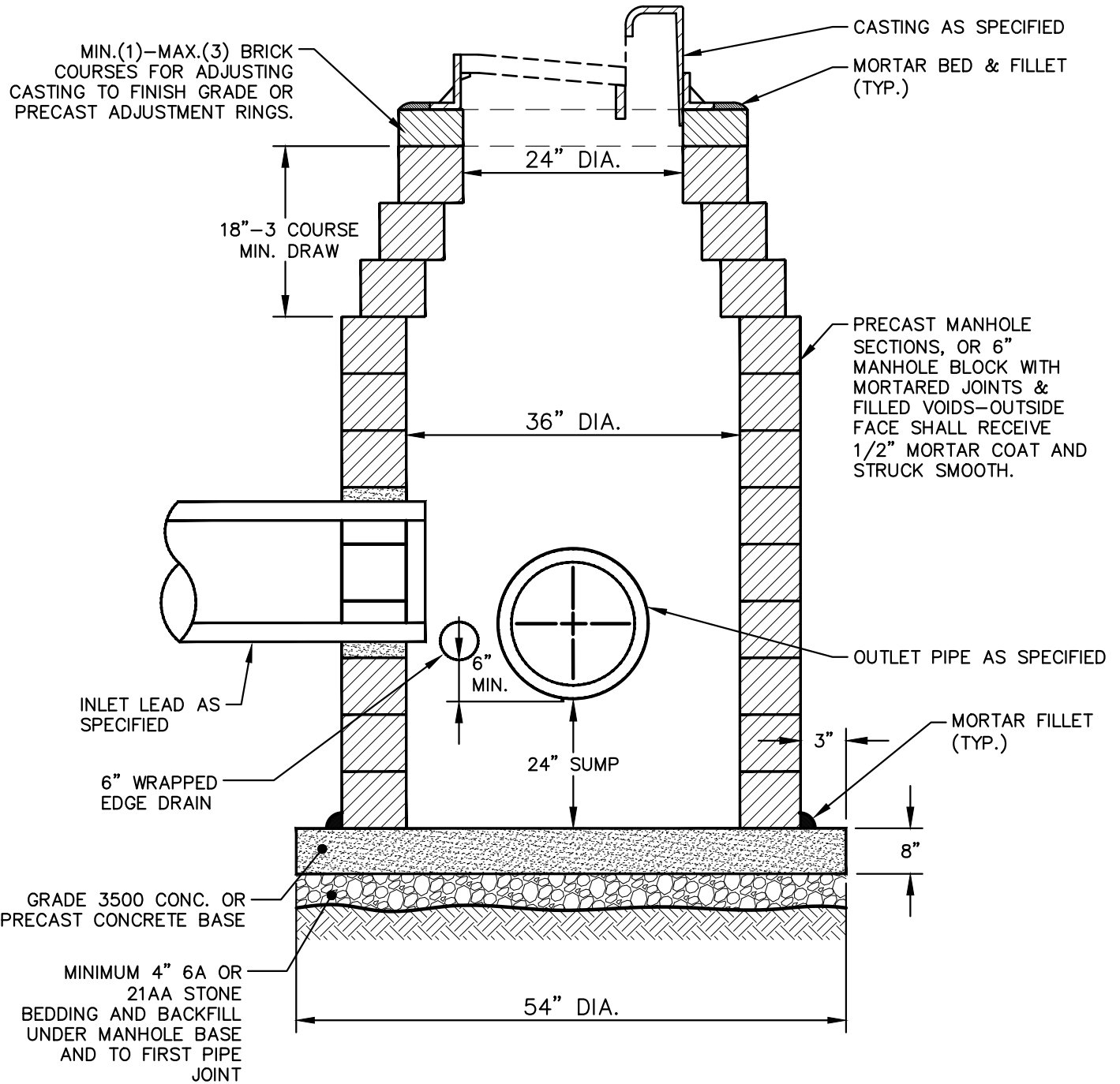
NOTES:

- FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)



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00	12/30/24	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
PRECAST HIGH CAPACITY INLET			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-ST-4	



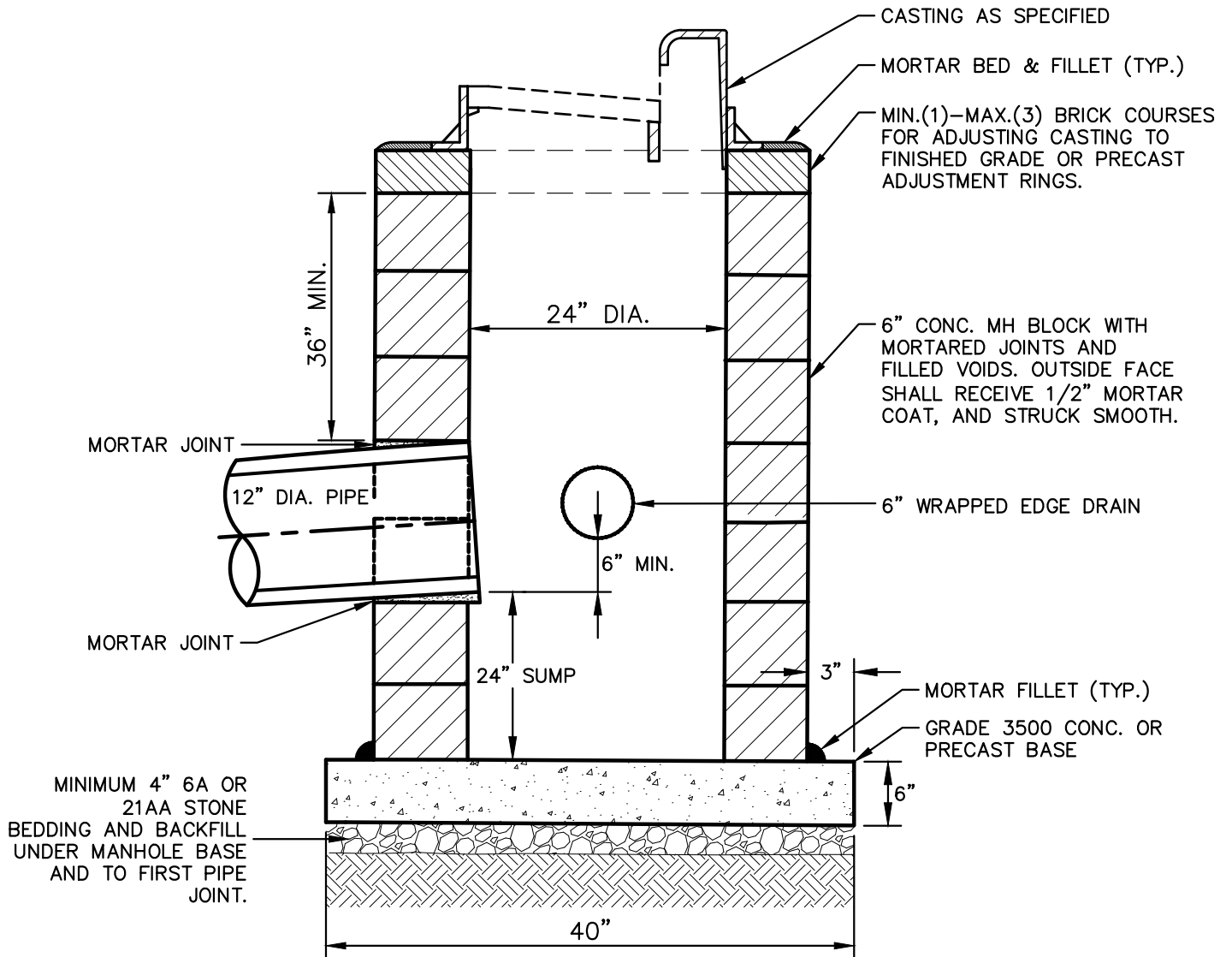
NOTES:

1. MAY BE USED WITH SINGLE OUTLET PIPE AND SINGLE INLET PIPE.
2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)



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00	12/30/24	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
BLOCK JUNCTION INLET			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-ST-5	



NOTES:

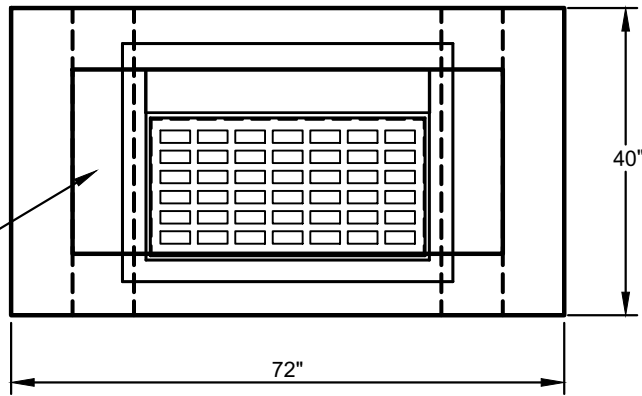
1. MAY BE USED WITH ONLY SINGLE OUTLET PIPE, AND NO INLET PIPE
2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)



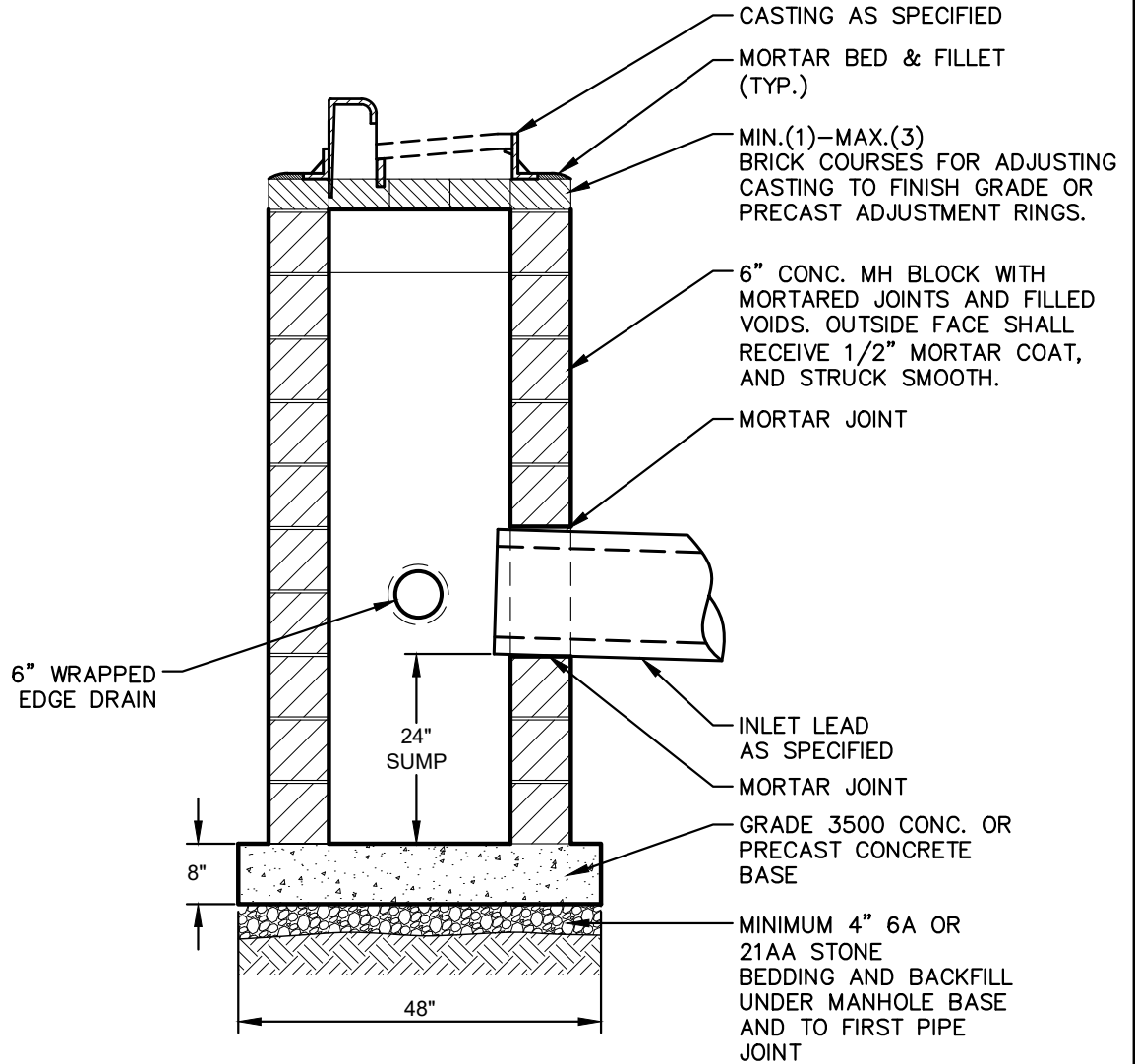
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00	12/30/24	A2D	SSORT
REV. NO.	DATE	DRAWN BY	CHECKED BY
BLOCK SINGLE INLET			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-ST-6	

2-8"x8"x40" PRECAST CONCRETE LINTELS W/2-NO.3 BARS (TYP.)



TOP VIEW



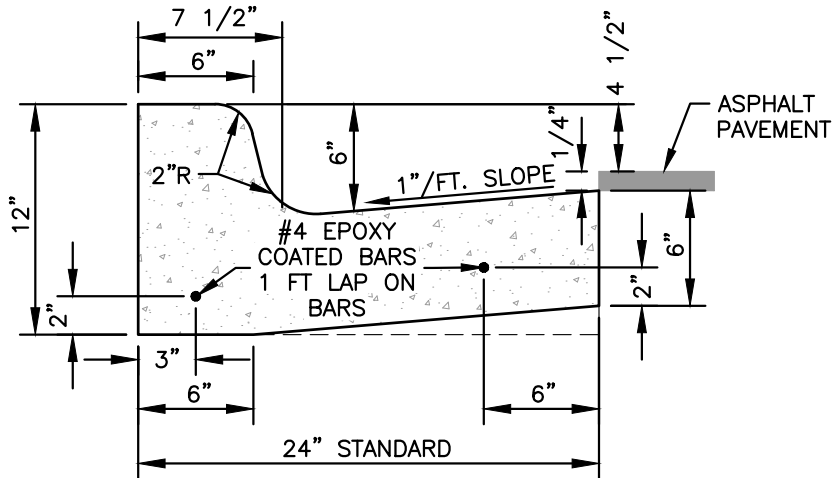
NOTES:

1. MAY BE USED WITH SINGLE OUTLET PIPE AND SINGLE INLET PIPE.
2. FRONT EDGE OF INLET CASTING SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL)



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REV. NO.	DATE	DRAWN BY	CHECKED BY
BLOCK HIGH CAPACITY INLET			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-ST-7	



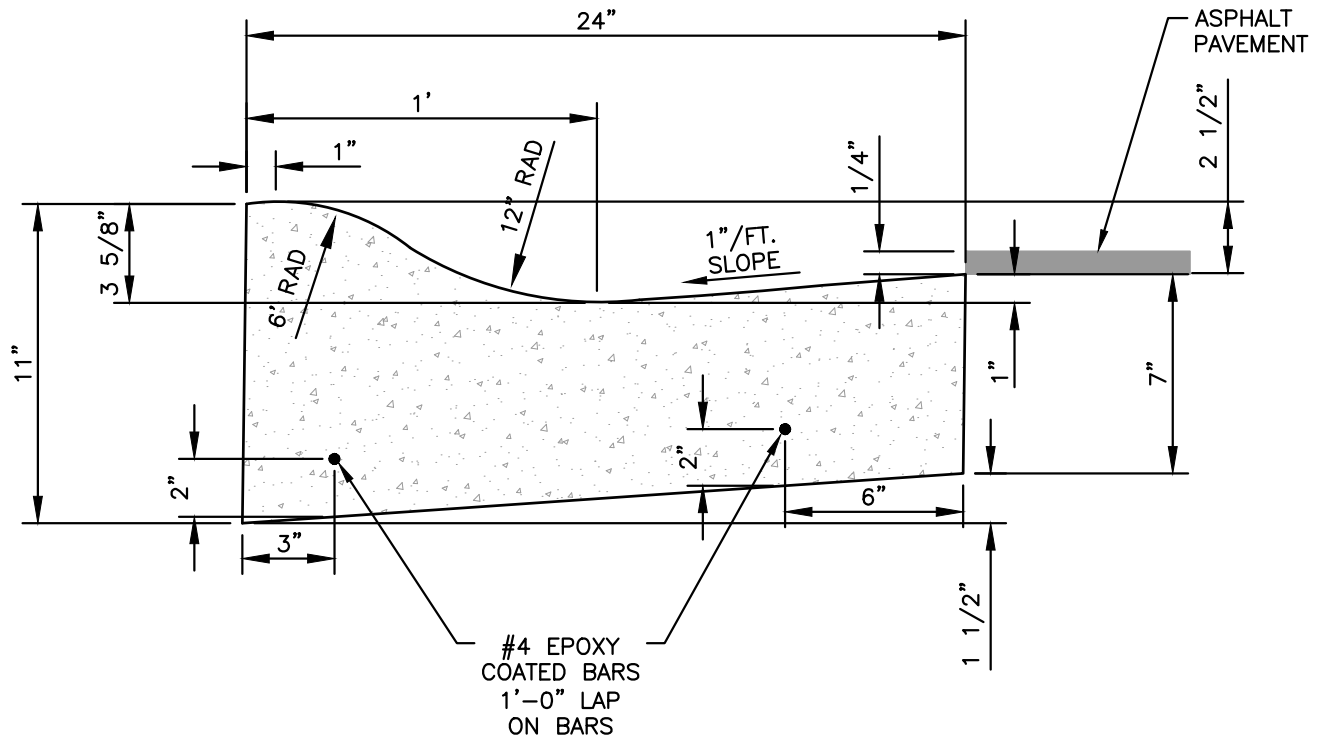
NOTES:

1. BARRIER CURB AND GUTTER ON ASPHALT STREETS SHALL CONFORM TO THIS DETAIL.
2. BARRIER CURB AND GUTTER ON CONCRETE STREETS SHALL CONFORM TO MDOT CURB AND GUTTER DETAIL F3.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
BARRIER CURB AND GUTTER			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-CG-1	



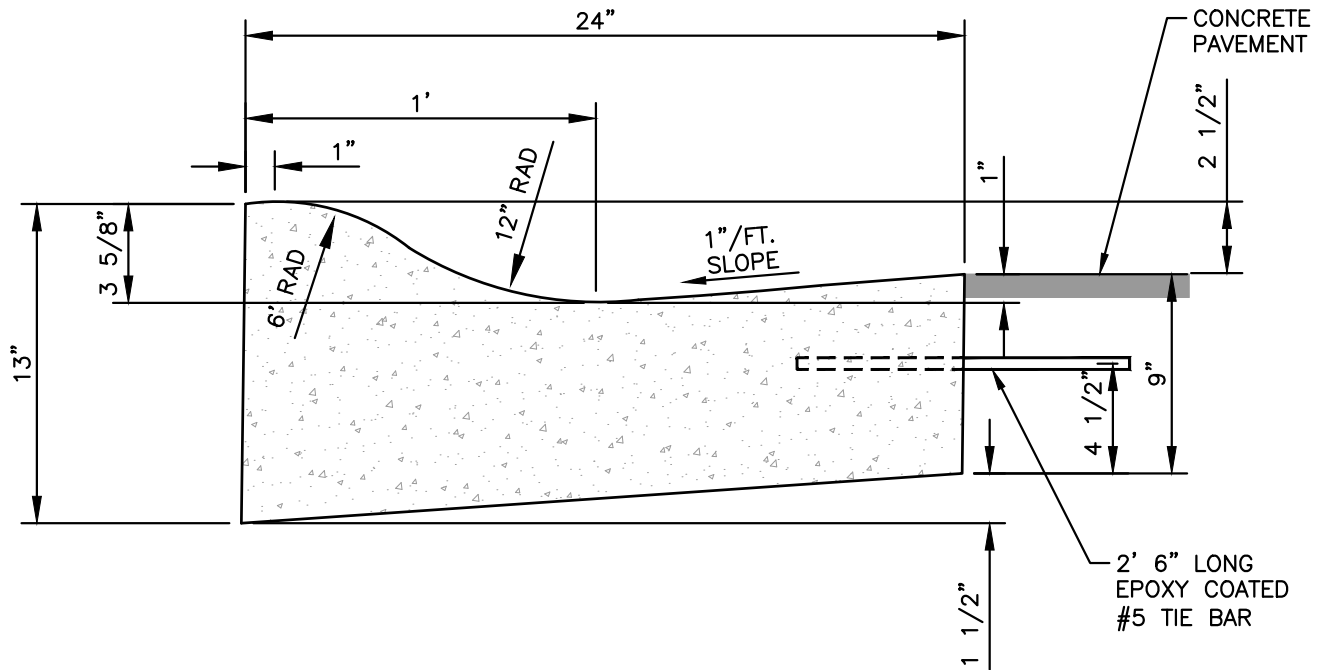
NOTES:

1. FRONT EDGE OF INLET CASTINGS SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL).
2. THIS DETAIL SHALL BE USED FOR MOUNTABLE CURB AND GUTTER ON ASPHALT STREETS. SEE SD-CG-3 FOR MOUNTABLE CURB AND GUTTER ON CONCRETE STREETS.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
MOUNTABLE CURB AND GUTTER FOR ASPHALT STREETS			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-CG-2	



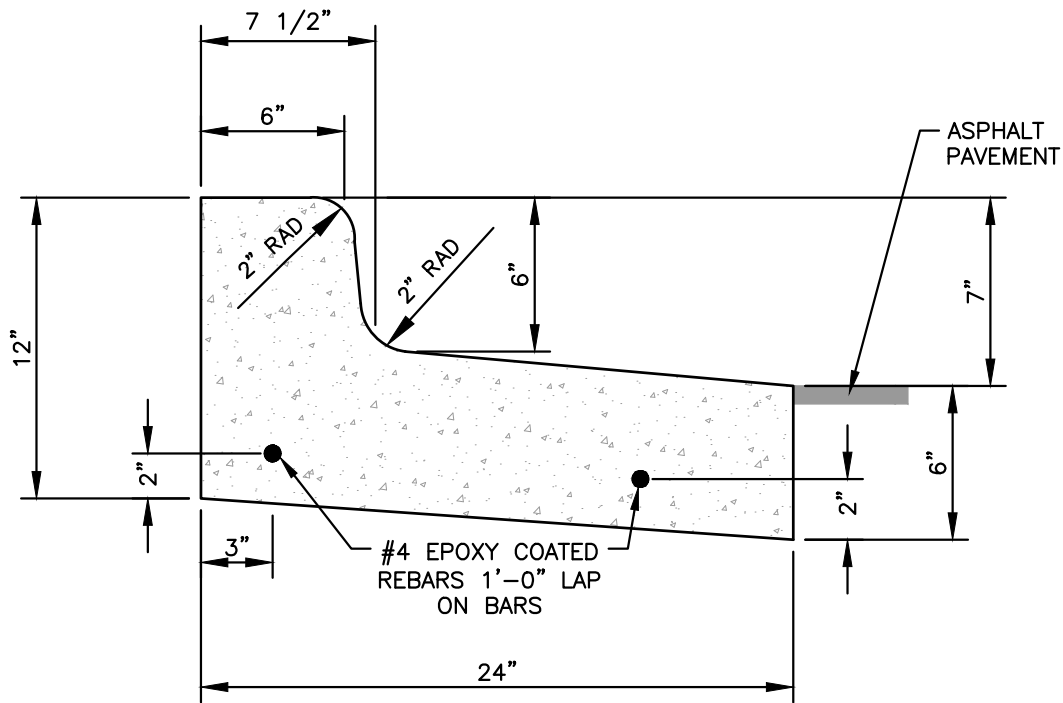
NOTES:

1. FRONT EDGE OF INLET CASTINGS SHALL BE FLUSH WITH FRONT EDGE OF GUTTER (EDGE-OF-METAL).
2. THIS DETAIL SHALL BE USED FOR MOUNTABLE CURB AND GUTTER ON CONCRETE STREETS. SEE SD-CG-2 FOR MOUNTABLE CURB AND GUTTER ON ASPHALT STREETS.



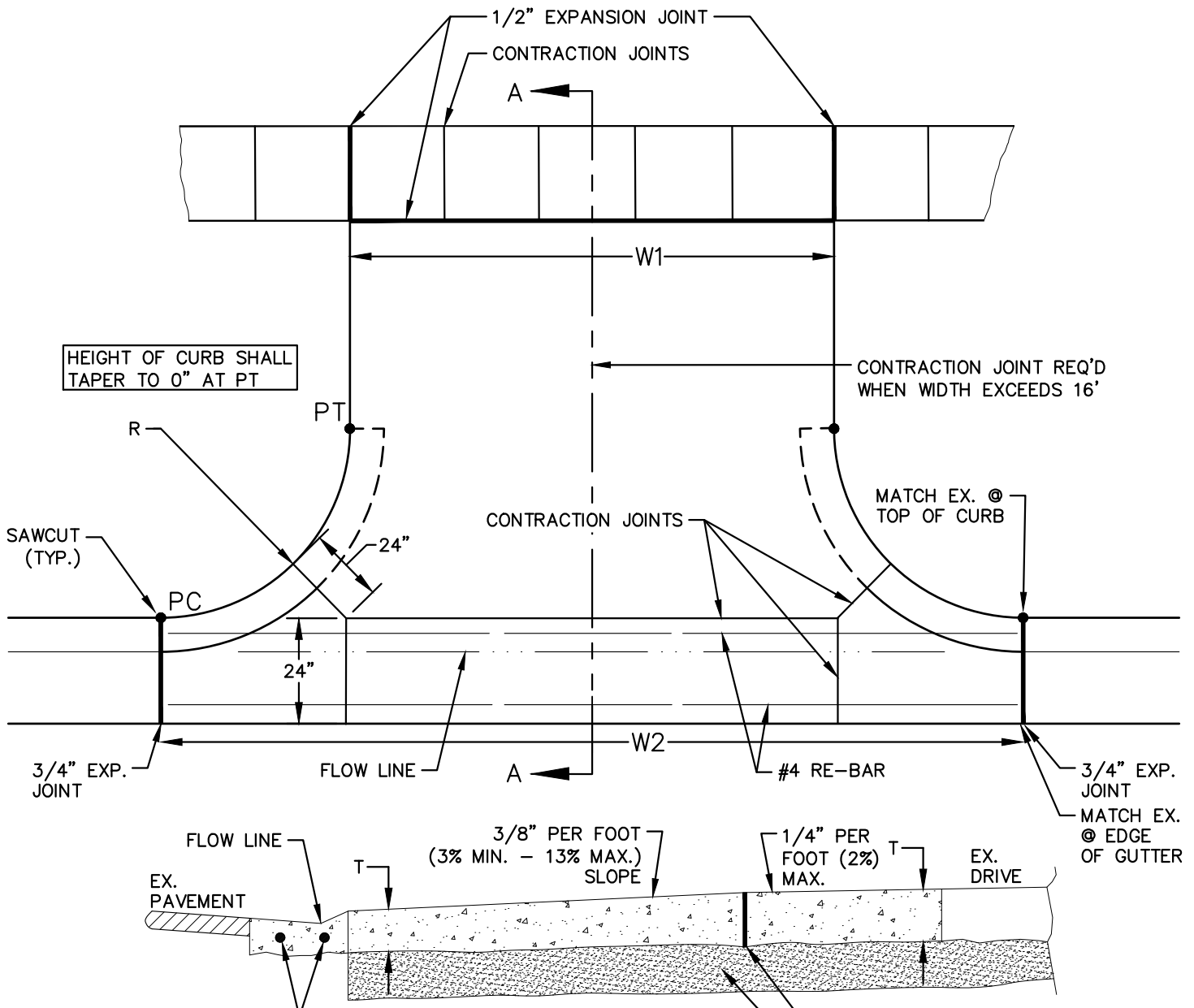
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REV. NO.	DATE	DRAWN BY	CHECKED BY
MOUNTABLE CURB AND GUTTER FOR CONCRETE STREETS			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-CG-3	



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SPILL-OUT BARRIER CURB AND GUTTER			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-CG-4	



HEIGHT OF CURB SHALL TAPER TO 0" AT PT

CONTRACTION JOINT REQ'D WHEN WIDTH EXCEEDS 16'

MATCH EX. @ TOP OF CURB

MATCH EX. @ EDGE OF GUTTER

3/4" EXP. JOINT

3/4" EXP. JOINT

CARRY 2 EA. - #4 EPOXY COATED RE-BAR THROUGH CURB & GUTTER. END 3"± FROM EXP. JOINT

T = 6" FOR SINGLE FAMILY OR DUPLEX USES
T = 8" FOR OTHER USES

1/2" EXPANSION JOINT
6" CLASS II GRANULAR MATERIAL OR 21AA DENSE GRADED AGGREGATE COMPACTED PER CITY OF ANN ARBOR STANDARDS. (PAID FOR AS SUBBASE, CIP)

SEC. A-A

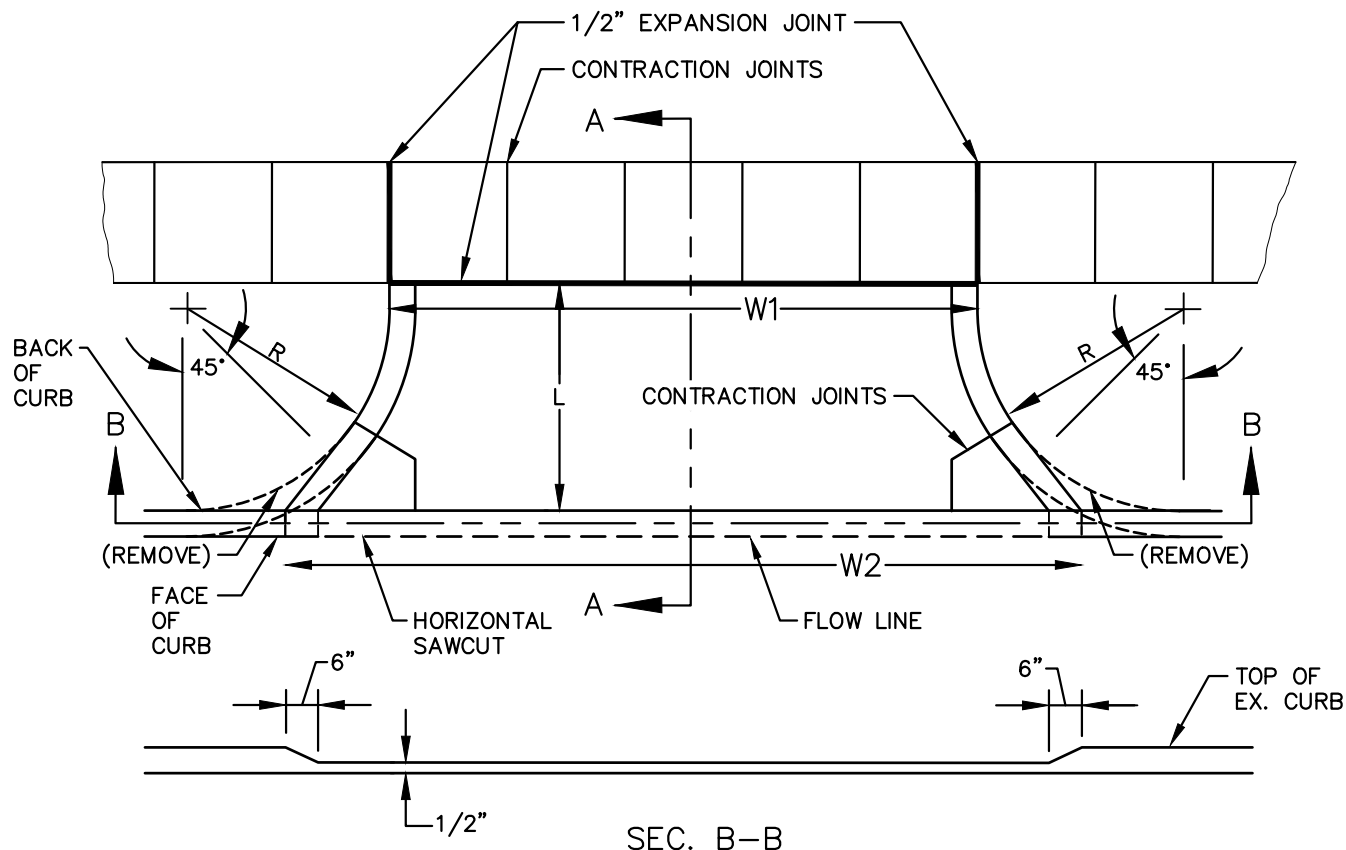
NOTE:

1. MINIMUM REQUIREMENT FOR DRIVE APPROACH TO BE MDOT 3500 CONCRETE.
2. R (RADIUS) AND W1 (OPENING WIDTH) AND W2 (CURB CUT WIDTH) AS REQUIRED PER TABLE A, ARTICLE 6 OF CITY STANDARDS
3. IF GUTTER IS OVERLAID, GUTTER OF THE APPROACH SHALL BE AT SAME ELEVATION AS EXISTING CONCRETE GUTTER AND ASPHALT WEDGE SHALL BE PLACED IN THE APPROACH.

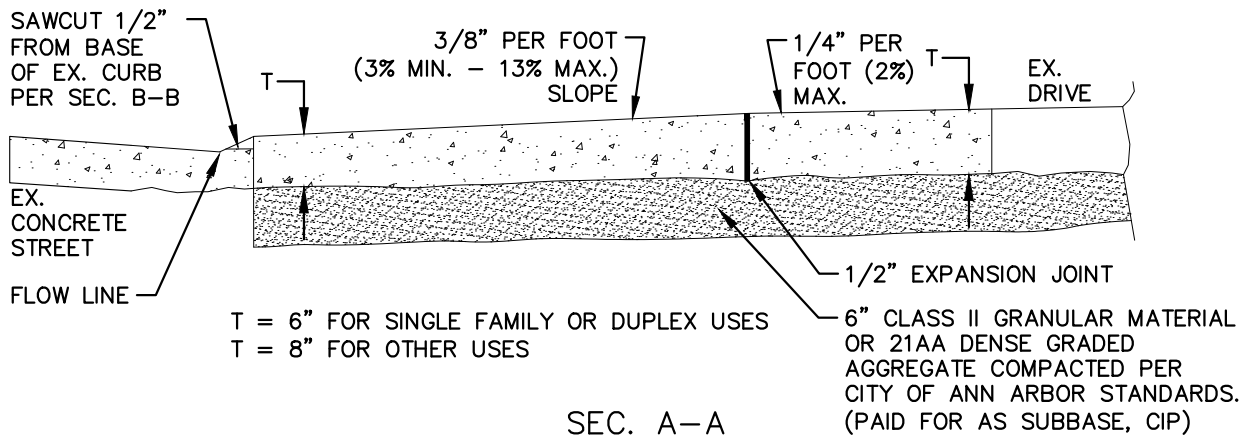


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REV. NO.	DATE	DRAWN BY	CHECKED BY
TYPE M DRIVE APPROACH FOR ASPHALT STREETS WITH BARRIER CURB			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DS-1	



SEC. B-B



SEC. A-A

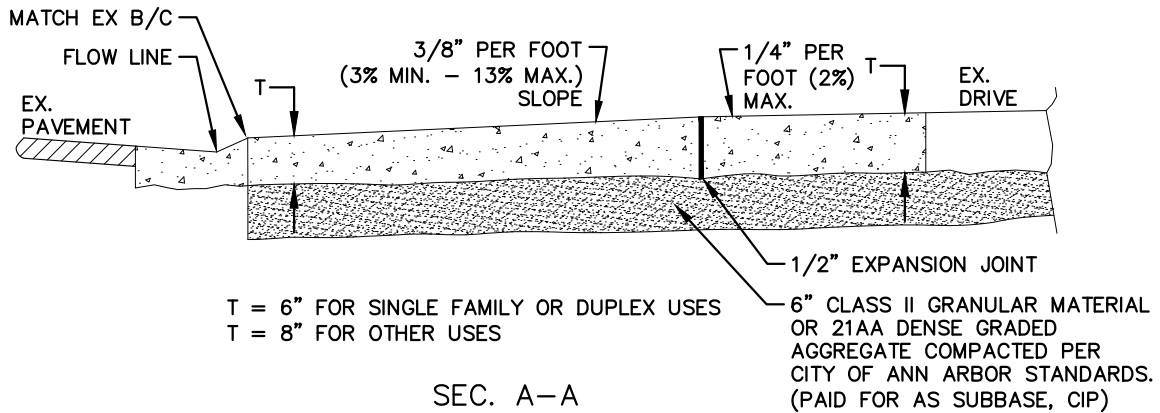
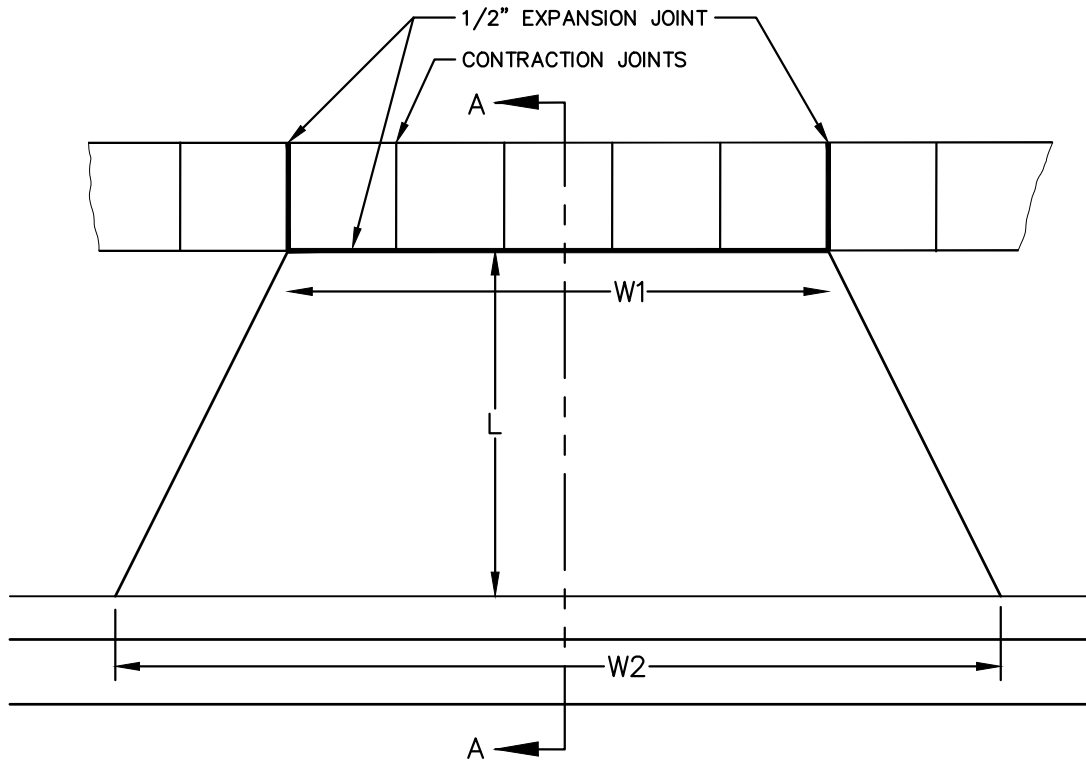
NOTE:

1. MINIMUM REQUIREMENT FOR DRIVE APPROACH TO BE MDOT 3500 CONCRETE.
2. R (RADIUS) AND W1 (OPENING WIDTH) AND W2 (CURB CUT WIDTH) AS REQUIRED PER TABLE A, ARTICLE 6 OF CITY STANDARDS



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REV. NO.	DATE	DRAWN BY	CHECKED BY
MODIFIED M DRIVE APPROACH FOR CONCRETE STREETS WITH BARRIER CURB			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DS-2	



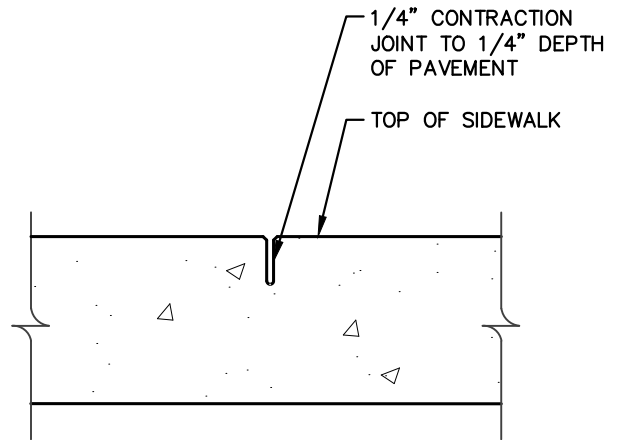
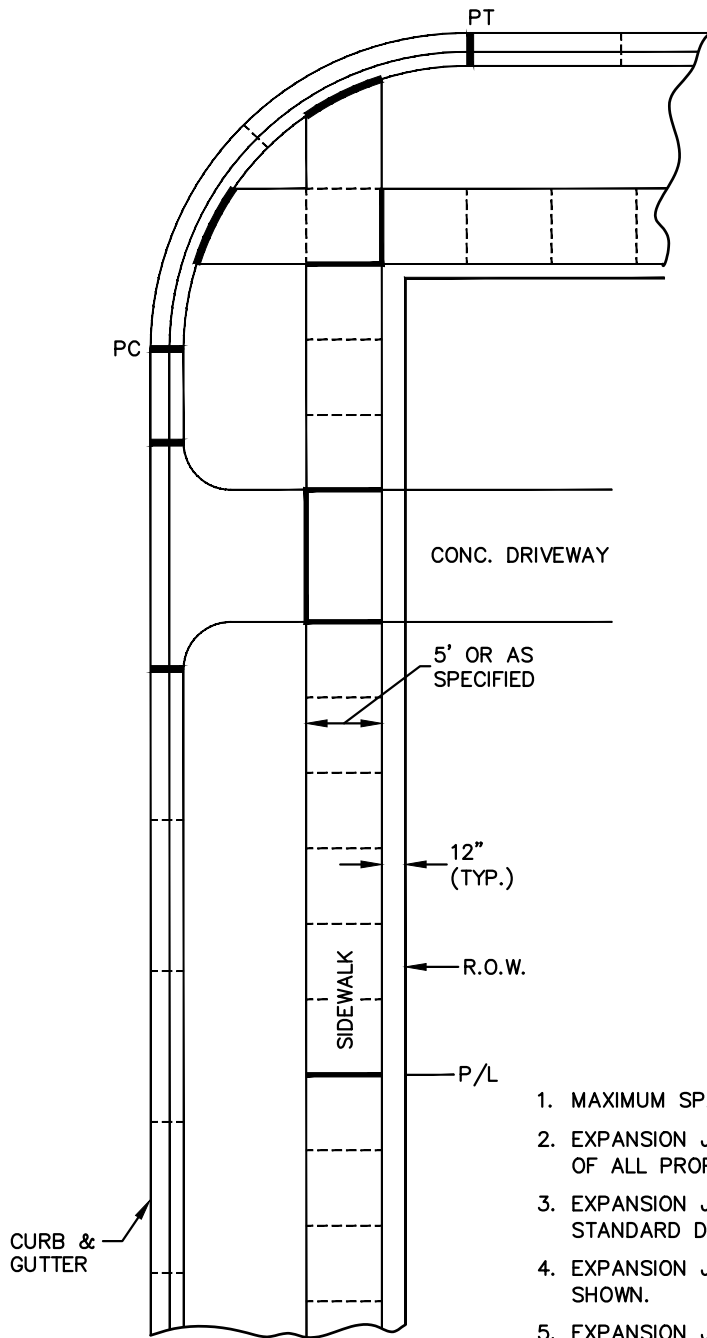
NOTE:

1. MINIMUM REQUIREMENT FOR DRIVE APPROACH TO BE MDOT 3500 CONCRETE.
2. R (RADIUS) AND W1 (OPENING WIDTH) AND W2 (CURB CUT WIDTH) AS REQUIRED PER TABLE A, ARTICLE 6 OF CITY STANDARDS
3. IF GUTTER IS OVERLAID, GUTTER OF THE APPROACH SHALL BE AT SAME ELEVATION AS EXISTING CONCRETE GUTTER AND ASPHALT WEDGE SHALL BE PLACED IN THE APPROACH.

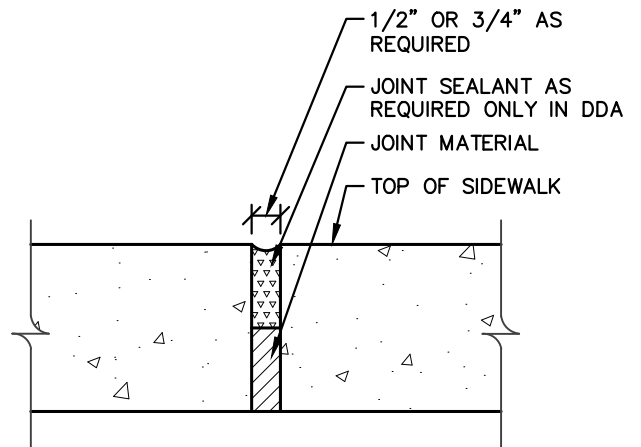


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REV. NO.	DATE	DRAWN BY	CHECKED BY
TYPE L DRIVE APPROACH FOR STREETS WITH MOUNTABLE CURB			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DS-3	



CONTRACTION JOINT



EXPANSION JOINT

LEGEND:

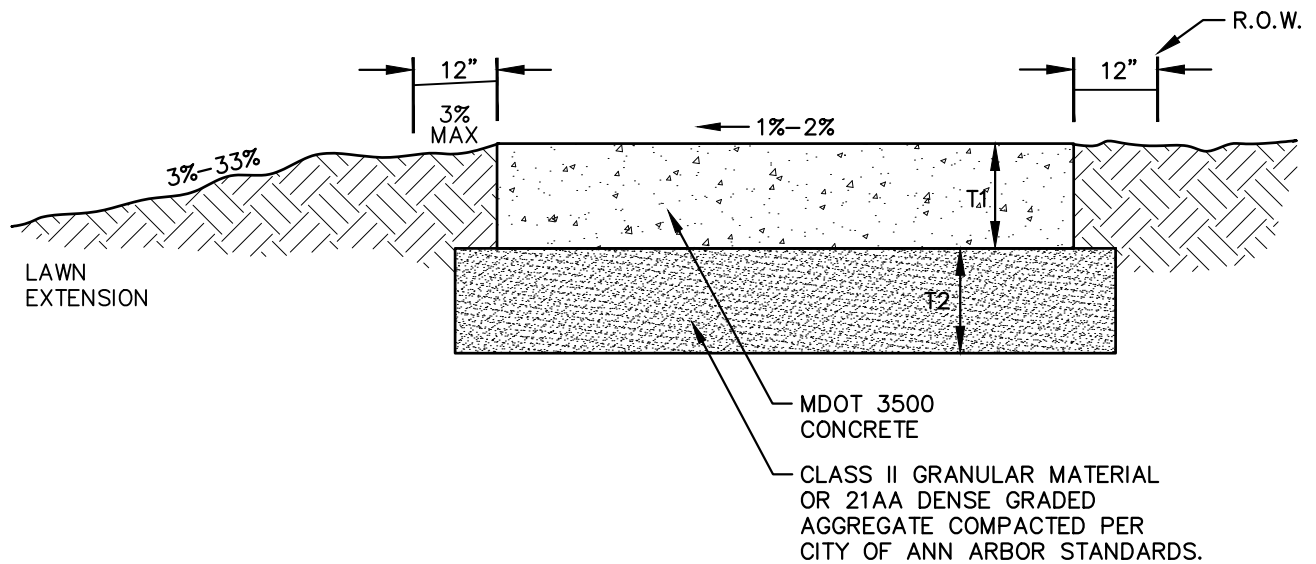
- CONTRACTION JOINTS - - - - -
- 1/2" EXPANSION JOINTS = = = = =
- 3/4" EXPANSION JOINTS = = = = =

1. MAXIMUM SPACING BETWEEN ALL EXPANSION JOINTS SHALL BE 300'.
2. EXPANSION JOINTS SHALL BE PLACED IN SIDEWALKS AT THE EXTENSION OF ALL PROPERTY LINES.
3. EXPANSION JOINTS SHALL BE PLACED AT DRIVE APPROACH EDGES PER STANDARD DRIVE APPROACH DETAILS SD-DS-1 THROUGH SD-DS-3.
4. EXPANSION JOINTS SHALL BE PLACED AT SIDEWALK INTERSECTIONS AS SHOWN.
5. EXPANSION JOINTS SHALL BE PLACED IN CURB AND GUTTER AT PC AND PT OF INTERSECTION RADII.
6. WHEN SIDEWALK IS AGAINST THE BACK-OF-CURB, AN EXPANSION JOINT SHALL BE PROVIDED ALONG THE CURB.
7. CONTRACTION JOINT SPACING FOR CURB AND CURB SHALL BE 10' STANDARD AND 8' MINIMUM.
8. CONTRACTION JOINTS FOR SIDEWALKS SHALL BE PLACED AT ALL SLAB ENDS (5' TYPICAL, 3' MINIMUM TO 7' MAXIMUM).
9. DESIGN MAY UTILIZE TOOLED OR SAW-CUT CONTRACTION JOINT. PLANS MUST INDICATE SELECTION OF JOINT TYPE. PROJECT MUST HAVE EITHER JOINT TYPE, BUT NOT BOTH.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SIDEWALK AND CURB & GUTTER JOINTS			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DS-4	



GENERAL NOTE:

SIDEWALKS IN THE DDA SHALL BE CONSTRUCTED PER DETAILS SD-DDA-1 THROUGH SD-DDA-8.

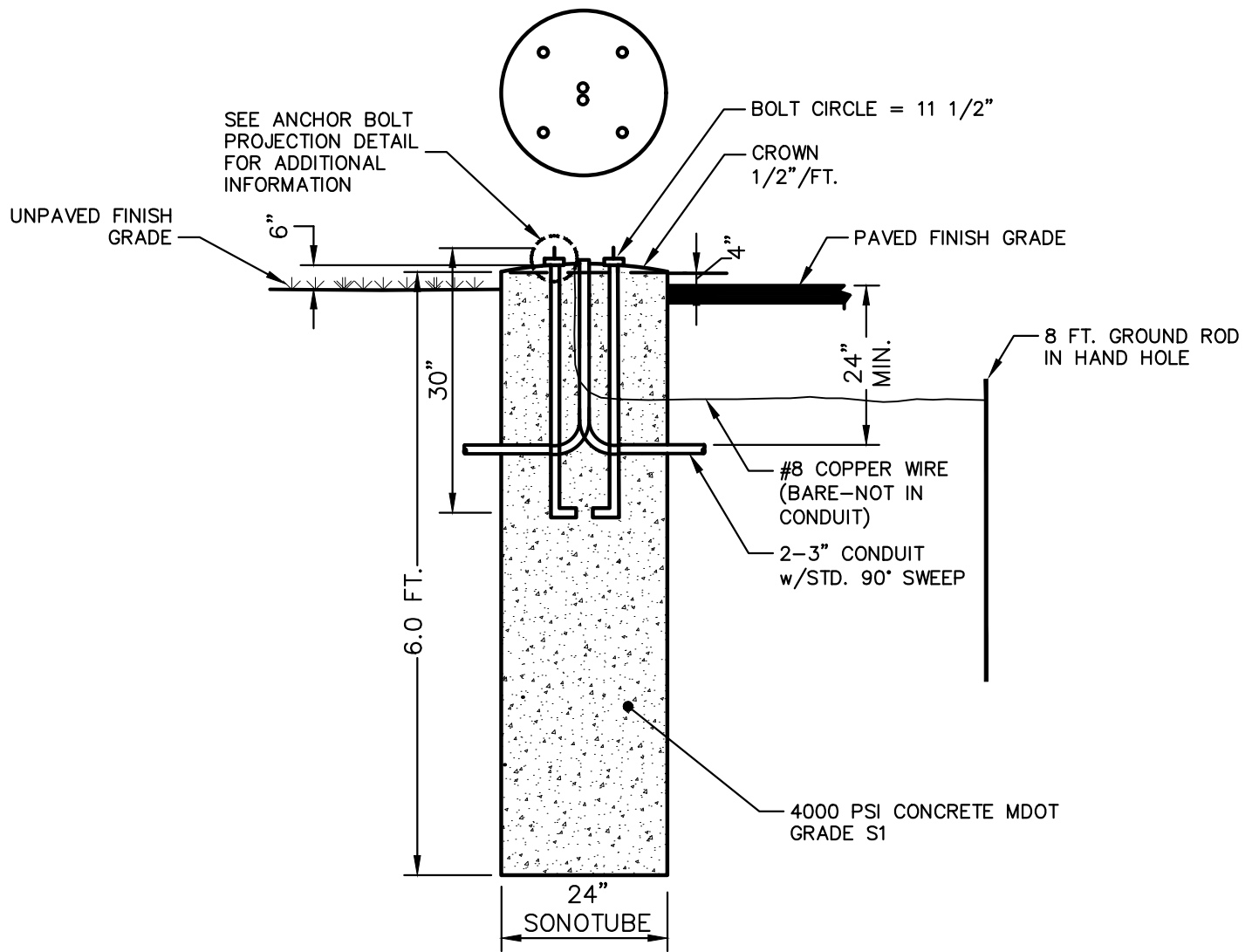
NOTES:

1. STANDARD SIDEWALK WIDTH SHALL BE 5'.
2. STANDARD SLAB LENGTH SHALL BE 5'.
3. MINIMUM SLAB LENGTH SHALL BE 3' AND MAXIMUM 7'.
4. MINIMUM SIDEWALK THICKNESS (T1) SHALL BE 4".
5. SIDEWALK THICKNESS (T1) SHALL BE INCREASED AT DRIVE APPROACHES TO 6" FOR SINGLE OR DUPLEX USES AND TO 8" FOR ALL OTHER USES.
6. MINIMUM BASE THICKNESS (T2) SHALL BE 4".
7. MINIMUM BASE THICKNESS (T2) SHALL BE INCREASED TO 6" AT DRIVE APPROACHES.
8. NATIVE MATERIAL IS ACCEPTABLE FOR SIDEWALK REPLACEMENT IF BASE IS STABLE AND FREE OF ORGANIC OR DELETERIOUS MATERIALS.
9. SIDEWALK RAMPS SHALL BE CONSTRUCTED AT STREET INTERSECTIONS AS DIRECTED AND SHALL COMPLY WITH THE REQUIREMENTS OF MDOT DETAIL R-28 (LATEST VERSION).
10. If SIDEWALKS ARE APPROVED TO MEANDER WITHIN THE RIGHT-OF-WAY TO PROTECT AND SAVE TREES, SLOPES, ETC., CURVES IN THE SIDEWALK SHALL HAVE A MINIMUM 5' RADIUS, WITH A MINIMUM 3' LAWN EXTENSION.
11. EXPANSION AND CONTRACTION JOINTS SHALL BE PROVIDED PER STANDARD DETAIL SD-DS-4.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SIDEWALK CROSS SECTION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DS-5	



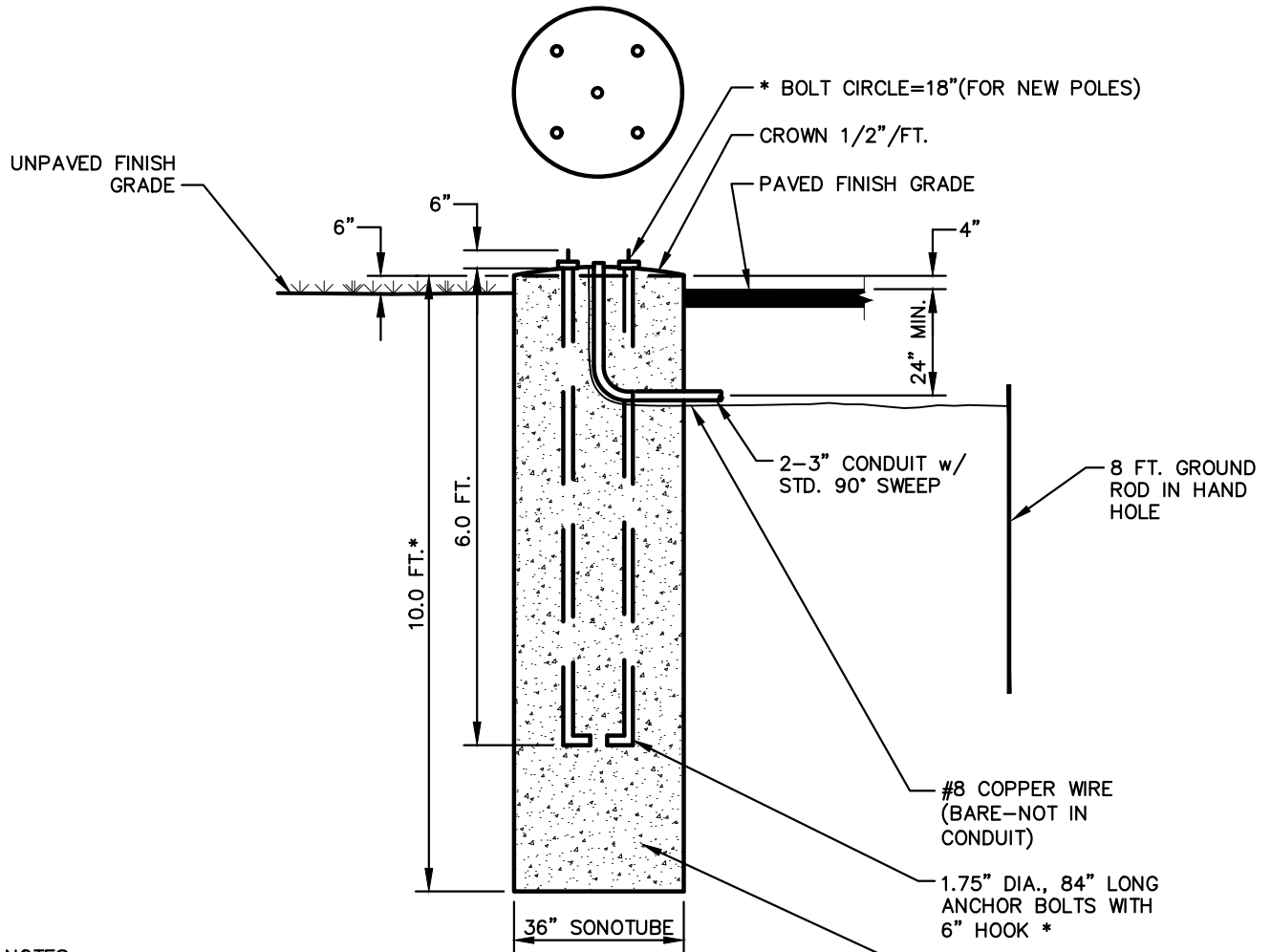
NOTES:

1. HOLE TO BE AUGERED. MINIMIZE DISTURBANCE OF IN-SITU SOILS DURING AUGERING.
2. CONTRACTOR TO PROVIDE PREFABRICATED ANCHOR BOLT BUILD-UP.
3. THE CITY WILL INSPECT THE AUGERED HOLE AND THE ANCHOR BOLT BUILD-UP AND PROVIDE WRITTEN APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE.
4. NO WATER IS TO BE IN HOLE AT TIME OF CONCRETE PLACEMENT.
5. CONCRETE SHALL BE VIBRATED DURING PLACEMENT.
6. CONTRACTOR WILL PROVIDE NECESSARY CONDUIT FOR CONDUCTOR ENTRY.
7. COPPER CLAD GROUND ROD (1 REQUIRED) TO BE 5/8" DIA. x 8'-0".
8. CONDUIT TO EXTEND 1-2" ABOVE BASE. CABLES TO EXTEND 6" OUTSIDE OF HAND HOLE.
9. GROUND CABLE SHALL BE #8 SOFT BARE COPPER WIRE WELDED TO GROUND ROD WITH 24" SLACK ABOVE FOUNDATION TOP. THE NEUTRAL AT THE POLE IS TO BE CONNECTED TO THIS GROUND CABLE.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
STREETLIGHT FOUNDATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SL-1	



NOTES:

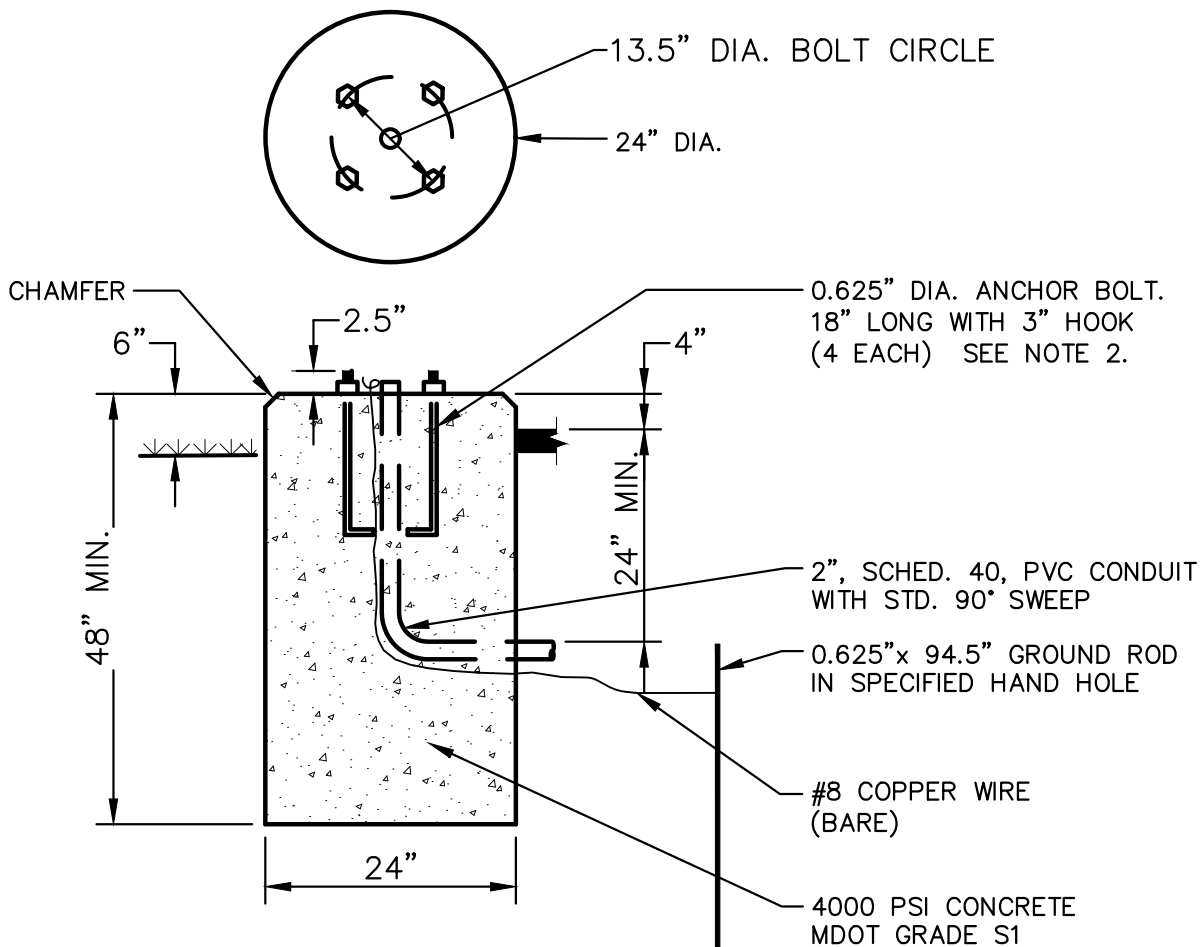
1. HOLE TO BE AUGERED. MINIMIZE DISTURBANCE OF IN-SITU SOILS DURING AUGERING.
2. CONTRACTOR TO PROVIDE PREFABRICATED ANCHOR BOLT BUILD-UP.
3. THE CITY WILL INSPECT THE AUGERED HOLE AND THE ANCHOR BOLT BUILD-UP AND PROVIDE WRITTEN APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE.
4. NO WATER IS TO BE IN HOLE AT TIME OF CONCRETE PLACEMENT.
5. CONCRETE SHALL BE VIBRATED DURING PLACEMENT.
6. CONTRACTOR WILL PROVIDE NECESSARY CONDUIT FOR CABLE ENTRY. THE CONDUIT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THIS ITEM OF WORK.

* UNLESS OTHERWISE NOTED ON THE PLANS OR CONTRACT DOCUMENTS



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REV. NO.	DATE	DRAWN BY	CHECKED BY
TRAFFIC SIGNAL POLE FOUNDATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SL-2	



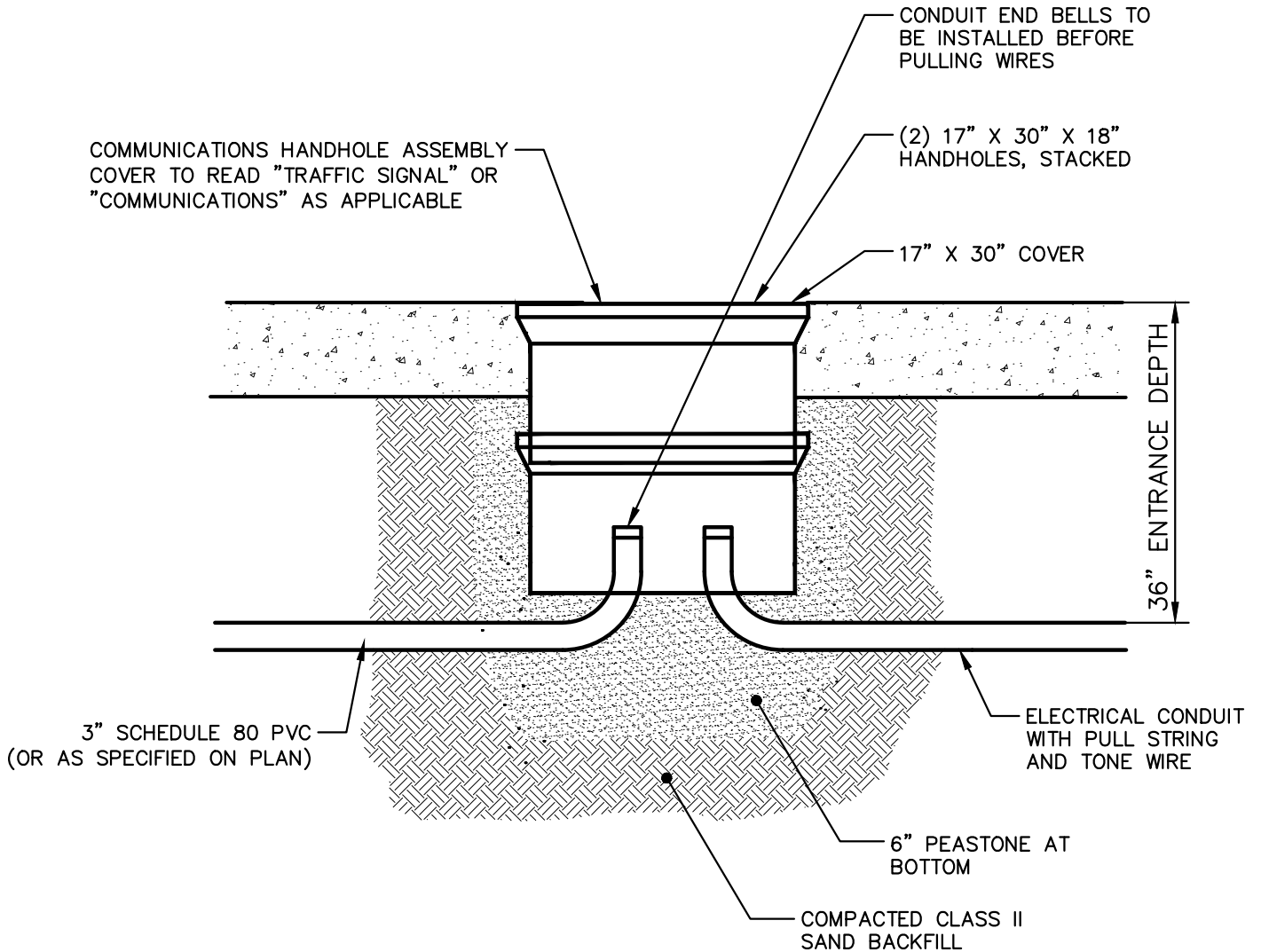
NOTES:

1. THE CITY WILL INSPECT THE AUGERED HOLE AND ANCHOR BOLT BUILD-UP, AND PROVIDE WRITTEN APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE.
2. CONTRACTOR WILL PROVIDE NECESSARY CONDUIT FOR CONDUCTOR ENTRY. THIS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE POLE BASE.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
PEDESTRIAN SIGNAL POLE FOUNDATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SL-3	



INSTALLATION NOTE:

THE CONDUIT SHALL BE LOWERED TO A MINIMUM ENTRANCE DEPTH OF 36" BELOW TOP OF THE HANDLE OVER A DISTANCE OF 10 FT. ON EACH SIDE OF THE HANDHOLE ASSEMBLY

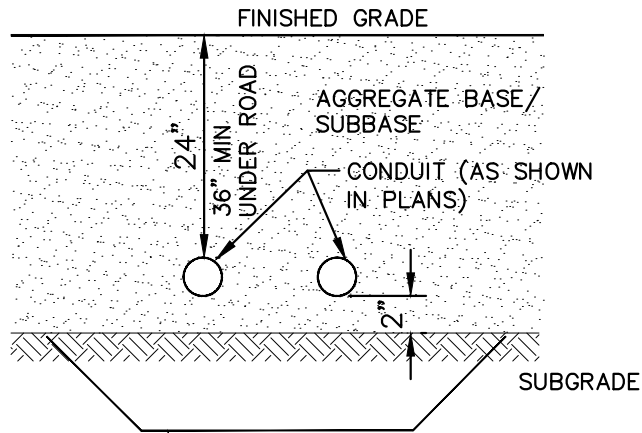
IF THE CONDUIT HAS TO ENTER THE HANDHOLE AT A DEPTH GREATER THAN 36" DEEP DUE TO CONFLICT, THEN 90 DEGREE SWEEPS SHALL BE PROVIDED."

BACKFILL CONDUIT AND HANDHOLE W/CLASS II SAND. IF PLACED IN GREENBELT, PLACE 4" OF TOP SOIL.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
COMMUNICATIONS HANDHOLE ASSEMBLY			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-E-1	

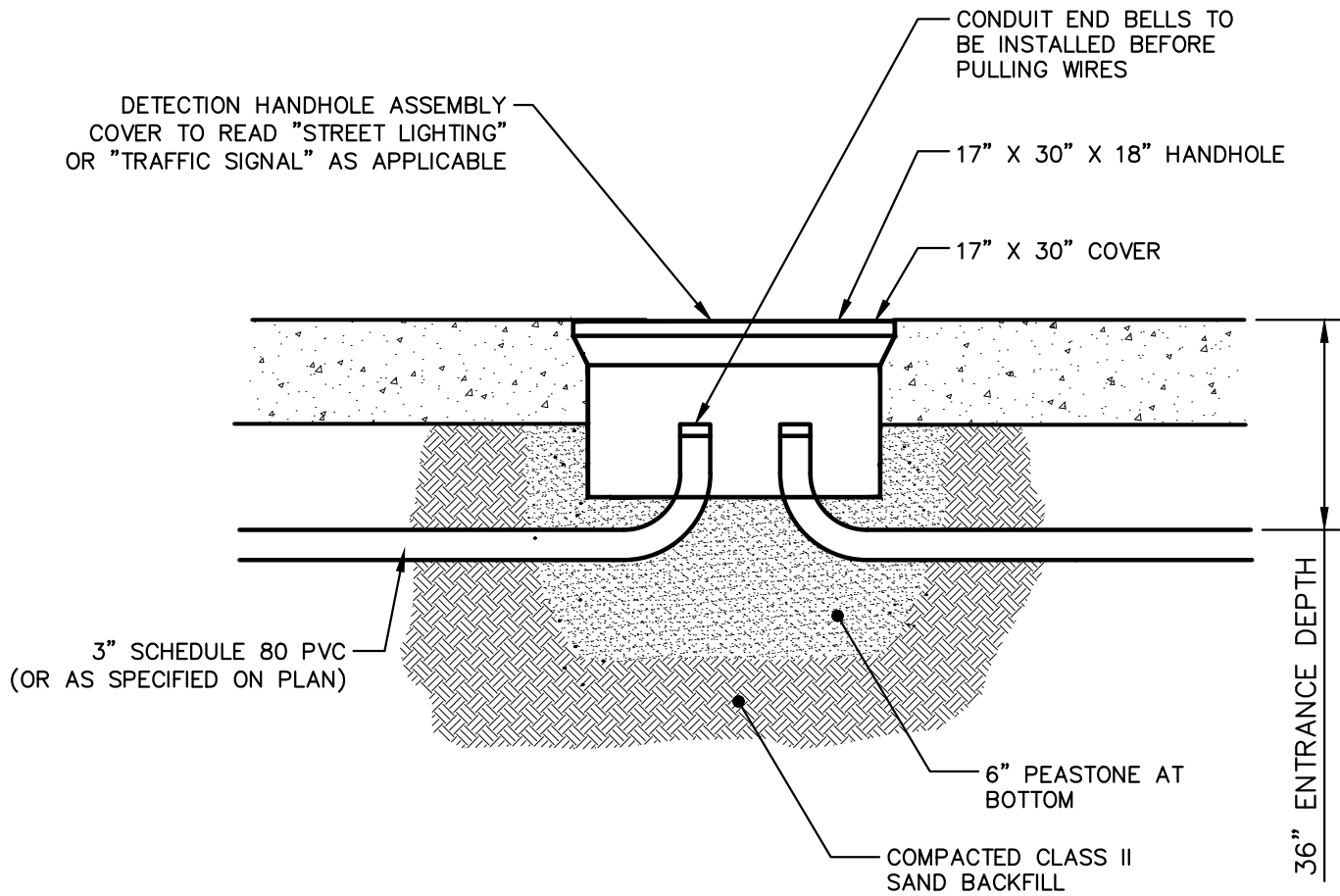


MAY REQUIRE UNDERCUTTING SUBGRADE TO MAINTAIN MINIMUM DEPTH AND 2" BEDDING. BACKFILL WITH MDOT, CL II GRANULAR MATERIAL COMPACTED TO 95% MAXIMUM DENSITY. THIS WORK SHALL BE INCLUDED IN COST OF CONDUIT IF REQUIRED AND WILL NOT BE PAID FOR SEPARATELY.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
CONDUIT PLACEMENT DETAIL			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-E-2	



INSTALLATION NOTE:

THE CONDUIT SHALL BE LOWERED TO A MINIMUM ENTRANCE DEPTH OF 36" BELOW TOP OF THE HANDLE OVER A DISTANCE OF 10 FT. ON EACH SIDE OF THE HANDHOLE ASSEMBLY

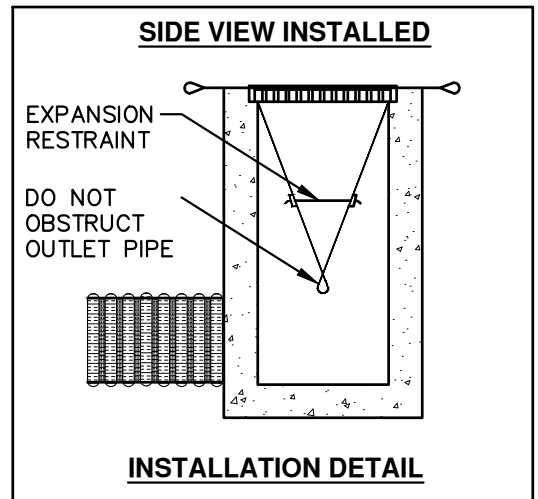
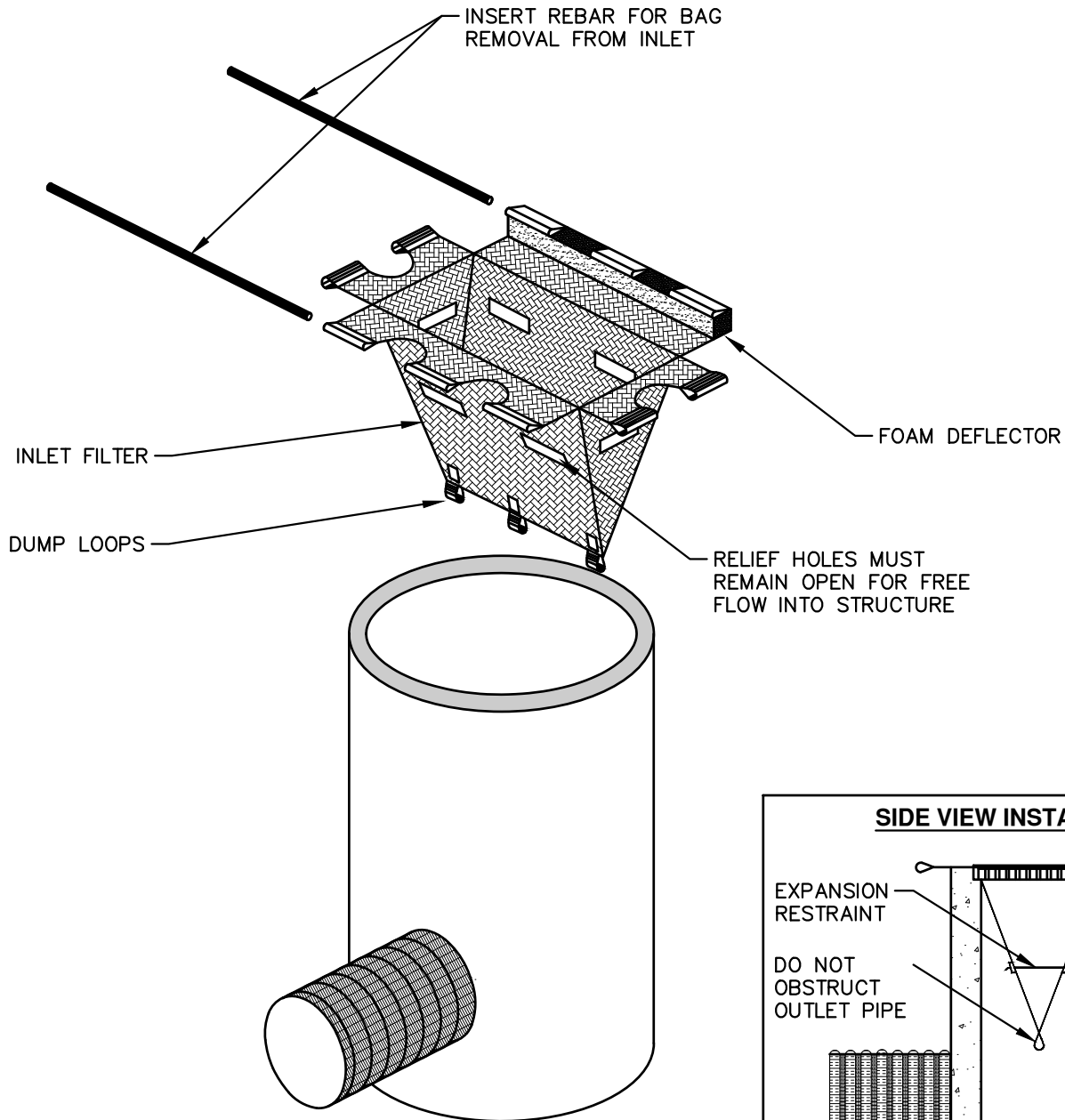
IF THE CONDUIT HAS TO ENTER THE HANDHOLE AT A DEPTH GREATER THAN 36" DEEP DUE TO CONFLICT, THEN 90 DEGREE SWEEPS SHALL BE PROVIDED."

BACKFILL CONDUIT AND HANDHOLE W/CLASS II SAND. IF PLACED IN GREENBELT, PLACE 4" OF TOP SOIL.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
ELECTRICAL HANDHOLE ASSEMBLY			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-E-3	

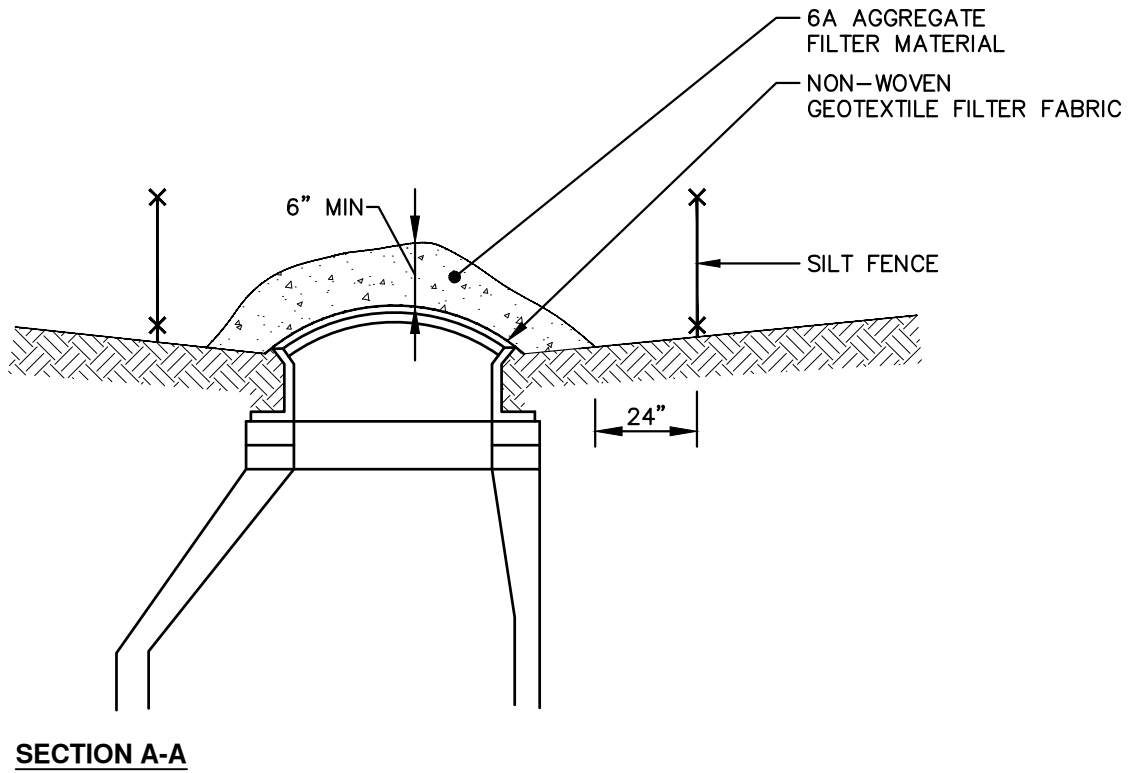
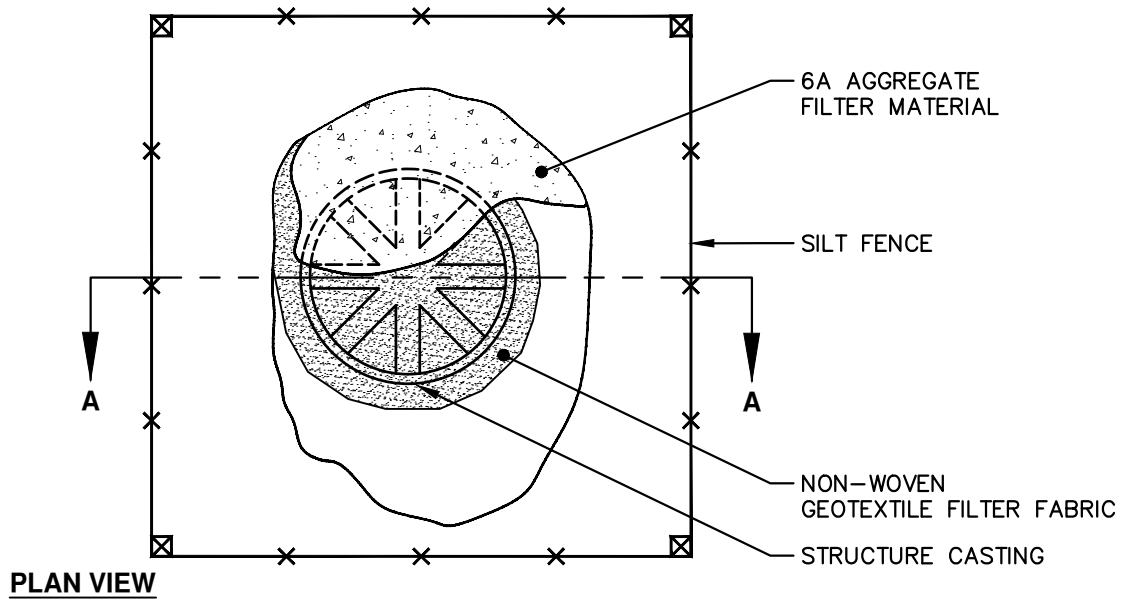


1. SIZE AND SHAPE OF INLET FILTER SHALL MATCH THE STRUCTURE.
2. WHERE CONDITIONS WARRANT, THE FILTER SHALL BE MADE WITH AN OIL-ABSORBENT FILTER WITH A WOVEN PILLOW INSERT.



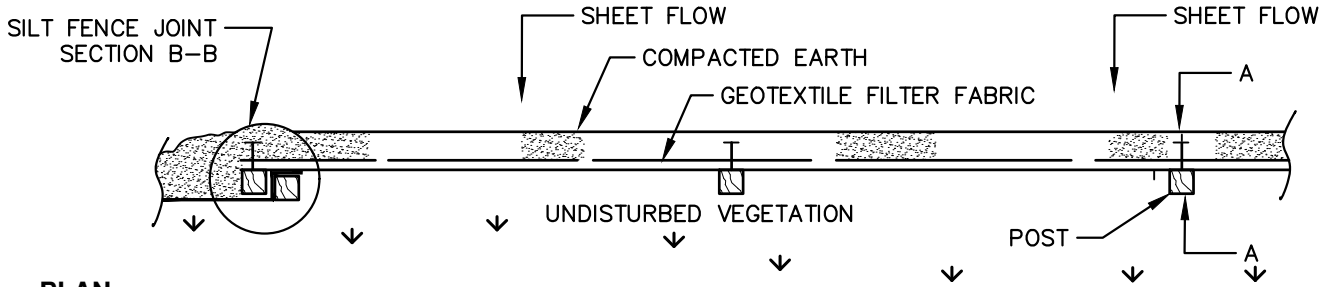
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REV. NO.	DATE	DRAWN BY	CHECKED BY
INLET PROTECTION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SESC-1	

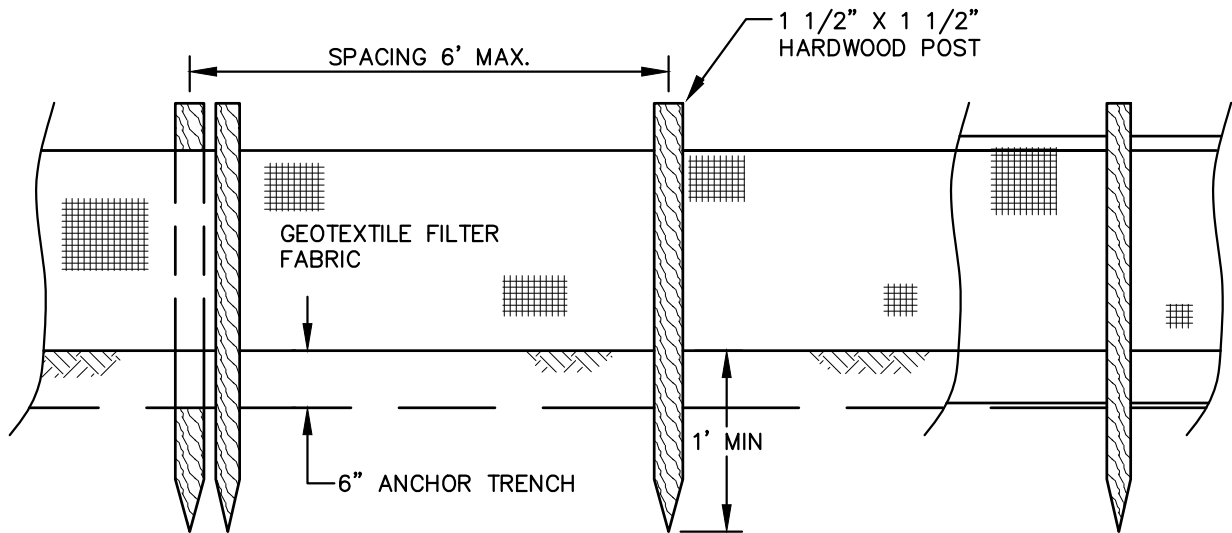


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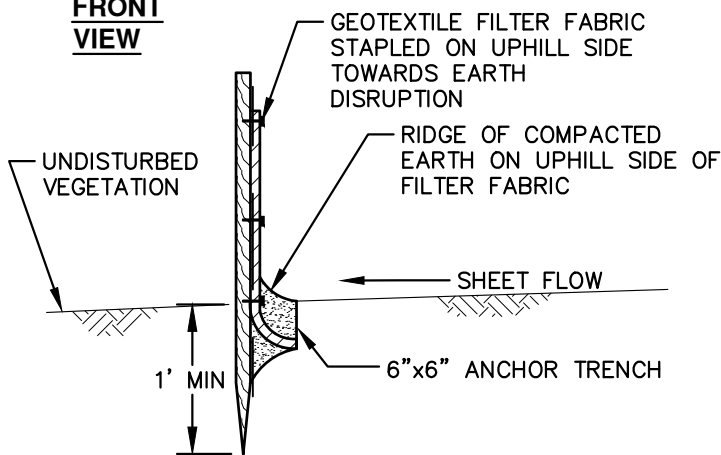
REV. NO.	DATE	DRAWN BY	CHECKED BY
STONE FILTER			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SESC-2	



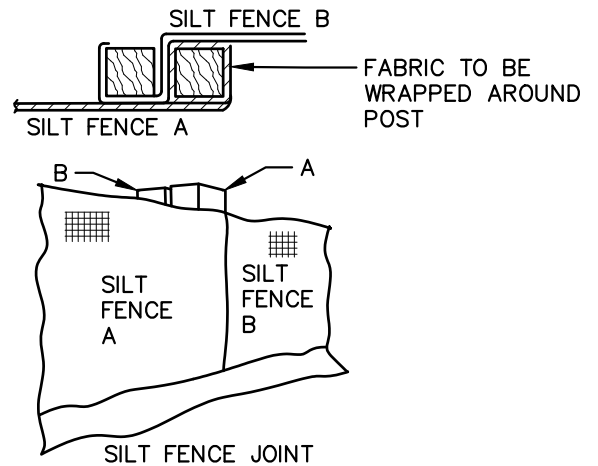
**PLAN
VIEW**



**FRONT
VIEW**



**SECTION
A-A**

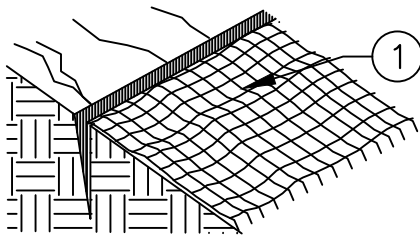


**SECTION
B-B**

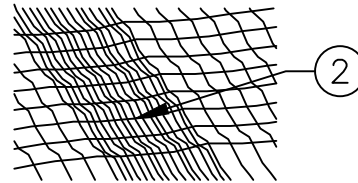


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REV. NO.	DATE	DRAWN BY	CHECKED BY
SILT FENCE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SESC-3	

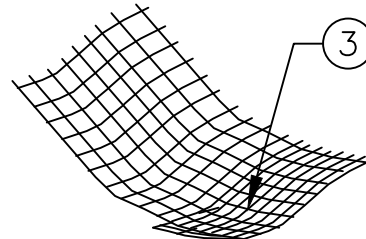


1 ANCHOR SLOT
BURY UPHILL END IN
TRENCH 6" DEEP
AND STAKE* 12" O.C.

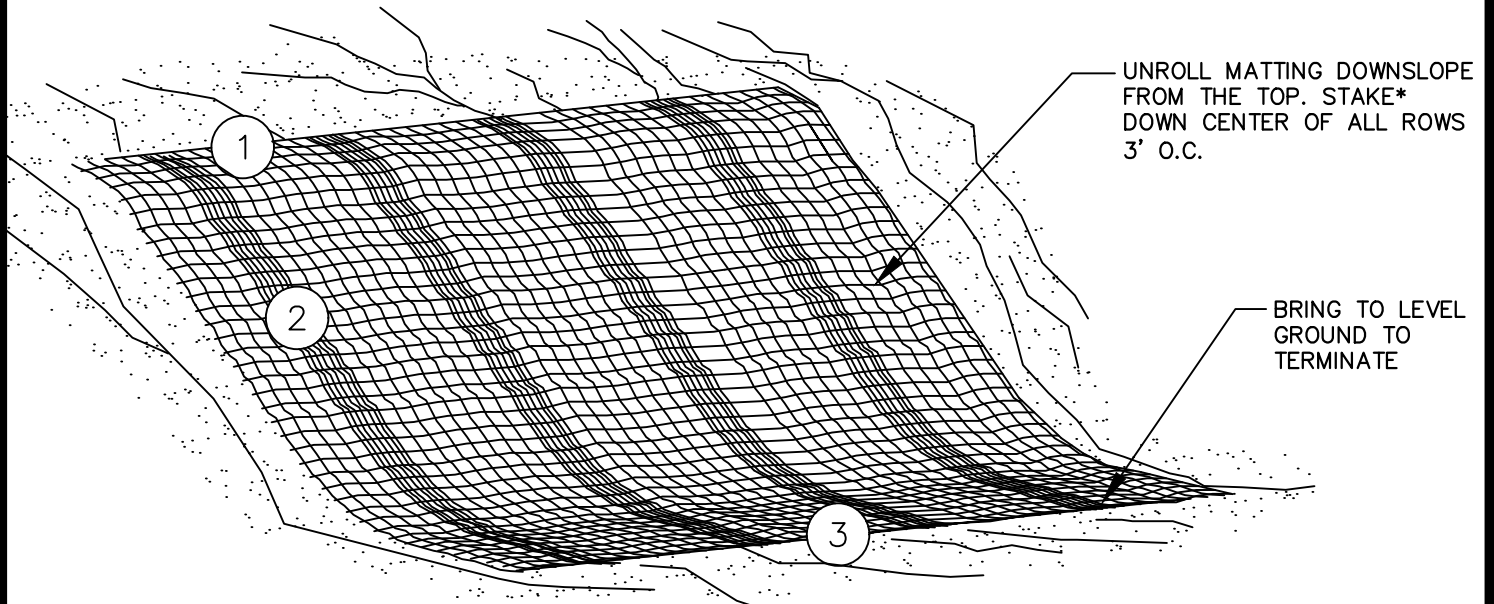


2 LONGITUDINAL OVERLAP
OVERLAP EDGES 6"
AND STAKE* 12" O.C.

*BIODEGRADABLE STAKES ARE TO BE USED
TO ANCHOR MATTING TO THE GROUND.
MINIMUM STAKE LENGTH SHALL BE 6".



3 TERMINAL FOLD
TURN END UNDER 6"
AND STAKE* 12" O.C.



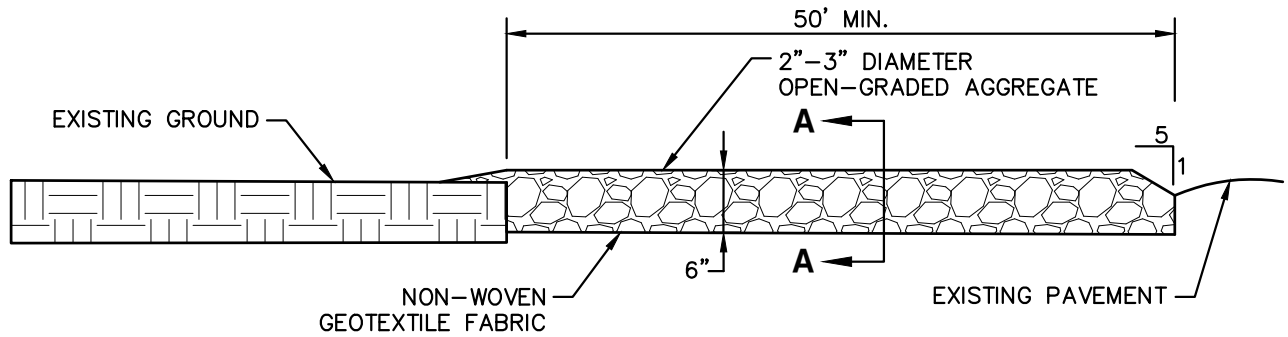
NOTE:

PROVIDE EROSION CONTROL MATTING ON ALL DISTURBED AREAS TO BE PERMANENTLY RESTORED WITH GRASS AND AS DIRECTED BY THE ENGINEER. SEE LANDSCAPE PLANS FOR MORE DETAILS. MATERIAL SHALL BE RAPIDLY BIODEGRADABLE. USE OF PLASTIC MATERIALS IS SPECIFICALLY PROHIBITED.

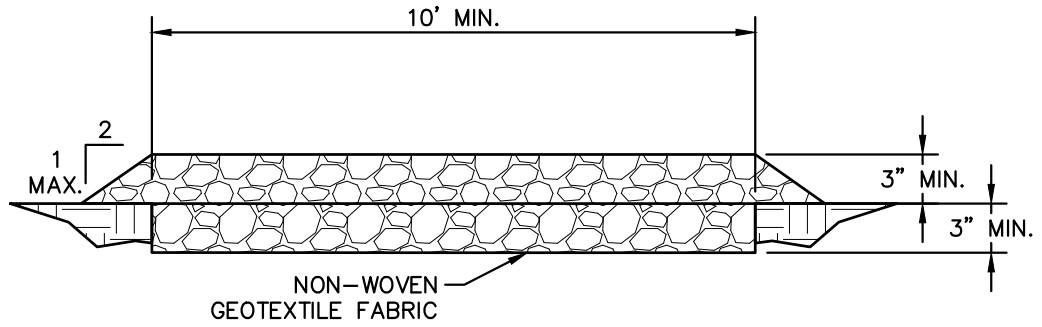


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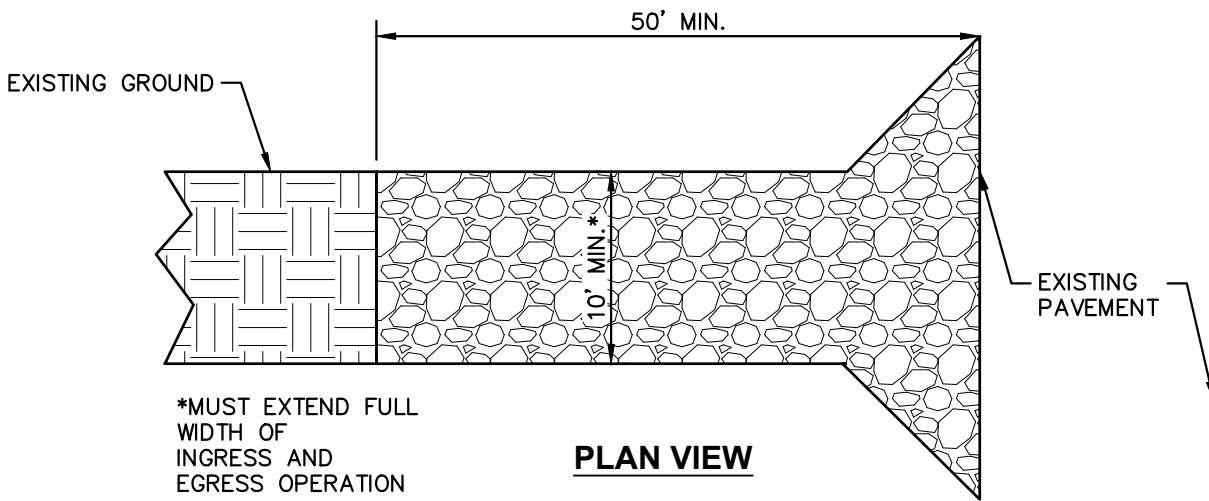
REV. NO.	DATE	DRAWN BY	CHECKED BY
MULCH BLANKET			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SESC-4	



ELEVATION



SECTION A-A



*MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION

PLAN VIEW

NOTE:

ADDITIONAL WIDTH AT CONNECTION TO EXISTING PAVEMENT SHALL BE AS NEEDED TO ACCOMMODATE VEHICLE TURNING.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
MUD MAT			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SESC-5	

NOTIFY THE CITY OF ANN ARBOR SOIL EROSION CONTROL OFFICE 48 HOURS PRIOR TO BEGINNING WORK ON THE PROJECT. PHONE: 734-794-6265.

1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER AT ALL TIMES DURING CONSTRUCTION. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE AS DIRECTED AND APPROVED BY THE ENGINEER.
2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CHAPTER 55 ANN ARBOR UNIFIED DEVELOPMENT CODE, CITY OF ANN ARBOR STANDARDS DIVISION VII, THE LAWS OF THE STATE OF MICHIGAN, AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
3. DAILY, OR AFTER ANY STORM EVENT, INSPECTIONS OF EROSION CONTROL MEASURES SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY, AND WITHOUT ADDITIONAL COST TO THE CITY OF ANN ARBOR.
4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS, ROADWAYS OR WATERWAYS.
5. ALL MUD/SOIL TRACKED ONTO ROADWAYS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL PROVIDE AND OPERATE A VACUUM-TYPE STREET SWEEPER, AT NO ADDITIONAL COST TO THE CITY OF ANN ARBOR.
6. RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE PERFORMED WITHIN FIVE (5) DAYS OF THE COMPLETION OF FINAL GRADE EXCEPT WHERE TEMPORARY SEEDING OR AN ANCHORED MULCH BLANKET ARE SET FORTH AS TEMPORARY MEASURES PER THE APPROVED SEQUENCE OF SOIL EROSION MEASURES.
7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
8. SPECIAL PRECAUTIONS WILL BE TAKEN IN THE USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR DUST PALLIATIVE AS REQUIRED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME MEASURES UPON AUTHORIZED COMPLETION OF THE PROJECT. FINAL COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
11. THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT AND PROTECTIVE FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THE ADJACENT PROPERTIES.
12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
STANDARD SOIL EROSION AND SEDIMENTATION CONTROL NOTES			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SESC-6	

SEQUENCE OF EROSION CONTROL MEASURES:

1. THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER, A SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION CONTROL MEASURES FOR REVIEW, COMMENT AND APPROVAL. THIS SCHEDULE IS TO INCLUDE INSPECTION AND REPAIR OF ALL TEMPORARY EROSION CONTROL MEASURES DAILY AND WITHIN 24 HOURS OF A STORM EVENT.

SAMPLE SOIL EROSION AND SEDIMENTATION CONTROL INSTALLATION MINIMUM REQUIREMENTS:

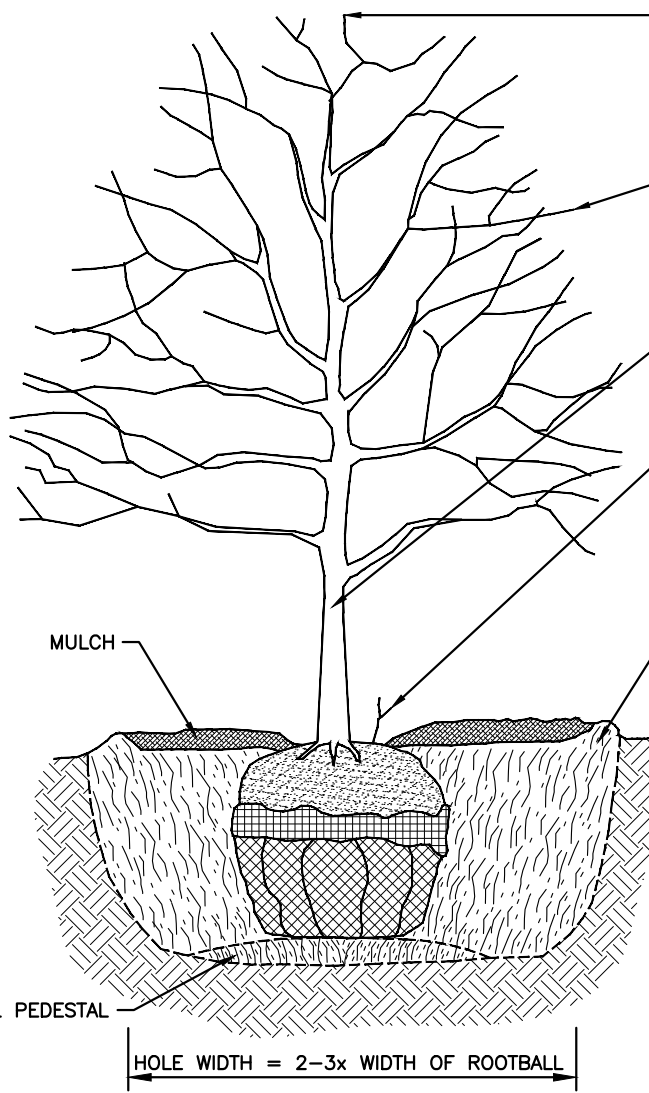
- 1.1. INSTALL SILT FENCE, TREE PROTECTION FENCING, MUD MATS, INLET FILTERS ON EXISTING DRAINAGE FEATURES, AND ALL OTHER TEMPORARY SOIL EROSION CONTROLS, PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
- 1.2. STRIP AND STOCKPILE TOPSOIL. STABILIZE STOCKPILE AS REQUIRED.
- 1.3. INSTALL WATER MAINS, STORM AND SANITARY SEWERS, AND OTHER ENCLOSED DRAINAGE FEATURES. NEW INLET FILTERS SHALL BE INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF NEW DRAINAGE INLETS.
- 1.4. PERFORM MACHINE GRADING OPERATIONS AND CONSTRUCT PAVEMENTS (MAINLINE, SIDEWALKS, DRIVES, ETC.).
- 1.5. CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT IMMEDIATELY.
- 1.6. COMPLETE ALL FINE GRADING.
- 1.7. INSTALL TEMPORARY SEED DURING CONSTRUCTION IN ACCORDANCE WITH ARTICLE 8 OF THE CITY'S PUBLIC WORKS DESIGN AND CONSTRUCTION STANDARDS. DURING MONTHS UNFAVORABLE TO SEEDING, AN ANCHORED MULCH BLANKET SHALL BE INSTALLED PER SD-SESC-4.
- 1.8. REFER TO LANDSCAPE PLANTING PLANS FOR PERMANENT SITE STABILIZATION.
- 1.9. CLEAN OUT STORM SEWER SYSTEMS.
- 1.10. REMEDY ANY NOTED DEFECTS TO THE SATISFACTION OF THE CITY OF ANN ARBOR'S SOIL EROSION AND SEDIMENTATION CONTROL OFFICIAL.
- 1.11. ALL TEMP. SOIL EROSION CONTROL MEASURES MUST BE REMOVED, WITH ENGINEERS APPROVAL, PRIOR TO FINAL INSPECTION

NOTE: THIS SEQUENCE IS FOR INFORMATION ONLY. IT IS INTENDED TO SHOW THE SEQUENCE OF CONSTRUCTION WITH RESPECT TO THE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES. THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTING THEIR OWN DETAILED CONSTRUCTION SEQUENCE AND SCHEDULE TO THE ENGINEER FOR REVIEW, COMMENT, AND APPROVAL. THE APPROVED SEQUENCE OF SOIL EROSION MEASURES MUST BE INCLUDED ON THE APPROVED CONSTRUCTION PLANS.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SEQUENCE OF SOIL EROSION CONTROL MEASURES			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SESC-7	



DO NOT PRUNE TERMINAL LEADER OR BRANCH TIPS.

PRUNE AWAY DEAD OR BROKEN BRANCHES ONLY.

REMOVE ALL LABELS, TAGS, TREE WRAP, TAPE OR STRING FROM TREE TRUNK AND CROWN.

PRUNE OFF SUCKERS.

EXCAVATE HOLE TO TWO TO THREE TIMES THE WIDTH OF ROOTBALL.

BREAK UP (SCARIFY) SIDES OF PLANTING HOLE.

COMPACT SOIL AT BOTTOM OF HOLE TO CREATE A TREE PEDESTAL AS SHOWN.

BEFORE SETTING TREE IN HOLE, EXPOSE THE TRUNK FLARE BY REMOVING BURLAP AROUND TRUNK AND PULLING BACK SOIL.

SET AND CENTER ROOTBALL SO THAT TRUNK FLARE IS LEVEL TO GRADE OR VERY SLIGHTLY HIGHER IN CLAY SOIL.

WITHOUT DISTURBING DEVELOPED ROOTS, FOLD DOWN AND REMOVE ONE-THIRD TO ONE-HALF OF BURLAP TO EXPOSE ROOTBALL.

REMOVE AND DISPOSE OF ALL NON-BIODEGRADABLE MATERIALS, CUTTING AWAY WIRE BASKET TO 10" DEPTH.

BACKFILL HOLE WITH EXCAVATED SOIL, TAMP DOWN SOIL TO REMOVE AIR POCKETS, AND FIRMLY SET TREE. DO NOT AMEND SOIL UNLESS PLANTING IN SEVERELY DISTURBED SOIL.

PLACE DOUBLE-SHREDDED HARDWOOD MULCH 2"-3" DEEP LEAVING A 3" RADIUS CIRCLE OF BARE SOIL AROUND TRUNK OF TREE.

DO NOT STAKE TREE UNLESS PERMITTED PER DETAIL SD-L-2.

NO UTILITIES SHALL BE PERMITTED IN OR UNDER THE PLANTING HOLE EXCEPT WHERE TREE TUNNELING IS PERMITTED PER SD-L-4.

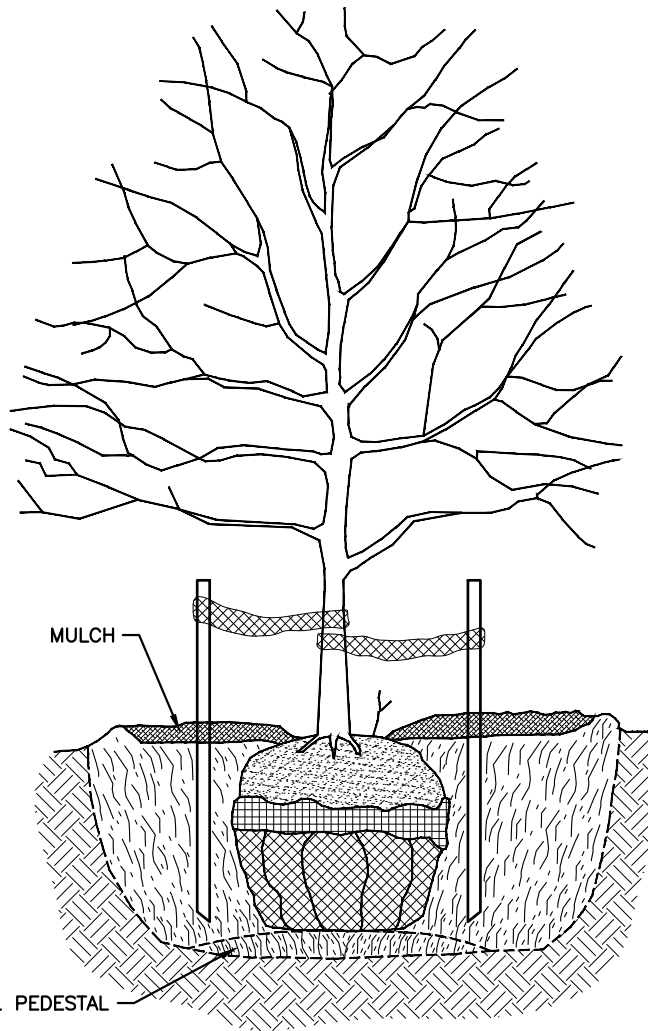
TREE SOIL PEDESTAL

HOLE WIDTH = 2-3x WIDTH OF ROOTBALL



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REV. NO.	DATE	DRAWN BY	CHECKED BY
TREE PLANTING			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-L-1	



TREE STAKING IS ONLY PERMITTED UNDER ONE OR MORE OF THE FOLLOWING CIRCUMSTANCES:

- 1) IN HEAVY CLAY SOIL
- 2) IN WINDY CONDITIONS
- 3) 3" OR GREATER DIAMETER TREE TRUNK
- 4) TREE WITH LARGE CROWN

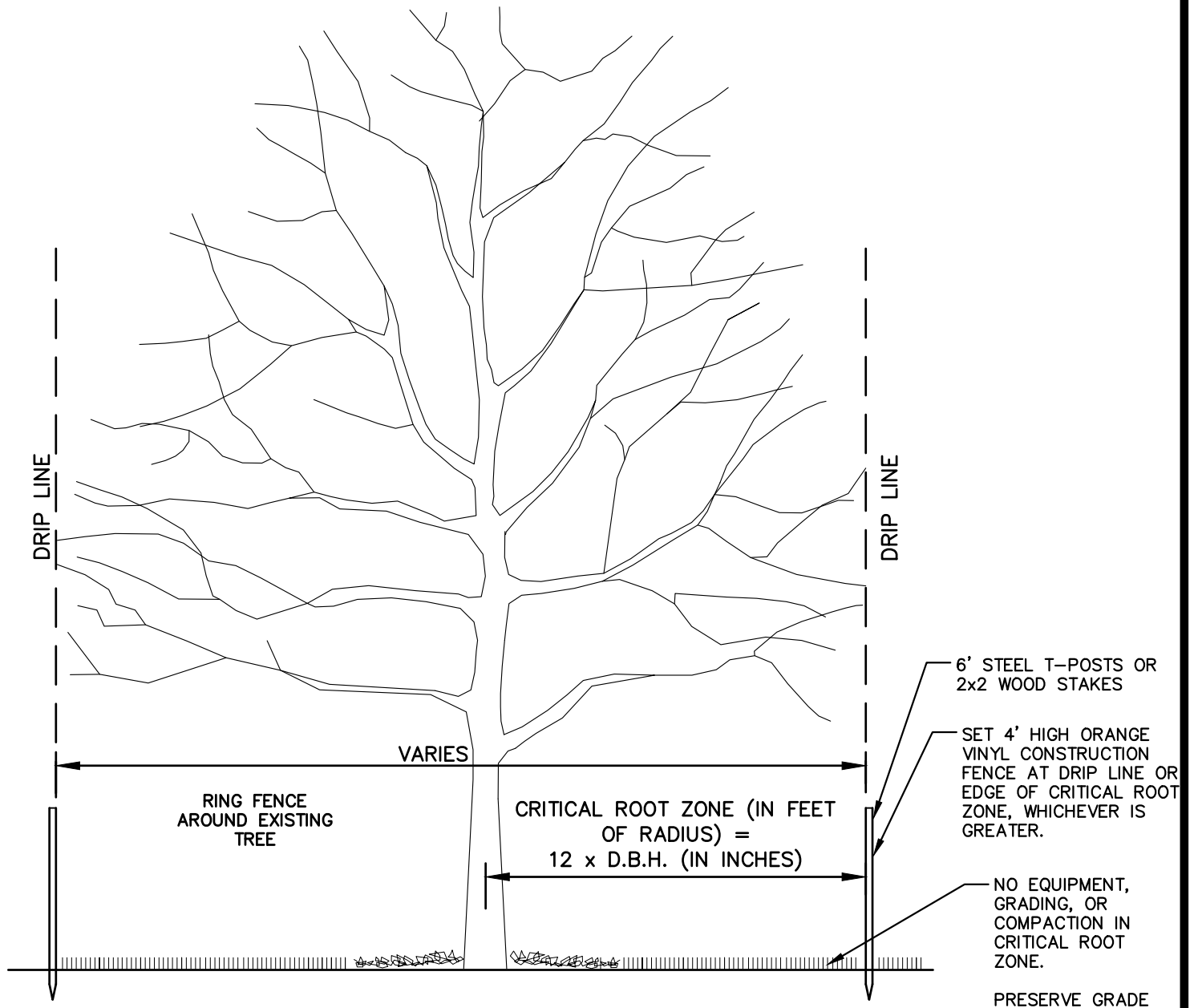
IF STAKING IS NEEDED DUE TO THESE CONDITIONS:

- STAKE WITH 2 x 2 HARDWOOD STAKES, OR APPROVED EQUAL, DRIVEN 6"-8" OUTSIDE OF ROOTBALL.
- LOOSELY STAKE TREE TRUNK TO ALLOW FOR TRUNK FLEXING.
- STAKE TREES JUST BELOW FIRST BRANCH WITH 2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS (2 PER TREE ON OPPOSITE SIDES OF TREE).
- CONNECT STRAPS FROM TREE TO STAKE HORIZONTALLY.
- DO NOT USE ROPE OR WIRE THROUGH A HOSE.
- REMOVE ALL STAKING MATERIALS AFTER 1 YEAR.



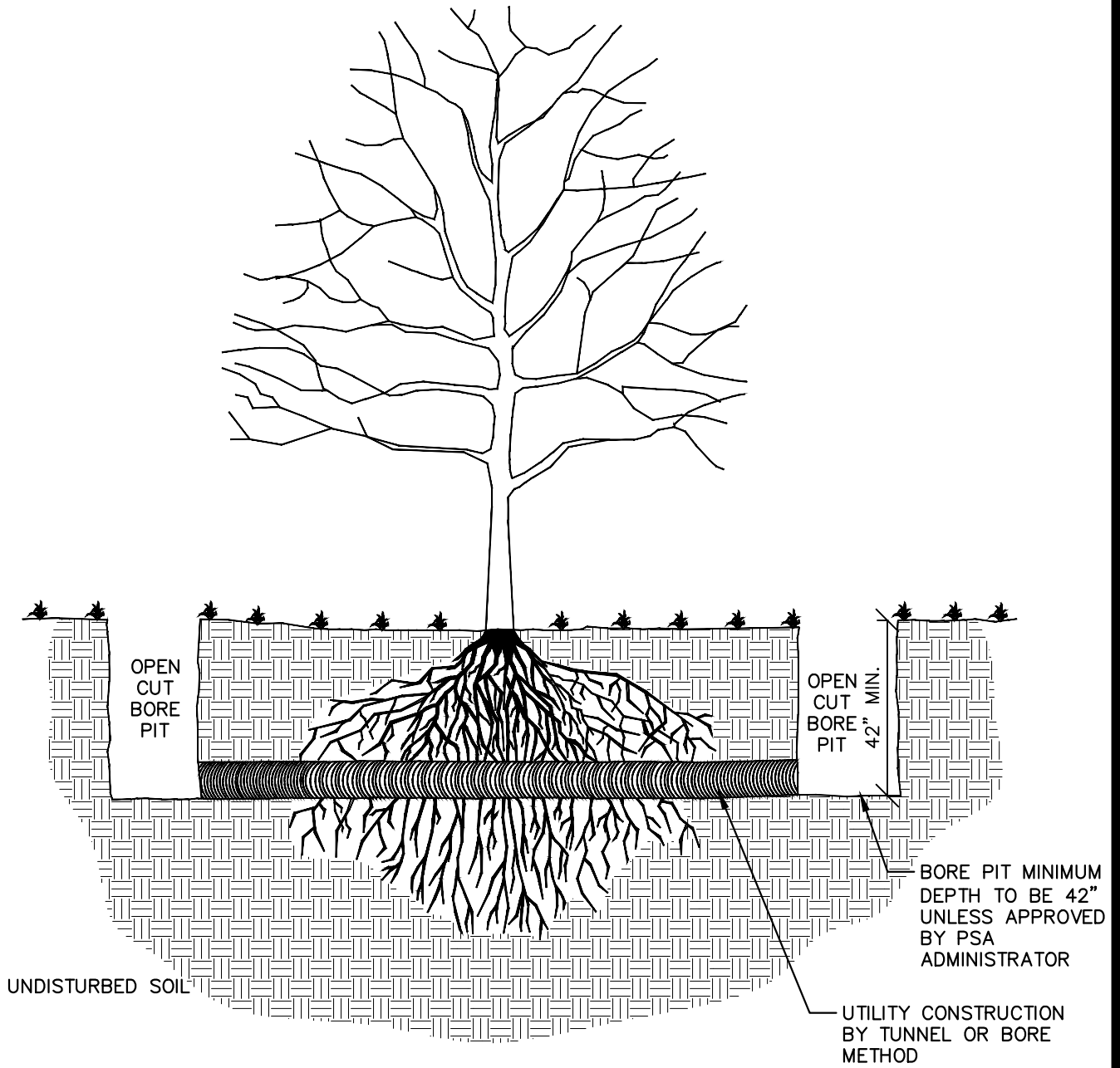
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REV. NO.	DATE	DRAWN BY	CHECKED BY
TREE STAKING			
DR. ENG	CH. ENG	DRAWING NO.	
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REV. NO.	DATE	DRAWN BY	CHECKED BY
TREE PROTECTION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-L-3	



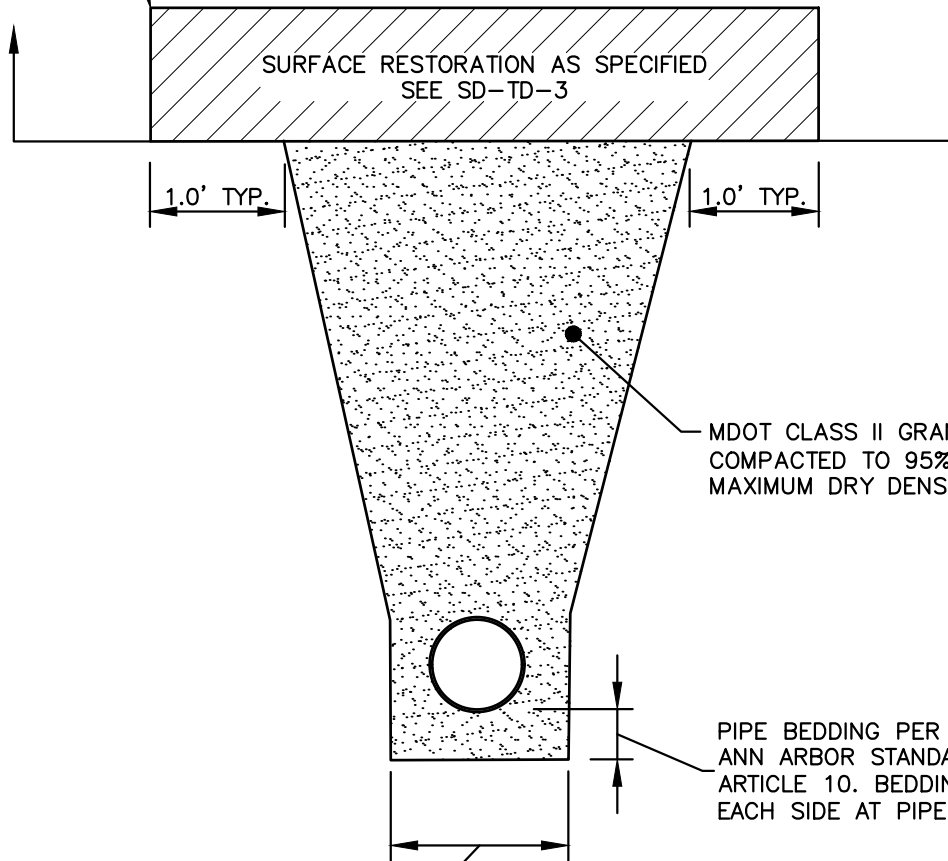
NOTE: IN ALL CASES, THE OPEN CUT BORE PIT SHALL BE LOCATED 1' BEYOND THE CRITICAL ROOT ZONE (SEE SD-L-3)



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REV. NO.	DATE	DRAWN BY	CHECKED BY
TREE TUNNELLING			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-L-4	

SAWCUT PAVEMENT, FULL DEPTH, AT REMOVAL LIMITS (TYP.)



MINIMUM TRENCH WIDTH PER CITY OF ANN ARBOR STANDARDS, ARTICLE 10. BEDDING TO EXTEND 6" MIN. EACH SIDE OF PIPE BARREL.

NOTES:

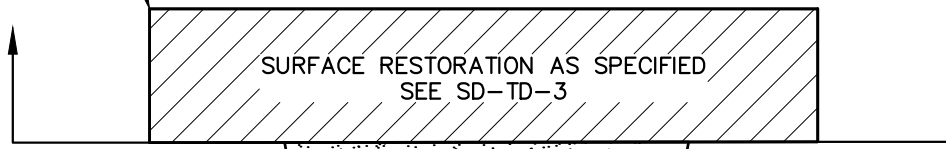
1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
5. SEE SD-TD-2 FOR SANITARY BEDDING AREA DETAIL. SEE SD-TD-4 FOR EDGE DRAIN BEDDING AND BACKFILL.
6. SURFACE RESTORATION SHALL NOT BE INCLUDED IN THE UNIT PRICE FOR PIPE AND WILL BE PAID FOR SEPARATELY.
7. NOT TO BE USED FOR SANITARY SEWER OR EDGE DRAIN.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
UTILITY TRENCH - TYPE 1			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-TD-1	

SAWCUT PAVEMENT, FULL DEPTH, AT REMOVAL LIMITS (TYP.)



1.0' TYP.

1.0' TYP.

MDOT CLASS II GRANULAR MATERIAL COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DRY DENSITY.

GEOTEXTILE SEPARATOR FABRIC WRAPPING AROUND ALL SIDES OF TRENCH

SANITARY SEWER OR SANITARY SEWER LEAD, AS SPECIFIED ON PLANS.

MDOT 6A COARSE AGGREGATE

PIPE BEDDING PER CITY OF ANN ARBOR STANDARDS, ARTICLE 10. BEDDING 4" MIN. EACH SIDE AT PIPE BELL.

MINIMUM TRENCH WIDTH PER CITY OF ANN ARBOR STANDARDS, ARTICLE 10. BEDDING TO EXTEND 6" MIN. EACH SIDE OF PIPE BARREL.

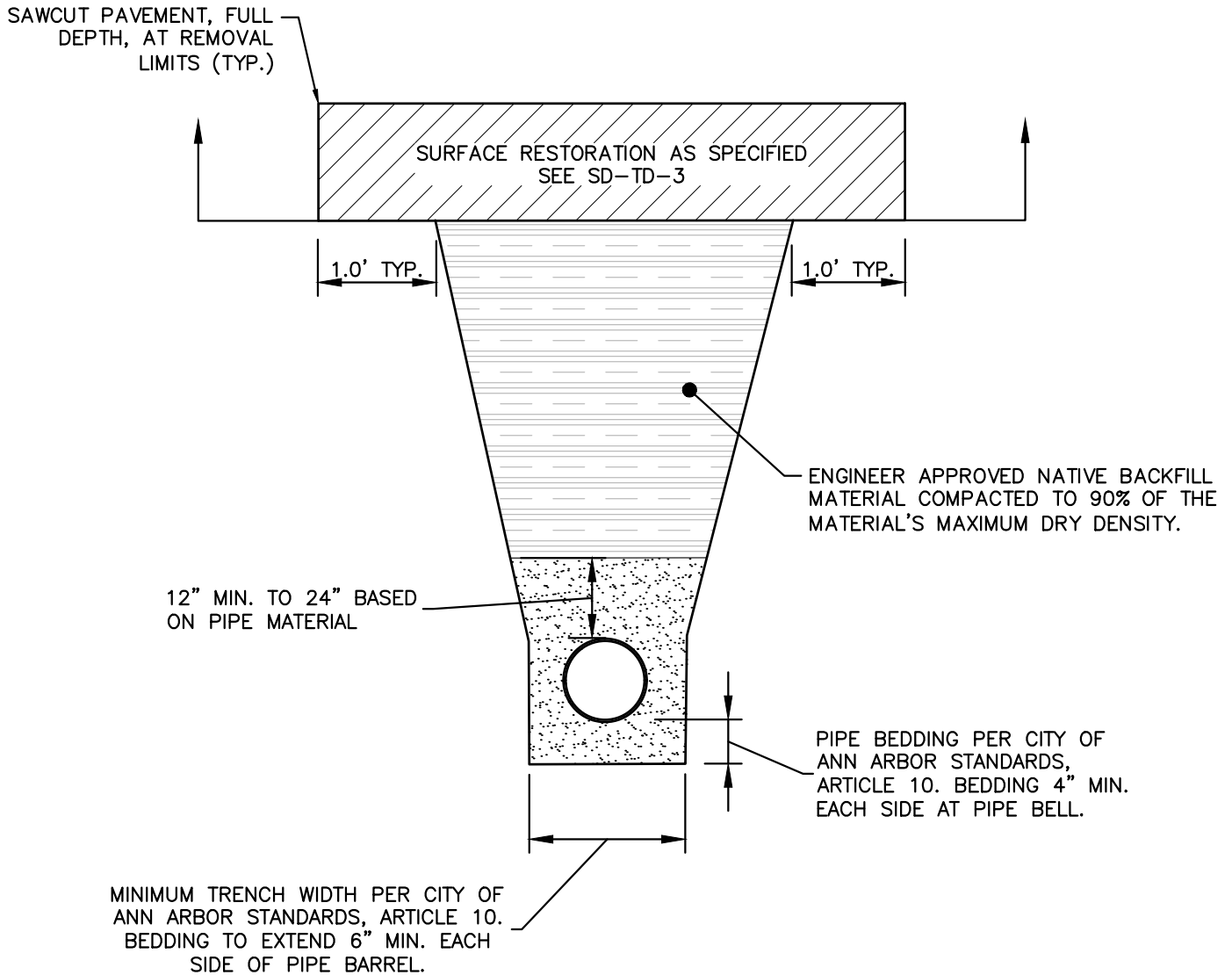
NOTES:

1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
5. SEE SD-TD-4 FOR EDGE DRAIN BEDDING AND BACKFILL DETAILS.
6. SURFACE RESTORATION SHALL NOT BE INCLUDED IN THE UNIT PRICE FOR PIPE AND WILL BE PAID FOR SEPARATELY.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
UTILITY TRENCH - TYPE 2			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-TD-2	



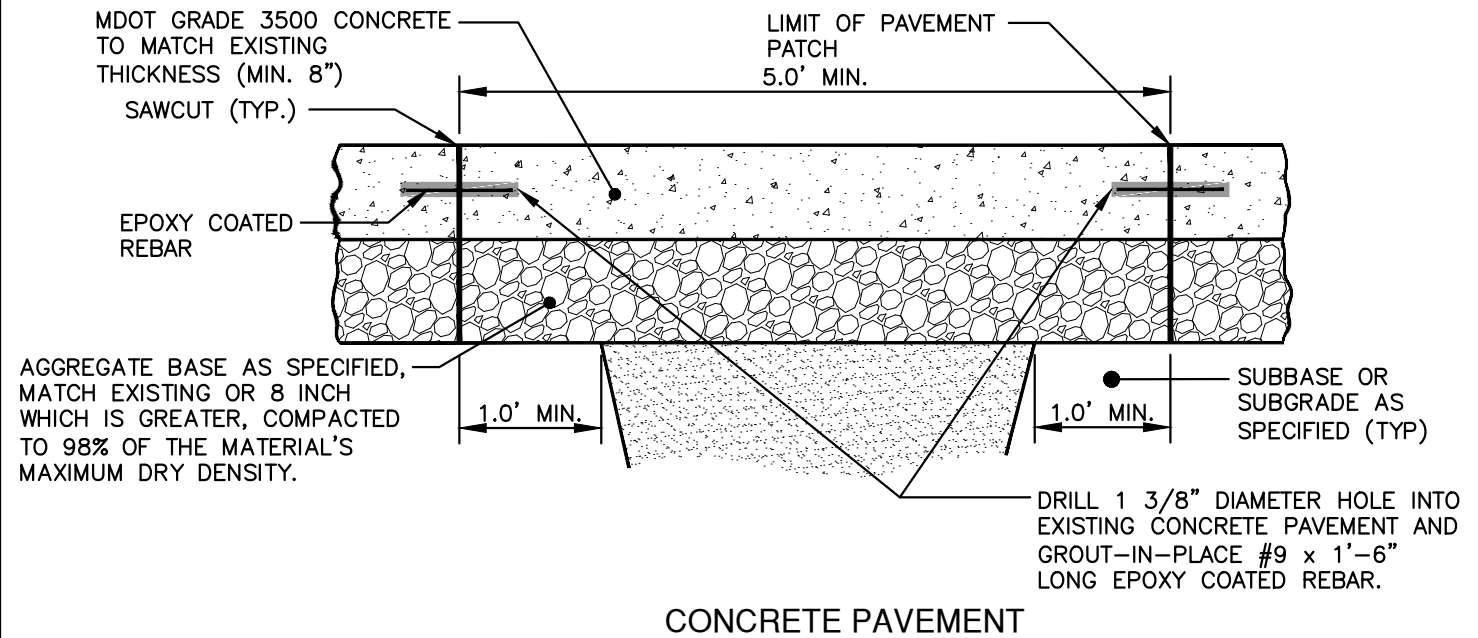
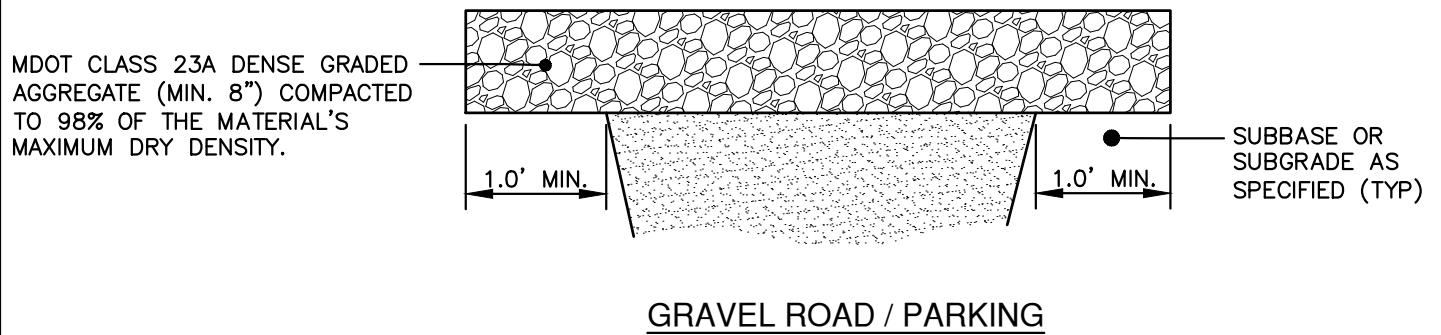
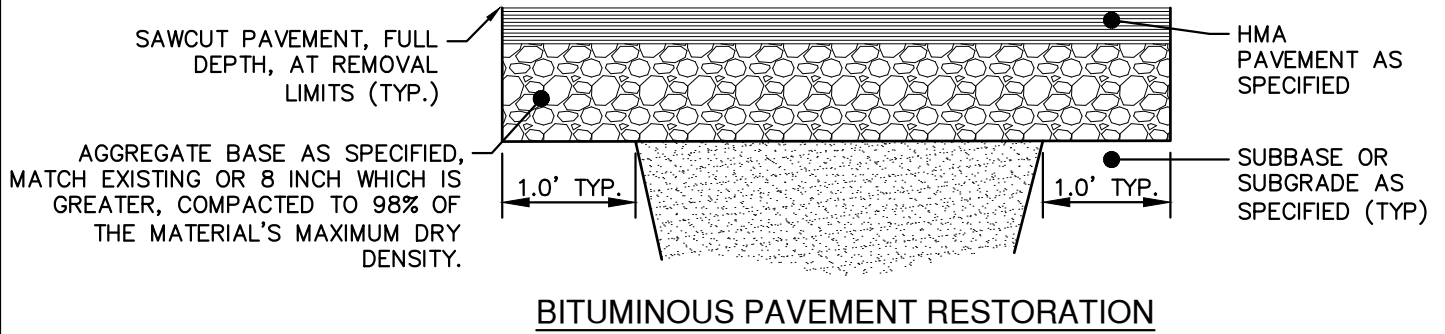
NOTES:

1. ALL TRENCH EXCAVATION, BEDDING, BACKFILLING, AND SURFACE RESTORATION SHALL COMPLY WITH CITY OF ANN ARBOR STANDARDS, ARTICLE 10.
2. TRENCH DETAILS SHOW TYPE OF BACKFILL AND TRENCHING REQUIREMENTS ONLY.
3. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. AND CITY STANDARDS.
4. PIPE BEDDING THICKNESS UNDER CONCRETE PIPE 66" OR LARGER SHALL BE INCREASED TO 6".
5. SEE SD-TD-2 FOR SANITARY BEDDING AREA DETAIL. SEE SD-TD-4 FOR EDGE DRAIN BEDDING AND BACKFILL.
6. SURFACE RESTORATION SHALL NOT BE INCLUDED IN THE UNIT PRICE FOR PIPE AND WILL BE PAID FOR SEPARATELY.
7. NOT TO BE USED FOR SANITARY SEWER OR EDGE DRAIN.



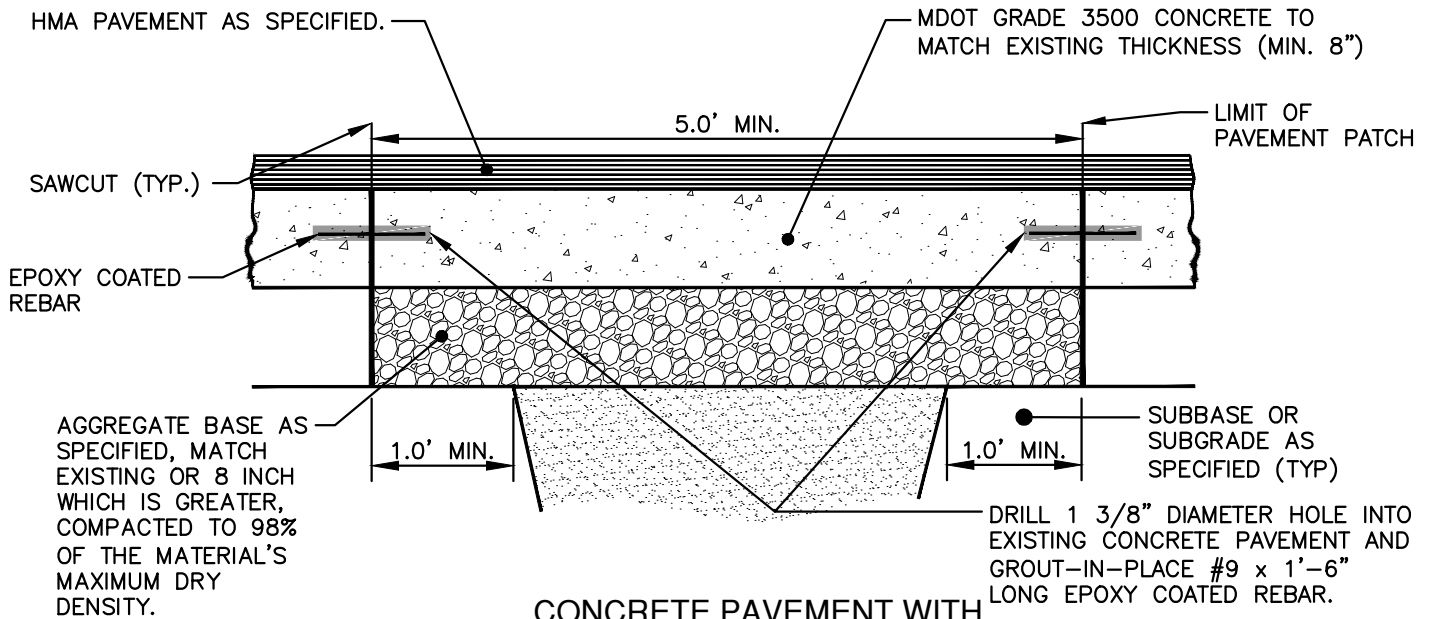
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REV. NO.	DATE	DRAWN BY	CHECKED BY
UTILITY TRENCH - TYPE 3			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-TD-3	

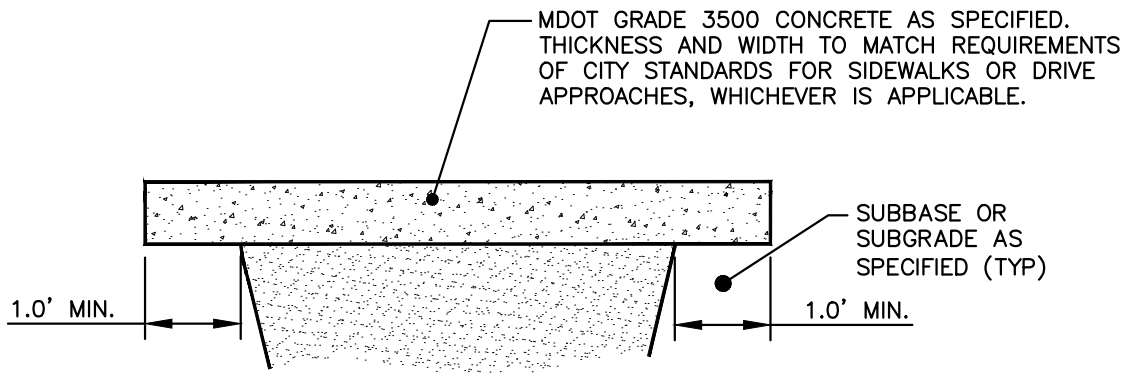


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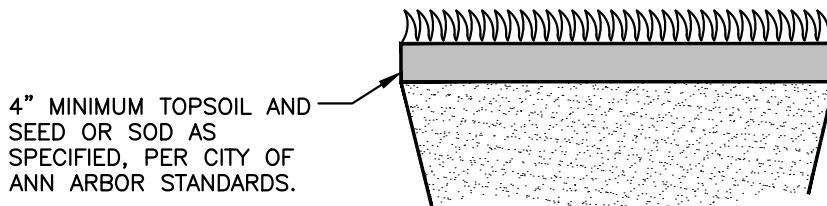
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REV. NO.	DATE	DRAWN BY	CHECKED BY
UTILITY TRENCH SURFACE RESTORATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-TD-4.1	



**CONCRETE PAVEMENT WITH
BITUMINOUS OVERLAY**



SIDEWALK OR DRIVE APPROACH



TURF

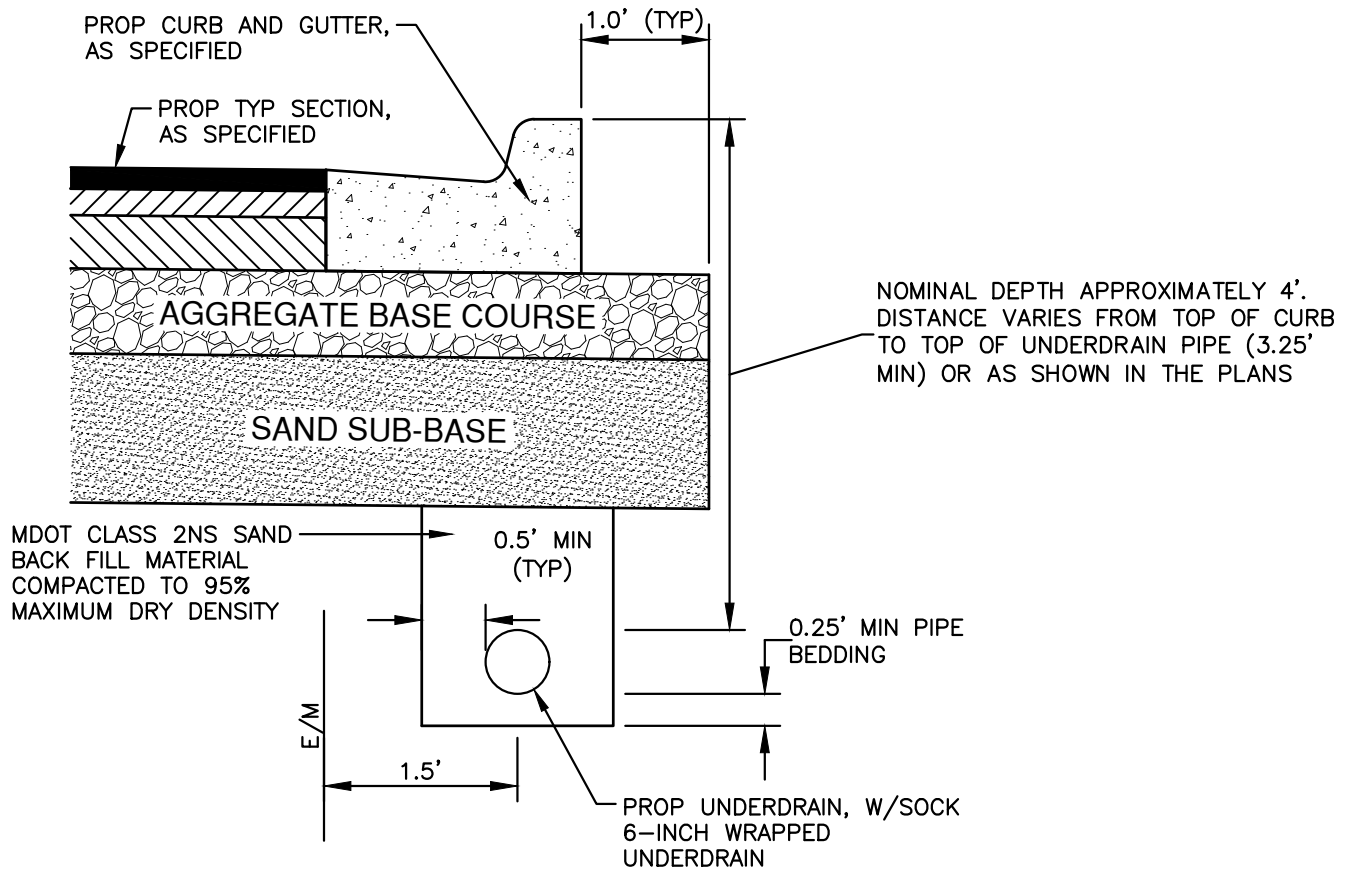
NOTE:

PIPE TO BE BEDDED AND BACKFILLED PER UTILITY TRENCH TYPE-1, TYPE-2, OR TYPE-3.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
UTILITY TRENCH SURFACE RESTORATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-TD-4.2	



NOTES:

1. IN AREAS WHERE EDGE DRAIN CANNOT BE INSTALLED IN ACCORDANCE WITH THE DETAIL, THE EDGE DRAIN SHALL BE INSTALLED AT THE DEPTH AS INDICATED ON THE PLANS, OR AS DIRECTED BY ENGINEER. IN NO CASE SHALL THE EDGE DRAIN BE INSTALLED AT A GRADE LESS THAN 0.50% OR AT A DEPTH OF LESS THAN 3' BELOW TOP OF PROPOSED PAVEMENT.
2. FOR PAVEMENT BASE AND SUBBASE THICKNESS, SEE TYPICAL PAVEMENT CROSS-SECTION(S)
3. TRENCH DETAILS SHOW TYPE OF BACKFILL AND SURFACE RESTORATION ONLY
4. ALL TRENCHING TO CONFORM TO ALL APPLICABLE M.I.O.S.H.A. STANDARDS
5. EDGE DRAINS SHALL BE CONNECTED TO A DRAINAGE STRUCTURE AND WILL EXTEND A MINIMUM OF 100 FEET UPSLOPE FROM THE STRUCTURE.
6. ADDITIONAL LENGTHS OF EDGE DRAIN MAY BE REQUIRED BY THE ENGINEER BASED ON EXISTING SITE CONDITIONS, INCLUDING CONDITION OF THE SUBGRADE.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
TYPICAL EDGE DRAIN TRENCH			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-TD-5	

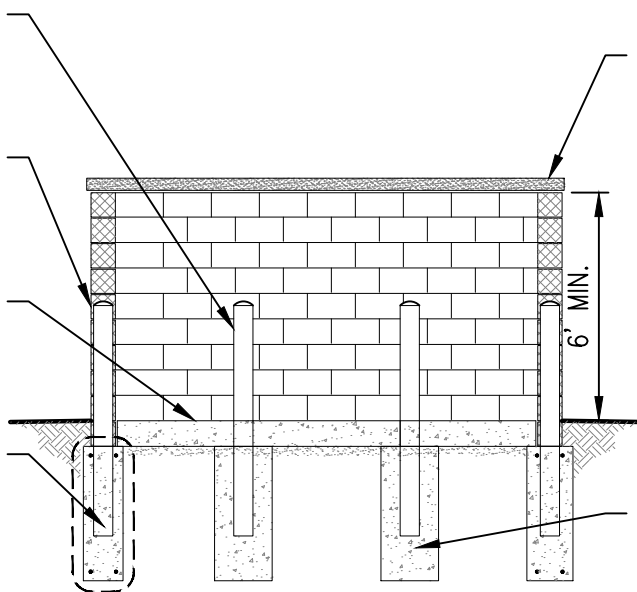
6" DIAMETER STEEL PIPE BOLLARDS FILLED WITH CONCRETE AND PAINTED YELLOW. EXTEND 4 FEET ABOVE TOP OF SLAB AND 3 FEET BELOW

8" CONCRETE BLOCK OR CAST-IN PLACE CONCRETE WALLS, OR APPROVED ALTERNATE MATERIAL

8" POURED CONCRETE SLAB OVER 8" 21AA DENSE GRADED AGGREGATE

12" X 42" POURED CONCRETE TRENCH FOUNDATION (SEE DETAIL)

LIMESTONE (OR CONCRETE) WALL CAP (TYP)



18" x 42" POURED CONC (TYP)

#5 DOWEL W/4" HOOK EXTEND 18" ABOVE AND BELOW TOP OF FOOTING @ 24" O.C.

#5 REBAR

3"

#4 STIRRUP W/ 15" OVERLAP IF IN TWO PIECES

CONCRETE BRICK SUPPORT

TRENCH FOUNDATION DETAIL
N.T.S.

18" LAP LENGTH REQUIRED FOR #5 REBAR AT CORNERS

6 YD TRASH/RECYCLE RECEPTACLE

2% SLOPE MAX

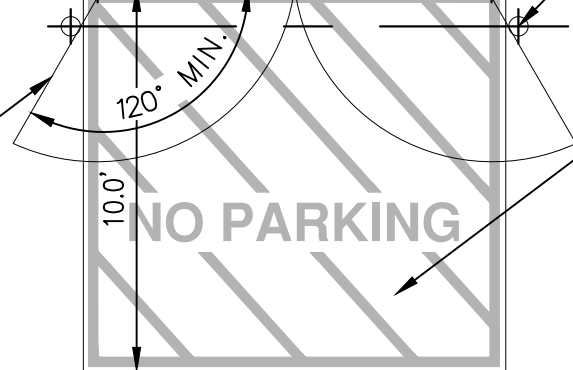
11.0' MIN. CLEARANCE AT NARROWEST POINT IN ENCLOSURE AS MEASURED FROM EDGE OF BOLLARD

EXPANSION JOINT

6" DIAMETER STEEL PIPE BOLLARDS FILLED WITH CONCRETE AND PAINTED YELLOW (TYP.)

8" POURED CONCRETE SLAB EXTENSION. PITCH TO DRAIN AWAY FROM ENCLOSURE @ MIN 1% SLOPE

GATE SWING ANGLE, MIN 120° FROM CLOSED POSITION



NOTE:
SEE SD-SW-6 FOR GENERAL NOTES



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SINGLE BIN ENCLOSURE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SW-1	

6" DIAMETER STEEL PIPE BOLLARDS FILLED WITH CONCRETE AND PAINTED YELLOW. EXTEND 4 FEET ABOVE TOP OF SLAB AND 3 FEET BELOW

8" POURED CONCRETE SLAB OVER 8" 21AA DENSE GRADED AGGREGATE

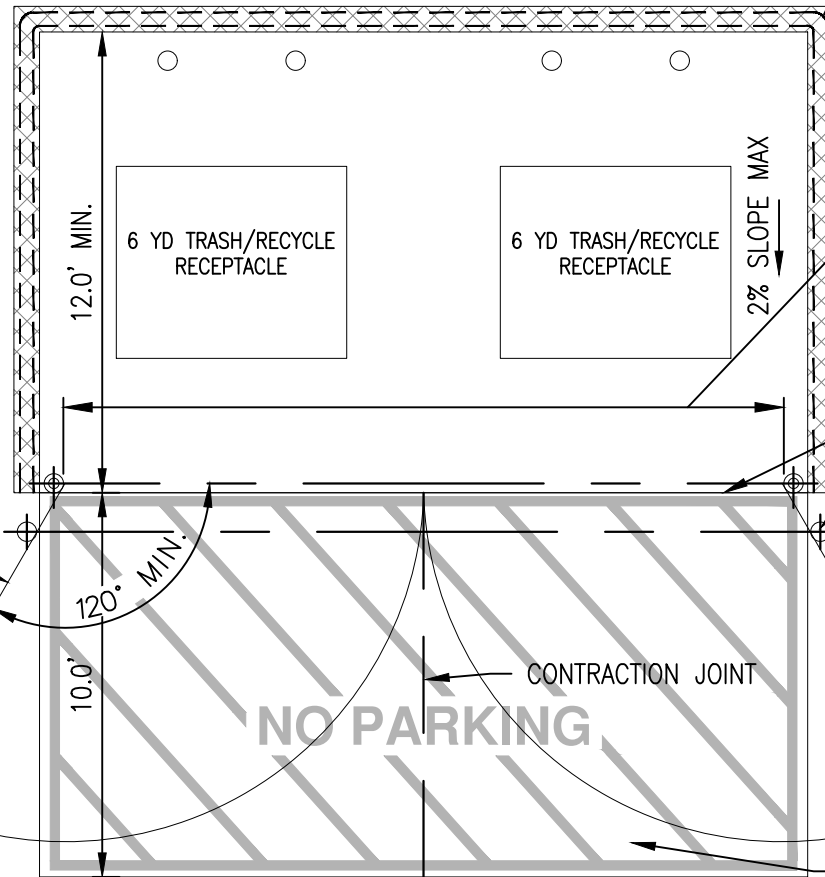
8" CONCRETE BLOCK OR CAST-IN PLACE CONCRETE WALLS, OR APPROVED ALTERNATE MATERIAL

12" X 42" POURED CONCRETE TRENCH FOUNDATION (SEE DETAIL SD-SW-1)

LIMESTONE (OR CONCRETE) WALL CAP (TYP)

18" x 42" POURED CONC (TYP)

ELEVATION



2% SLOPE MAX

18" LAP LENGTH REQUIRED FOR #5 REBAR AT CORNERS

22.0' MIN. CLEARANCE AT NARROWEST POINT IN ENCLOSURE AS MEASURED FROM EDGE OF BOLLARD

EXPANSION JOINT

6" DIAMETER STEEL PIPE BOLLARDS FILLED WITH CONCRETE AND PAINTED YELLOW (TYP.)

CONTRACTION JOINT

NO PARKING

8" POURED CONCRETE SLAB EXTENSION. PITCH TO DRAIN AWAY FROM ENCLOSURE @ MIN 1% SLOPE

GATE SWING ANGLE, MIN 120° FROM CLOSED POSITION

NOTE: SEE SD-SW-6 FOR GENERAL NOTES

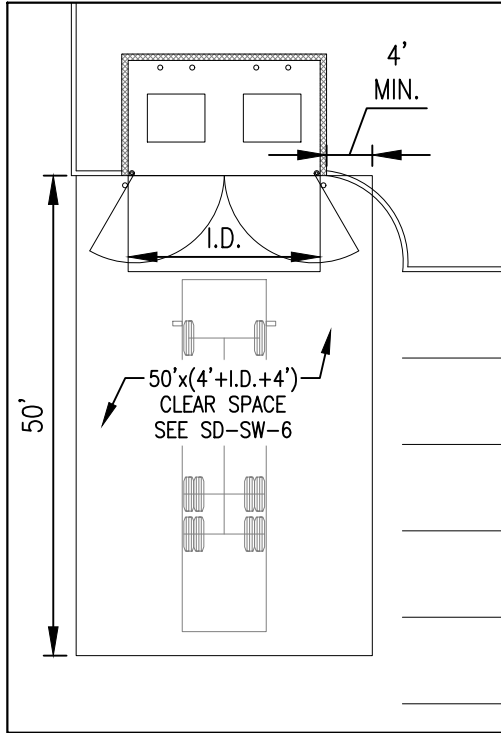
PLAN



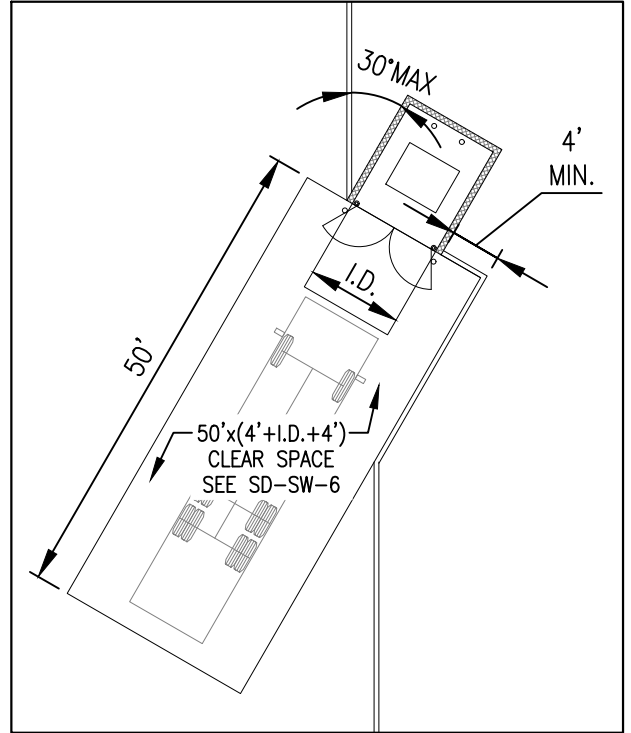
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REV. NO.	DATE	DRAWN BY	CHECKED BY
DOUBLE BIN ENCLOSURE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SW-2	

ACCEPTABLE

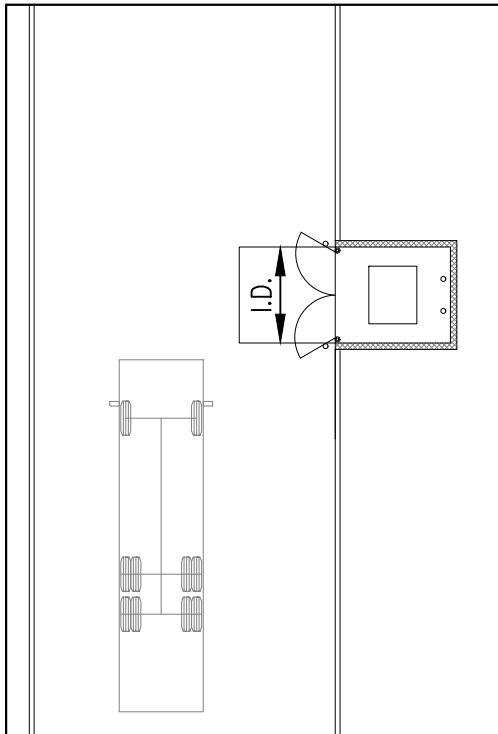


DIRECT ACCESS
(PREFERRED)

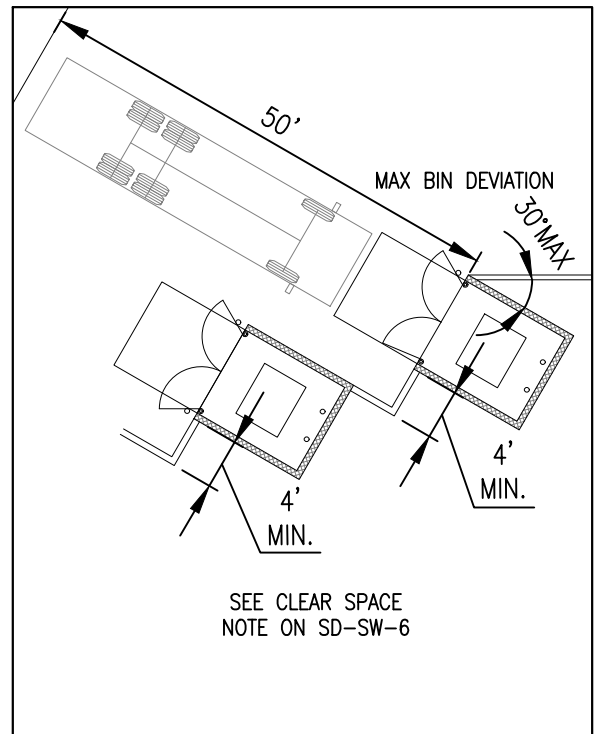


OPTIONAL ANGLED DIRECT ACCESS
(ACCEPTABLE WITH APPROVAL)

UNACCEPTABLE



INDIRECT ACCESS

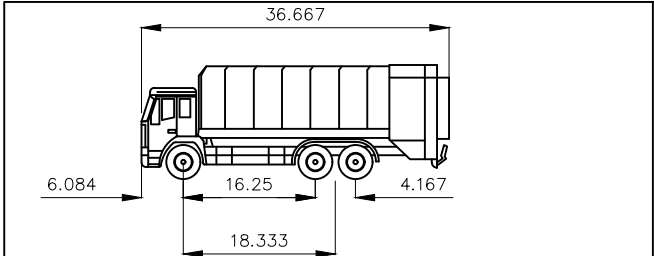
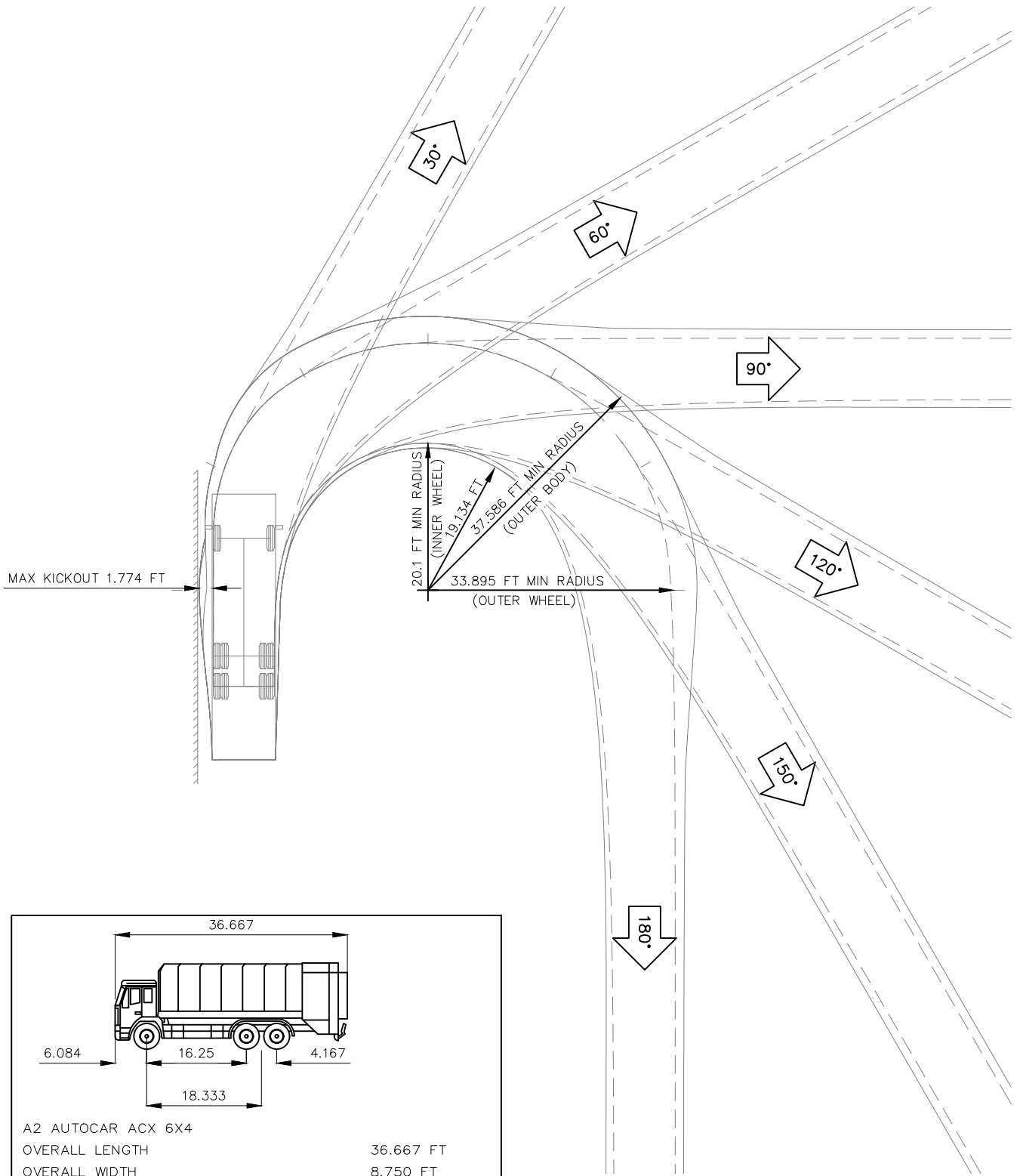


OPTIONAL ANGLED DIRECT ACCESS
(ACCEPTABLE WITH APPROVAL)



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REV. NO.	DATE	DRAWN BY	CHECKED BY
STANDARD BIN ENCLOSURE LAYOUTS			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SW-3	

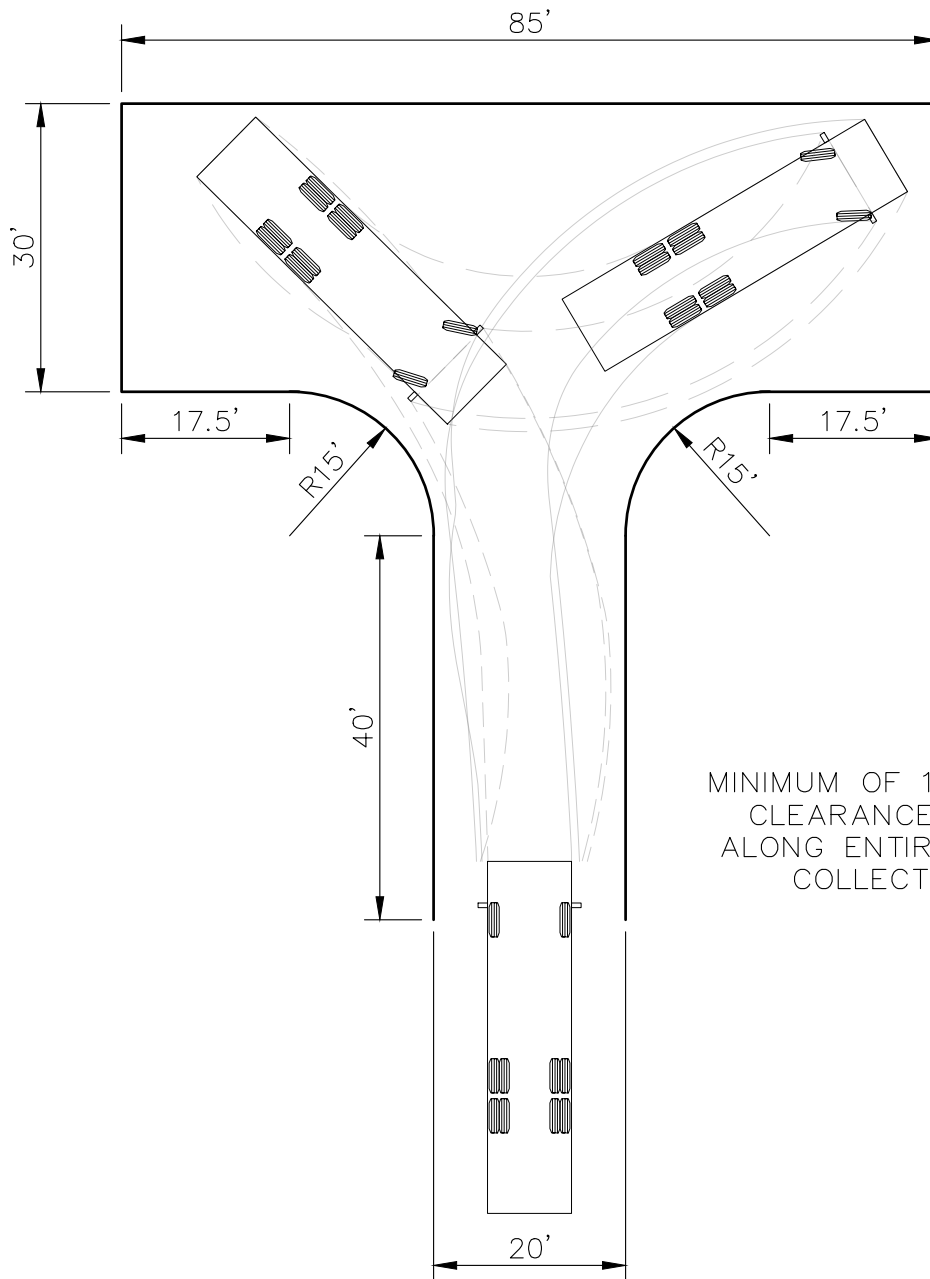


A2 AUTOCAR ACX 6X4	
OVERALL LENGTH	36.667 FT
OVERALL WIDTH	8.750 FT
OVERALL BODY HEIGHT	12.500 FT
MIN BODY GROUND CLEARANCE	0.830 FT
MAX TRACK WIDTH	8.417 FT
LOCK-TO-LOCK TIME	6.00 S
CURB TO CURB TURNING RADIUS	33.895 FT



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SWEPT PATH REQUIREMENTS FOR FRONT LOAD SOLID WASTE VEHICLE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SW-4	



MINIMUM OF 15'-0" VERTICAL CLEARANCE IS REQUIRED ALONG ENTIRE SOLID WASTE COLLECTION ROUTE.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SOLID WASTE VEHICLE TURN-AROUND			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SW-5	

1. MAINTAIN A CLEAR SPACE DIRECTLY IN FRONT OF THE SOLID WASTE ENCLOSURE. THE CLEAR SPACE SHALL BE A MINIMUM OF FIFTY (50) FEET LONG BY THE WIDTH OF THE INSIDE DIMENSION (I.D.) OF THE ENCLOSURE WALLS PLUS FOUR (4) FEET ON EACH SIDE. A MINIMUM VERTICAL CLEARANCE OF AT LEAST TWENTY-FIVE (25) FEET MUST BE PROVIDED ABOVE THIS AREA.
2. INGRESS AND EGRESS ROUTES MUST BE DEVELOPED BASED ON SOLID WASTE SWEEP PATH REQUIREMENTS PER SD-SW-4. A MINIMUM HORIZONTAL CLEARANCE OF FOUR (4) FEET FROM THE EDGE OF THE SWEEP PATH AND A MINIMUM VERTICAL CLEARANCE OF AT LEAST FIFTEEN (15) FEET MUST BE PROVIDED ALONG THE ENTIRE SOLID WASTE COLLECTION ROUTE.
3. PROVIDE TEN (10) FEET MINIMUM HORIZONTAL CLEARANCE FROM SOLID WASTE ENCLOSURE TO MAJOR ELECTRICAL EQUIPMENT, ABOVE GROUND UTILITY SERVICES, AND EDGE OF OVERHEAD OBSTRUCTIONS SUCH AS TREE BRANCHES, BALCONIES, AND OVERHANGS.
4. IF FORWARD ACCESS TO THE PUBLIC STREET IS NOT AVAILABLE FOR THE SOLID WASTE VEHICLE, THE SITE DEVELOPMENT LAYOUT MUST ACCOMMODATE A TURN-AROUND LOCATION MEETING REQUIREMENTS WITHIN SOLID WASTE REFERENCE SPECIFIC TURN-AROUND DETAIL (SD-SW-5) AND ACCEPTABLE TO THE PSAA.
5. FOR SITES THAT CANNOT ACCOMMODATE A TURN-AROUND, THE FOLLOWING ADDITIONAL REQUIREMENTS MUST BE MET:
 - 5.1. SOLID WASTE VEHICLES MUST BE ABLE TO SERVICE DUMPSTERS WITHOUT IMPEDING THE PUBLIC STREET OR SIDEWALK.
 - 5.2. THE COLLECTION LOCATION SHALL BE CLEARLY DELINEATED AND NOT HAVE A SLOPE GREATER THAN 2% IN ANY DIRECTION.
 - 5.3. BOLLARDS OR ADEQUATE CLEAR SPACE MUST BE PROVIDED BEHIND THE LIFT POINT SO THE DUMPSTERS ARE NOT PUSHED INTO ANY BUILDING OR ACCESS ROUTE.
 - 5.4. ALL SWEEP-PATH CLEARANCE AND VERTICAL CLEARANCE REQUIREMENTS PREVIOUSLY IDENTIFIED SHALL BE PROVIDED.
 - 5.5. SOLID WASTE VEHICLE BACK-UP DISTANCES MUST BE LESS THAN 30' ALONG SERVICING ROUTE.
6. GATES ON BIN ENCLOSURES SHALL OPEN A MINIMUM OF 120 DEGREES FROM THE CLOSED POSITION. THE GATES SHALL NOT IMPEDE ON THE REQUIRED BIN ENCLOSURE OPENING WIDTH, SHALL NOT BLOCK ADJACENT PARKING SPOTS, AND NOT BE IMPEDED BY ADJACENT CURBS OR LANDSCAPING.
7. GATES SHALL BE DESIGNED TO BE FREE STANDING WITHOUT CENTER POLE DESIGN. IF CENTER POLE DESIGN IS NECESSARY, 12 INCHES SHALL BE ADDED TO THE MINIMUM INTERIOR WIDTH OF THE ENCLOSURE.
8. GATE DESIGN SHALL INCLUDE A RELIABLE MEANS TO SECURE THE DOOR IN BOTH THE OPEN AND CLOSED POSITIONS.



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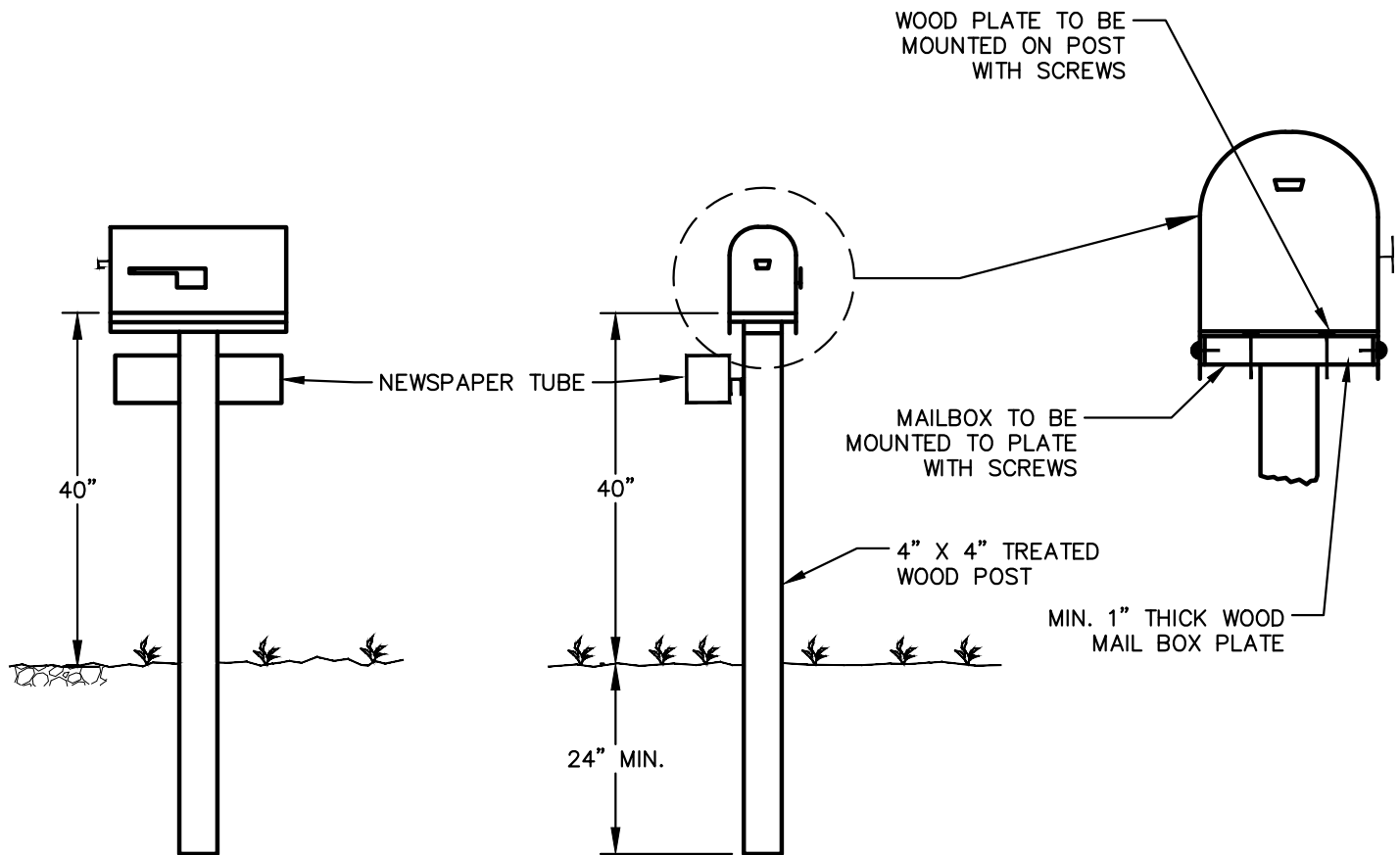
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REV. NO.	DATE	DRAWN BY	CHECKED BY
SOLID WASTE GENERAL NOTES			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SW-6A	

9. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF NO PARKING SIGNS ALONG THE SOLID WASTE INGRESS/EGRESS ROUTE TO ENSURE THE ROUTE REMAINS FREE OF VEHICLES.
10. REFER TO ASSOCIATED STANDARD DETAILS SD-SW-1 AND SD-SW-2 FOR REQUIREMENTS ON SINGLE AND DOUBLE WIDE SOLID WASTE BIN ENCLOSURE LAYOUT AND DESIGN CRITERIA. THE CITY SHALL HAVE THE ABILITY TO MODIFY OR INTERPRET THESE DETAILS AS NECESSARY TO ACCOMMODATE THE CITY OR CITY CONTRACTOR'S NEEDS FOR SOLID WASTE PICK-UP.
11. SOLID WASTE EQUIPMENT ACCESS ROADS AND SERVICE AREA SURFACES SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF COLLECTION VEHICLES WEIGHING UP TO 79,500 LBS GROSS VEHICLE WEIGHT (GVW) AND SHALL BE PROVIDED WITH AN APPROVED SURFACE SO AS TO PROVIDE ALL WEATHER DRIVING CAPABILITIES. PROPERTY OWNER SHALL BE RESPONSIBLE FOR ALL SNOW AND ICE REMOVAL REQUIRED FOR SAFE ACCESS.
12. FOR SITES THAT CANNOT ACCOMMODATE A STANDARD DUMPSTER ENCLOSURE, THE DUMPSTERS MAY BE ROLLED OUT OF A BUILDING OR ALTERNATE ENCLOSURE BY THE PROPERTY OWNER TO AN APPROVED COLLECTION LOCATION.
13. SOLID WASTE COLLECTION LOCATIONS MUST BE LOCATED WITHIN THE BOUNDARIES OF THE PROPERTY UNLESS AN APPROPRIATE EASEMENT IS OBTAINED.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
SOLID WASTE GENERAL NOTES			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-SW-6B	



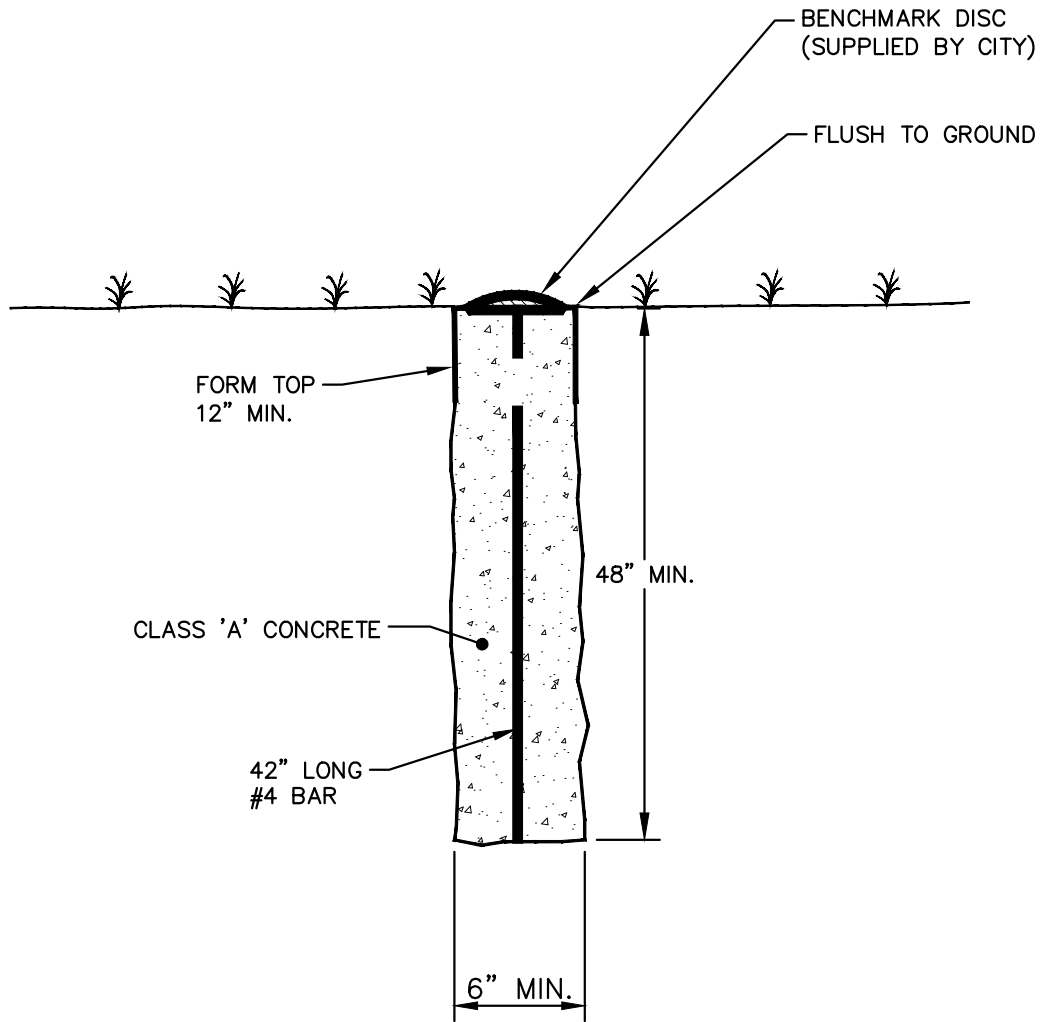
NOTES:

1. ALL WORK TO BE DONE UNDER CURRENT FEDERAL POSTAL SERVICE SPECIFICATIONS.
2. FOR PERMANENT MAILBOX RELOCATION, POST TO BE NEW 4" X 4" POST, OR RESTORE ORIGINAL POST TO AS GOOD OR BETTER THAN ORIGINAL CONDITION.
3. FOR TEMPORARY MAILBOX RELOCATION, THE USE OF EXISTING POST WILL BE PERMITTED.
4. FOR NEWS PAPER TUBE RELOCATION THE USE OF EXISTING POST WILL BE PERMITTED.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
MAILBOX NEWSPAPER TUBE INSTALLATION AND RELOCATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-M-1	

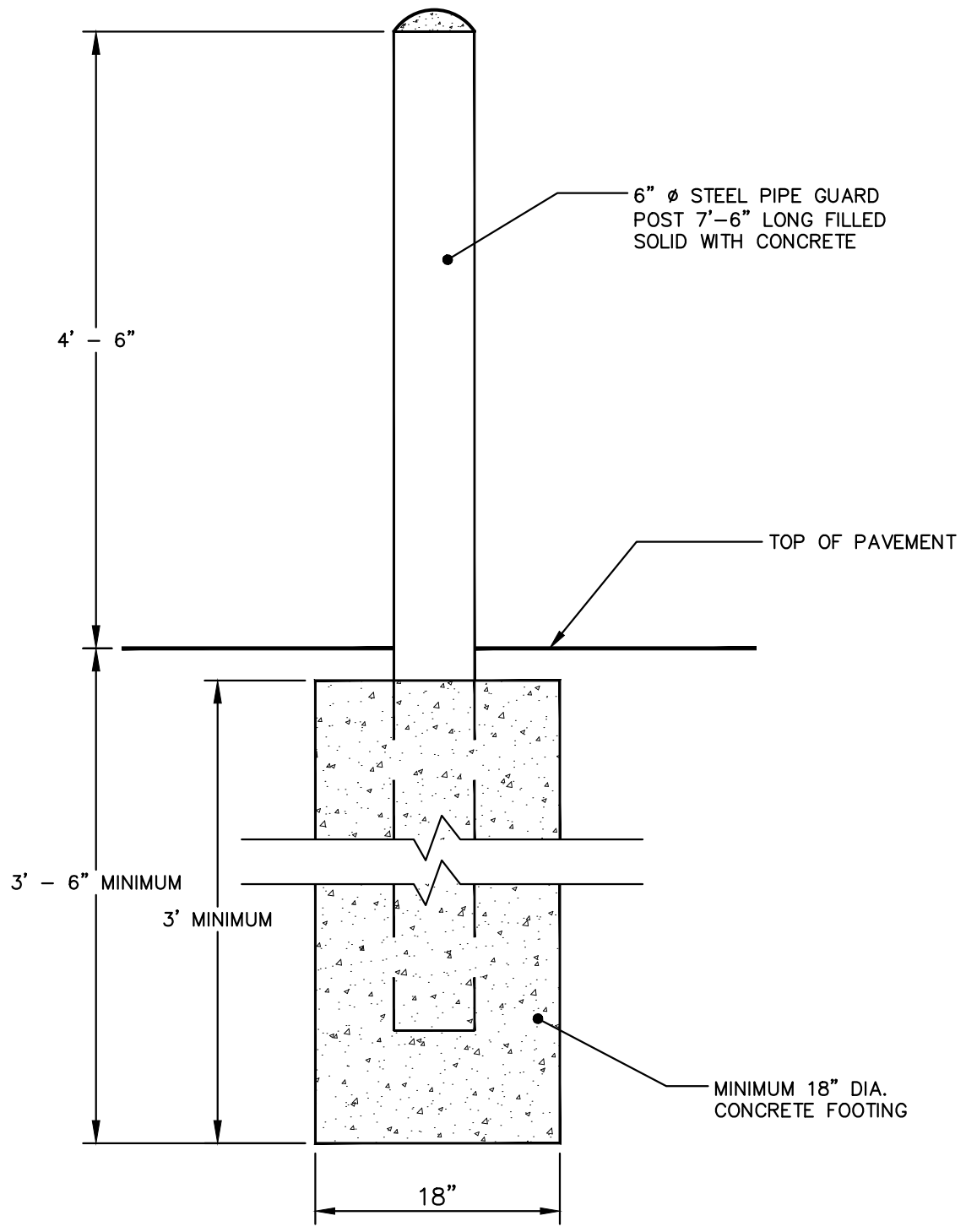


NOTE:
ELEVATION TO BE ESTABLISHED FROM
USGS DATUM, AND SHALL BE VERIFIED
BY THE CITY OF ANN ARBOR.



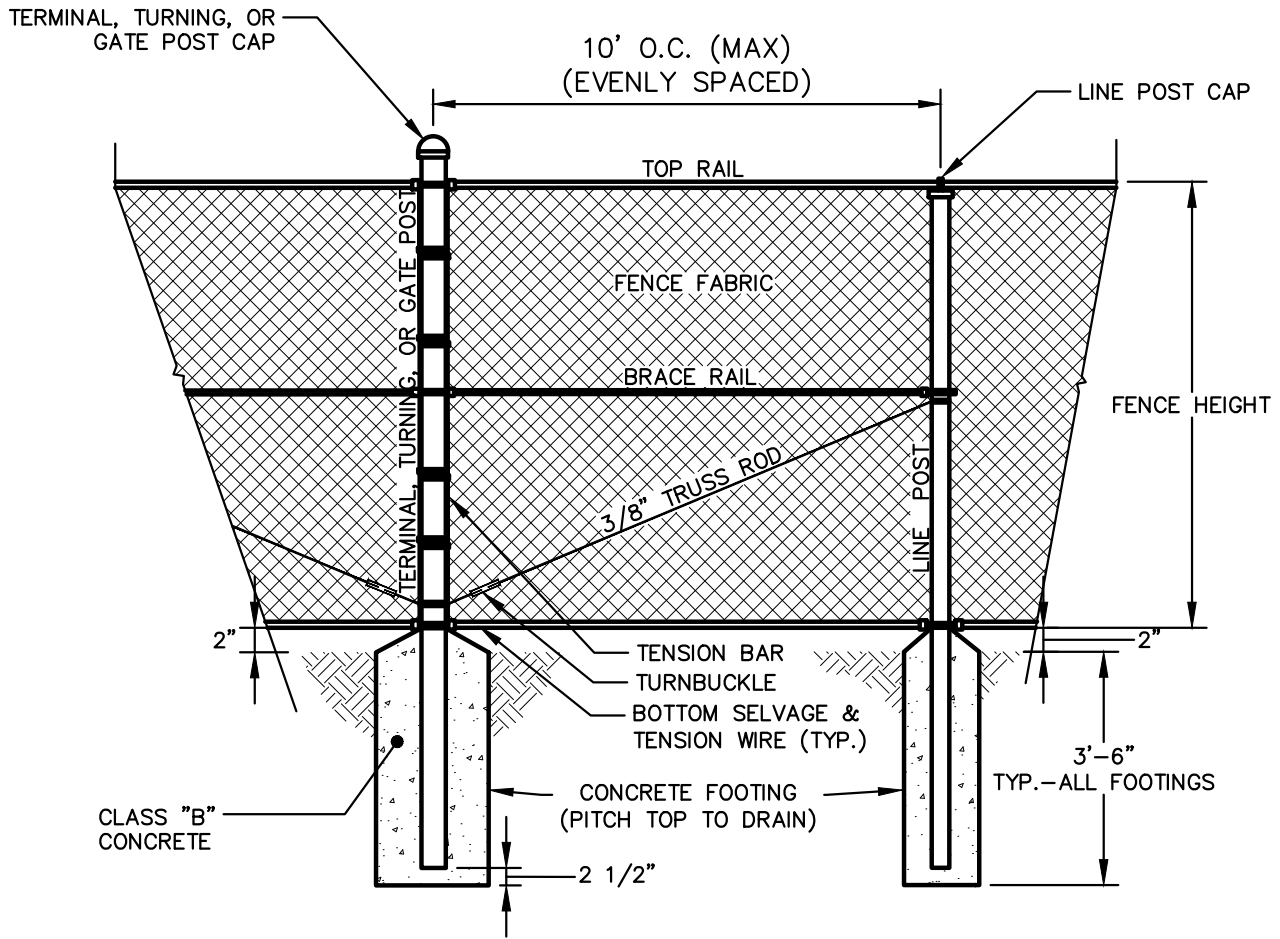
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REV. NO.	DATE	DRAWN BY	CHECKED BY
VERTICAL CONTROL MONUMENT			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-M-2	



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REV. NO.	DATE	DRAWN BY	CHECKED BY
STEEL PIPE BOLLARD			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-M-3	



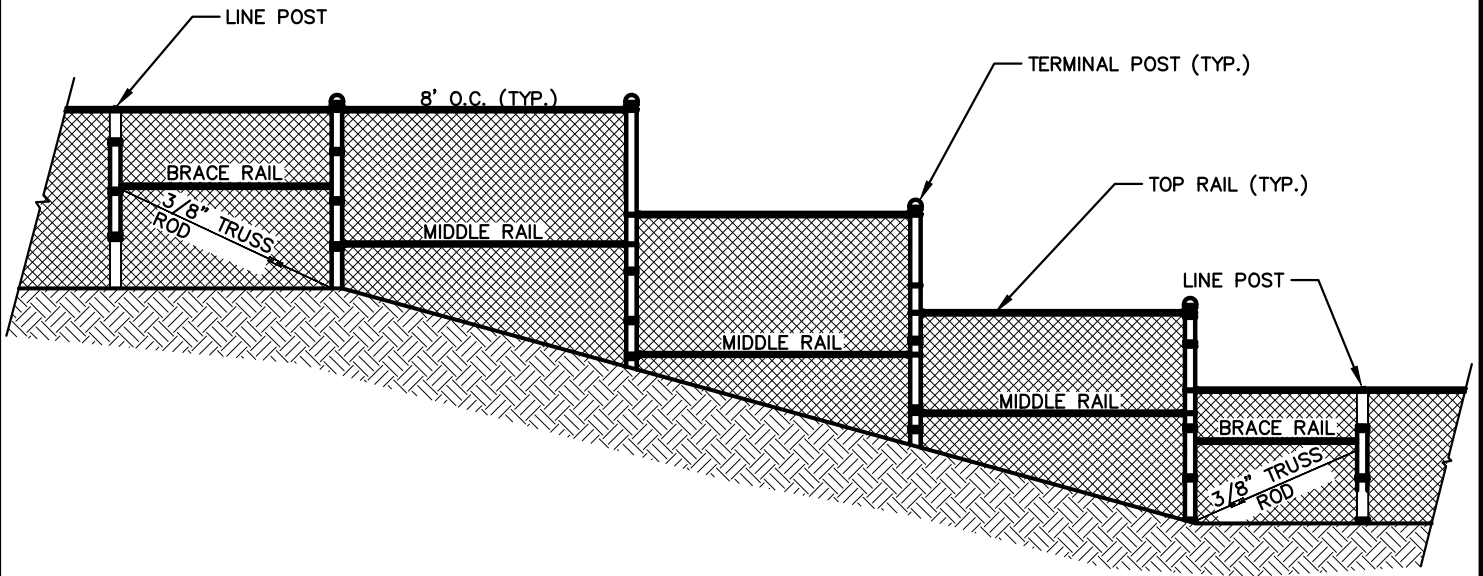
FENCE HEIGHT/SIZE REFERENCE CHART

	4' FENCE	6' FENCE	8' FENCE	12' FENCE
NOMINAL PIPE SIZES (WEIGHT)				
TERMINAL, TURNING, OR GATE POST	1 1/2" (2.72#/L.F.)	2 1/2" (5.79#/L.F.)	3 1/2" (9.11#/L.F.)	3 1/2" (9.11#/L.F.)
LINE POST	1 1/4" (2.27#/L.F.)	2" (3.65#/L.F.)	2" (3.65#/L.F.)	2" (3.65#/L.F.)
TOP RAIL	1" (1.68#/L.F.)	1 1/4" (2.27#/L.F.)	1 1/4" (2.27#/L.F.)	1 1/4" (2.27#/L.F.)
MIDDLE RAIL	NONE	NONE	1 1/4" (2.27#/L.F.)	1 1/4" (2.27#/L.F.)
BOTTOM RAIL	NONE	NONE	1 1/4" (2.27#/L.F.)	1 1/4" (2.27#/L.F.)
BRACE RAIL	1" (1.68#/L.F.)	1 1/4" (2.27#/L.F.)	1 1/4" (2.27#/L.F.)	1 1/4" (2.27#/L.F.)
FOOTING DIAMETERS				
TERMINAL, TURNING, OR GATE POST	12"	18"	18"	18"
LINE POST	9"	12"	12"	12"



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REV. NO.	DATE	DRAWN BY	CHECKED BY
CHAIN LINK FENCE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-M-4	



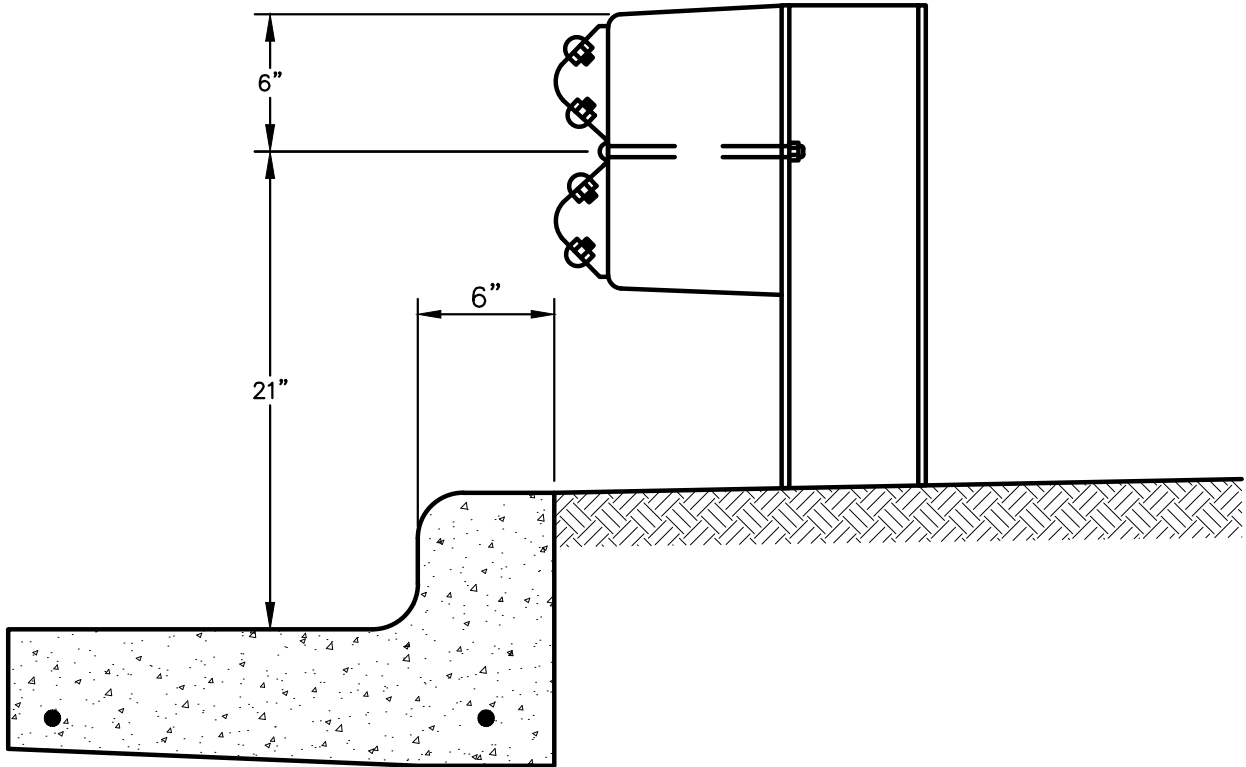
NOTE:
DIMENSIONS MAY VARY.

WORK THIS DRAWING WITH THE
NOTES AND REFERENCE CHART
ON THE CHAIN LINK FENCE
DETAIL, SD-M-4



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REV. NO.	DATE	DRAWN BY	CHECKED BY
STEP CHAIN LINK FENCE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-M-5	



NOTE:
 STANDARD GUARDRAIL CONSTRUCTION TO
 BE IN ACCORDANCE WITH MDOT BEAM
 GUARDRAIL TYPE B REQUIREMENTS

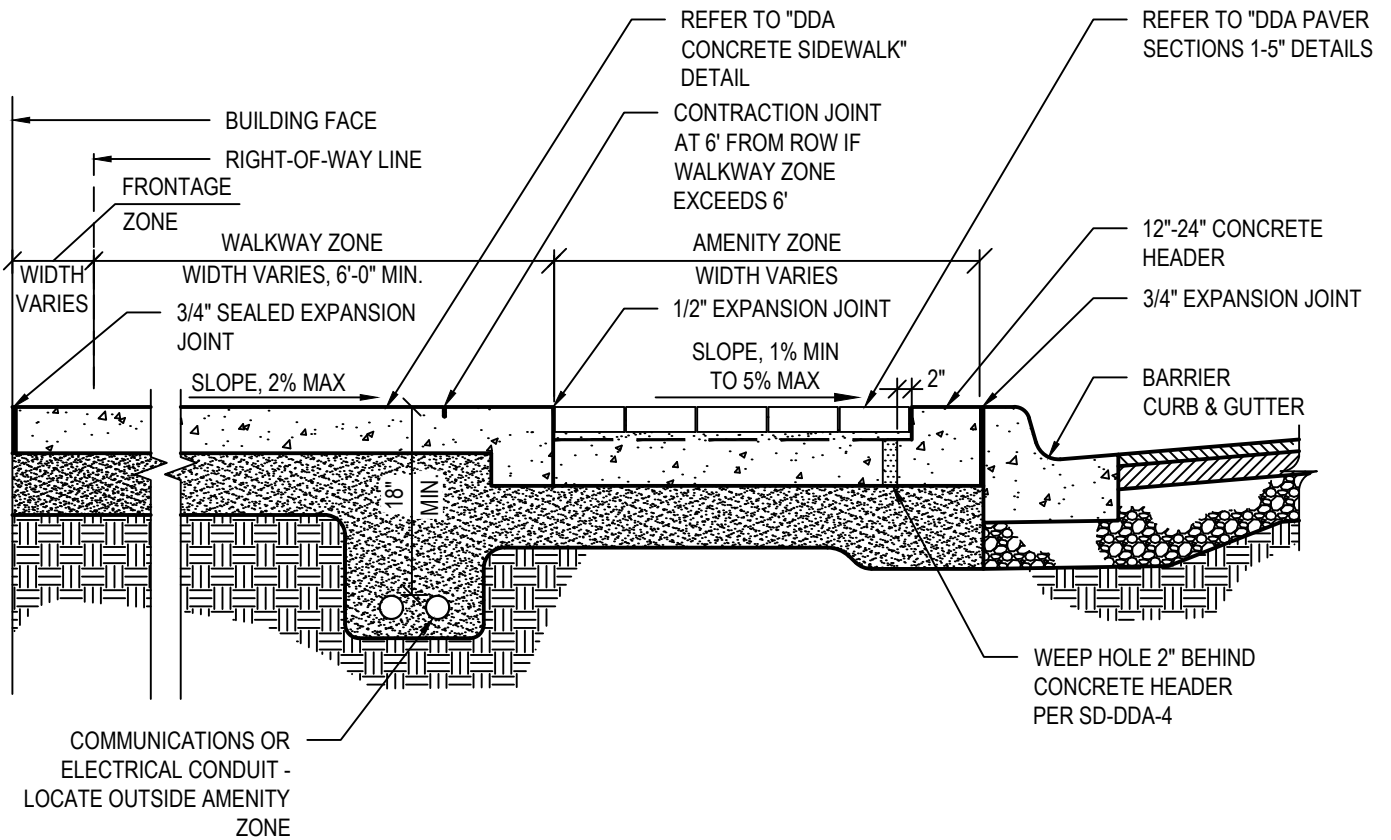


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REV. NO.	DATE	DRAWN BY	CHECKED BY
URBAN GUARDRAIL LOCATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-M-6	

NOTES:

1. REFER TO SITE PLAN FOR PROJECT SPECIFIC TYPES & LIMITS OF SURFACE MATERIALS.

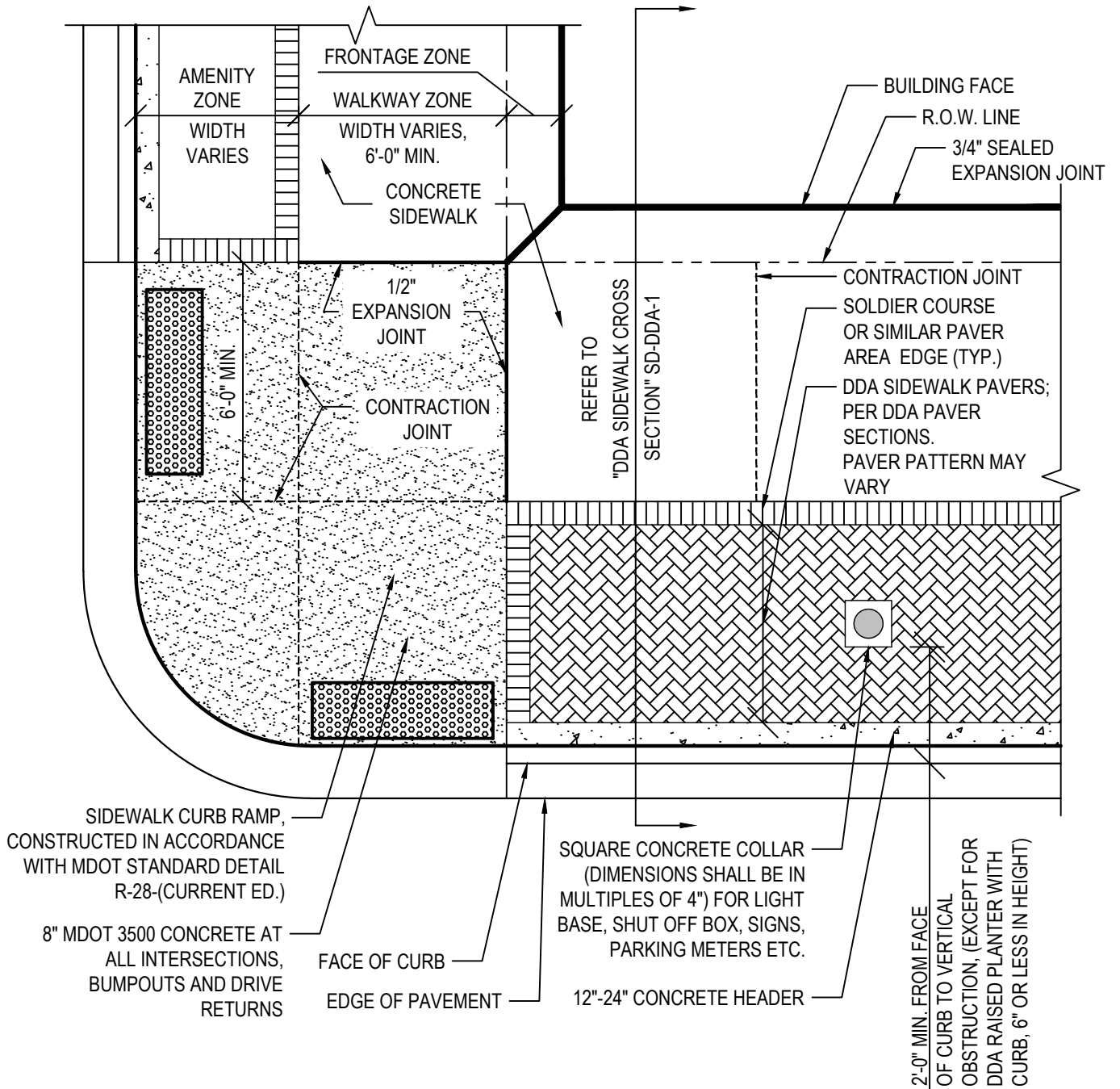


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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA SIDEWALK CROSS SECTION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-1	

LEGEND:

- CONTRACTION JOINTS -----
- 1/2" EXPANSION JOINTS =====
- 3/4" EXPANSION JOINTS =====

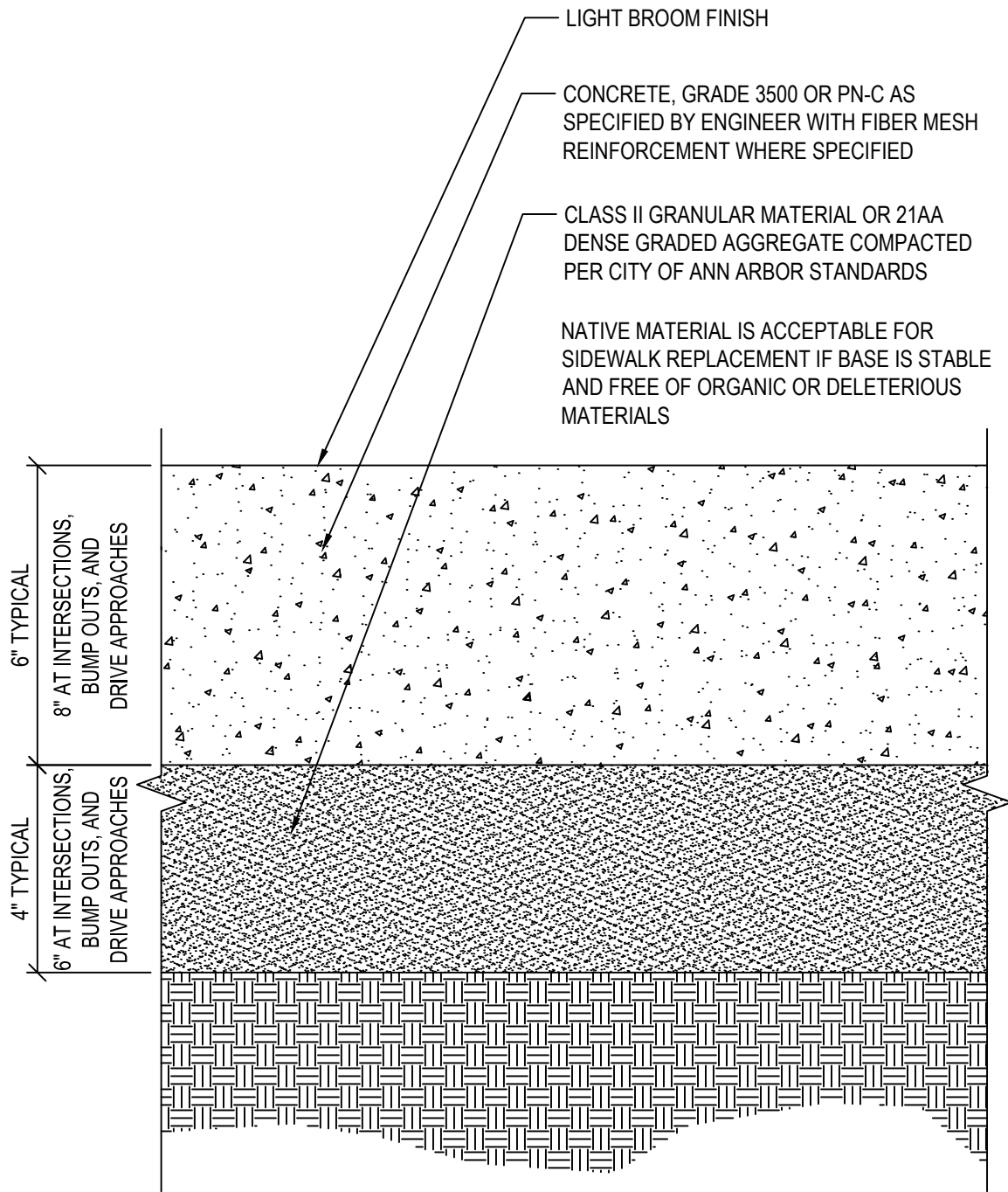


NOTES: ALL EXPANSION JOINTS SHALL BE SEALED IN THE DDA AREA.



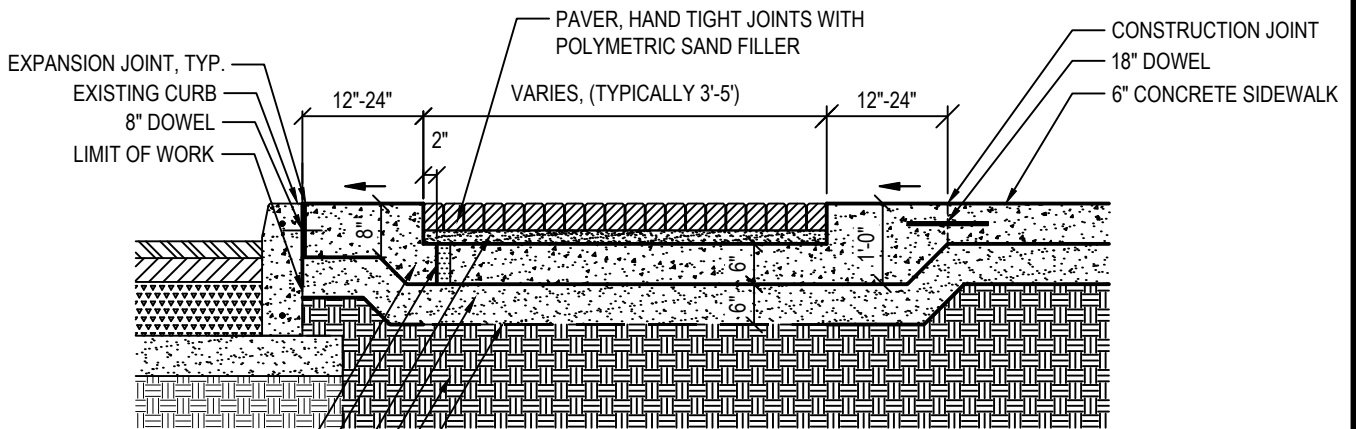
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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA SIDEWALK AND AMENITY ZONE PLAN VIEW			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-2	



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA CONCRETE SIDEWALK			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-3	



EXPANSION JOINT, TYP.
 EXISTING CURB
 8" DOWEL
 LIMIT OF WORK
 12"-24"
 2"
 6"
 1-0"
 6"
 6"
 INTEGRAL CONCRETE SLAB
 2" DIA. WEEP HOLE FILLED WITH 9A
 WITH FABRIC ON TOP, 4' ON CENTER
 3/4" BEDDING SAND
 MDOT CLASS II SAND
 SUBGRADE
 GEOTEXTILE FABRIC

PAVER, HAND TIGHT JOINTS WITH
 POLYMERIC SAND FILLER
 VARIES, (TYPICALLY 3'-5')

CONSTRUCTION JOINT
 18" DOWEL
 6" CONCRETE SIDEWALK

NOTE:

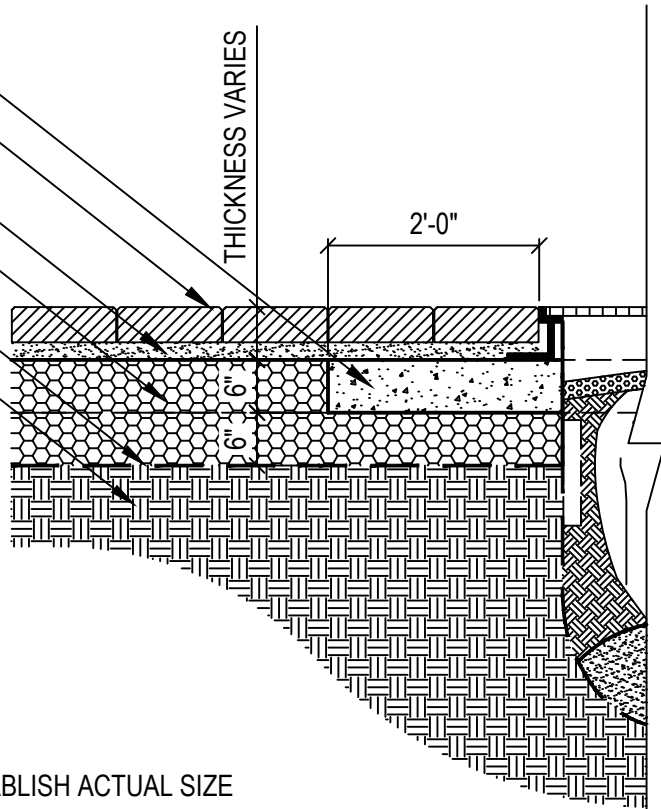
- 1) DOWELS TO BE 1/2" DIA., EPOXY COATED STEEL @ O.C., LENGTH AS INDICATED, CENTERED IN CONCRETE SIDEWALK
- 2) ALL EXPANSION JOINTS TO BE SEALED



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REV. NO.	DATE	DRAWN BY	CHECKED BY
PAVER SECTION 1 - PAVERS ABOVE INTEGRAL CONCRETE SLAB			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-4	

INTEGRAL CONCRETE SLAB
 PAVER THICKNESS VARIES. JOINT FILL
 MATERIAL DETERMINED BY JOINT OPENING
 MDOT 29A, SETTING BED AGGREGATE
 MDOT 6AA, AGGREGATE BASE, PLACED
 AND COMPACTED IN TWO LIFTS
 GEOTEXTILE FABRIC
 SUBGRADE



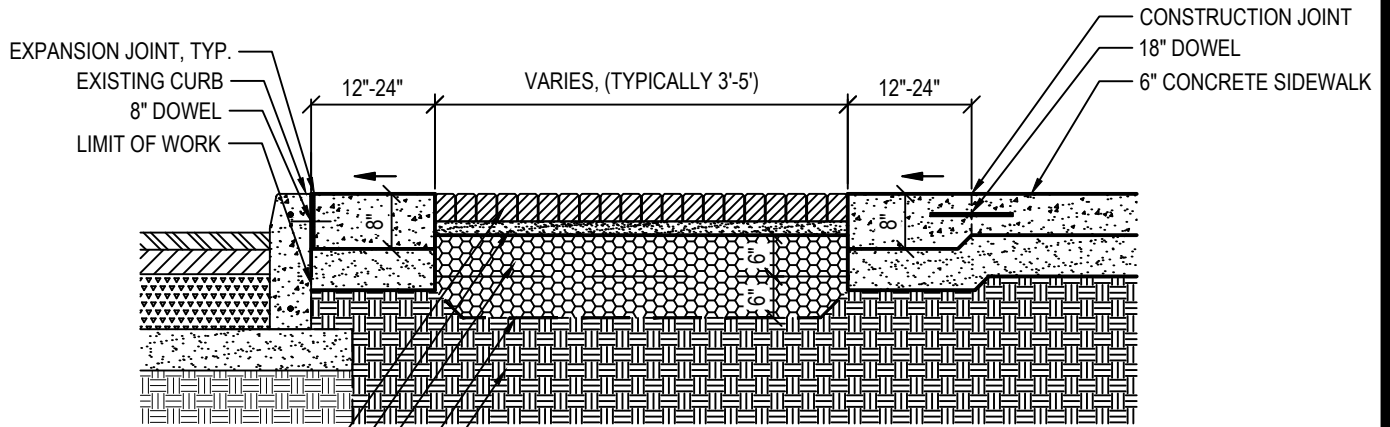
NOTE:

- 1) PROVIDE MOCK-UP OF BRICK TO ESTABLISH ACTUAL SIZE AVOIDING SLIVERS. APPROVED BY ENGINEER
- 2) ALL PAVERS RATED FOR HEAVY DUTY VEHICULAR TRAFFIC
- 3) SUBMIT JOINT FILL MATERIAL FOR APPROVAL
- 4) DEPTH OF AGGREGATE BED FOR STORM WATER MAY BE DEEPER THAN SHOWN BASED ON PROJECT NEEDS



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA PAVER SECTION 2 - POROUS PAVERS AT PLANTER AND TREE GRATE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-5	



PAVER THICKNESS VARIES
 MDOT 29A, SETTING BED AGGREGATE
 MDOT 6AA, AGGREGATE BASE, PLACED
 AND COMPACTED IN TWO LIFTS
 GEOTEXTILE FABRIC
 SUBGRADE

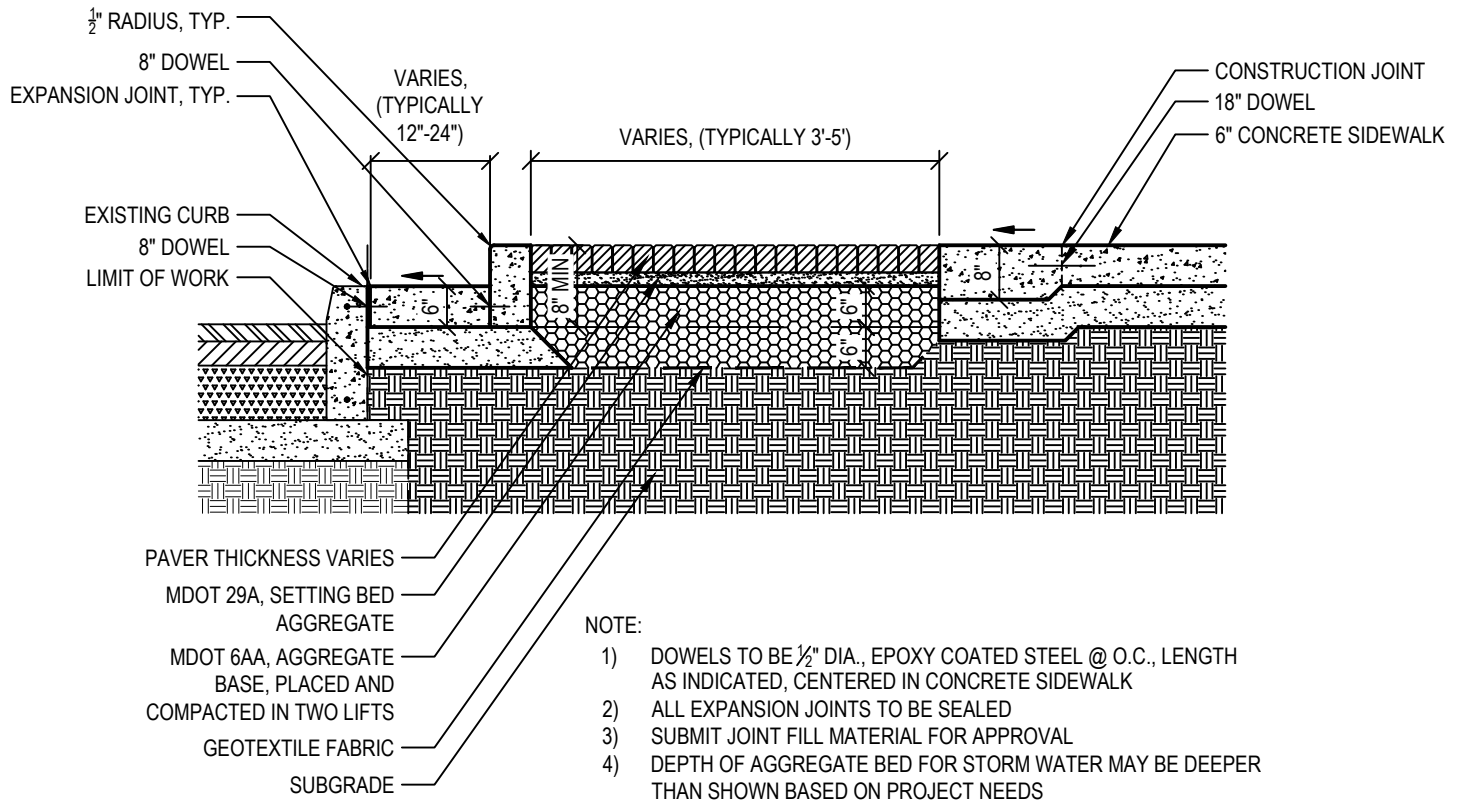
NOTE:

- 1) DOWELS TO BE 1/2" DIA., EPOXY COATED STEEL @ O.C., LENGTH AS INDICATED, CENTERED IN CONCRETE SIDEWALK
- 2) ALL EXPANSION JOINTS TO BE SEALED
- 3) SUBMIT JOINT FILL MATERIAL FOR APPROVAL
- 4) DEPTH OF AGGREGATE BED FOR STORM WATER MAY BE DEEPER THAN SHOWN BASED ON PROJECT NEEDS



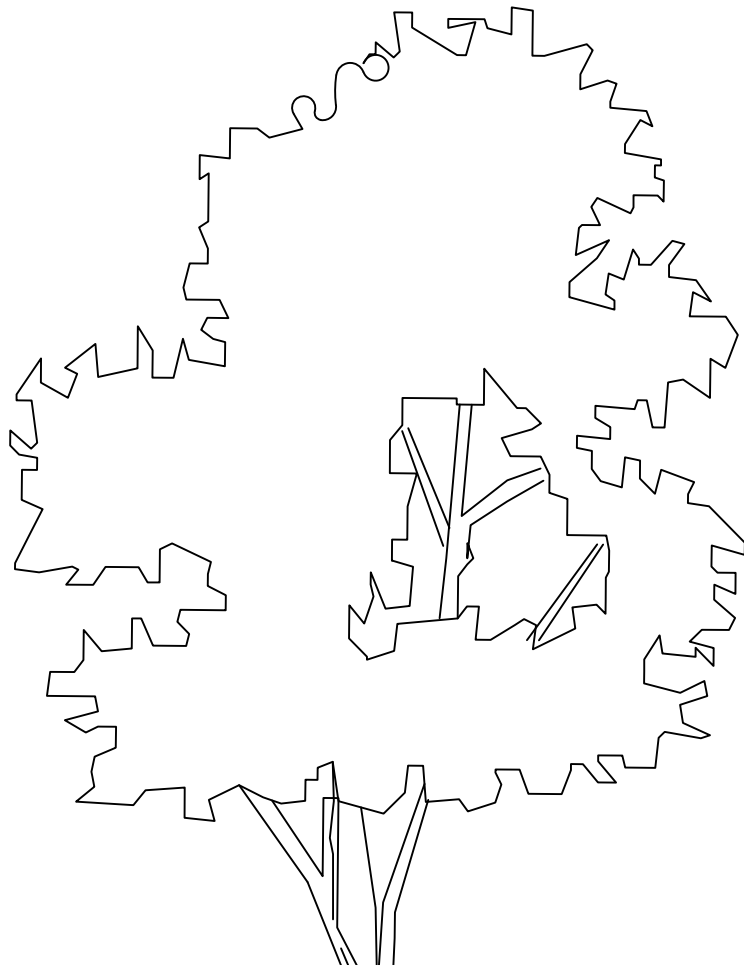
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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA PAVER SECTION 3 - POROUS PAVERS ADJ. TO CONCRETE SIDEWALK			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-6	

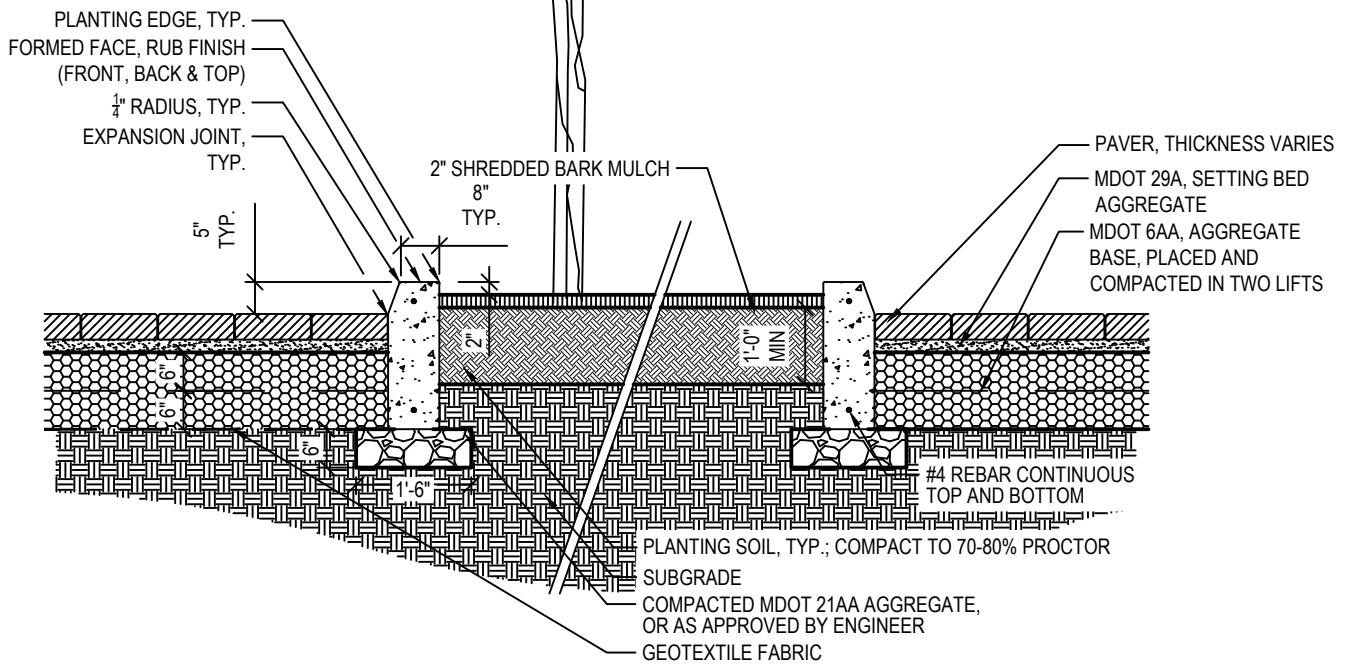


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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA PAVER SECTION 4 - POROUS PAVERS ADJ. TO CONCRETE CURB			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-7	

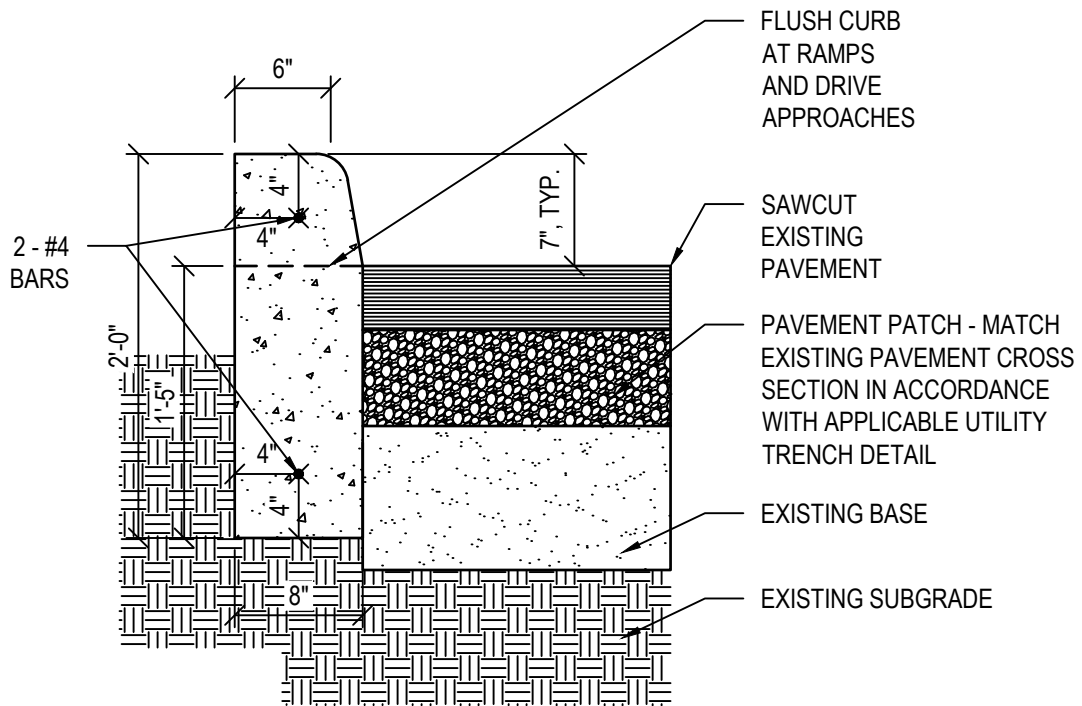


NOTE:
REFER TO GRADING PLANS FOR PROPOSED WALK AND TOP OF PROPOSED CURBS.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA PAVER SECTION 5 - POROUS PAVERS AT PLANTER			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-8	



NOTE:
 TO BE USED FOR REPLACEMENT OF EXISTING SLATE OR CONCRETE CURB WITH NO EXISTING GUTTER PAN

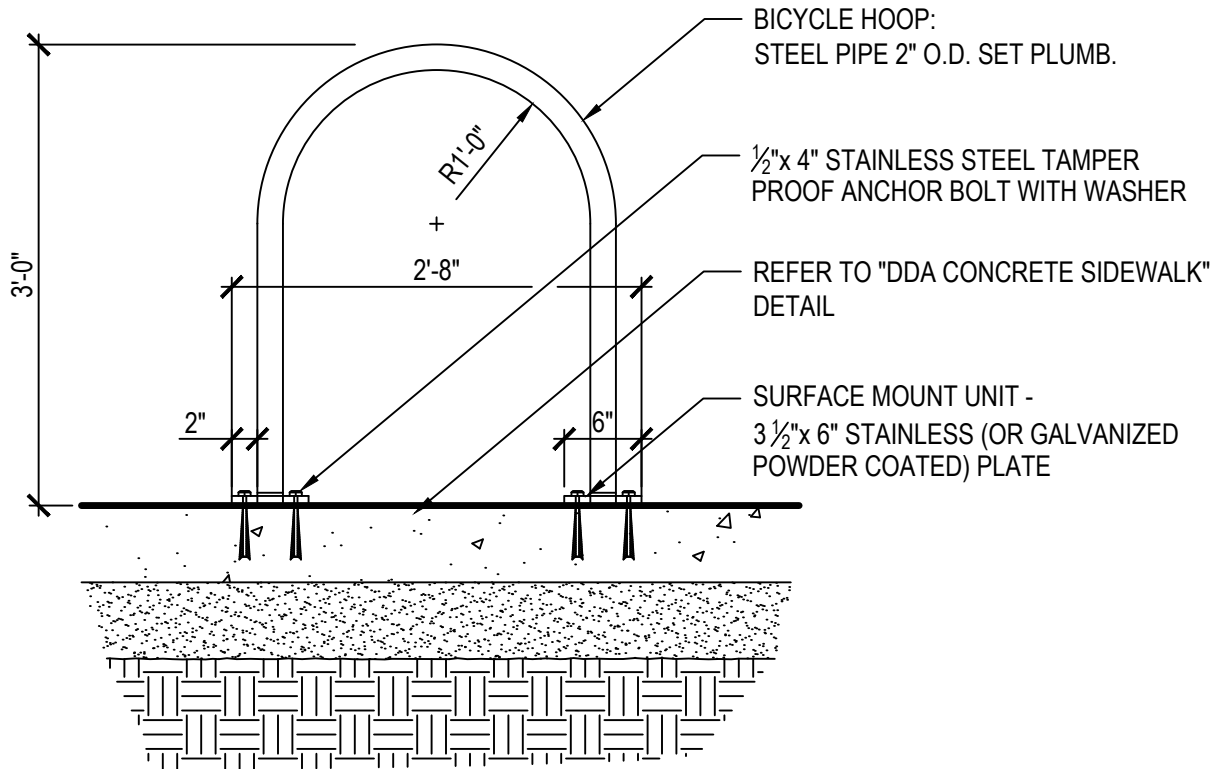


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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA CONCRETE CURB			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-9	

BICYCLE HOOP NOTES:

1. TO BE USED ONLY FOR DDA CONCRETE SIDEWALK SURFACES
2. LOCATE AND GROUP BICYCLE HOOPS IN THE AMENITY ZONE
3. BIKE HOOPS TO BE MINIMUM OF 2'-10" FROM FACE OF CURB WHEN PERPENDICULAR TO CURB, AND 2'-0" WHEN PARALLEL
4. REFER TO ANN ARBOR DOWNTOWN STREET DESIGN MANUAL FOR ADDITIONAL LAYOUT GUIDELINES
5. POWDER-COATED GALVANIZED STEEL, BLACK

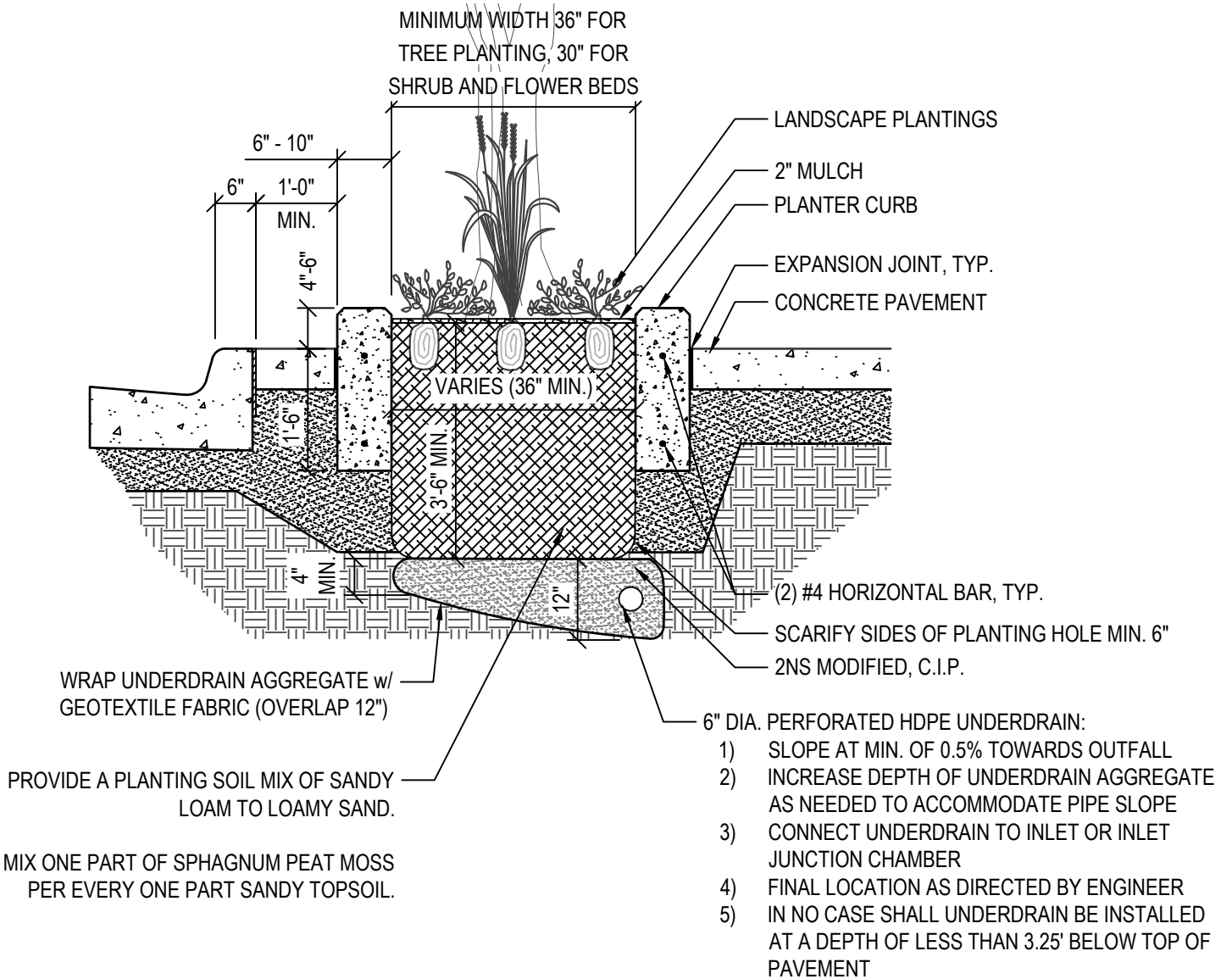


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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA BIKE HOOP SURFACE MOUNTED			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-10	

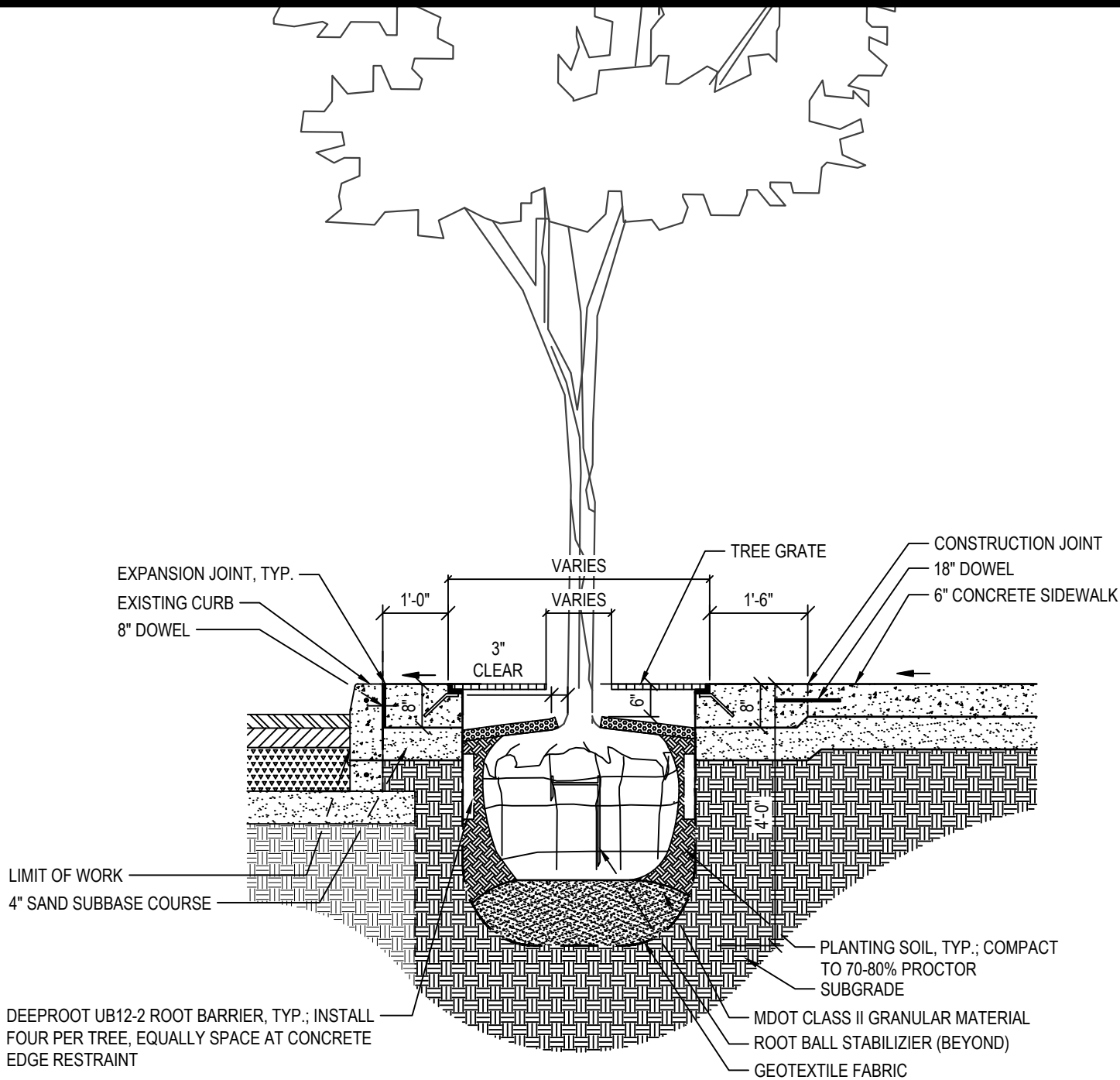
NOTES:

1. CONTRACTOR TO EXCAVATE ENTIRE PLANTING AREA. EXISTING SOIL MATERIAL TO BE DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO OWNER
2. RAISED PLANTER MAY INTEGRATE A PLANTER BOX WALL PER ANN ARBOR DOWNTOWN STREET DESIGN MANUAL, ON SIDEWALK SIDE. IN SUCH CASES, WALL WIDTH SHALL BE 12"-16" AND WALL HEIGHT SHALL BE 15"-22".
3. LENGTH OF PLANTER WITH CURB MAY VARY; MUST MEET SOIL VOLUME REQUIREMENTS IN ANN ARBOR DOWNTOWN STREET DESIGN MANUAL FOR TREE PLANTING.
4. NO UTILITIES SHALL BE PERMITTED IN THE RAISED PLANTER AMENITY ZONE. SEE DDA SIDEWALK CROSS SECTION FOR COMMUNICATIONS OR ELECTRICAL CONDUIT ALLOWABLE LOCATION.



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA RAISED PLANTER WITH CURB			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-11	



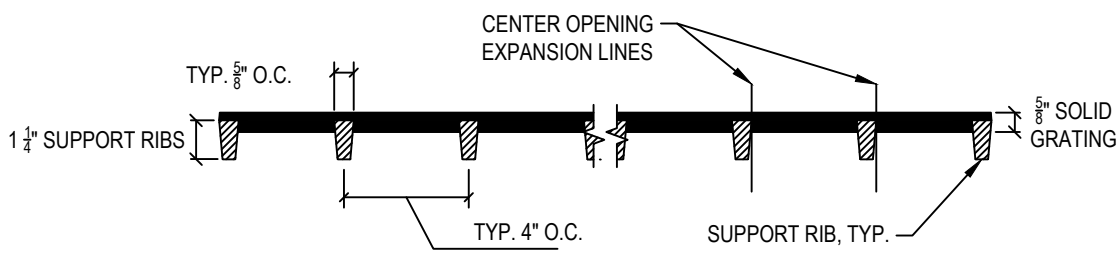
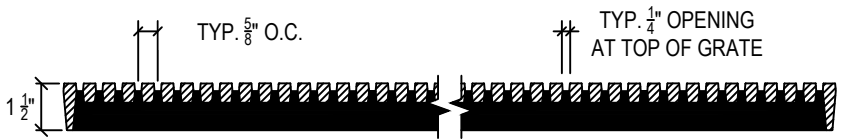
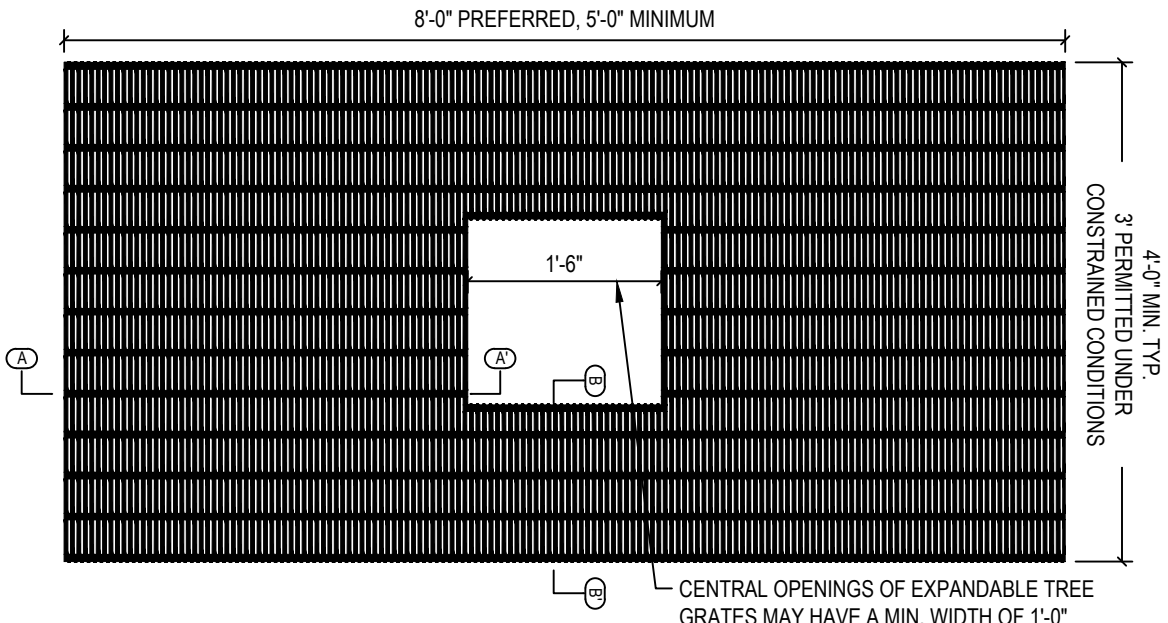
NOTE:

1. CONTRACTOR TO EXCAVATE ENTIRE PLANTING AREA. EXISTING SOIL MATERIAL TO BE DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO OWNER
2. DO NOT PRUNE TERMINAL LEADER OR BRANCH TIPS. PRUNE AWAY DEAD AND BROKEN BRANCHES ONLY
3. REMOVE TOP $\frac{1}{3}$ TO $\frac{1}{2}$ BURLAP, TWINE, ROPE, OVAL WIRE BASKET. EXPOSE THE TRUCK FLARE BY PULLING BACK SOIL AND FOLDING BACK BURLAP
4. REMOVE TEMPORARY WATER BAGS FOLLOWING END OF WARRANTY PERIOD AND DURING WINTER
5. DOWELS TO BE $\frac{1}{2}$ " DIA., EPOXY COATED STEEL @ O.C., LENGTH AS INDICATED, CENTERED IN CONCRETE SIDEWALK
6. PLANTING SOIL TO EXTEND TO THE LIMITS OF THE TREE GRATE, FULL DEPTH
7. ALL EXPANSION JOINTS TO BE SEALED
8. 2" OF MULCH ON TOP OF ROOT BALL. AVOID PLACING MULCH AGAINST TREE TRUNK



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA TREE PIT WITH GRATE			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-12	

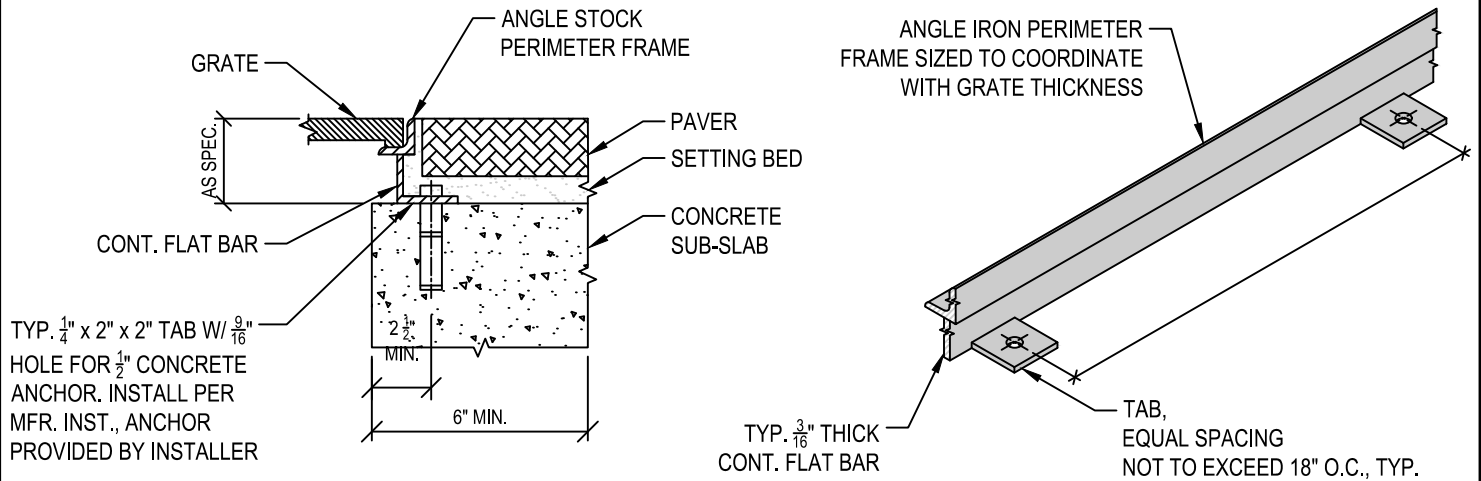


- NOTES:
1. GRATE TO MEET ADA REQUIREMENTS
 2. GRADE TO BE RATED FOR LIGHT VEHICULAR TRAFFIC
 3. OVERALL DIMENSIONS FOR GRATE OPENING TO BE 30 SQUARE FEET, MINIMUM



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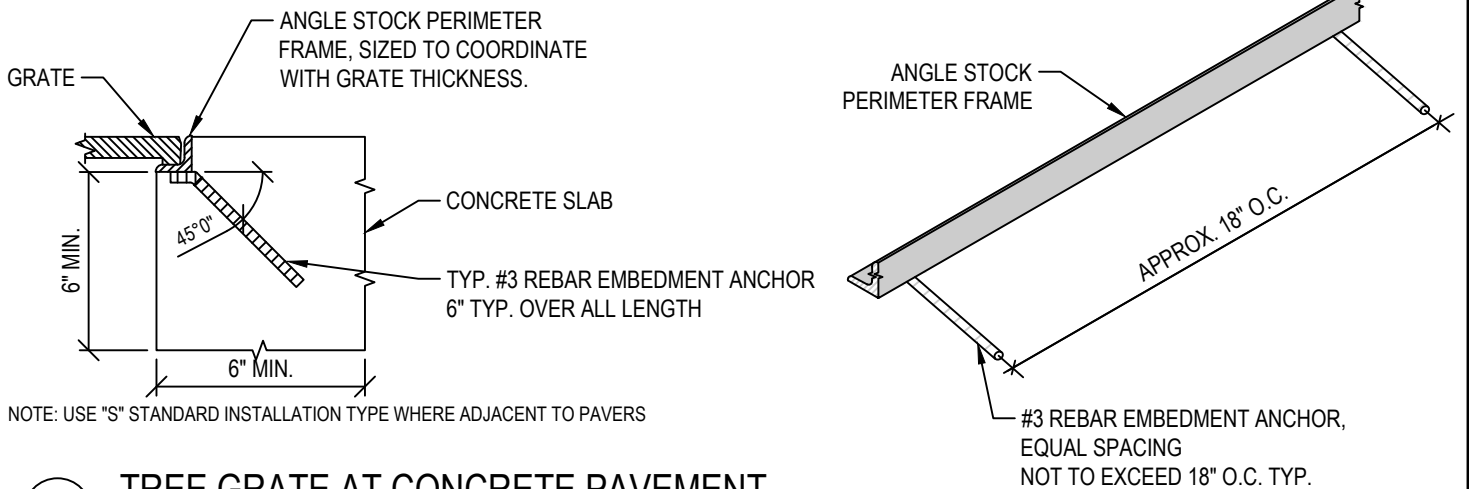
REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA TREE GRATE DETAIL			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-13	



1

TREE GRATE AT PAVERS

SCALE: NTS



NOTE: USE "S" STANDARD INSTALLATION TYPE WHERE ADJACENT TO PAVERS

2

TREE GRATE AT CONCRETE PAVEMENT

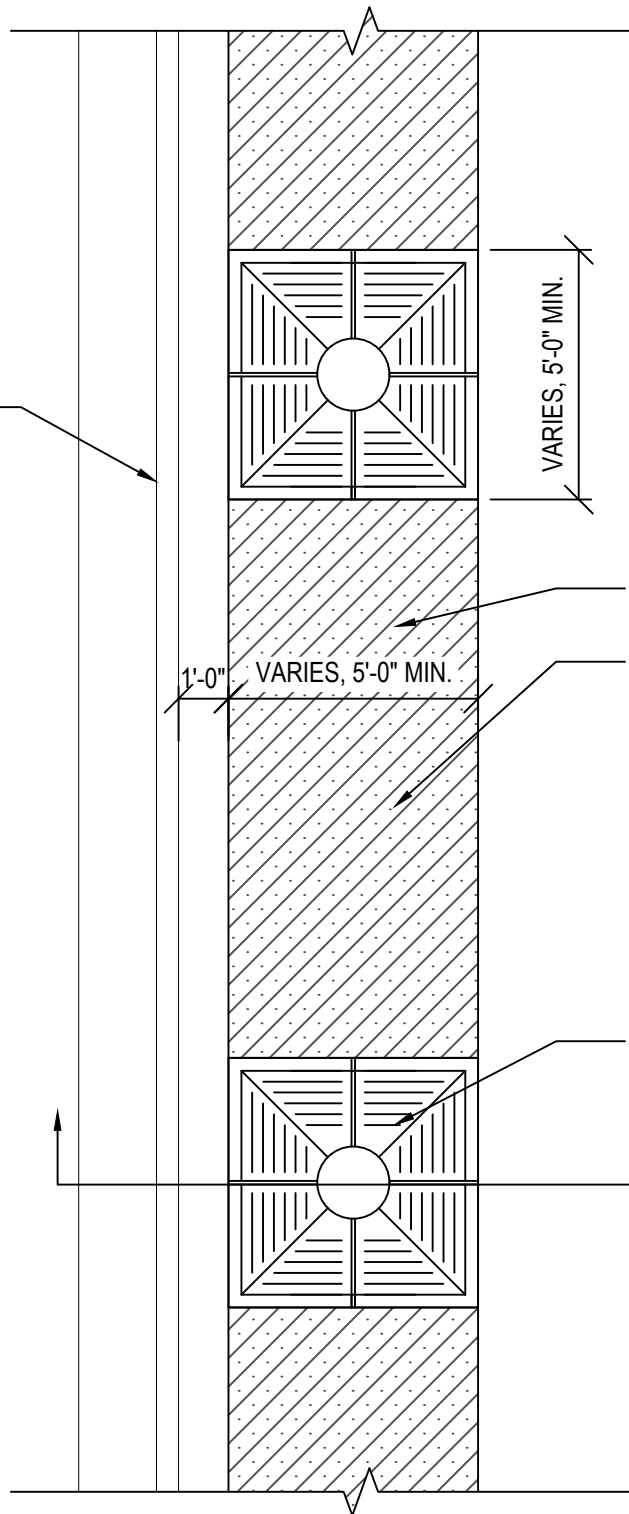
SCALE: NTS



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA TREE GRATE FRAME INSTALLATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-14	

BARRIER CURB
AND GUTTER



VARIES, 5'-0" MIN.

1'-0" VARIES, 5'-0" MIN.

PLANTING ZONE BETWEEN TREE PITS, TYP.

1. FOR HARDSCAPE BETWEEN TREE PITS, PLACE STRUCTURAL SOIL AND EXTEND AS REQUIRED TO MEET SOIL VOLUME REQUIREMENT IN ANN ARBOR DOWNTOWN STREET DESIGN MANUAL

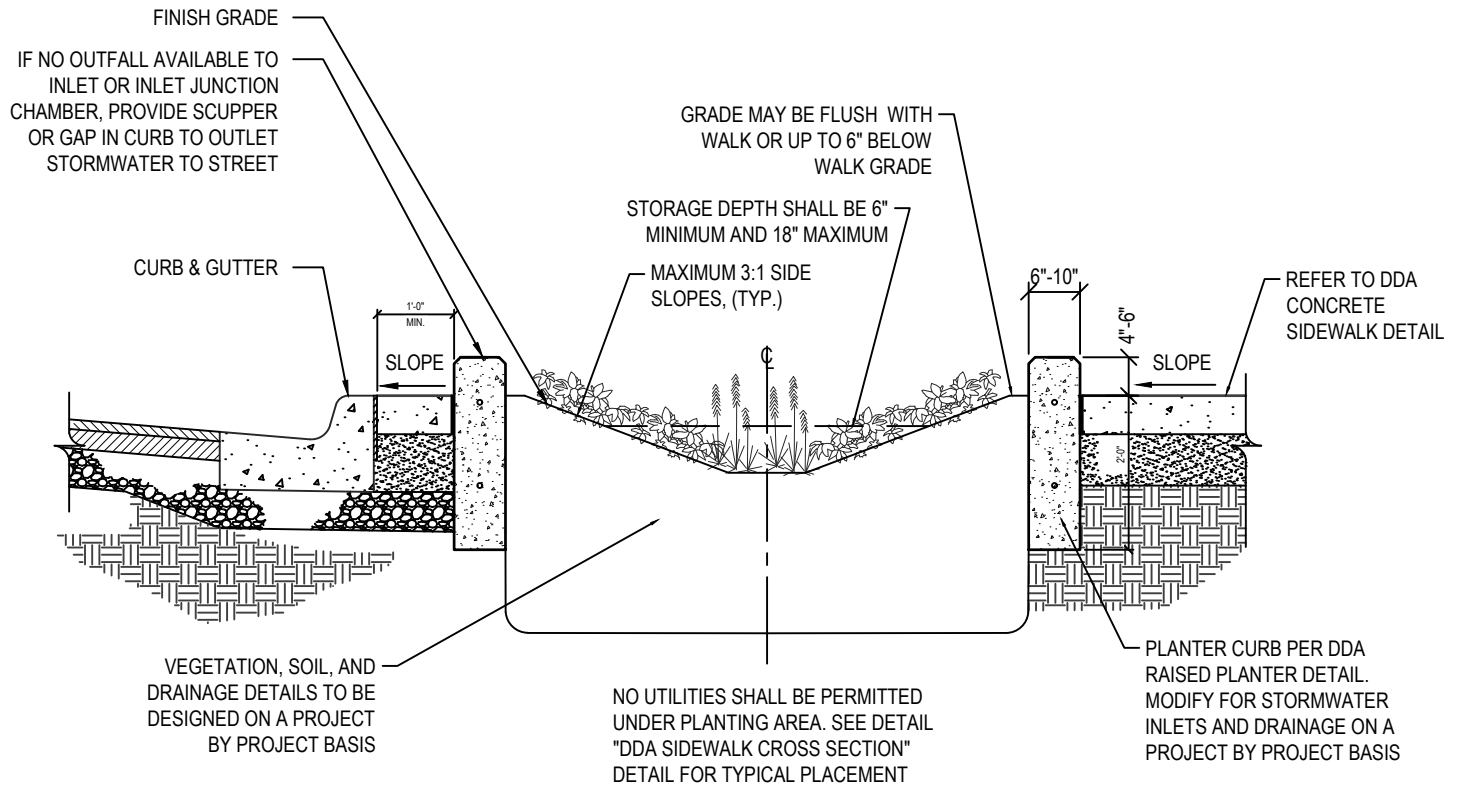
2. OPTIONALLY, GRATES MAY BE EXTENDED BETWEEN TREE PITS AND PLACED OVER PLANT MIX PER DDA VEGETATED SWALE AND RAIN GARDEN DETAIL

REFER TO DDA TREE GRATE SECTION



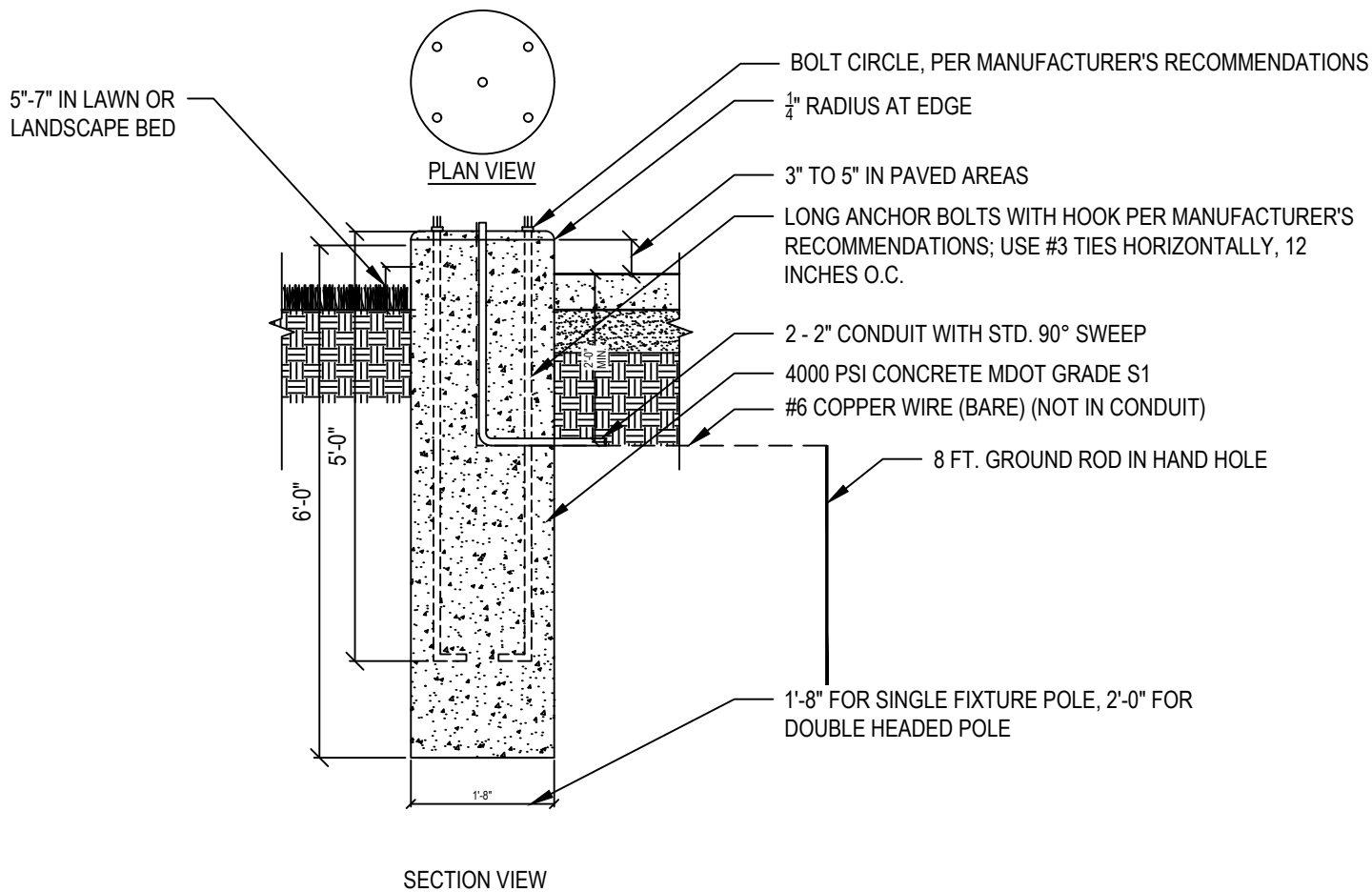
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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA PLANTING ZONE BETWEEN TREE PITS			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-15	



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA VEGETATED SWALE AND RAIN GARDEN			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-16	



NOTES:

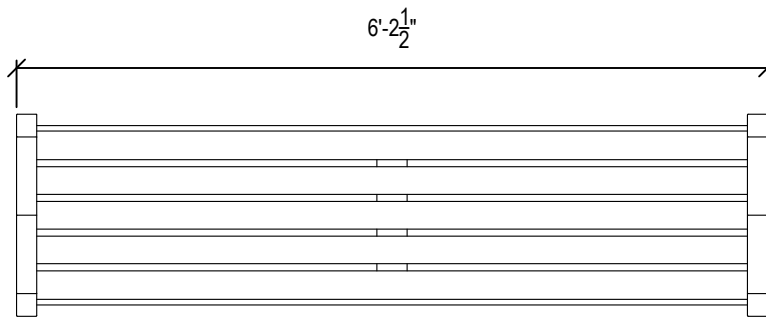
1. HOLE TO BE AUGERED. MINIMIZE DISTURBANCE OF IN-SITU SOILS DURING AUGERING
2. CONTRACTOR TO PROVIDE PREFABRICATED ANCHOR BOLT BUILD-UP
3. THE CITY WILL INSPECT THE AUGERED HOLE AND THE ANCHOR BOLT BUILD-UP AND PROVIDE WRITTEN APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE
4. NO WATER IS TO BE IN HOLE AT TIME OF CONCRETE PLACEMENT
5. CONCRETE SHALL BE VIBRATED DURING PLACEMENT
6. EXCESSIVE HOLE SIZE CREATED DURING AUGERING OF FOUNDATION SHALL BE FLO-FILLED TO 3' FROM FINISH GRADE
7. CONTRACTOR WILL PROVIDE NECESSARY CONDUIT FOR ENTRY. PAID FOR AT THE CONTRACT UNIT PRICE FOR 2" CONDUIT
8. COPPER CLAD GROUND ROD (1 REQUIRED) TO BE 5/8" DIA. x 8'-0"
9. CONDUIT TO EXTEND 1-2" ABOVE BASE. CABLES TO EXTEND 6" OUTSIDE OF HANDHOLE
10. SHIMS TO BE 1/2" MIN. PER D.E. SPEC
11. GROUND CABLE SHALL BE #6 SOFT BARE COPPER WIRE WELDED TO GROUND ROD WITH 24" SLACK ABOVE FOUNDATION TOP; THE NEUTRAL AT THE POLE IS TO BE CONNECTED TO THIS GROUND CABLE

*UNLESS OTHERWISE NOTED ON THE PLANS OR CONTRACT DOCUMENT



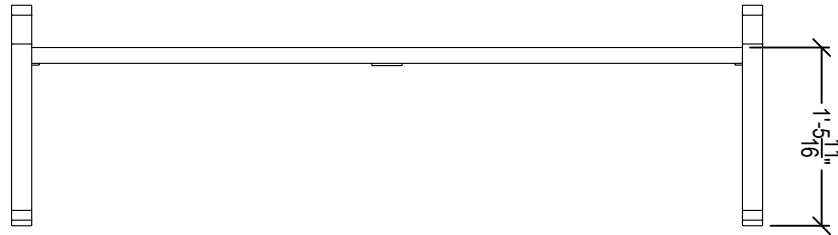
**CITY OF ANN ARBOR
PUBLIC SERVICES**
301 EAST HURON STREET
P.O. BOX 8647
ANN ARBOR, MI 48107-8647
734-794-6410
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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA LIGHT POLE FOUNDATION			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-17	



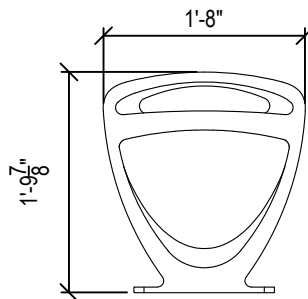
1 PLAN

SCALE: N.T.S



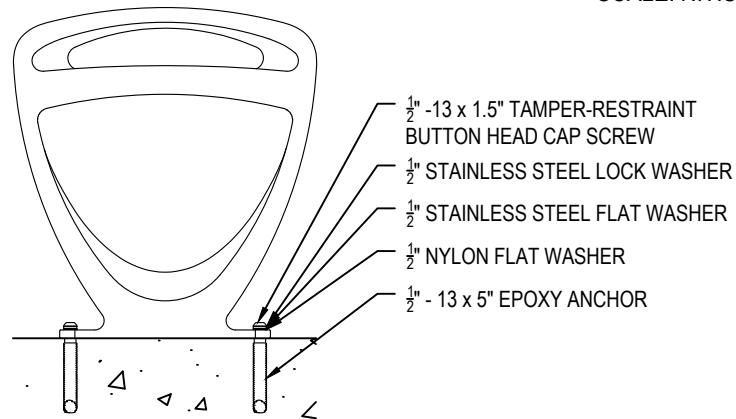
2 ELEVATION

SCALE: N.T.S



3 SECTION

SCALE: N.T.S



4 URBAN BENCH INSTALLATION DETAIL

SCALE: N.T.S



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REV. NO.	DATE	DRAWN BY	CHECKED BY
DDA BENCH DETAIL			
DR. ENG	CH. ENG	DRAWING NO.	
SCALE N.T.S.	DATE 12/8/2023	SD-DDA-18	