

HAMILTON COUNTY
TENNESSEE

DESIGN AND
CONSTRUCTION
STANDARDS

ISSUED JULY 2022



HAMILTON COUNTY
PUBLIC WORKS DIVISION
ENGINEERING DEPARTMENT

GENERAL

GENERAL NOTES

GRADING AND EXCAVATION

1. FINISHED GRADES ON PROFILES ARE THE SAME AS FINISHED GRADES SHOWN ON TYPICAL SECTIONS AND ON CROSS SECTIONS.
2. WHEN SPECIFIED GRADING REQUIREMENTS ARE NOT SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL GRADE TO DRAIN ALL AREAS WITHIN THE LIMITS OF CONSTRUCTION, OR OTHERWISE DISTURBED BY CONSTRUCTION, AND ALSO TO MATCH THE EXISTING, ADJACENT GROUND.
3. THE CONTRACTOR SHALL PERFORM ALL NECESSARY STRIPPING OF EXISTING TOPSOIL ON THE JOBSITE.
4. ON THE PROJECT, NEWLY GRADED, EARTH AREAS NOT TO BE PAVED, RIP-RAPPED, OR STABILIZED, SHALL BE SEEDDED IN ACCORDANCE WITH THE CITY OR COUNTY SPECIFICATIONS. PRIOR TO SEEDING, A FOUR-INCH (4") LAYER OF TOPSOIL SHALL BE PLACED ON THESE AREAS IN ACCORDANCE WITH SAID SPECIFICATIONS. ALL EXISTING ROADS OR RAMPS TO BE ABANDONED WITHIN THE RIGHT-OF-WAY SHALL BE SCARIFIED AND OBLITERATED, THEN HAVE TOPSOIL AND SEED ADDED.
5. THE CONTRACTOR IS TO DISPOSE OF, AT HIS OWN EXPENSE, ALL UNSUITABLE AND/OR SURPLUS, EXCAVATED MATERIAL AS DIRECTED BY THE ENGINEER. ALL SUITABLE, EXCAVATED MATERIAL SHALL BE USED AS DIRECTED BY THE ENGINEER.
6. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE SECTIONS OF EXISTING CURB, OR CURB AND GUTTER, THAT ARE RENDERED OBSOLETE.
7. EXCAVATION ADJACENT TO EXISTING PAVEMENT SHALL BE MADE TO A NEAT LINE.

EROSION/POLLUTION CONTROL

8. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO CONTROL EROSION AND WATER POLLUTION THROUGH THE CONSTRUCTION PERIOD. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE IN PLACE BEFORE EARTH MOVING OPERATIONS BEGIN. CLEARING AND GRUBBING SHALL BE HELD TO A MINIMUM WIDTH NECESSARY TO ACCOMMODATE ROADWAY SLOPES. EMBANKMENTS AND EXCAVATED AREAS SHALL BE PROMPTLY STABILIZED TO MINIMIZE EROSION. BALED STRAW EROSION CHECKS AND SILT FENCING SHALL BE USED ALONG THE TOE OF FILL SLOPES, IN DITCHES, AND IN OTHER AREAS WHERE EROSION IS A PROBLEM AND SILT-LADEN RUNOFF MAY ENTER A STREAM OR ADJACENT PROPERTY.
9. ANY STOCKPILED SOIL OR FILL MATERIAL SHALL BE LOCATED AND TREATED IN A MANNER TO PREVENT SILT'S ENTERING STREAMS. NO EXCAVATED MATERIAL SHALL BE DISCHARGED INTO DITCHES. THE CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED MATERIAL IN A LOCATION, APPROVED BY THE ENGINEER, ABOVE THE NORMAL HIGH WATER ELEVATION.
10. THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL EROSION CONTROL PROVISIONS AS SET FORTH IN THE BEST MANAGEMENT PRACTICES MANUAL AVAILABLE FROM THE ENGINEERING/STORMWATER DIVISION OF THE CITY OF CHATTANOOGA, DEPARTMENT OF PUBLIC WORKS. REFER TO CITY ORDINANCE 9942, AS AMENDED.
11. THE CONTRACTOR SHALL PROVIDE TEMPORARY EROSION AND WATER CONTROL MEASURES (SUCH AS BERMS, SEDIMENT BASINS, SLOPE DRAINS, HAY BALES, AND SILT FENCES) AS DIRECTED BY THE ENGINEER. THESE TEMPORARY MEASURES SHALL BE COORDINATED WITH THE PERMANENT EROSION CONTROL FEATURES TO ASSURE ECONOMICAL, EFFECTIVE, AND CONTINUOUS EROSION CONTROL THROUGHOUT THE PROJECT.
12. NO EARTH OR OTHER ERODIBLE MATERIAL SHALL BE USED TO DIVERT STREAM FLOW OR TO CONSTRUCT COFFERDAMS. CLEAN CUT ROCK WITH FINES MAY BE USED, OR, IN THE CASE OF COFFERDAMS, STEEL SHEETING IS PERMISSIBLE. WATER OR SEDIMENT ISOLATED BY COFFERDAMS OR DISPLACED FOOTINGS SHALL BE PUMPED INTO SEDIMENT BASINS ON THE BANK OF THE STREAM.

DRAINAGE

13. THE CONTRACTOR IS REQUIRED TO CONNECT ALL EXISTING STORM DRAINAGE PIPING TO PROPOSED DRAINAGE STRUCTURES AS MAY BE REQUIRED BY THE FIELD ENGINEER.
14. EXISTING DOWNSPOUT DRAINAGE THAT IS CONNECTED TO THE PRESENT STORM SEWER SYSTEM SHALL BE CONNECTED TO THE PROPOSED STORM SEWER SYSTEM.
15. THE CONTRACTOR SHALL BE REQUIRED TO BACKFILL STORM SEWERS WITH FLOWFILL MATERIAL ACCORDING TO THESE STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER.
16. ALL PIPE IN THE RIGHT-OF-WAY SHALL BE A MINIMUM OF 15". ACCEPTABLE PIPE MATERIALS CORRUGATED METAL PIPE (CMP), REINFORCED CONCRETE PIPE (RCP), OR HP-STORM (PIPE IS ALWAYS GRAY IN COLOR).

UTILITIES

17. LOCATIONS OF UTILITIES, PUBLIC AND/OR PRIVATE, ARE APPROXIMATE ONLY, AND THE EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD. IT IS POSSIBLE THAT SOME EXISTING FACILITIES ARE NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING ALL UNDERGROUND UTILITY FACILITIES LOCATED AND MARKED PRIOR TO THE BEGINNING OF CONSTRUCTION.
18. UTILITY OWNERS ARE TO RESET, RELAY, OR ADJUST, AT THEIR OWN EXPENSE, POWER AND TELEPHONE LINES, POWER POLES, WATER AND GAS LINES, AND ALL OTHER FACILITIES INCLUDING METERS, VALVES, PITS, ETC., CONFLICTING WITH THE PROPOSED IMPROVEMENTS WITHIN THE EXISTING RIGHT-OF-WAY. ALL RELOCATED POLES, METERS, VALVES, ETC., ARE TO BE LOCATED BEHIND THE SIDEWALK OR ON THE RIGHT-OF-WAY LINE.
19. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITY OWNERS PRIOR TO SUBMITTING HIS BID, SO THAT HE MAY DETERMINE THE EXTENT OF DELAYS THAT UTILITY RELOCATIONS AND/OR ADJUSTMENTS MAY HAVE UPON THE SCHEDULING OF WORK FOR THE PROJECT. SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED AROUND UTILITY FACILITIES THAT SHALL REMAIN IN PLACE. IT IS SPECIFIED AND AGREED THAT THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED BY UTILITY ADJUSTMENTS.
20. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITY OWNERS PRIOR TO INTERRUPTING ANY GAS, WATER, OR SEWER SERVICES. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY CUSTOMERS AT LEAST 24 HOURS BEFORE INTERRUPTING THE CUSTOMERS' SERVICE. WHERE INDIVIDUAL SERVICES ARE TO BE DISCONTINUED FOR MORE THAN 4 HOURS, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR PROVIDING TEMPORARY SERVICE SATISFACTORY TO THE AFFECTED CUSTOMER. THE REPAIR OR REPLACEMENT OF UTILITY COMPONENTS SHALL CONFORM TO ALL APPLICABLE REQUIREMENTS OF THE UTILITY OWNER. NO SEPARATE PAYMENT SHALL BE MADE FOR THESE ACTIVITIES, AND COMPENSATION SHALL BE INCLUDED IN THE CONTRACT PRICES FOR OTHER ITEMS.
21. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. SHOULD SPECIAL EQUIPMENT BE REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR SHALL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FROM FURNISHING SPECIAL EQUIPMENT SHALL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
22. ANY EXISTING STORM SEWER DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AS RAPIDLY AS POSSIBLE AND THEN BE INSPECTED BY ITS RESPECTIVE OWNER. THE ENGINEER SHALL DETERMINE IF DAMAGE IS THE RESULT OF THE CONTRACTOR'S NEGLIGENCE OR OF AN UNAVOIDABLE CAUSE.
23. IF ANY SANITARY SEWER IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY'S OWNER. REPAIR OF THE SEWER SHALL THEN BE ACCORDING TO THE OWNER'S INSTRUCTIONS. THE ENGINEER SHALL DETERMINE IF DAMAGE IS THE RESULT OF THE CONTRACTOR'S NEGLIGENCE OR OF AN UNAVOIDABLE CAUSE.
24. ALL CUTS AND FILLS ARE TO BE IN PLACE, AND FILLS COMPACTED, PRIOR TO INSTALLATION OF SANITARY SEWERS AND APPURTENANCES.
25. ALL SANITARY SEWER CONSTRUCTION MUST BE DONE BY A LICENSED MUNICIPAL UTILITY CONTRACTOR-CLASSIFICATION MU.
26. TRANSITION JOINTS ON SANITARY SEWER PIPES OF DIFFERENT MATERIALS MUST BE APPROVED BY THE JURISDICTIONAL ENGINEER, AND CONSTRUCTION MUST BE DONE WITH APPROVED FITTINGS AND/OR ADAPTERS.
27. ALL PROPOSED SANITARY SEWER LINES AND MANHOLES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF CHATTANOOGA/HAMILTON COUNTY W.W.T.A. STANDARD DETAILS AND SPECIFICATIONS.
28. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AT (423)757-5120 (CITY) OR (423)209-7810 (W.W.T.A.) AT LEAST 48 HOURS PRIOR TO THE START OF SEWER CONSTRUCTION.

					HAMILTON COUNTY
					GENERAL NOTES
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GENERAL NOTES

28. SANITARY SEWER LINES SHALL BE OF DUCTILE IRON PIPE AT ALL LOCATIONS WHERE SANITARY LINES CROSS WITHIN 18 INCHES ABOVE OR BELOW A STORM SEWER LINE. AS AN ALTERNATE, IF SANITARY SEWER LINES ARE PVC, THEN CONCRETE PROTECTION SHALL BE PROVIDED.
29. WHERE WATER PIPING CROSSES THE SANITARY SEWER LINE, THE WATER SERVICE WITHIN 10 FEET OF THE POINT OF CROSSING SHALL BE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE. THE SEWER LINE SHALL BE OF DUCTILE IRON WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF THE CROSSING.
30. ANCHOR COLLARS SHALL BE PROVIDED ON SANITARY SEWER LINES WITH SLOPES EXCEEDING 18% WITH SPACING AS SPECIFIED BY THE STATE OF TENNESSEE DESIGN CRITERIA FOR SEWAGE WORKS.
31. SERVICE LATERALS EXTENDING TO THE PROPERTY LINE SHALL EACH HAVE A CLEANOUT AT THE PROPERTY LINE. (CITY OF CHATTANOOGA REQUIREMENT ONLY)
32. ALL CONNECTIONS TO EXISTING MANHOLES MUST BE CORED AND BOOTED AND THE INVERTS REFORMED.
33. TOPS OF ALL MANHOLES SHALL BE RAISED TO BE AT LEAST FLUSH WITH OR ABOVE NEW FINISHED GRADES AND BE VISIBLE.
34. MANHOLES RAISED 6 INCHES OR LESS SHALL BE DONE BY THE USE OF CONCRETE RINGS OR "DOUGHNUTS". MANHOLES RAISED GREATER THAN 6 INCHES SHALL REQUIRE THE REMOVAL OF THE CONE SECTION AND PLACEMENT OF THE APPROPRIATE SIZE MANHOLE RISER. THE CONE SECTION SHALL THEN BE REINSTALLED OR REPLACED DEPENDING ON CONDITION.
35. ALL SEWER LINES SHALL BE TESTED AND APPROVED AFTER ALL OTHER UTILITIES HAVE BEEN INSTALLED.
36. UPON COMPLETION OF THE PROJECT, ALL PUBLIC SEWER EASEMENTS OBTAINED SHALL BE SUBMITTED TO THE JURISDICTIONAL WASTEWATER AUTHORITY WITHIN 30 DAYS.
37. ALL NEWLY CONSTRUCTED SANITARY SEWERS SHALL BE TELEVIEWED AT THE REQUEST OF THE JURISDICTIONAL ENGINEER. (CITY OF CHATTANOOGA REQUIREMENT ONLY)
38. THE CONTRACTOR SHALL SCHEDULE A PRECONSTRUCTION MEETING WITH THE WWTa PRIOR TO THE BEGINNING OF CONSTRUCTION OF ANY WWTa SEWER.

TRAFFIC

38. UPON NOTICE OF AWARD OF A CITY OF CHATTANOOGA CONTRACT, THE CONTRACTOR SHALL SUBMIT, WITHIN TEN (10) DAYS, A CONSTRUCTION SCHEDULE. THE CITY OF CHATTANOOGA'S TRAFFIC ENGINEERING DEPARTMENT SHALL PROVIDE A WORK ZONE TRAFFIC CONTROL PLAN WITHIN FIVE (5) DAYS THEREAFTER.
39. DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN TRAFFIC AND PROVIDE TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL ALSO FURNISH AND INSTALL TRAFFIC SIGNS AND MARKINGS AS REQUIRED BY THE MUTCD AND THE CITY OF CHATTANOOGA'S TRAFFIC ENGINEERING DEPARTMENT OR HAMILTON COUNTY'S ENGINEERING DEPARTMENT, WHICHEVER IS APPROPRIATE.
40. PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE PLACED BY THE CITY/COUNTY UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
41. THE CONTRACTOR SHALL MAINTAIN ALL BUSINESS, VEHICULAR, AND PEDESTRIAN ENTRANCES.
42. THE CONTRACTOR SHALL PROVIDE A PEDESTRIAN WALKWAY THAT SEPARATES AND INSULATES THE PEDESTRIAN FROM THE CONSTRUCTION SITE AND VEHICULAR TRAFFIC. WHERE POSSIBLE, THE WALKWAY SHALL BE ON THE SAME SIDE OF THE STREET AS THE CONSTRUCTION SITE. WHERE OVERHEAD DANGER EXISTS, THE CONTRACTOR SHALL PROVIDE A COVERED WALKWAY.
43. PRIOR TO CLOSING THE ROAD TO THROUGH TRAFFIC, THE CONTRACTOR SHALL NOTIFY ALL AFFECTED LOCAL AGENCIES ABOUT THE PROPOSED ROAD CLOSURE. THOSE TO BE CONTACTED SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: FIRE DEPARTMENT, POLICE DEPARTMENT, SHERIFF'S DEPARTMENT, POST OFFICE, CITY TRAFFIC ENGINEER'S OFFICE, AND THE BOARD OF EDUCATION. ALL ROAD CLOSURES REQUIRE 48 HOUR NOTICE, OBTAIN PERMIT, PROVIDE TRAFFIC PLAN WITH PERMIT.

DRIVEWAYS

44. WHEN A CONCRETE CURB AND GUTTER IS BUILT, THE CONTRACTOR SHALL INSTALL A DROP CURB FOR EACH LOT AT A LOCATION CHOSEN BY THE ENGINEER AFTER A DISCUSSION WITH THE OWNER. A DOWNTOWN LOT SHALL BE EXEMPT WHEN A BUILDING EXISTS ACROSS THE PROPERTY FRONTAGE OR IS PLANNED TO BE CONSTRUCTED ACROSS THE FRONTAGE.
45. EXISTING, PAVED DRIVEWAYS SHALL BE REPLACED IN KIND TO THE TIE-IN POINT. EACH EXISTING, UNPAVED DRIVEWAY SHALL RECEIVE A FIVE-FOOT ASPHALT APRON BEHIND, AND ADJACENT TO, THE BACK CURB LINE AND THEN BE REPLACED IN KIND FROM THERE TO THE TIE-IN POINT.

RIGHTS-OF-WAY/EASEMENTS

46. BEFORE CONSTRUCTION BEGINS, THE APPROPRIATE GOVERNMENTAL AGENCY SHALL SECURE ALL RIGHTS-OF-WAY AND EASEMENTS REQUIRED FOR COMPLETION OF THE PROJECT.

MISCELLANEOUS

47. THE ENGINEER SHALL HAVE THE AUTHORITY TO DESIGNATE AND/OR LIMIT AREAS OF CONSTRUCTION.
48. THE OWNER MAKES NO REPRESENTATIONS ABOUT SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED WITHIN THE LIMITS OF THE PROJECT. THEREFORE, THE CONTRACTOR SHOULD SATISFY HIMSELF BY ON-SITE INSPECTIONS, CORE DRILLINGS, OR OTHER METHODS, OF THE SUBSURFACE CONDITIONS THAT MAY BE ENCOUNTERED. THE RISK OF ENCOUNTERING AND CORRECTING UNFAVORABLE, SUBSURFACE CONDITIONS SHALL BE BORNE SOLELY BY THE CONTRACTOR.
49. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL FIELD LAYOUTS FOR APPROVAL BY THE ENGINEER.
50. SHOULD AN EXISTING BENCH MARK BE LOCATED ON A POWER POLE, TELEPHONE POLE, ETC., THAT IS TO BE RELOCATED DURING CONSTRUCTION, THE BENCH MARK SHALL BE RELOCATED BY A CITY OR COUNTY SURVEY CREW PRIOR TO CONSTRUCTION.
51. ALL SALVAGEABLE MATERIAL FROM EXISTING PIPING AND STRUCTURES SHALL REMAIN PROPERTY OF THE CITY OF CHATTANOOGA OR OF HAMILTON COUNTY. SAID MATERIAL SHALL BE CLEANED AND THEN DELIVERED TO THE OWNER AT A LOCATION DESIGNATED BY THE ENGINEER.
52. ALL UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER OR THROUGH TESTING, IS TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.
53. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING, AT HIS OWN EXPENSE, ANY AND ALL DAMAGES THAT MAY OCCUR OUTSIDE THE LIMITS OF THIS PROJECT AS A RESULT OF CONSTRUCTION.
54. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EXISTING COMBINED CURB AND GUTTERS WHERE APPLICABLE.
55. ALL ABANDONED STRUCTURES (E.G., CATCH BASINS, MANHOLES, FOUNDATIONS, ETC.), UTILITY FACILITIES, AND SIMILAR ITEMS WITHIN THE LIMITS OF PAVING SHALL BE REMOVED TO A MINIMUM OF TWO FEET BELOW THE TOP OF SUBGRADE, AND REMAINING VOIDS SHALL BE FILLED WITH COMPACTED, CRUSHED STONE TO THE TOP OF SUBGRADE. NO MORE THAN 12 INCHES OF STONE OVER THE UTILITY AND FLOWFILL TO BOTTOM OF ASPHALT, ASPHALT LEVEL WITH EXISTING.
56. THE CONTRACTOR SHALL NOT BE ALLOWED TO REMOVE ANY FENCE OTHER THAN THAT NECESSARY FOR THE CONSTRUCTION OF THE PROJECT OR RELATED APPURTENANCES. ANY FENCE REMOVED IS TO BE RE-PLACED IN KIND BY THE CONTRACTOR. TEMPORARY FENCING MAY BE REQUIRED.
57. THE CONTRACTOR SHALL GIVE THE AFFECTED PROPERTY OWNERS ONE WEEK'S NOTICE PRIOR TO CUTTING FENCES.
58. THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF THE PROJECT WITHIN THIRTY (30) DAYS AFTER SUBSTANTIAL COMPLETION OF THE WORK. ("SUBSTANTIAL COMPLETION" SHALL BE DEFINED BY THE JURISDICTIONAL ENGINEER.) THE ENGINEER RESERVES THE RIGHT TO WITHOLD THE RETAINER UNTIL RECEIVING A COMPLETE SET OF SAID DRAWINGS.
59. SHOULD THERE BE A CONFLICT BETWEEN THESE GENERAL NOTES, CONTRACT DRAWINGS, AND/OR SPECIFICATIONS, THE MOST RESTRICTIVE INTERPRETATION SHALL PREVAIL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING FROM THE ENGINEER ANY CLARIFICATION OR INTERPRETATION OF GENERAL NOTES, CONTRACT DRAWINGS AND/OR SPECIFICATIONS IN WRITING AND IN ADVANCE OF THE BEGINNING OF CONSTRUCTION.
60. ALL CONCRETE SHALL BE CLASS "A" (4,000 P.S.I.) UNLESS OTHERWISE NOTED ON A DRAWING. (CLASS "B" CONCRETE SHALL BE 3,000 P.S.I.). 28 DAY CURE PERIOD FOR CONCRETE AND DENSITY TEST FOR SUBGRADE REQUIRED.

					HAMILTON COUNTY
					<i>GENERAL NOTES</i>
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UTILITY OWNERS

POWER AND COMMUNICATIONS

AT&T
300 EAST ML KING BLVD
CHATTANOOGA, TN 37403
PHONE: (423)-771-9645

ELECTRIC POWER BOARD
ENGINEERING DIVISION
1401 MCCALLIE AVENUE
CHATTANOOGA, TN 37404
PHONE: (423)-648-1372

VOLUNTEER ENERGY
COOPERATIVE
8212 MAHAN GAP ROAD
OOLTEWAH, TN 37336
PHONE: (423)-344-8382

COMCAST CABLE TELEVISION CO.
2030 EAST POLYMER DRIVE
CHATTANOOGA, TN 37422
PHONE: (423)-855-3900
PHONE: (423)-855-4300

CENTURYTEL OF
OOLTEWAH-COLLEGEDAL, INC.
5616 MAIN STREET
OOLTEWAH, TN 37363
PHONE: (423)-238-6872

GAS UTILITIES

CHATTANOOGA GAS COMPANY
2207 OLAN MILLS DRIVE
CHATTANOOGA, TN 37421
PHONE: (423)-490-4289

MIDDLE TENNESSEE NATURAL
GAS
951 MARKET STREET
DAYTON, TN 37321
PHONE: (423)-775-2422

WATER UTILITIES

TENNESSEE AMERICAN WATER
109 WIEHL STREET
CHATTANOOGA, TN 37403
PHONE: (866)-736-6420

EASTSIDE UTILITY DISTRICT
3018 HICKORY VALLEY ROAD
CHATTANOOGA, TN 37421
PHONE: (423)-892-2890

HIXSON UTILITY DISTRICT
5201 HIXSON PIKE
HIXSON, TN 37343
PHONE: (423)-877-3513

SAVANNAH VALLEY UTILITY
DISTRICT
10700 TN-58
GEORGETOWN, TN 37336
PHONE: (423)-344-8440

SIGNAL MOUNTAIN WATER
UTILITY DISTRICT
SIGNAL MOUNTAIN TOWN HALL
1111 RIDGEWAY AVENUE
SIGNAL MOUNTAIN, TN 37377
PHONE: (423)-886-2177 EXT. 203
PHONE: (423)-531-4743

NORTHWEST UTILITY DISTRICT
9905 DAYTON PIKE
SODDY-DAISY, TN 37379
PHONE: (423)-332-2427

UNION FORK-BAKEWELL UTILITY
405 RETRO HUGHES ROAD
SALE CREEK, TN 37373
PHONE: (423)-332-9733

WALDEN'S RIDGE UTILITY DISTRICT
3900 TAFT HIGHWAY
SIGNAL MOUNTAIN, TN 37377
PHONE: (423)-886-2683

WASTEWATER AND SEPTIC

CITY OF CHATTANOOGA
WASTE RESOURCE DIVISION
455 MOCCASIN BEND ROAD
CHATTANOOGA, TN 37405
PHONE: (423)-757-5026

HAMILTON COUNTY WATER &
WASTEWATER TREATMENT
AUTHORITY (WWTA)
DEVELOPMENT RESOURCE CENTER
1250 MARKET STREET, SUITE 3050
CHATTANOOGA, TN 37402
PHONE: (423)-209-7842

HAMILTON COUNTY GROUNDWATER
PROTECTION (SEPTIC)
1250 MARKET STREET
CHATTANOOGA, TN 2704
PHONE: (423)-209-7876

PUBLIC WORKS AND ENGINEERING

CITY OF CHATTANOOGA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
STORMWATER SECTION
DEVELOPMENT RESOURCE CENTER
1250 MARKET STREET, SUITE 2100
CHATTANOOGA, TN 37402
PHONE: (423)-643-6000

CITY OF CHATTANOOGA
TRAFFIC ENGINEERING
ADMINISTRATION
DEVELOPMENT RESOURCE CENTER
1250 MARKET STREET, SUITE 3030
CHATTANOOGA, TN 37402
PHONE: (423)-643-5950

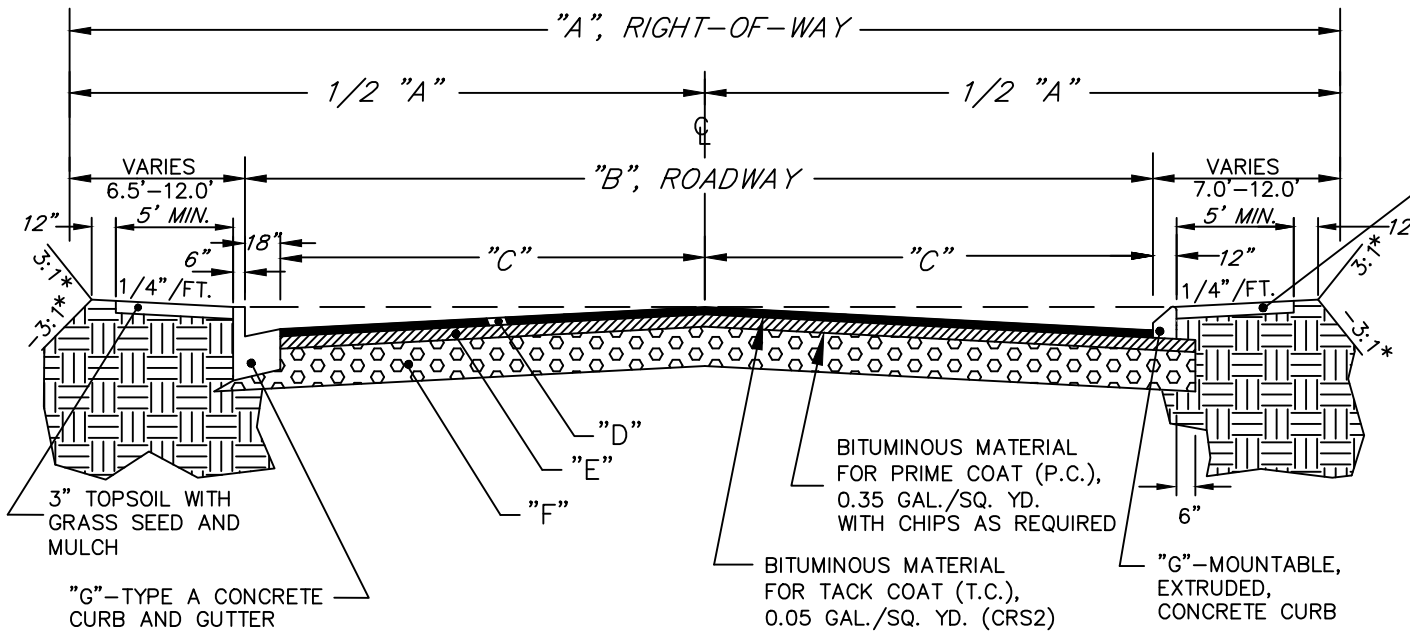
HAMILTON COUNTY GOVERNMENT
ENGINEERING DEPARTMENT
DEVELOPMENT RESOURCE CENTER
1250 MARKET STREET, SUITE 3050
CHATTANOOGA, TN 37402
PHONE: (423)-209-7810



BEFORE YOU DIG, DRILL, OR BLAST
CALL TOLL FREE 1-800-351-1111
FOR LOCATING UNDERGROUND UTILITY LINES.
- IT'S THE LAW. -
TENNESSEE ONE-CALL SYSTEM, INC.

			HAMILTON COUNTY	
			UTILITY OWNERS	
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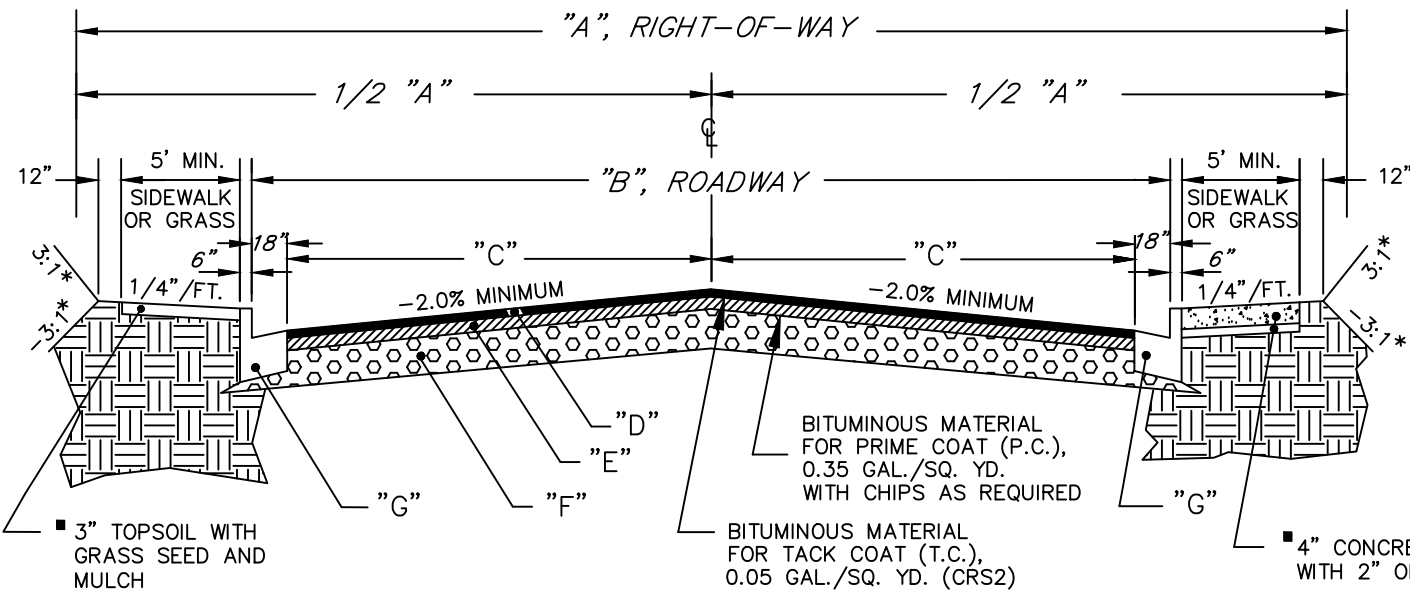
ROADS



NOTES

1. TYPE A CONCRETE CURB AND GUTTER OR MOUNTABLE, EXTRUDED, CONCRETE CURB ON EACH SIDE AS REQUIRED BY SITE-SPECIFIC DRAWINGS.
2. CROWN AND TOP OF CURB SHALL BE AT THE SAME ELEVATION (AS SHOWN ABOVE).
3. FOR SUB-DIVISION PROJECTS, REFER TO DETAILS IN THE CURRENT HAMILTON COUNTY OR CITY OF CHATTANOOGA SUB-DIVISION REGULATIONS.

LOCAL STREETS
(RIGHTS-OF-WAY OF 50' OR LESS)



ARTERIAL AND COLLECTOR STREETS
(RIGHTS-OF-WAY GREATER THAN 50')

* ALL CUT AND FILL SLOPES SHALL HAVE A MINIMUM OF 3" OF TOP SOIL WITH SEED AND MULCH.

▪ SIDEWALK OR GRASS STRIP ON EACH SIDE AS REQUIRED BY SITE-SPECIFIC DRAWINGS.

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DATE OF ORIGINAL ISSUE
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HAMILTON COUNTY
ROADWAY SECTIONS

STANDARD NUMBER : **HCSD-200.01**

***DIMENSIONS FOR
ROADWAY SECTIONS***

ROADWAY CLASSIFICATION	"A" RIGHT-OF-WAY	"B" ROADWAY WIDTH	"C" 1/2 PAVED SECTION	"D" ASPHALTIC CONCRETE SURFACE	"E" ASPHALTIC CONCRETE BINDER	"F" MINERAL AGGREGATE BASE	"G" CONCRETE CURB/ CURB AND GUTTER
				GRADING E (SEE NOTE 1 BELOW.)	GRADING B, C, OR B MODIFIED (SEE NOTE 2 BELOW.)	TYPE A (SEE NOTE 3 BELOW.)	
PRINCIPAL ARTERIAL	100'	84'	40'-6"	1.5"	3.5"	15"	TYPE A
MINOR ARTERIAL	80'	60'	28'-6"	1.5"	3.5"	15"	TYPE A
COLLECTOR STREET	60'	36'	16'-6"	1.5"	2.5"	8"	TYPE A
LOCAL STREET	50'	26'	11'-6"	1.5"	2.5"	8"	SEE NOTE 1 WITH TYPICAL SECTION.

1. ASPHALTIC CONCRETE SURFACE SHALL BE GRADING E, CITY OF CHATTANOOGA SPECIFICATIONS, CONTAINING AT LEAST 45% RIVER SAND.
2. ASPHALTIC CONCRETE BINDER SHALL BE GRADING B MODIFIED OR GRADING C, CITY OF CHATTANOOGA SPECIFICATIONS; OR GRADING B, TENNESSEE D.O.T. SPECIFICATIONS.
3. MINERAL AGGREGATE BASE SHALL BE COMPACTED 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS.

			HAMILTON COUNTY	
			<i>ROADWAY SECTIONS</i>	
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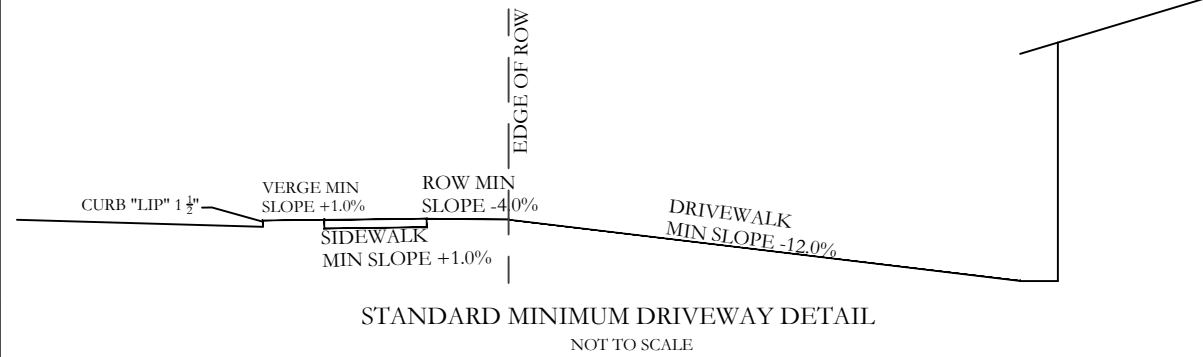
*MAXIMUM DECREASE IN ELEVATION FROM DRIVEWAY LIP TO DRIVEWAY PAD IS 35.50" FOR TYPICAL 25' SET BACK AND 5' SIDEWALK

*REQUIRED TO MAINTAIN A MINIMUM OF +1.0% SLOPE AND 1.5" DRIVEWAY LIP FROM THE EDGE OF ROADWAY TO THE BACK OF THE SIDEWALK

*SIDEWALKS ARE 5" OF CONCRETE AND 5" STONE

*DRIVEWAY WITHIN THE VERGE IS 6" OF CONCRETE AND 6" OF STONE

*DRIVEWAY BETWEEN SIDEWALK AND EDGE OF ROW IS 5" OF CONCRETE AND 5" OF STONE

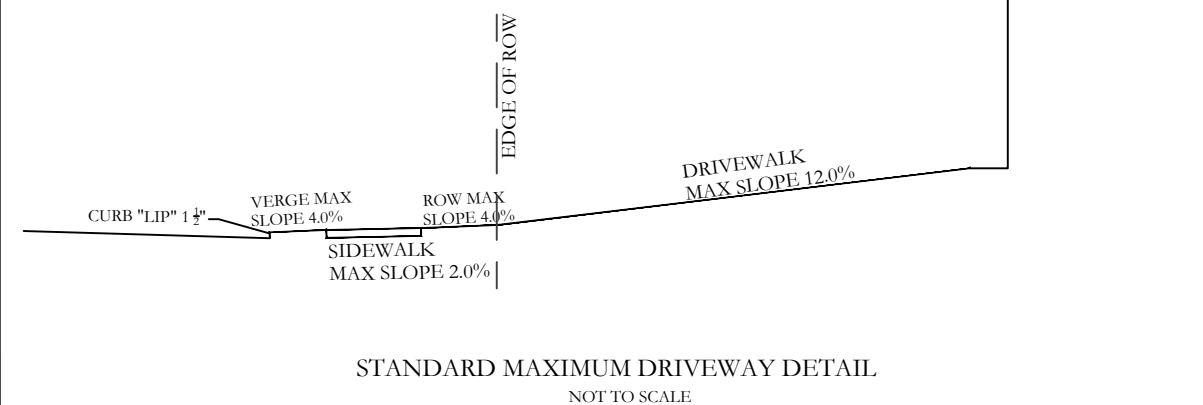


*MAXIMUM INCREASE IN ELEVATION FROM DRIVEWAY LIP TO DRIVEWAY PAD IS 42" FOR TYPICAL 25' SET BACK AND 5' SIDEWALK

*SIDEWALKS ARE 5" OF CONCRETE AND 5" STONE

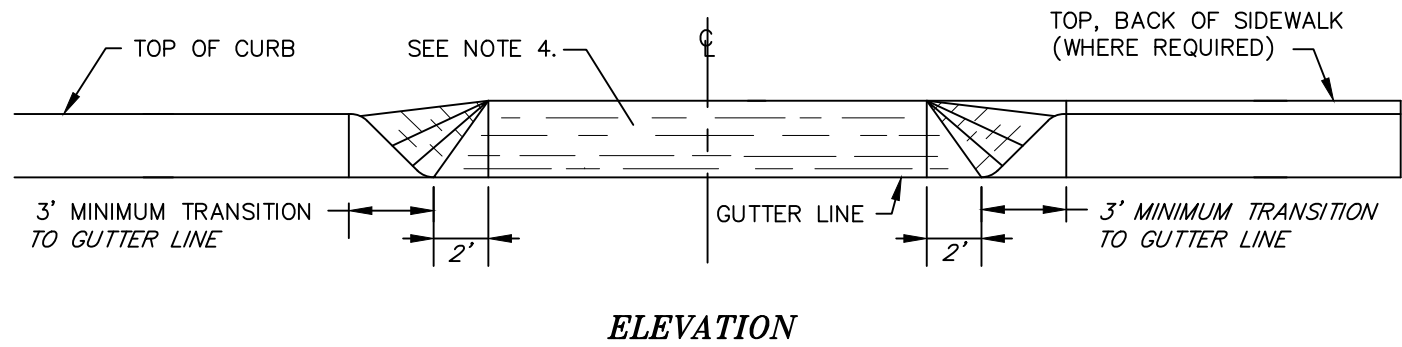
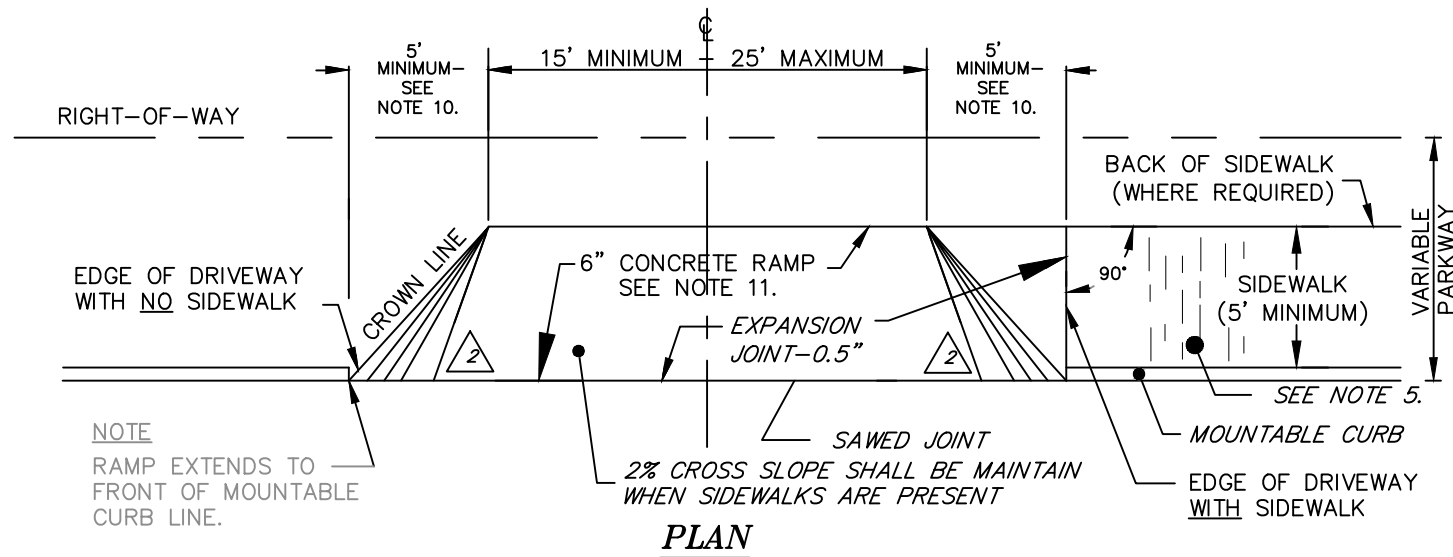
*DRIVEWAY WITHIN VERGE IS 6" OF CONCRETE AND 6" OF STONE

*DRIVEWAY FROM SIDEWALK TO EDGE OF ROW IS 5" OF CONCRETE AND 5" OF STONE



0	INITIAL ISSUE	07/18/22
NO.	REVISION	DATE

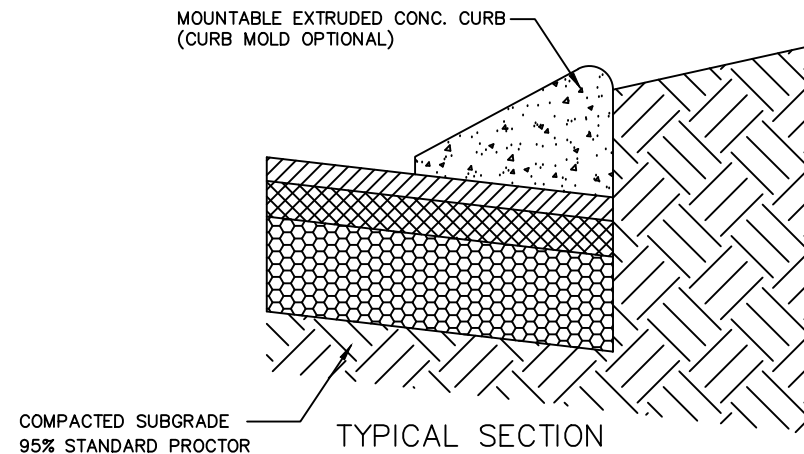
HAMILTON COUNTY	
<i>PRIVATE DRIVEWAY ENTRANCE</i>	
DATE OF ORIGINAL ISSUE JULY 18, 2022	STANDARD NUMBER : HCSD-200.03



RESIDENTIAL, MOUNTABLE, EXTRUDED CONCRETE CURB DESIGN WITH CONCRETE RAMP APPROACH

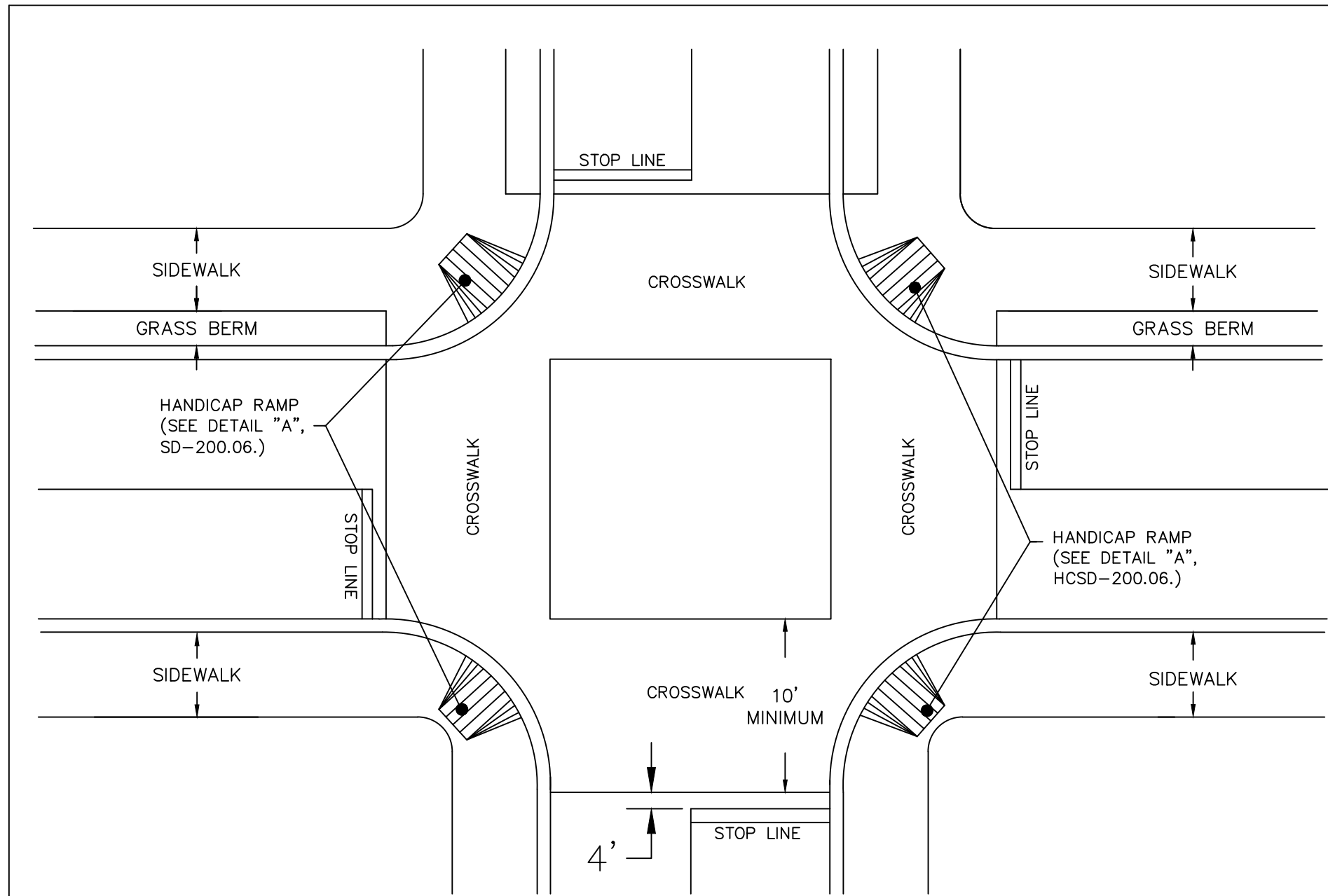
NOTES

1. DETAILS SHOWN ON THIS SHEET APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS, CURBS, AND/OR SIDEWALKS.
2. CURB CUT RAMPS SHALL BE LOCATED AS SHOWN ON THE PLANS.
3. HANDICAP RAMPS SHALL BE PROVIDED AT ALL CORNERS OF STREET INTERSECTIONS WHERE THERE ARE EXISTING OR PROPOSED SIDEWALKS. CURB CUT RAMPS SHALL ALSO BE PROVIDED AT CROSSWALK LOCATIONS IN MID-BLOCK. (SEE SD-205.01 AND SD-205.02.)
4. THE SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A TRANSVERSE, COARSE BROOMING OF THE ENTIRE SLOPE OF THE RAMP. (SEE ELEVATION.)
5. THE SURFACE TEXTURE OF THE SIDEWALK SHALL BE THAT OBTAINED BY A TRANSVERSE, COARSE BROOMING ALONG ITS ENTIRE LENGTH. (SEE PLAN.)
6. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.
7. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH RAMPS.
8. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
9. CROSSWALK AND STOPLINE MARKINGS, IF USED, SHALL BE LOCATED SO THAT TRAFFIC STOPS SHORT OF RAMP CROSSINGS.
10. DIMENSIONS SHOWN ARE TO BE USED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
11. GREATER OF: FIVE FEET (5') OR WIDTH OF SIDEWALK.
12. REINFORCEMENT: #4 BARS (MINIMUM) TWELVE INCHES (12") ON CENTER EACH WAY. (SEE PLAN AT TOP, LEFT.)
13. TESTING FOR BASE UNDER SIDEWALK TO REFLECT 95% STANDARD PROCTOR.
14. DRIVEWAY ENTRANCE AT SIDEWALK SHALL NOT EXCEED MORE THAN 2% OR 1/2" PER FOOT CROSS SLOPE.
15. DRIVEWAY FLARE-OUT NOT TO EXCEED 8% OR 1" PER FOOT.



MOUNTABLE EXTRUDED CURB DETAIL

			HAMILTON COUNTY	
			CONCRETE CURB (RESIDENTIAL)	
	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	
0	REVISION	DATE	JULY 18, 2022	STANDARD NUMBER : HCSD-200.04

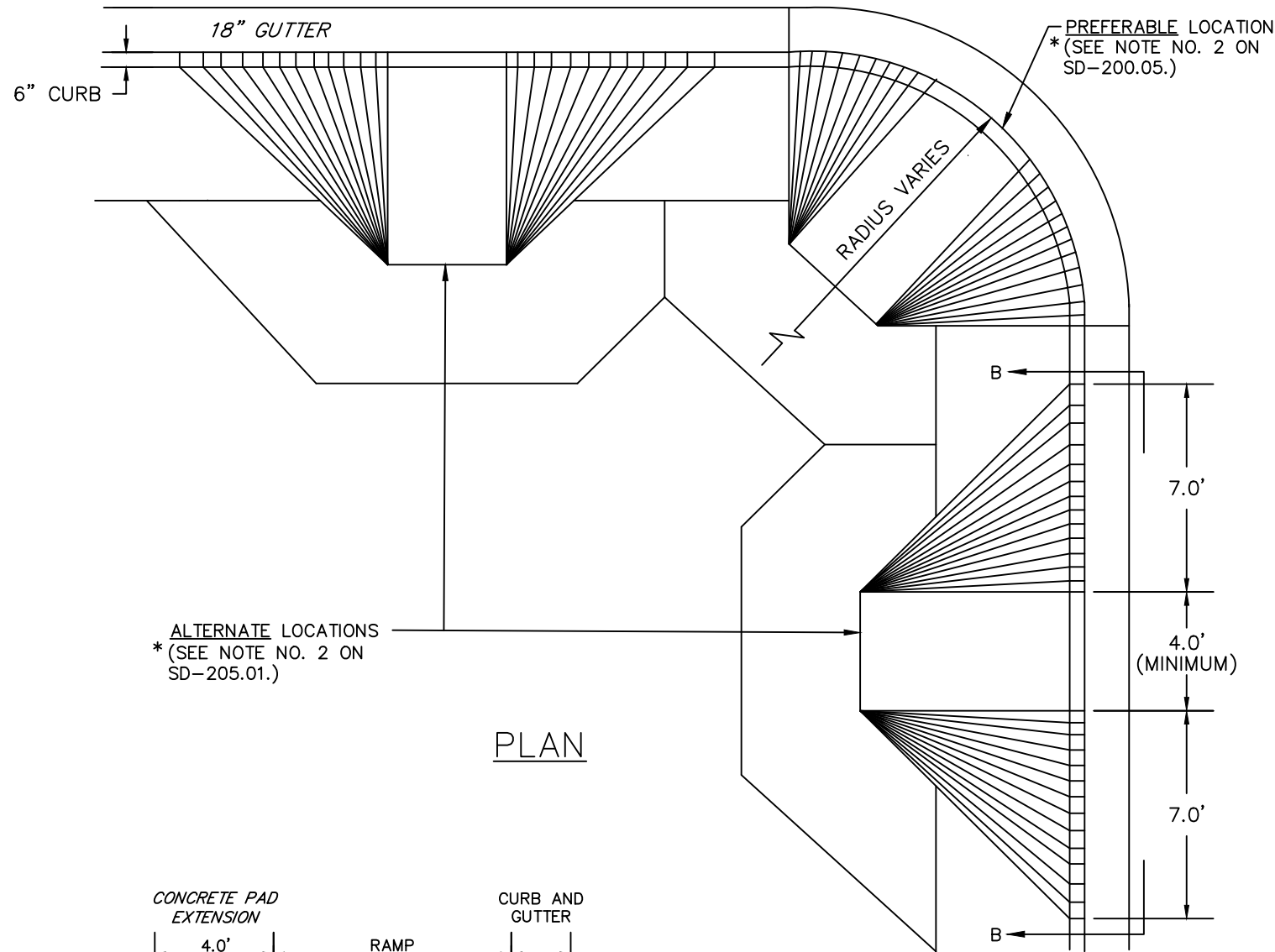


PLAN

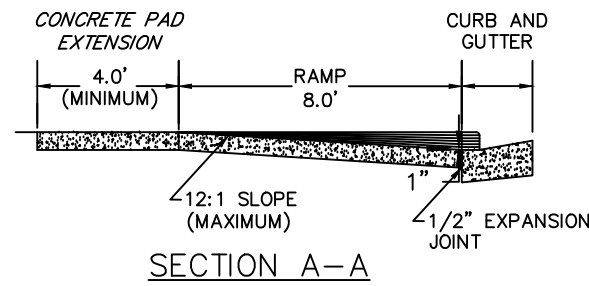
NOTES

1. DETAILS SHOWN ON THIS PLAN APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS, CURBS, AND/OR SIDEWALKS.
2. CURB CUT RAMPS SHALL BE LOCATED AS SHOWN ON THE PLANS.
3. HANDICAP RAMPS SHALL BE PROVIDED AT ALL CORNERS OF STREET INTERSECTIONS WHERE THERE ARE EXISTING OR PROPOSED SIDEWALKS. CURB CUT RAMPS SHALL ALSO BE PROVIDED AT CROSSWALK LOCATIONS IN MID-BLOCK.
4. THE SURFACE TEXTURE OF THE RAMP SHALL BE THAT OBTAINED BY A COARSE, TRANSVERSE, BROOMING OF THE SLOPE OF THE RAMP.
5. CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.
6. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH RAMPS.
7. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
8. CROSSWALK AND STOPLINE MARKINGS, IF USED, SHALL BE LOCATED SO THAT TRAFFIC STOPS SHORT OF RAMP CROSSINGS.
9. DESIRABLE DIMENSIONS SHALL BE USED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

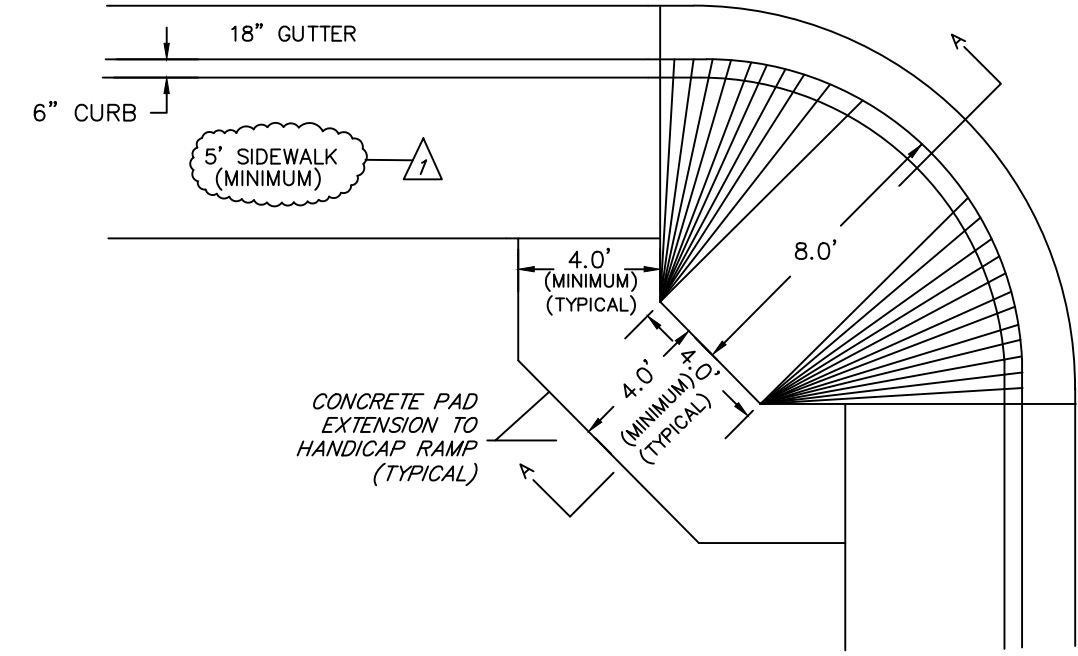
HAMILTON COUNTY		
HANDICAP RAMP DETAILS		
0	INITIAL ISSUE	DATE OF ORIGINAL ISSUE
NO.	REVISION	DATE
		JULY 18, 2022
		STANDARD NUMBER : HCSD-200.05



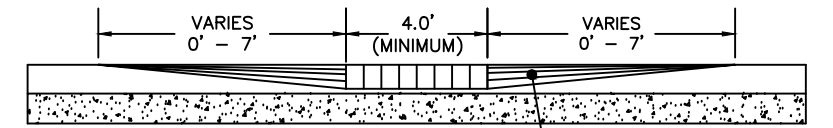
PLAN



SECTION A-A



DETAIL A



SECTION B-B

- NOTES:**
1. RAMP LANDING PADS MUST BE MINIMUM 4'x4' WITH CROSS SLOPE NOT TO EXCEED 2% IN EITHER DIRECTION.
 2. TRUNCATED DOMES REQUIRED ON ALL RAMPS.
 3. CURB PAN OUT NOT TO EXCEED 5%.
 4. ALL ADA SPECIFICATIONS MUST BE FOLLOWED

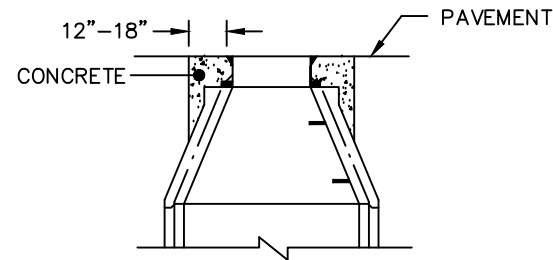
			HAMILTON COUNTY	
			HANDICAP RAMP DETAILS	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	
NO.	REVISION	DATE	JULY 18, 2022	
			STANDARD NUMBER : HCSD-200.06	

DRAINAGE

NOTES

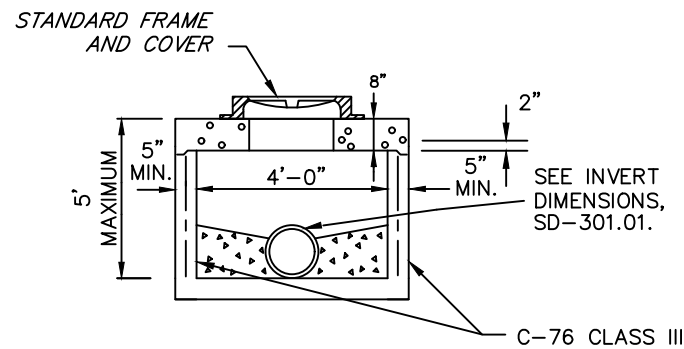
1. ALL MATERIALS, DESIGN, MANUFACTURE, PHYSICAL TEST REQUIREMENTS, FINISH, MARKING, INSPECTION, REJECTION, AND REPAIRS SHALL MEET A.S.T.M. C478 FOR PRECAST, REINFORCED CONCRETE MANHOLE RISERS AND TOPS EXCEPT AS MAY BE MODIFIED IN THESE SPECIFICATIONS.
2. SIZE AND LOCATE PIPE CUTOUTS AS REQUIRED.
3. MANHOLE STEPS – SEE MANHOLE STEPS DETAIL ON STANDARD NUMBER SD-301.04.
4. END-OF-LINE MANHOLES THAT HAVE FUTURE EXTENSIONS AND THAT ARE LOCATED IN PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL OR 33-P* STONE (PUG). THE BACKFILL SHALL BE COMPACTED TO 6-INCH LIFTS, AND SHALL EXTEND TEN (10') FEET FROM THE MANHOLE ALONG EACH TRENCH.
5. A MAXIMUM OF TWO CONCRETE RINGS MAY BE USED FOR ELEVATION ADJUSTMENT OF THE MANHOLE.
6. AN ECCENTRIC CONE MANHOLE SHALL NOT BE USED.

* "33-P (PUG)" – 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS

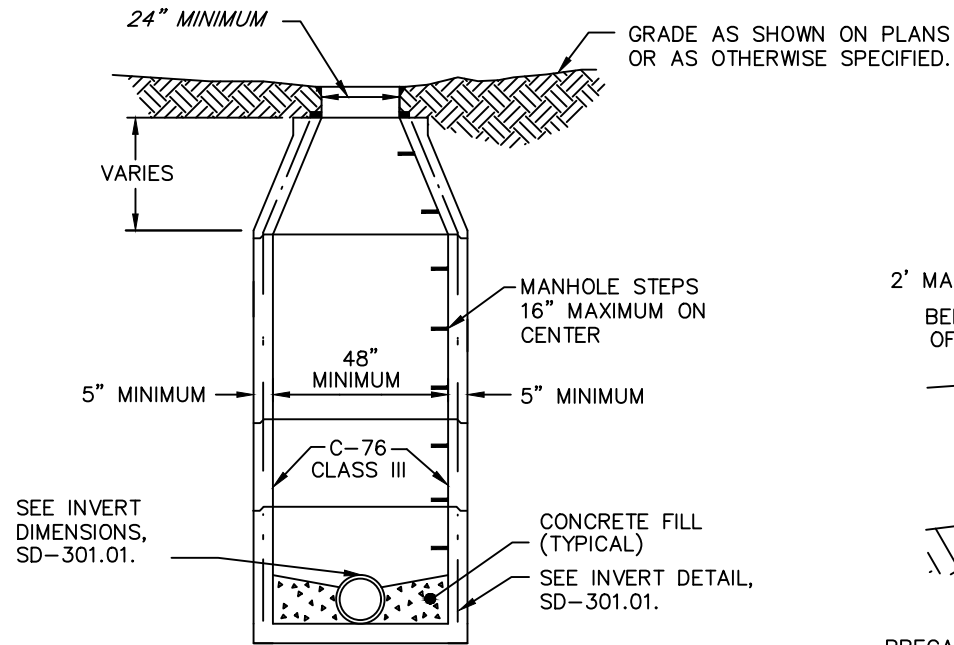


FRAME AND COVER

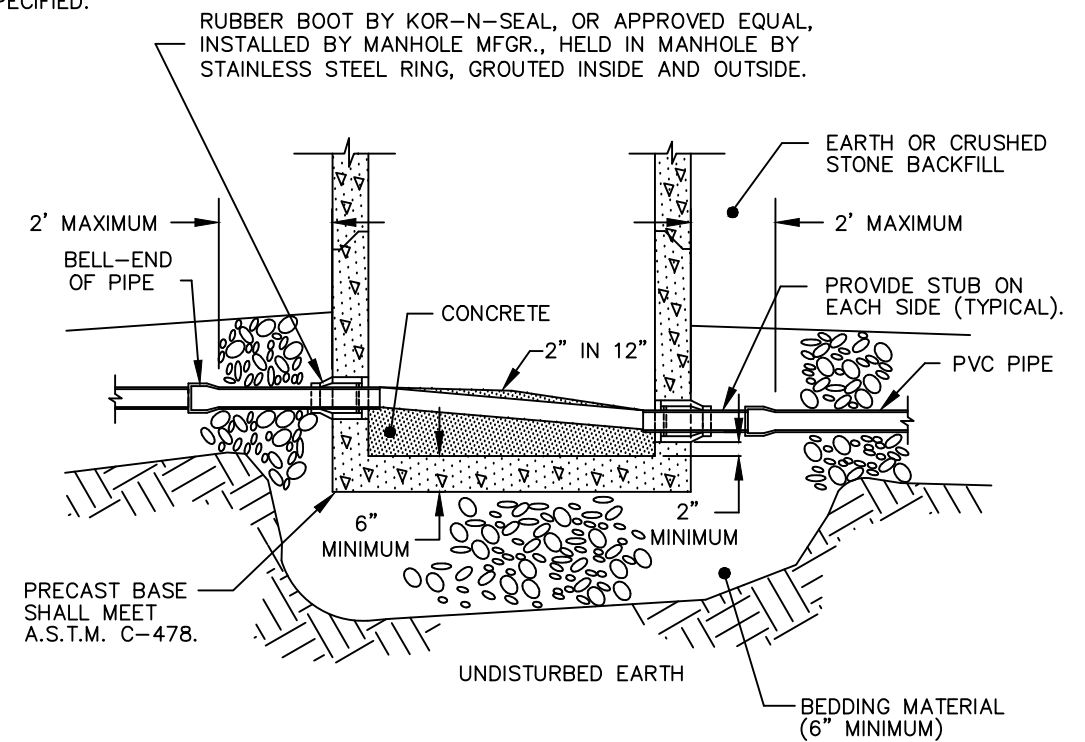
AFTER PAVING



SPECIAL SHALLOW MANHOLE



CONCENTRIC CONE

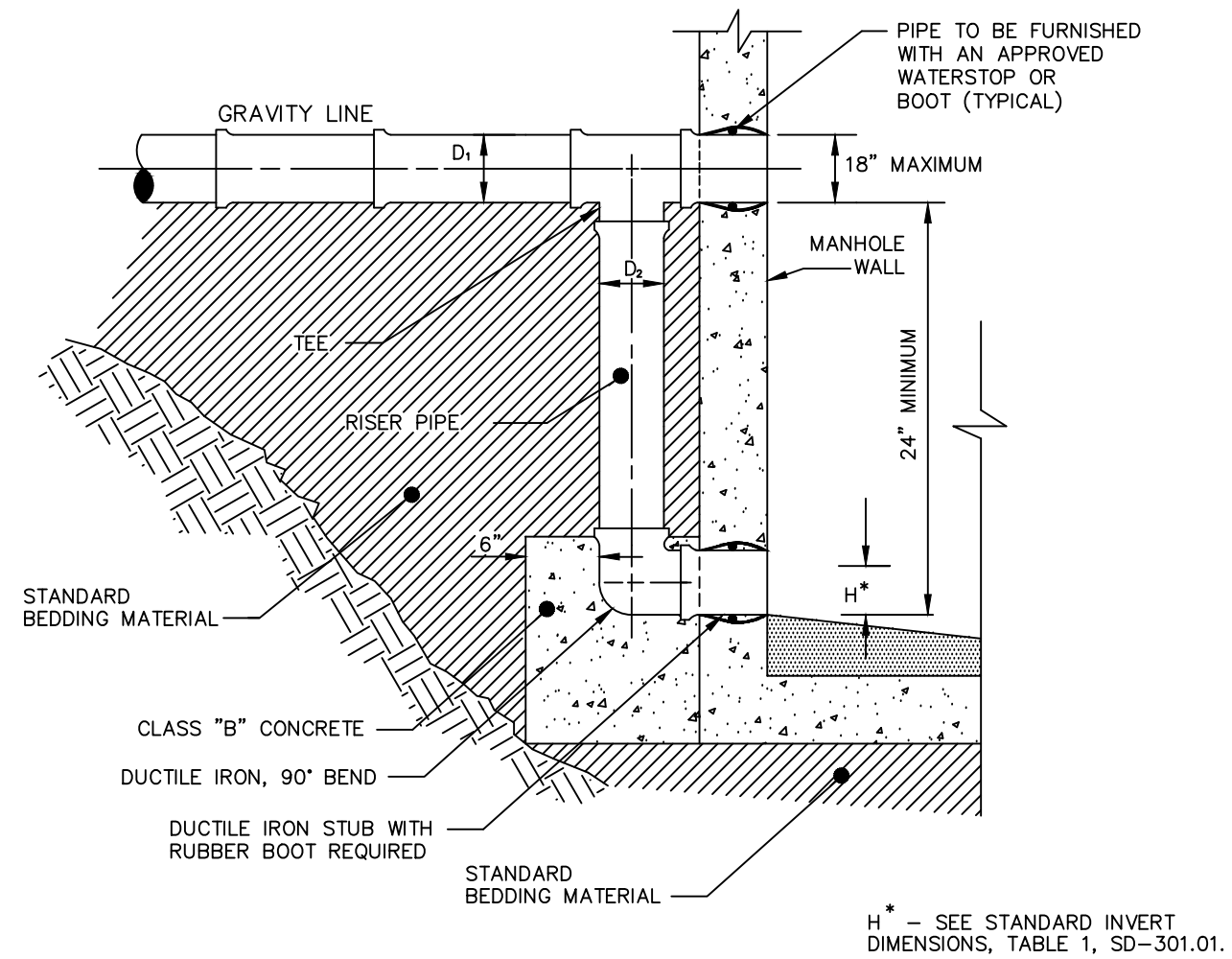


BOOTED, TUB-BOTTOM MANHOLE

PRECAST CONCRETE MANHOLES

			HAMILTON COUNTY	
			SANITARY/STORM MANHOLE (PRECAST)	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCSD-300.01
NO.	REVISION	DATE	JULY 18, 2022	

D ₁	D ₂
8"	8"
10"	8"
12"	10"
15"	12"
18"	12"



NOTES

1. SET INLET FROM DROP TO MATCH CROWNS WITH OUTLET EXCEPT THAT MINIMUM FALL ACROSS MANHOLE INVERT MUST BE 3".
2. FOR DETAILS NOT SHOWN, SEE SANITARY/STORM MANHOLE DETAILS ON STANDARDS SD-301.01, SD-301.02, SD-301.03, AND SD-301.04.
3. THE RISER PIPE SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THAT OF THE INCOMING LINE.

NOTES

FOR ALL WWA SEWER PROJECTS, REFER TO CURRENT HAMILTON COUNTY WATER & WASTEWATER TREATMENT AUTHORITY, STANDARD DETAILS AND SPECIFICATIONS FOR THE CONSTRUCTION OF SANITARY SEWERS.

MANHOLE DROP
CONNECTION
(DROP OF 24" OR GREATER)

H* - SEE STANDARD INVERT DIMENSIONS, TABLE 1, SD-301.01.

			HAMILTON COUNTY	
			MANHOLE DROP CONNECTION	
			DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCSD-301.01
0	INITIAL ISSUE	07/18/22	JULY 18, 2022	
NO.	REVISION	DATE		

PIPE DIAMETER "D" (INCHES)	TRENCH WIDTH "BD" (FEET)	TRENCH * VOLUME PER FOOT OF DEPTH	CLASS "C" BEDDING FOR CONCRETE AND DUCTILE IRON		ROCK TRENCH BEDDING	
			QTY. (C.Y.)	"S" IN (IN.)	CONC. & D.I.	PVC, ETC.
6 **	2.00	0.074	0.025	4-1/4	0.025	0.037
8	2.33	0.086	0.030	4-1/2	0.030	0.043
10	2.50	0.093	0.036	5-0	0.049	0.062
12	2.67	0.099	0.039	5-1/4	0.054	0.066
15	3.00	0.111	0.046	5-3/4	0.063	0.074
18	3.25	0.120	0.053	6-1/4	0.069	0.080
24	3.83	0.142	0.072	7-1/2	0.108	0.118
30	4.42	0.164	0.098	9-0	0.121	0.137
36	5.67	0.210	0.148	10-1/2	0.194	-----
42	6.25	0.231	0.184	12-0	0.209	-----
48	6.83	0.253	0.223	13-1/2	0.223	-----
54	7.42	0.275	0.226	15-0	0.236	-----
60	8.00	0.296	0.312	16-1/2	0.247	-----
66	8.58	0.318	0.362	18-0	0.258	-----
72	9.17	0.340	0.416	19-1/2	0.268	-----
78	9.75	0.361	0.458	20-1/2	0.291	-----
84	10.33	0.383	0.510	21-3/4	0.315	-----
96	11.50	0.426	0.604	23-3/4	0.365	-----

* ALL VOLUMES IN CUBIC YARDS/LINEAR FOOT.

** QUANTITIES AND DIMENSIONS FOR 6" SERVICE LINE SHALL APPLY TO 4" SERVICE LINE ALSO.

QUANTITIES FOR CLASS "B" AND ROCK TRENCH BEDDING ARE THE QUANTITIES IN EXCESS OF THOSE REQUIRED FOR CLASS "C" BEDDING.

SCHEDULE OF BEDDING

NOTES
FOR ALL WASTEWATER PROJECTS, REFER TO CURRENT HAMILTON COUNTY WATER & WASTEWATER TREATMENT AUTHORITY, STANDARD DETAILS AND SPECIFICATIONS FOR THE CONSTRUCTION OF SANITARY SEWERS.

NOTES

STANDARD BEDDING

MATERIAL SHALL BE PLACED AS SHOWN BY THE STANDARD DETAILS FOR THE TYPE OF PIPE USED. THE BEDDING SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BID PER LINEAR FOOT OF PIPE FOR VARIOUS TYPES, SIZES, AND DEPTHS LISTED IN THE BID SCHEDULE.

CLASS "B" BEDDING MATERIAL (SECTION 204.04, TENNESSEE D.O.T. SPECIFICATIONS)- MATERIAL FOR CLASS "B" BEDDING FOR PIPE CULVERTS SHALL CONSIST OF SAND OR A NATURAL SANDY SOIL, ALL OF WHICH PASSES A 3/8-INCH SIEVE AND NOT MORE THAN TEN PERCENT PASSES A NO. 200 SIEVE; OR STONE, GRAVEL, CHERT, OR SLAG MEETING THE GRADING REQUIREMENTS FOR EITHER GRADING C, D, OR E OF SUBSECTION 903.05.

IN ROCK CUTS OR OTHER AREAS DESIGNATED BY THE ENGINEER WHERE A FREE DRAINAGE BEDDING OR BACKFILL MATERIAL IS REQUIRED, THE MATERIAL SHALL BE CRUSHED STONE, CRUSHED SLAG, OR WASHED GRAVEL MEETING THE REQUIREMENTS OF SUBSECTION 903.17.

PVC PIPE BEDDING MATERIAL-NO. 7 WASHED STONE (SECTION 903.22, TENNESSEE D.O.T. SPECIFICATIONS).

ROCK TRENCH BEDDING

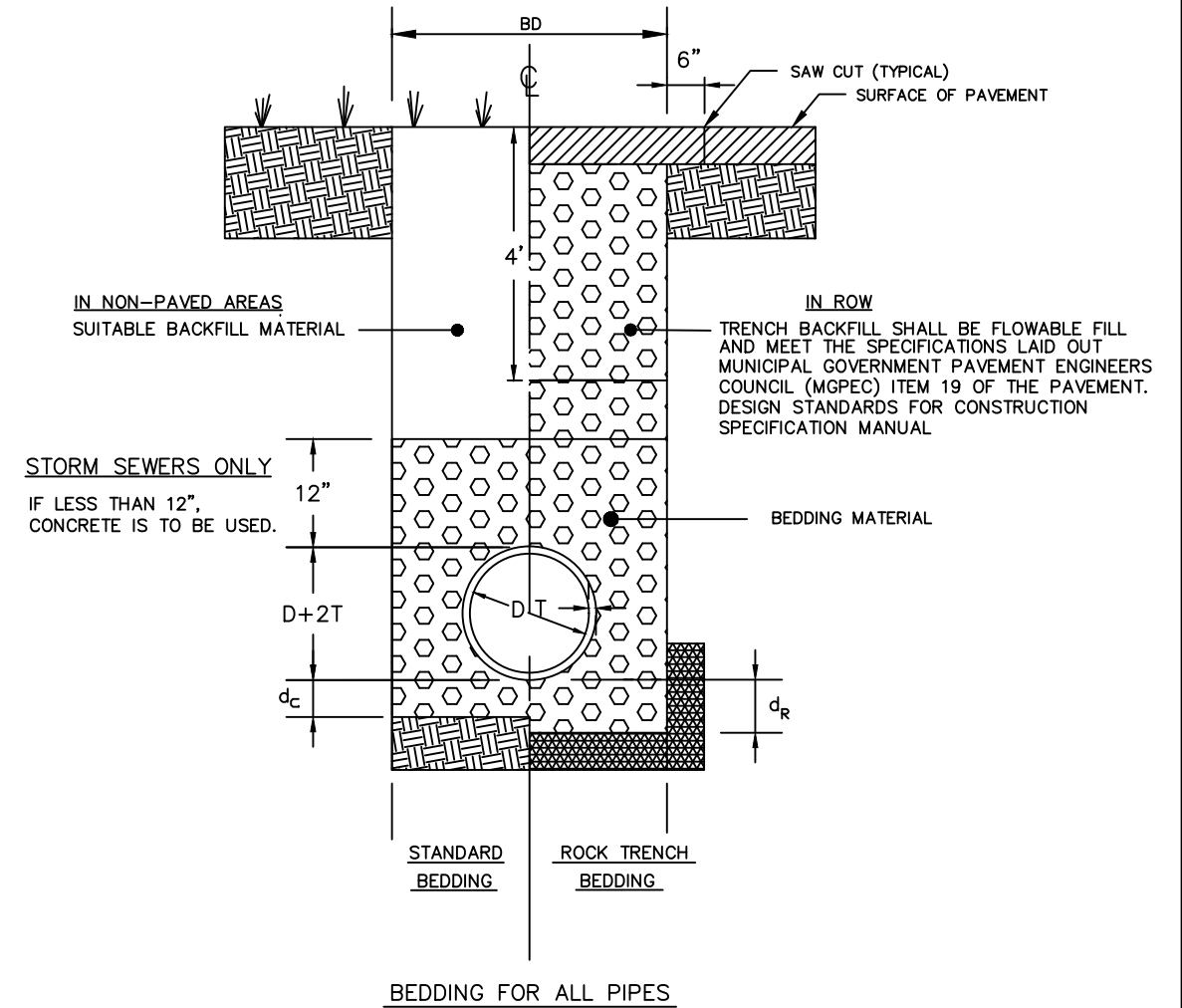
MATERIAL SHALL BE SAME AS FOR CLASS "B" BEDDING AND SHALL BE PLACED AS SHOWN BY THE STANDARD DETAILS FOR THE TYPE OF PIPE USED. QUANTITIES FOR THE ROCK TRENCH BEDDING ARE THE AMOUNTS IN EXCESS OF THOSE REQUIRED FOR CLASS "C" BEDDING.

PIPE DIAMETER "D" (INCHES)	TRENCH WIDTH TOP OF PIPE "BD" (FT.)	CONCRETE PIPE CLASS III	CONCRETE PIPE C-76 CL. IV AWWA C-301 D.I.P.	PVC D-3034 AND ASTM F679
4"	2.00	---	---	NL
6"	2.00	---	---	NL
8"	2.33	---	---	NL
10"	2.50	---	---	NL
12"	2.67	---	13	NL
15"	3.00	---	12	NL
18"	3.25	---	13	NL
21"	3.54	---	14	NL
24"	3.83	---	15	
27"	4.08	11	15	
30"	4.42	11	16	
33"	4.75	11	16	
36"	5.67	10	14	
42"	6.25	11	16	
48"	6.83	12	17	
54"	7.42	13	18	
60"	8.00	13	18	
66"	8.58	14	19	
72"	9.17	15	20	
78"	9.75	16	21	
84"	10.33	16	21	
90"				

NL=NO LIMIT TO BOTTOM OF PIPE

BD=MAXIMUM TRENCH WIDTH AT 12" ABOVE TOP OF PIPE. IF DITCH IS CUT WIDER THAN BD SHOWN, THE CONTRACTOR, AT HIS OWN EXPENSE, WILL BE REQUIRED TO INCREASE BEDDING TO COMPENSATE FOR ADDITIONAL LOAD ON THE PIPE.

(PERMISSIBLE DEPTH (IN FEET) TO BOTTOM OF PIPE FOR SATURATED CLAY EARTH LOAD, 130 LBS./CU. FT. (SATURATED CLAY).)



TRENCH DETAILS

D	d _c	d _r
8" AND LESS	6"	10"
10" TO 18"	8"	12"
20" TO 30"	10"	14"
32" AND LARGER	12"	16"

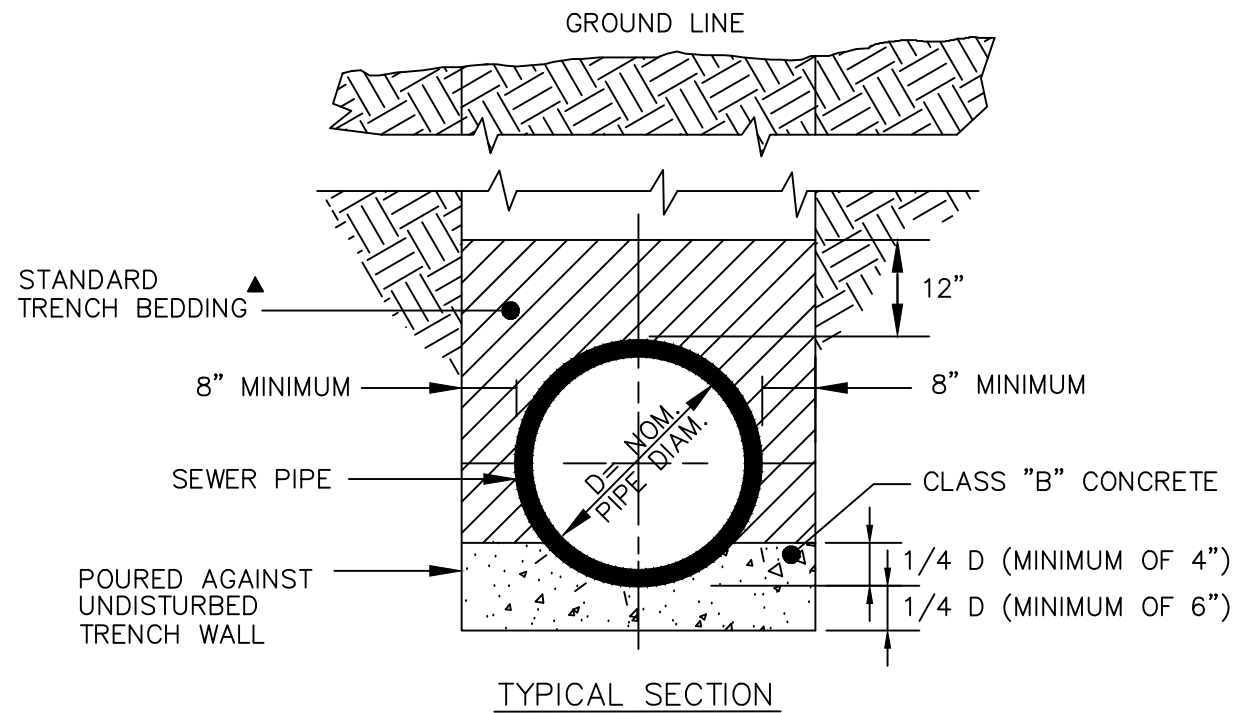
HAMILTON COUNTY

TRENCH DETAILS AND BEDDING (STORM SEWERS)

0	INITIAL ISSUE	07/18/22
NO.	REVISION	DATE

DATE OF ORIGINAL ISSUE
JULY 18, 2022

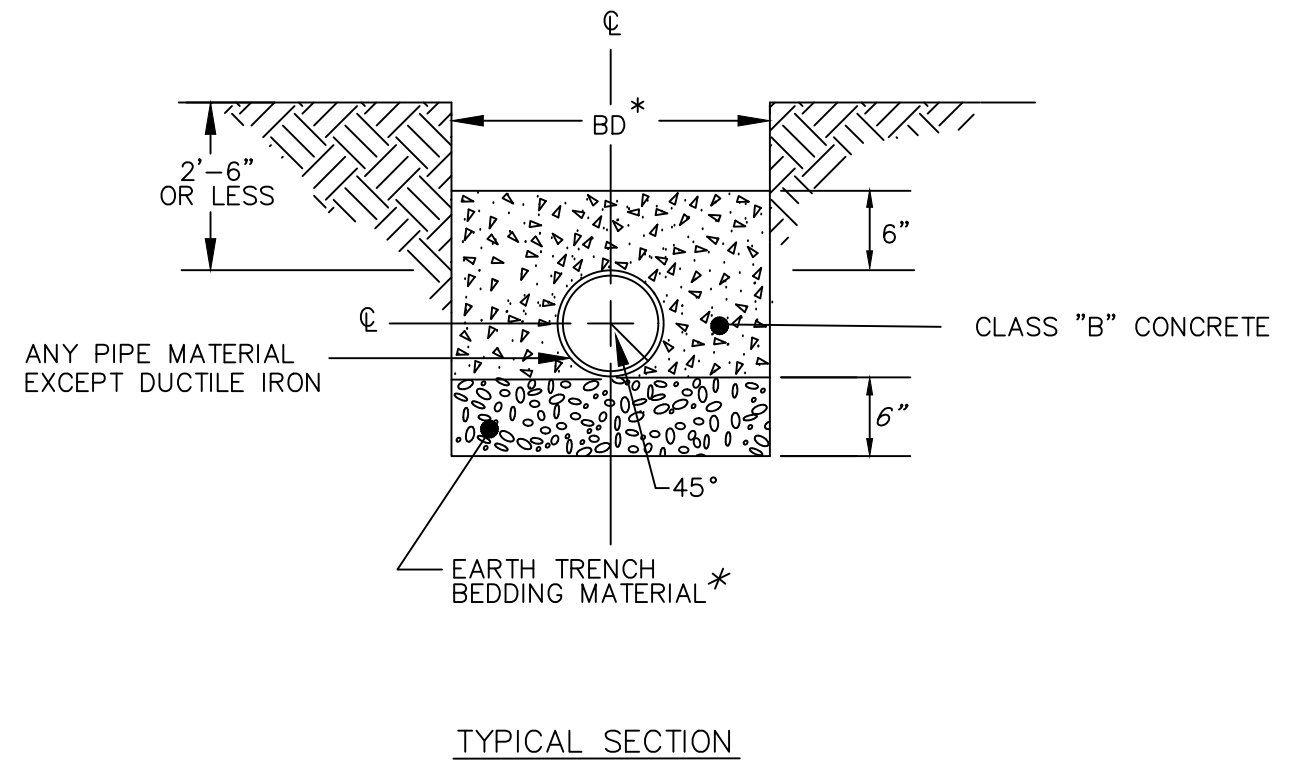
STANDARD NUMBER : HCS D-302.01



CONCRETE CRADLE

NOTES

1. CLASS "B" CONCRETE IS TO BE POURED 16 HOURS BEFORE PLACING BACKFILL, AND IN A MANNER THAT PREVENTS THE FLOATING OF PIPES.
2. PIPES ARE TO BE LAID BEFORE THE CONCRETE HARDENS.
- ▲ 3. SEE STANDARD DRAWING SD-302.01.

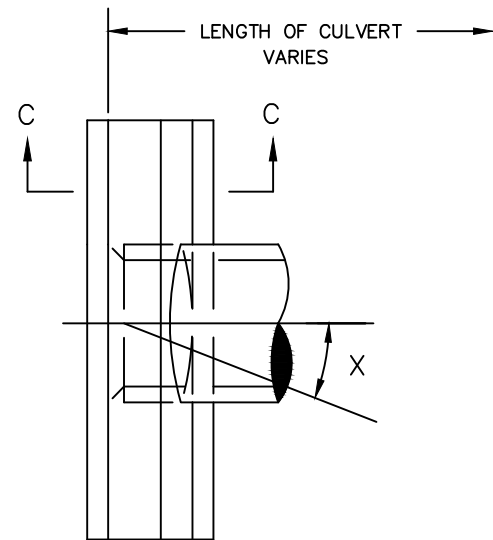


CONCRETE CAP FOR SHALLOW PIPE

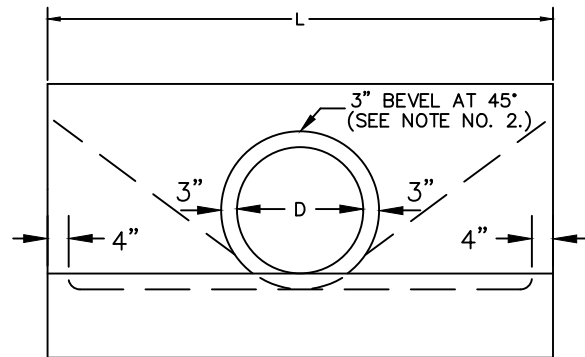
NOTES

1. CLASS "B" CONCRETE IS TO BE POURED 36 HOURS BEFORE PLACING BACKFILL, AND IN A MANNER THAT PREVENTS THE FLOATING OF PIPES.
2. CONCRETE ENCASUREMENT IS REQUIRED FOR DITCHES AND CREEKS WHERE THE COVER IS 2'-6" OR LESS.
- * 3. SEE STANDARD DRAWING SD-302.01.

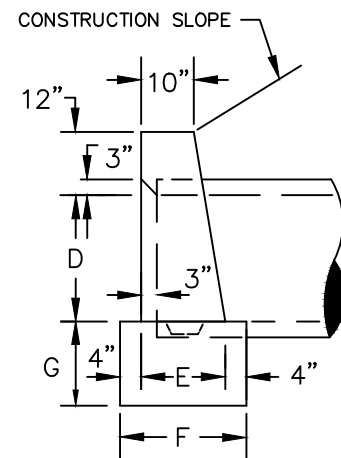
			HAMILTON COUNTY	
			TRENCH DETAILS (CONCRETE PROTECTION)	
			DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCSD-303.01
			JULY 18, 2022	
0	INITIAL ISSUE	07/18/22		
NO.	REVISION	DATE		



PLAN



FRONT ELEVATION



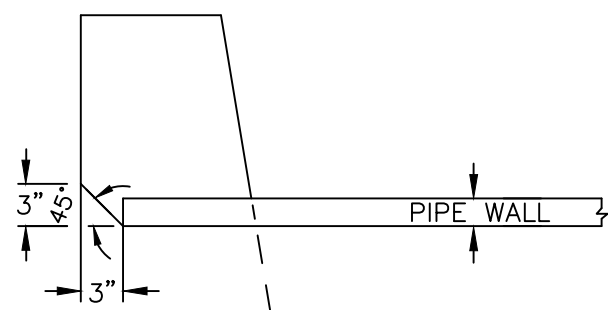
SIDE ELEVATION

TABLE "A" - DIMENSIONS FOR ONE STRAIGHT, CONCRETE ENDWALL (X=0°)

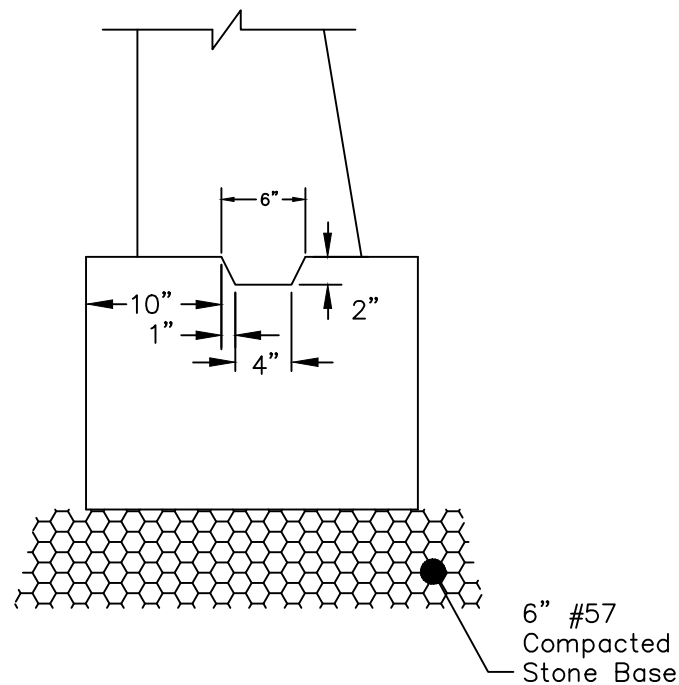
DIMENSIONS					
OPENING D	WALL		FOOTING		
	L	H	E	F	G
1'-6"	6'-0"	2'-6"	1'-3"	1'-11"	1'-3"
2'-0"	8'-0"	3'-0"	1'-4"	2'-0"	1'-4"
2'-6"	10'-0"	3'-6"	1'-6"	2'-2"	1'-6"

TABLE "B" - VALUE OF "L" WHEN ANGLE "X" IS GREATER THAN 0°

D	0°(+)-10°	10°(+)-20°	20°(+)-30°	30°(+)-40°	40°(+)-50°
1'-6"	6'-0"	6'-5"	6'-11"	7'-10"	9'-4"
2'-0"	8'-2"	8'-6"	9'-3"	10'-5"	12'-6"
2'-6"	10'-2"	10'-7"	11'-6"	13'-2"	15'-7"



DETAIL OF BEVEL



**SECTION C-C
SHOWING CONSTRUCTION JOINT**

NOTES

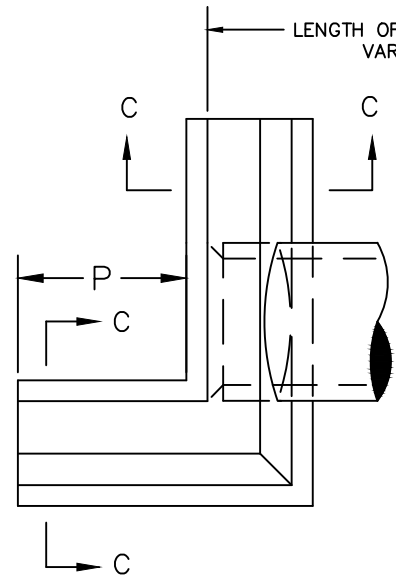
1. WHEN A PIPE IS ON A SKEW, REFER TO TABLE "B" FOR THE VALUE OF "L".
2. ALL TYPE "S", CONCRETE ENDWALLS ON THE INLET END OF THE PIPE AND AT 90° TO THE PIPE SHALL BE BEVELED 3" AT A 45° ANGLE. THE BEVEL WILL NOT BE REQUIRED WHEN THE ENDWALL IS CONSTRUCTED ON THE "BELLED" END OF A CONCRETE PIPE.
3. WHEN MORE THAN ONE LINE OF PIPE IS REQUIRED, THE DISTANCE FROM CENTER TO CENTER OF PIPES SHALL BE (D+1'-0").
4. A 1" CHAMFER SHALL BE USED ON EACH EXPOSED EDGE AND CORNER.
5. ENDWALLS SHALL HAVE #4 BARS AT 12" ON CENTER, EACH WAY, IN THE CENTER OF ALL SLABS AND WALLS.
6. EIGHT INCH (8") BRICK WALLS MAY BE SUBSTITUTED FOR CONCRETE WALLS WHEN "D" IS 36" OR LESS.
7. FOR PIPE DIAMETERS GREATER THAN 30", REFER TO TENNESSEE D.O.T. STANDARD ROADWAY DRAWINGS.

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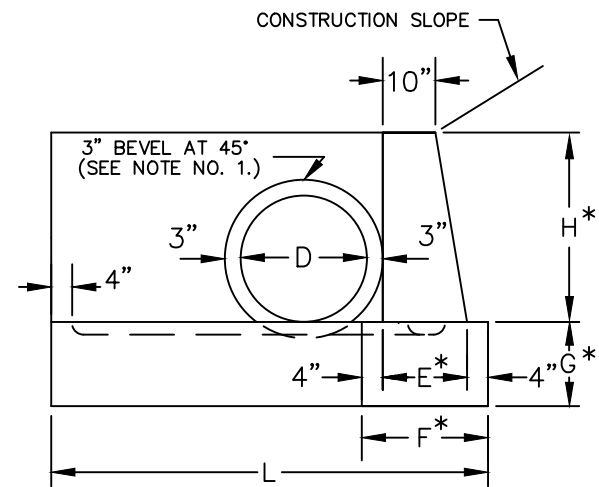
DATE OF ORIGINAL ISSUE
JULY 18, 2022

**HAMILTON COUNTY
CONCRETE ENDWALL (TYPE S)**

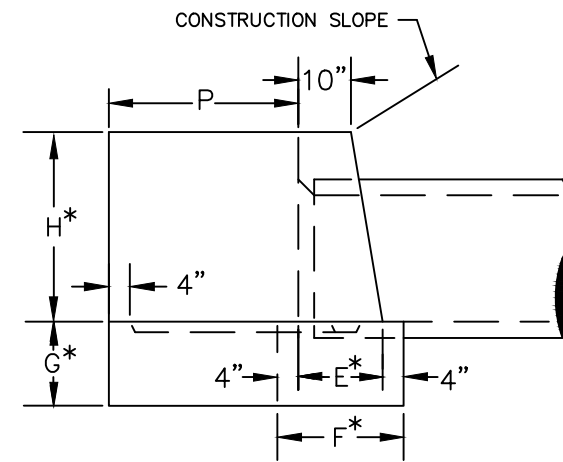
STANDARD NUMBER : **HCSD-304.01**



PLAN

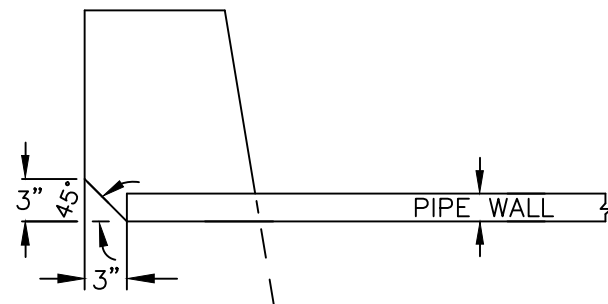


FRONT ELEVATION

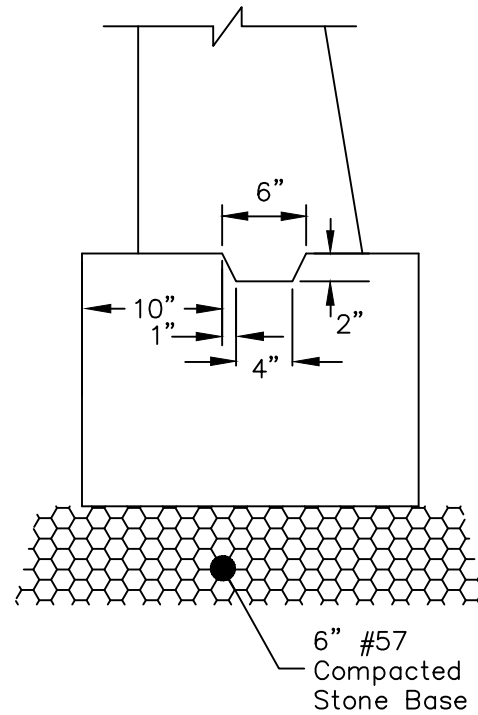


SIDE ELEVATION

TABLE OF DIMENSIONS FOR ONE TYPE "L", CONCRETE ENDWALL		
DIMENSIONS *		
D	P	L
1'-3"	2'-3"	5'-9"
1'-6"	2'-3"	6'-0"
2'-0"	3'-0"	8'-0"
2'-6"	3'-9"	10'-0"



DETAIL OF BEVEL

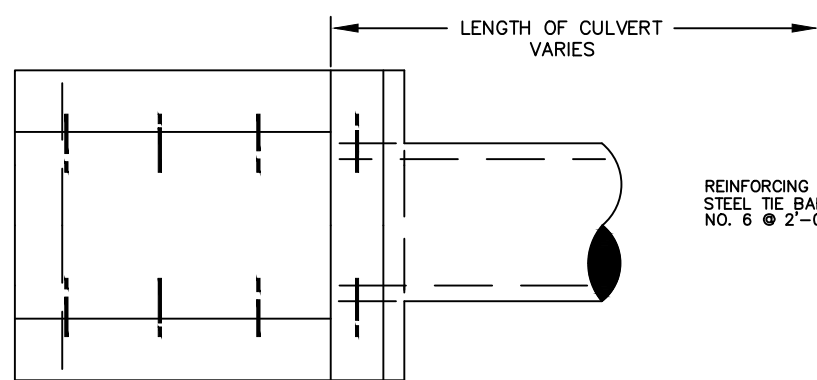


***SECTION C-C
SHOWING CONSTRUCTION JOINT***

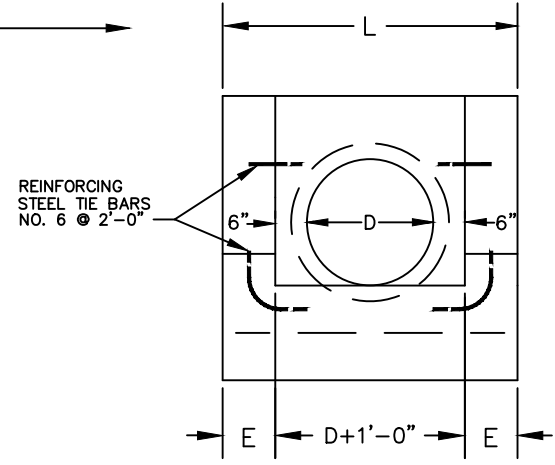
NOTES

1. ALL TYPE "L", CONCRETE ENDWALLS ON THE INLET END OF THE PIPE AND AT 90° TO THE PIPE SHALL BE BEVELED 3" AT A 45° ANGLE. THE BEVEL WILL NOT BE REQUIRED WHEN THE ENDWALL IS CONSTRUCTED ON THE "BELLED" END OF A CONCRETE PIPE.
2. WHEN MORE THAN ONE LINE OF PIPE IS REQUIRED, THE DISTANCE FROM CENTER TO CENTER OF PIPES SHALL BE (D+1'-0").
3. A 1" CHAMFER SHALL BE USED ON EACH EXPOSED EDGE AND CORNER.
4. ENDWALLS SHALL HAVE #4 BARS AT 12" ON CENTER, EACH WAY, IN THE CENTER OF ALL SLABS AND WALLS.
- * 5. DIMENSIONS NOT SHOWN IN THE TABLE ARE THE SAME AS THOSE FOR A TYPE "S" ENDWALL. SEE SD-601.01.
6. FOR PIPE DIAMETERS GREATER THAN 30", REFER TO TENNESSEE D.O.T. STANDARD ROADWAY DRAWINGS.

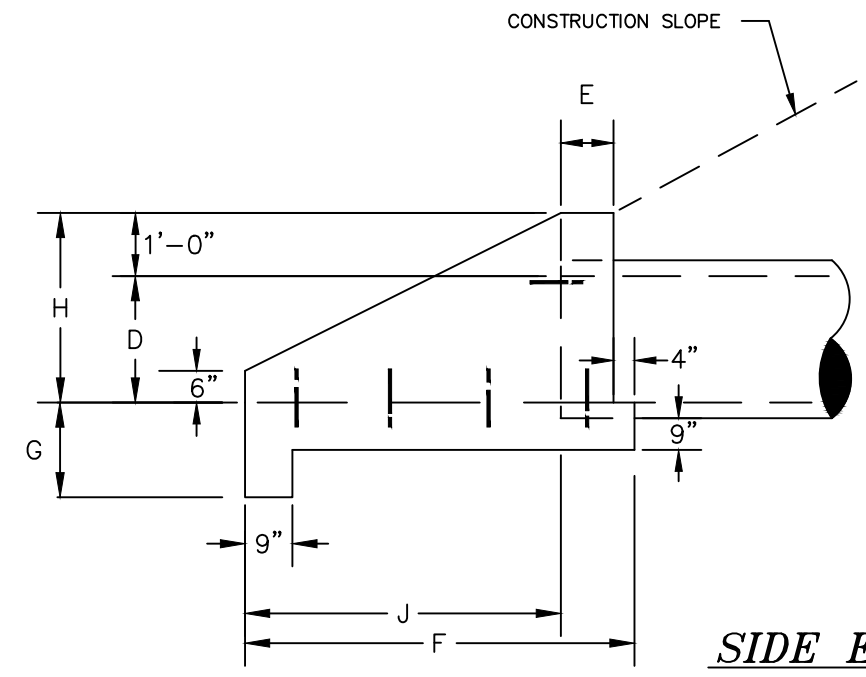
			HAMILTON COUNTY	
			CONCRETE ENDWALL (TYPE L)	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCSD-305.01
NO.	REVISION	DATE	JULY 18, 2022	



PLAN



FRONT ELEVATION



SIDE ELEVATION

NOTES

1. WHEN MORE THAN ONE LINE OF PIPE IS REQUIRED, THE DISTANCE FROM CENTER TO CENTER OF PIPES SHALL BE (D+1'-0").
2. A 1" CHAMFER SHALL BE USED ON EACH EXPOSED EDGE AND CORNER.
3. ENDWALLS SHALL HAVE #4 BARS AT 12" ON CENTER, EACH WAY, IN CENTER OF ALL SLABS AND WALLS.
4. FOR PIPE DIAMETERS GREATER THAN 30", REFER TO TENNESSEE D.O.T. STANDARD ROADWAY DRAWINGS.

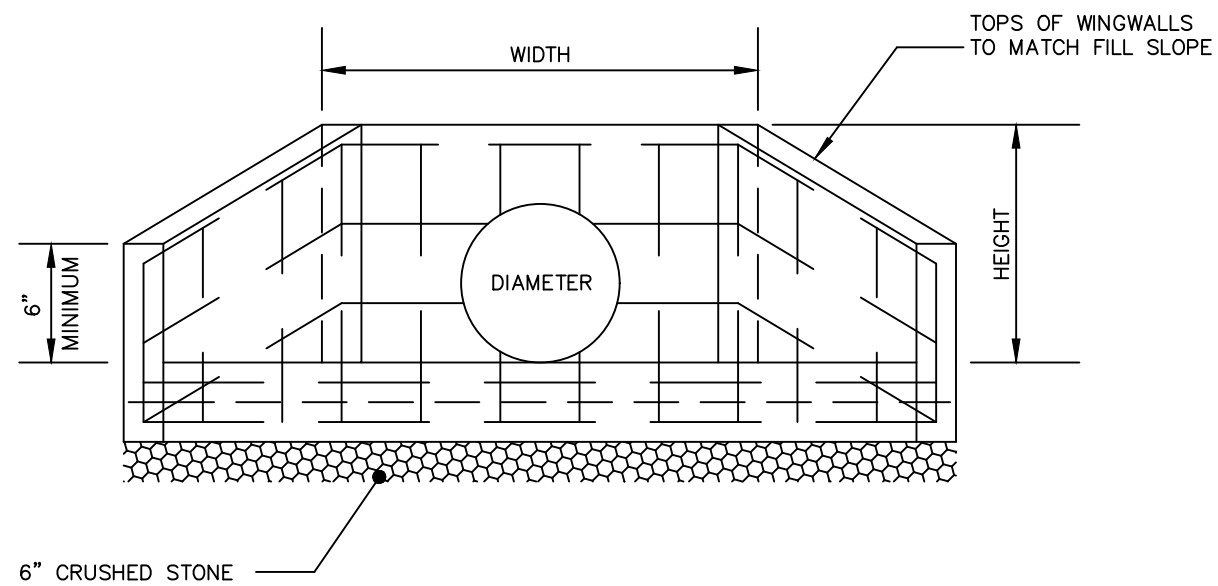
**TABLE OF DIMENSIONS
TYPE "U", CONCRETE ENDWALL (SLOPE 1-1/2:1 & 2:1)**

DIMENSIONS						
OPENING	WALL			FOOTING		
D	L	H	E	J	F	G
1'-3"	3'-9"	2'-3"	9"	4'-0"	5'-1"	1'-3"
1'-6"	4'-0"	2'-6"	9"	4'-0"	5'-1"	1'-3"
2'-0"	4'-8"	3'-0"	10"	5'-0"	6'-2"	1'-6"
2'-6"	5'-2"	3'-6"	10"	6'-0"	7'-2"	1'-6"

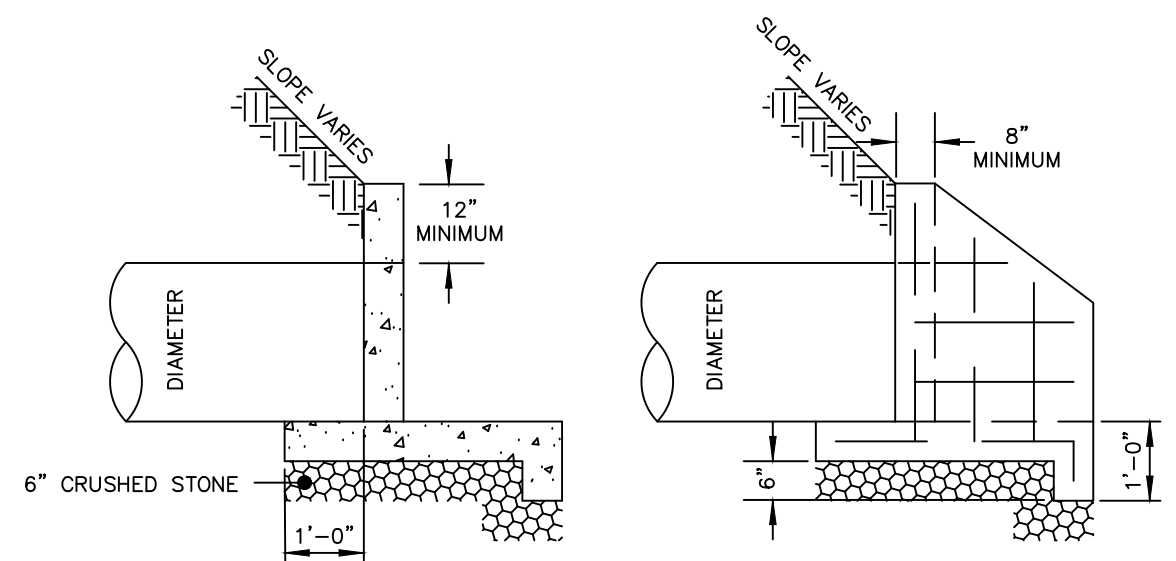
**TABLE OF DIMENSIONS
TYPE "U", CONCRETE ENDWALL (SLOPE 3:1 OR FLATTER)**

DIMENSIONS						
OPENING	WALL			FOOTING		
D	L	H	E	J	F	G
1'-3"	3'-9"	2'-3"	9"	6'-0"	7'-1"	1'-3"
1'-6"	4'-0"	2'-6"	9"	6'-0"	7'-1"	1'-3"
2'-0"	4'-8"	3'-0"	10"	7'-6"	8'-8"	1'-6"
2'-6"	5'-2"	3'-6"	10"	9'-0"	10'-2"	1'-6"

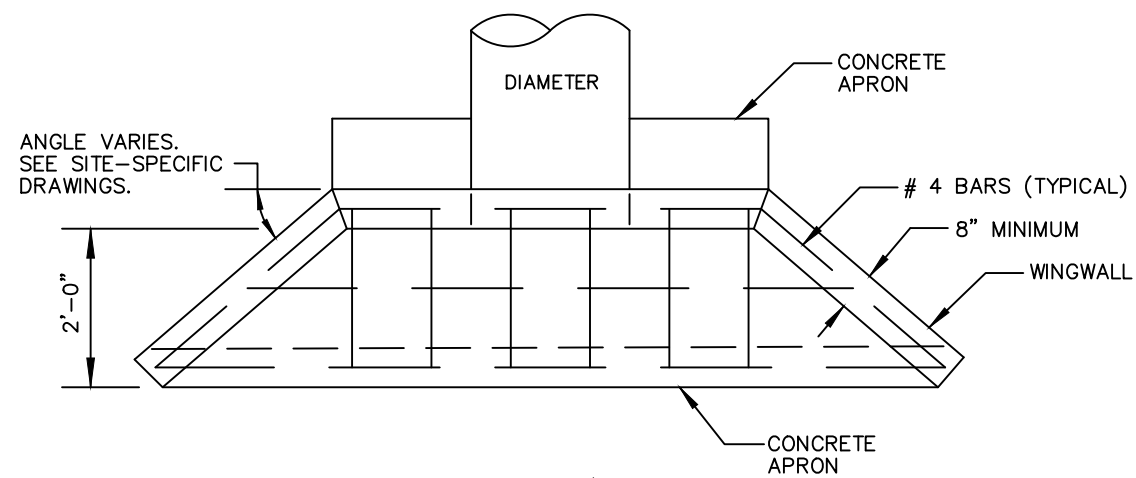
HAMILTON COUNTY		
CONCRETE ENDWALL (TYPE U)		
	DATE OF ORIGINAL ISSUE JULY 18, 2022	STANDARD NUMBER : HCSD-306.01
0 NO.	INITIAL ISSUE REVISION	07/18/22 DATE



FRONT VIEW



CROSS SECTION



PLAN

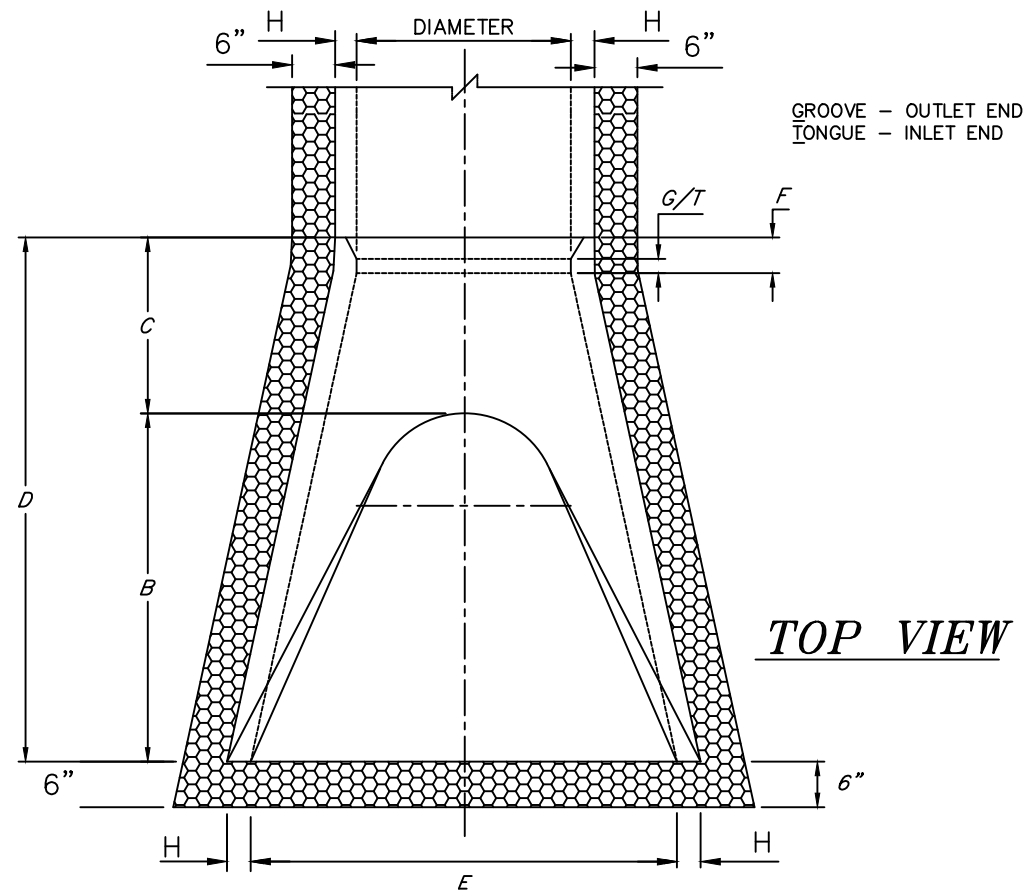
PIPE SIZE CHART *				
DIAMETER	15"	18"	24"	30"
HEIGHT	2'-9"	3'-0"	3'-6"	4'-0"
WIDTH	4'-3"	4'-6"	5'-0"	5'-6"

* ALL DIMENSIONS SHOWN ARE MINIMUMS.

NOTES

1. IF CONDITIONS REQUIRE ANY VARIATION IN THE SIZE OF A WINGWALL, IT MUST FIRST BE APPROVED BY THE GOVERNMENTAL ENGINEER BEFORE CONSTRUCTION BEGINS.
2. ALL REINFORCING STEEL SHALL HAVE A 3" (MINIMUM) CONCRETE COVER.
3. SEE PIPE SIZE CHART FOR DIMENSIONS ASSOCIATED WITH PIPE DIAMETERS.
4. A 1" CHAMFER SHALL BE USED ON EACH EXPOSED EDGE AND CORNER.
5. #4 BARS (TYPICAL) SHALL BE @ 1'-0" C.C. EACH WAY IN THE CENTER OF SLABS AND WALLS.

			HAMILTON COUNTY	
			CONCRETE ENDWALL (TYPE W)	
			DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCS D-307.01
			JULY 18, 2022	
0	INITIAL ISSUE	07/18/22		
NO.	REVISION	DATE		

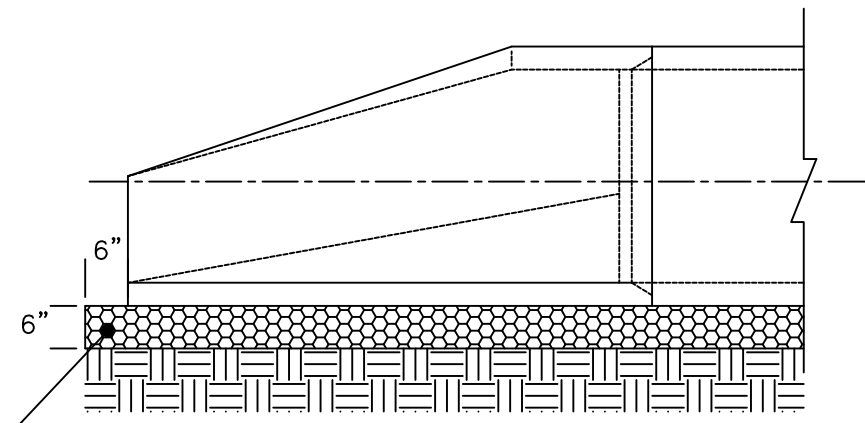
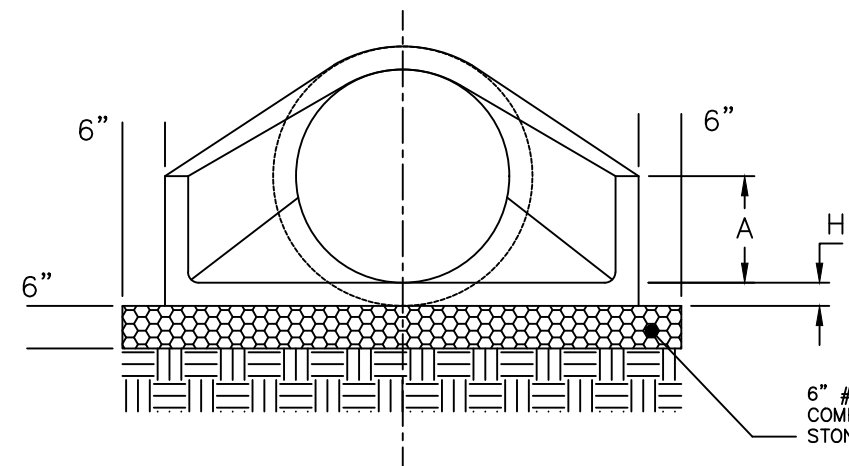


GROOVE - OUTLET END
TONGUE - INLET END

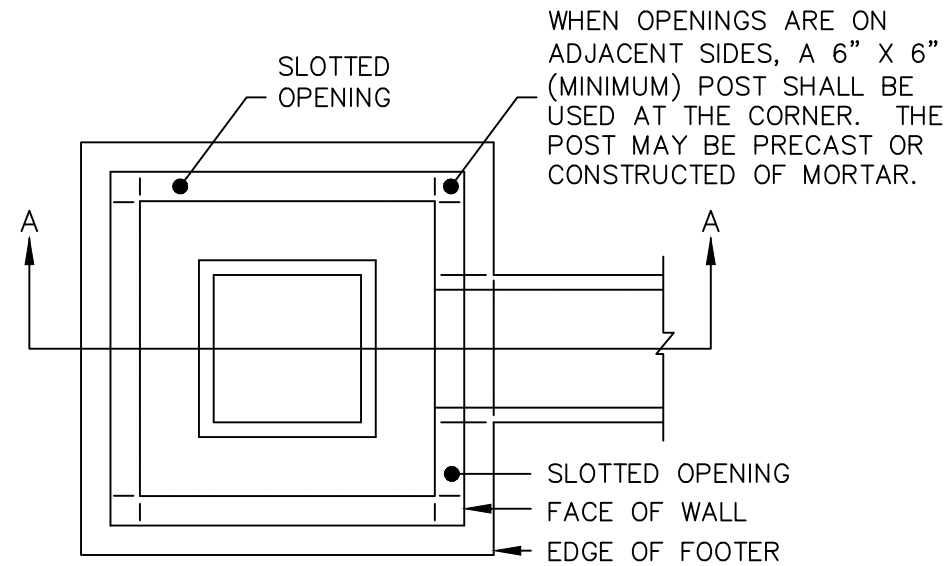
FLARED-END SECTION DIMENSIONS (INCHES)

PIPE SIZE	A	B	C	D	E	F	G/T	H
15"	6.0	27.0	46.00	73.00	30	3.5	2.0	2.25
18"	9.0	27.0	46.00	73.00	36	4.0	2.5	2.50
24"	9.5	43.5	30.00	73.50	48	4.5	2.5	3.00
30"	12	54.0	19.75	73.75	60	5.0	3.0	3.25

NOTES
 G DENOTES GROOVE - OUTLET END.
 T DENOTES TONGUE - INLET END.
 H DENOTES THE WALL THICKNESS.



HAMILTON COUNTY		
CONCRETE ENDWALL (PRECASE-FLARED)		
	DATE OF ORIGINAL ISSUE JULY 18, 2022	STANDARD NUMBER : HCSD-308.01
0 NO.	INITIAL ISSUE REVISION	07/18/22 DATE

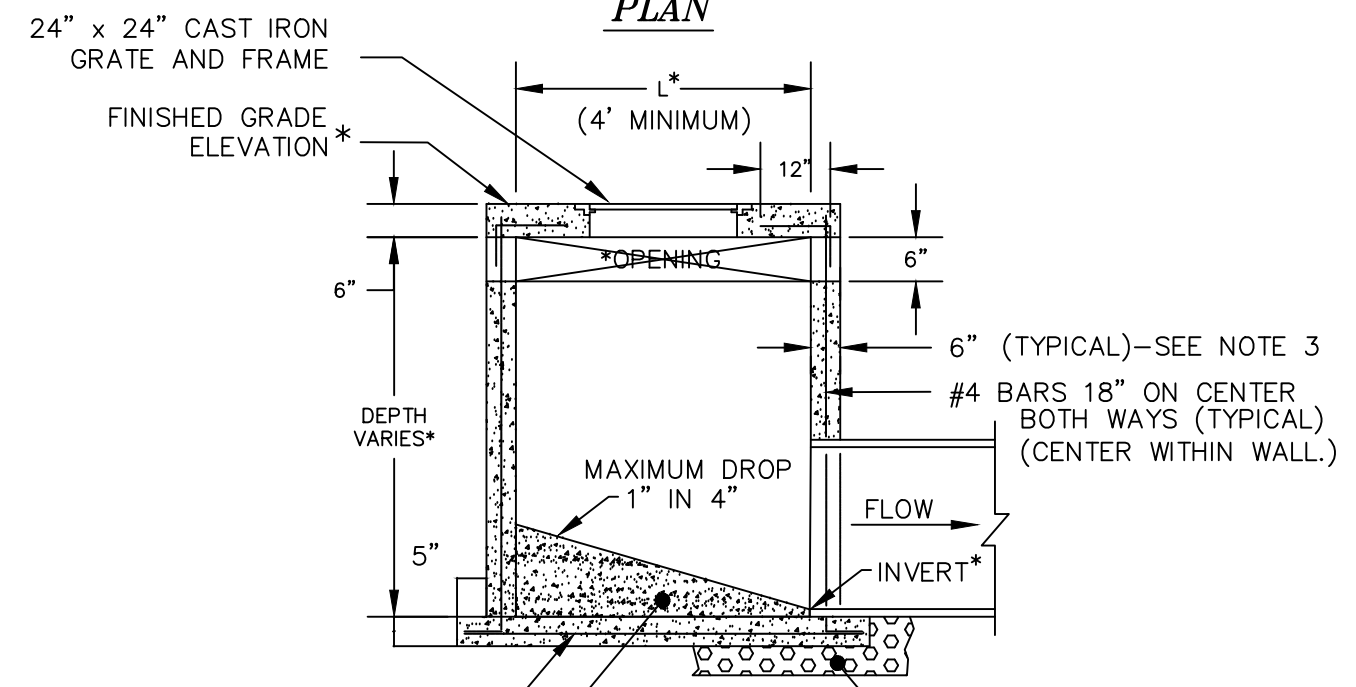


PLAN

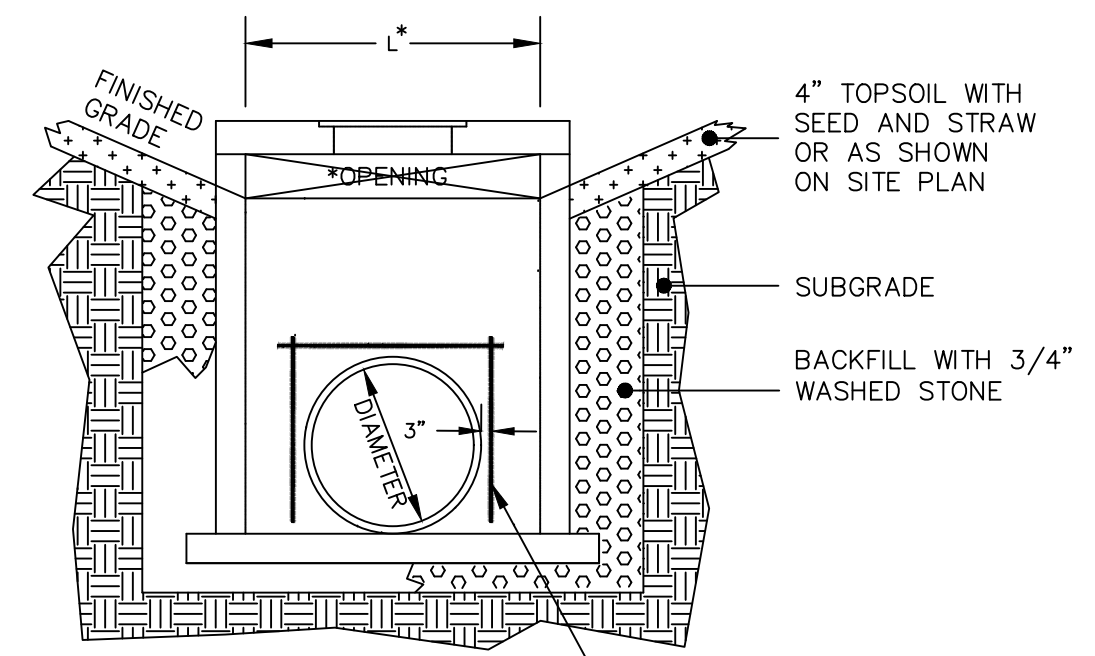
WHEN OPENINGS ARE ON ADJACENT SIDES, A 6" X 6" (MINIMUM) POST SHALL BE USED AT THE CORNER. THE POST MAY BE PRECAST OR CONSTRUCTED OF MORTAR.

NOTES

1. WHEN THE DEPTH OF THE STRUCTURE IS GREATER THAN 4'-0", STEPS SHALL BE PROVIDED AT 12" ON CENTER.
2. PRECAST ELEMENTS SHALL BE ALLOWED UP TO THE BOTTOM OF THE OPENING, WITH DOWELS ON 12" CENTERS SECURING THE REMAINDER THAT SHALL BE CAST-IN-PLACE CONCRETE.
3. CONCRETE CONSTRUCTION IS SHOWING, BUT 8" BRICK CONSTRUCTION WILL BE ALLOWED.



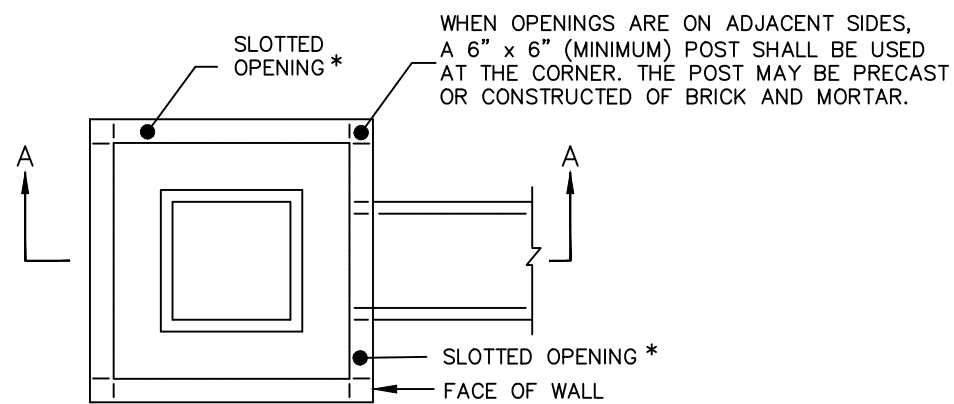
SECTION A-A



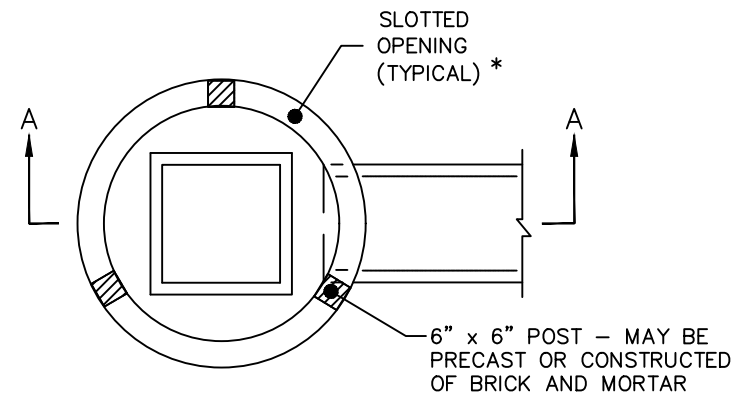
SIDE VIEW

* SEE SITE-SPECIFIC PLANS AND PROFILES FOR DEPTHS, ELEVATIONS, AND NUMBER AND LOCATIONS OF OPENINGS.

HAMILTON COUNTY		
DROP INLET		
	DATE OF ORIGINAL ISSUE JULY 18, 2022	STANDARD NUMBER : HCSD-309.01
	INITIAL ISSUE NO. REVISION	
	07/18/22 DATE	



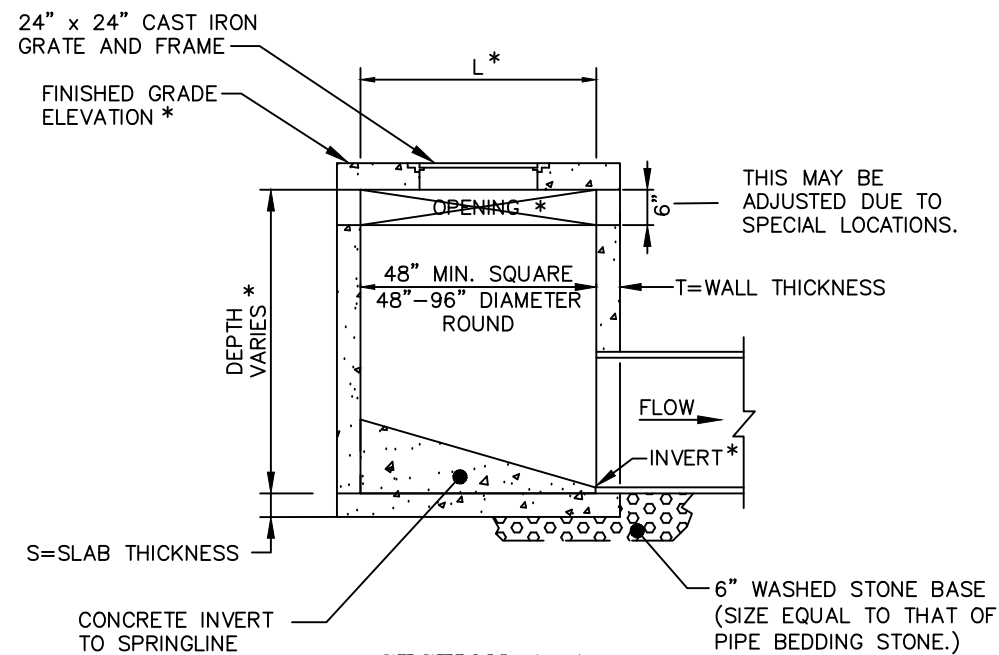
PLAN
SQUARE BASIN
(48" x 48" MINIMUM) **



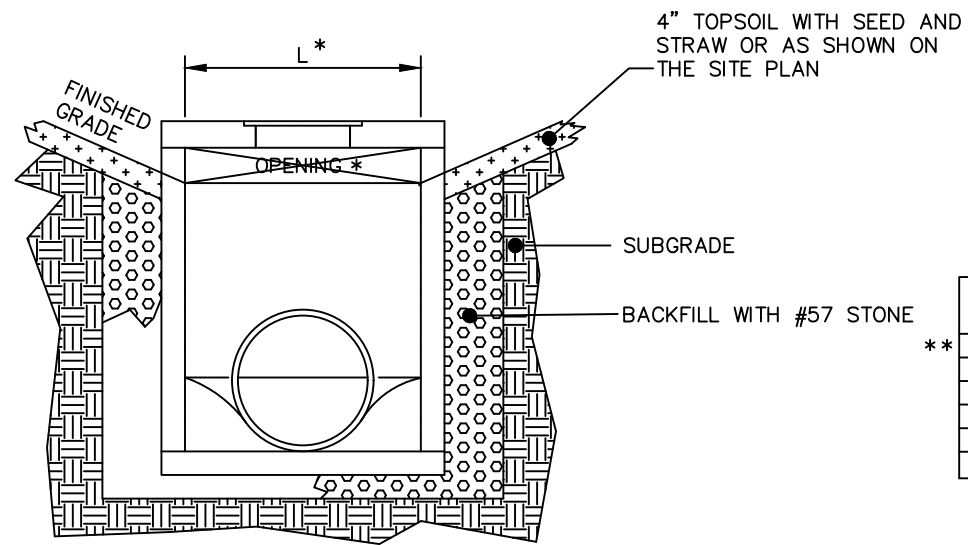
PLAN
ROUND MANHOLE TYPE
(48" DIAMETER - 96" DIAMETER)

NOTES

1. STEPS SHALL BE PROVIDED WHEN THE DEPTH OF THE STRUCTURE IS GREATER THAN 4'-0". STEPS SHALL BE PLACED ON 16" CENTERS.
2. SQUARE INLETS MAY HAVE FOUR OPENINGS AND MAY BE LOCATED ON ANY OR ALL SIDES. ROUND-MANHOLE-TYPE DROP INLETS MAY HAVE A MAXIMUM OF THREE OPENINGS.
- **3. SQUARE INLETS SHALL MEET A.S.T.M. C 913 REQUIREMENTS FOR WALL THICKNESS, SLAB THICKNESS, CONCRETE STRENGTH, AND STEEL REINFORCEMENT REQUIREMENTS. ROUND INLETS SHALL MEET A.S.T.M. C 478.
4. THE TOP AND ITS SUPPORTS MAY BE PRECAST AS ONE UNIT.



SECTION A-A



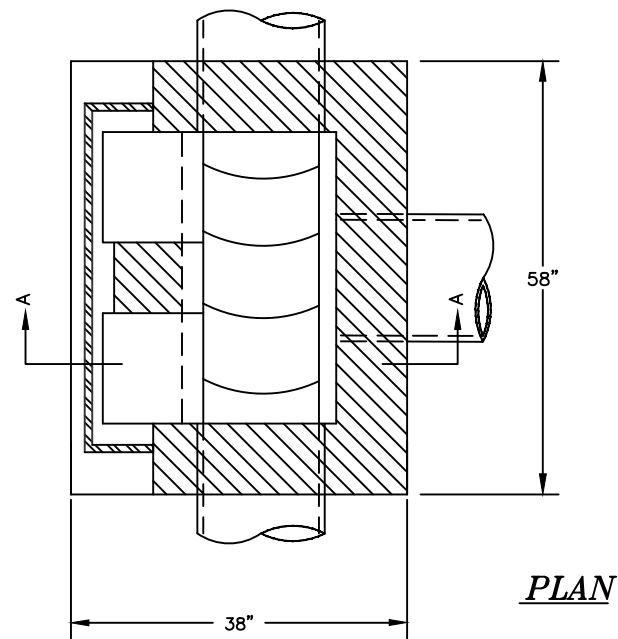
SIDE VIEW

STRUCTURE TYPE	(T) WALL THICKNESS	(S) SLAB THICKNESS
48" x 48"	8"	8"
48" DIAM.	5"	6"
60" DIAM.	6"	8"
72" DIAM.	7"	8"
84" DIAM.	8"	8"
96" DIAM.	8"	8"

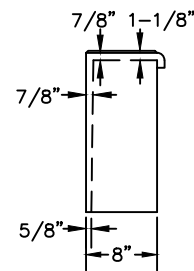
* SEE SITE-SPECIFIC PLANS AND PROFILES FOR 'L', DEPTHS, ELEVATIONS, AND NUMBER AND LOCATIONS OF OPENINGS.

** LARGER SIZES MEETING A.S.T.M. C 913 REQUIREMENTS ARE AVAILABLE UPON REQUEST.

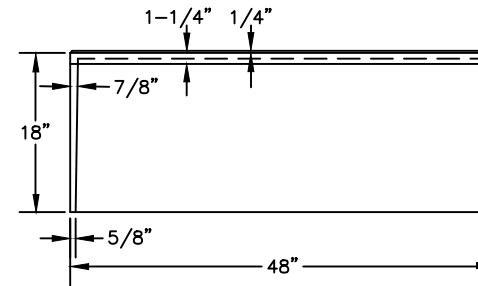
			HAMILTON COUNTY	
			DROP INLET (PRECAST CONCRETE)	
		DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCS D-309.02	
0	INITIAL ISSUE	07/18/22		
NO.	REVISION	DATE		



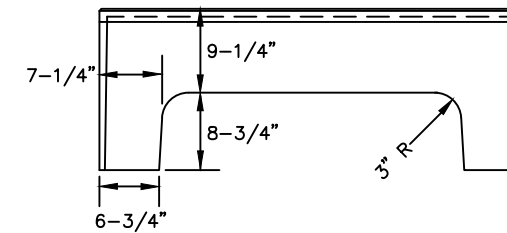
PLAN
SOLID OR OPEN BACK



SIDE VIEW

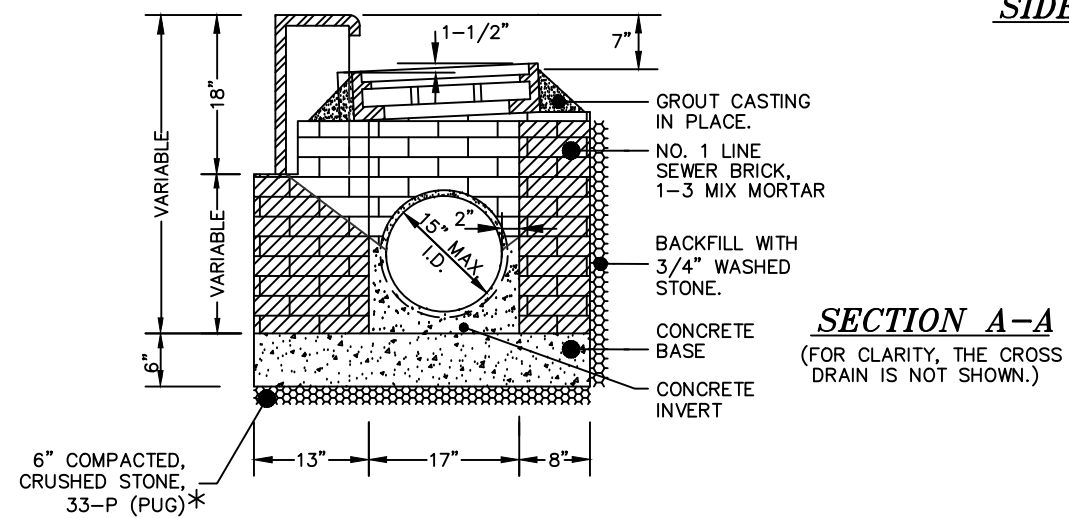


FRONT VIEW
SOLID BACK



FRONT VIEW
OPEN BACK

CURB IRON OR UPRIGHT FRAME



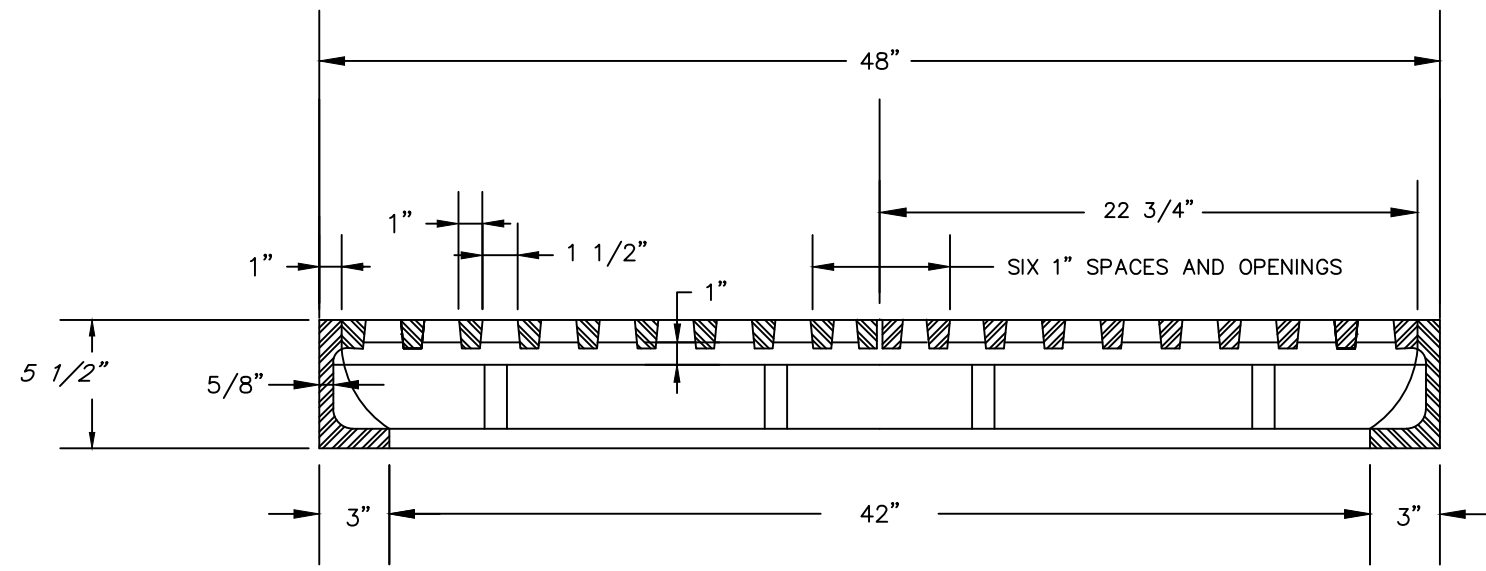
CATCH BASIN WITH BACK

SECTION A-A
(FOR CLARITY, THE CROSS DRAIN IS NOT SHOWN.)

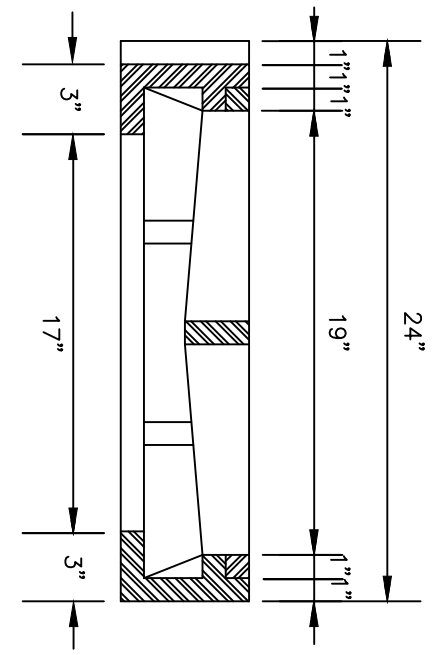
* "33-P (PUG)" - 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS.

NOTE
FOR BRICK CONSTRUCTION, JOINTS SHALL ALWAYS BE COMPLETELY FILLED WITH MORTAR. BRICKS SHALL BE LAID WITH VERTICAL MORTAR JOINTS NOT MORE THAN 3/8" THICK AND HORIZONTAL MORTAR JOINTS NOT LESS THAN 3/8" THICK AT THE INSIDE FACE. INSIDE JOINTS SHALL BE TROWEL STRUCK, FLUSH JOINTS TO PROVIDE A SMOOTH, CLEAN SURFACE, WHILE OUTSIDE WALLS SHALL BE ENTIRELY COVERED WITH MORTAR FOR A SMOOTH, CLEAN SURFACE.

			HAMILTON COUNTY	
			CATCH BASIN (STANDARD) FRAME AND GRATE	
			DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCSD-310.01
0	INITIAL ISSUE	07/18/22	JULY 18, 2022	
NO.	REVISION	DATE		



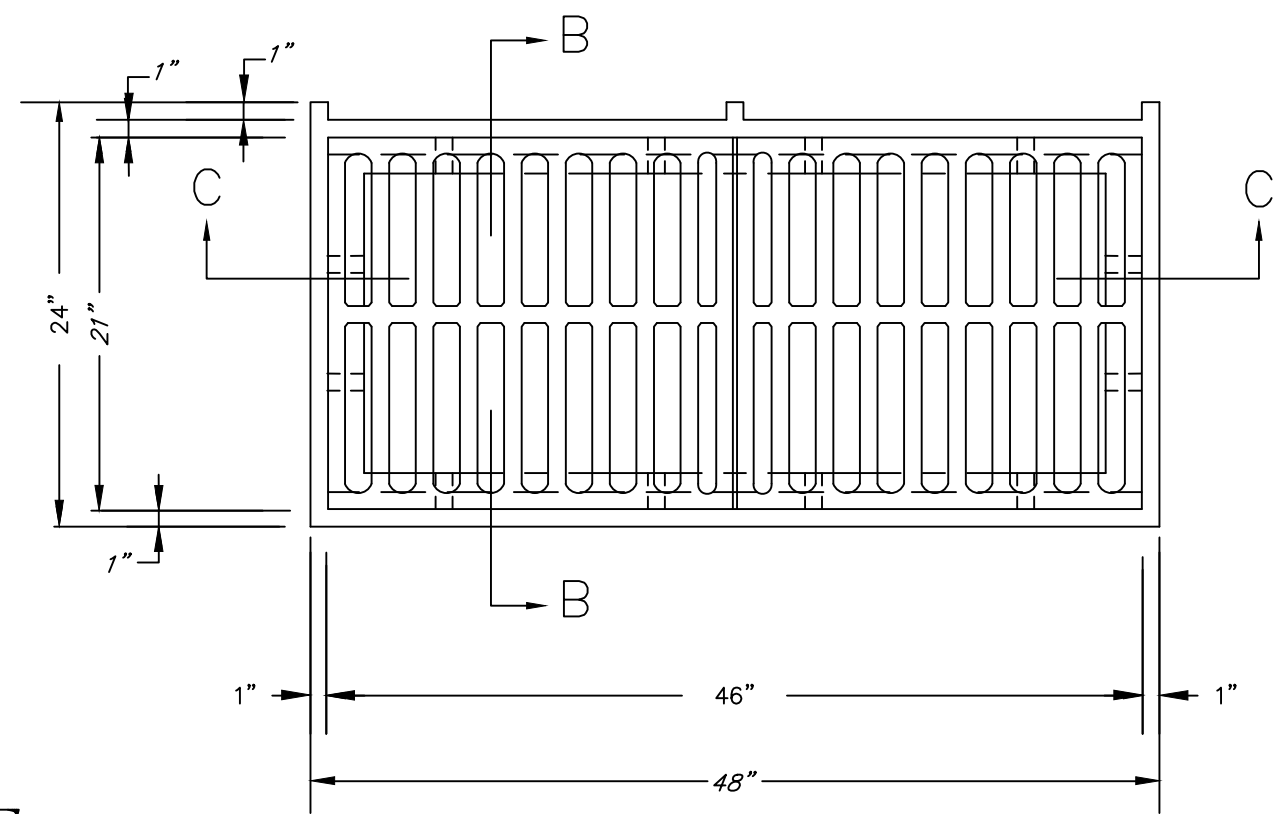
SECTION C-C



SECTION B-B

NOTES

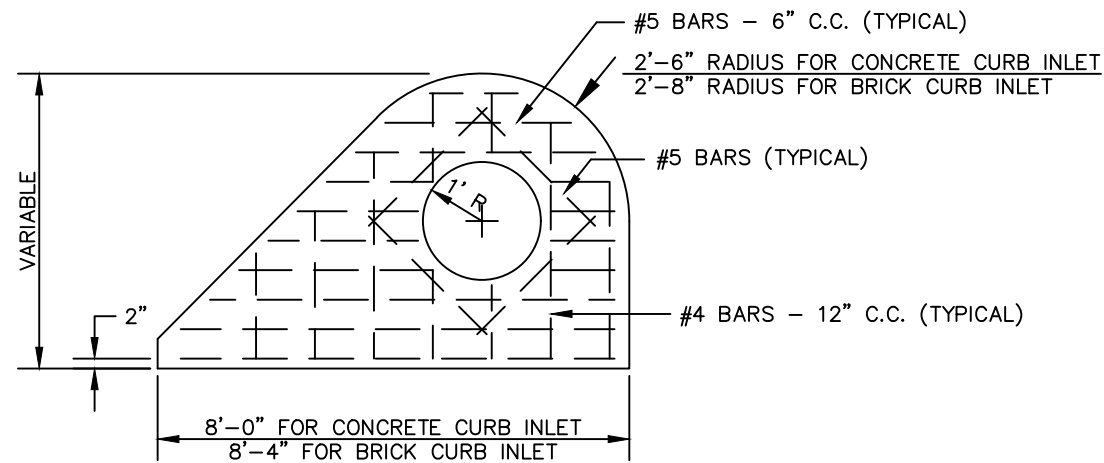
1. BRICKS SHALL BE GRADE MA, MEDIUM HARD OR BETTER, AND SHALL CONFORM TO THE LATEST A.S.T.M. C-32.
 2. CAST IRON STEPS, FRAMES, GRATES, AND CURB IRONS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF A.A.S.H.T.O. M-105.
- PRECAST STRUCTURES
3. THESE MAY BE USED IN LIEU OF BRICK OR CAST-IN-PLACE CONCRETE STRUCTURES.
 4. THESE SHALL HAVE MINIMUM INSIDE DIMENSIONS OF 28" X 63".
 5. ACHESON (#V-4078-2) FRAME AND GRATE X 2, OR EQUAL, SHALL BE USED FOR THESE STRUCTURES.
 6. WALL THICKNESS, CONCRETE STRENGTH, AND STEEL REINFORCEMENT SHALL MEET A.S.T.M. C-913.



GRATE

PLAN

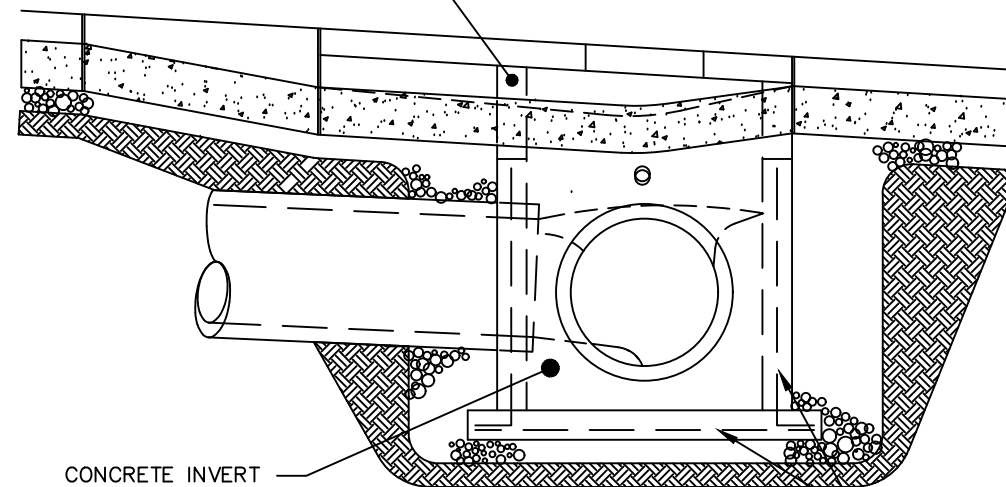
			HAMILTON COUNTY	
			CATCH BASIN (STANDARD) FRAME AND GRATE	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : <i>HCSD-310.02</i>
NO.	REVISION	DATE	JULY 18, 2022	



LEFT HAND TOP SLAB

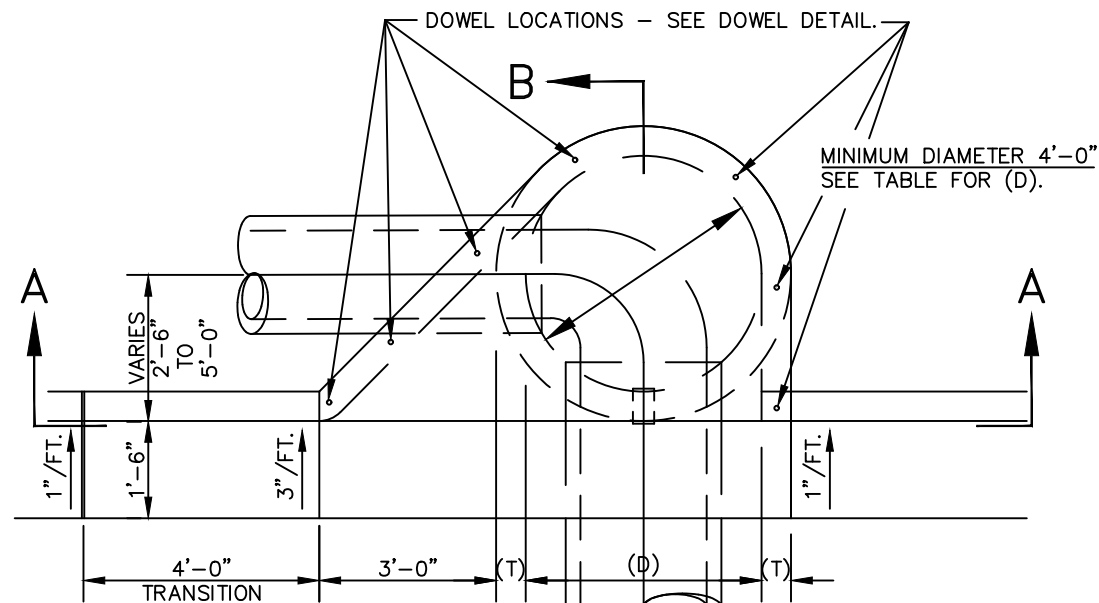
(D) = 4'-0"

TOP 18" OF BARREL SHALL BE CAST-IN-PLACE CONCRETE. LOWER PORTION MAY BE PRECAST OR CAST-IN-PLACE.



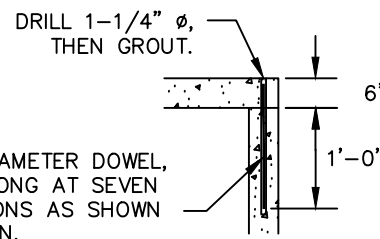
SECTION A-A

#4 BARS 12" ON CENTER BOTH WAYS (TYPICAL) (CENTER WITHIN SLAB AND WALL.)



ECCENTRIC CURB INLET *

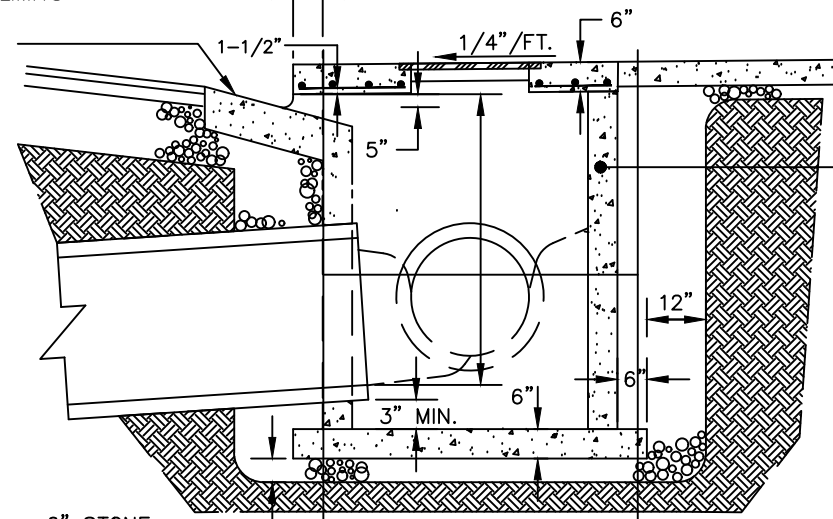
LEFT HAND PLAN - CONCRETE CONSTRUCTION SHOWN, BUT BRICK MAY BE USED.



DOWEL DETAIL

VARIES FROM 0'-0" TO 2'-6" TO ACCOMODATE EXISTING PIPING WITHIN THESE LIMITS

MAINTAIN SLOPE TO AVOID ACCUMULATION OF SEDIMENT.



SECTION B-B

6" CONCRETE WALL OR 8" BRICK WALL

6" STONE BEDDING

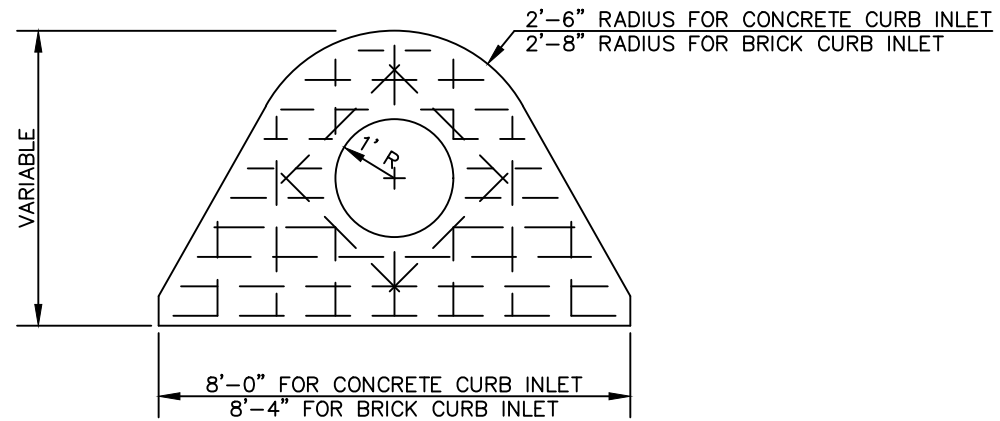
* SEE "NOTE" AT BOTTOM OF SD-609.02.

0	INITIAL ISSUE	07/18/22
NO.	REVISION	DATE

DATE OF ORIGINAL ISSUE
JULY 18, 2022

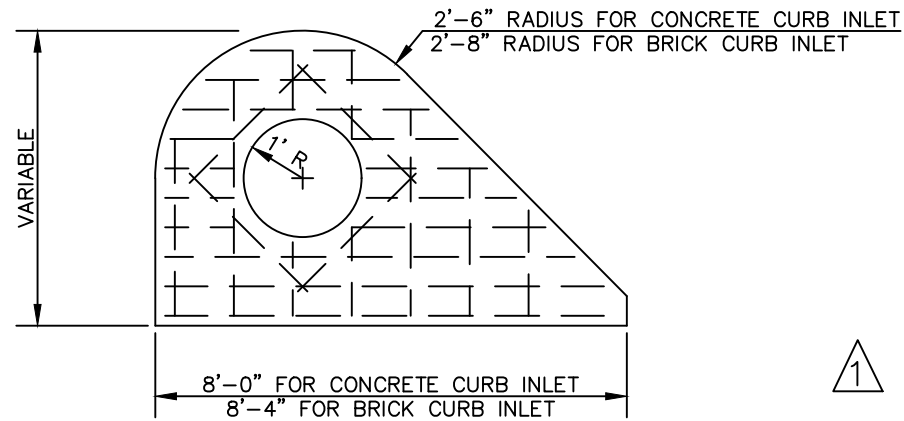
**HAMILTON COUNTY
CURB INLET (CONCRETE/BRICK)**

STANDARD NUMBER : **HCSD-311.01**



SUMP INLET TOP SLAB

(D) = 4'-0"

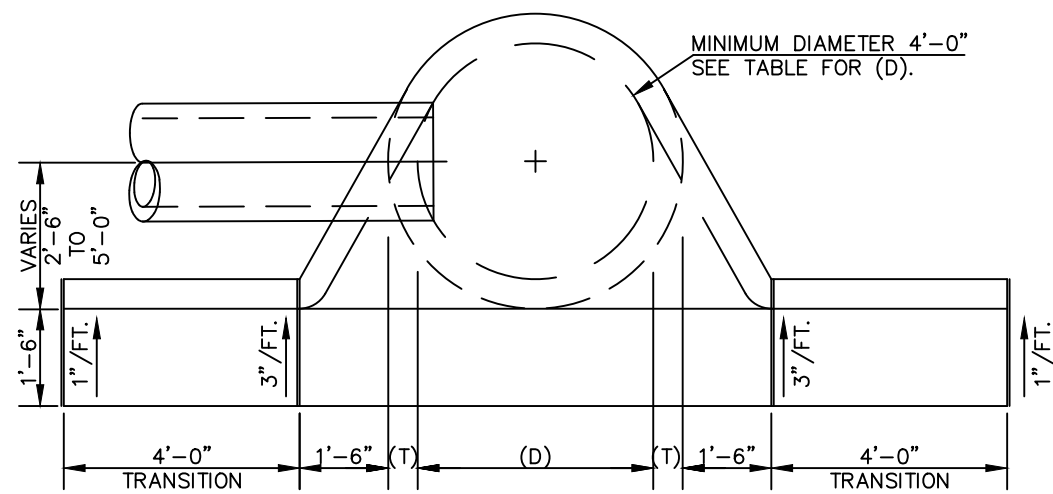


RIGHT HAND TOP SLAB

(D) = 4'-0"

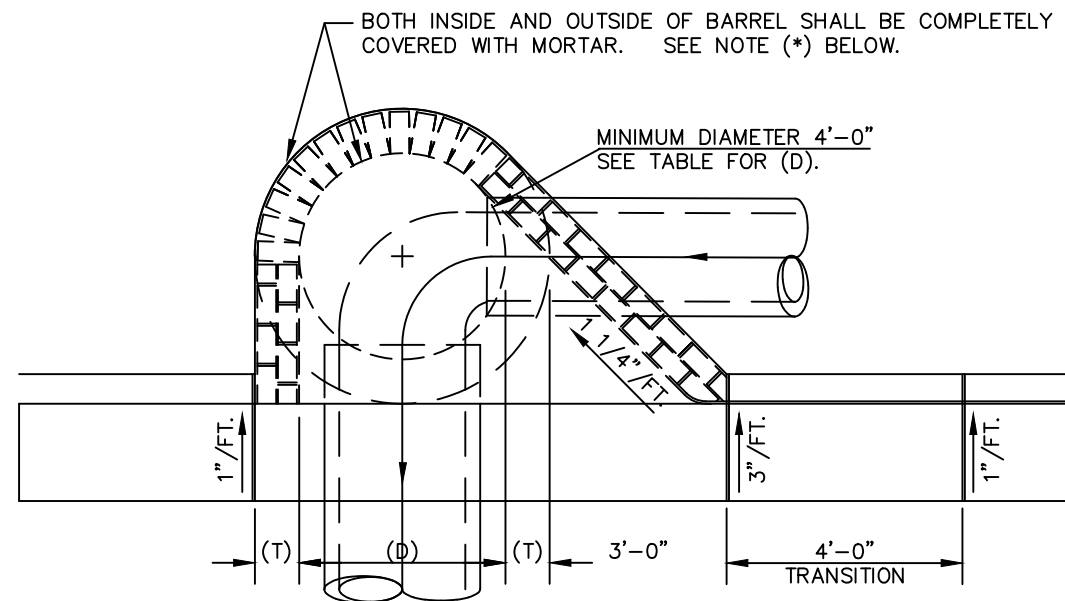
NOTES

1. THE TOP COVER IS TO BE PRECAST AND ATTACHED WITH GROUTED DOWELS.
2. MANHOLE STEPS ON 16" CENTERS SHALL BE PROVIDED WHEN CURB INLET DEPTH EXCEEDS FOUR (4) FEET.
3. THE MANHOLE FRAME AND COVER SHALL BE ACHESON FOUNDRY CASTING A-2522-41C OR EQUAL.
4. THE WORDS "NO DUMPING-DRAINS TO RIVER" ARE TO BE ON THE TOP SIDE OF EACH COVER. (SEE SD-301.03.)
5. CATCH BASIN FRAMES, BACKS, AND GRATES THAT ARE REMOVED BY THE CONTRACTOR SHALL REMAIN THE PROPERTY OF THE OWNER.



SUMP INLET *

CONCRETE CONSTRUCTION SHOWN, BUT BRICK MAY BE USED.



ECCENTRIC CURB INLET *

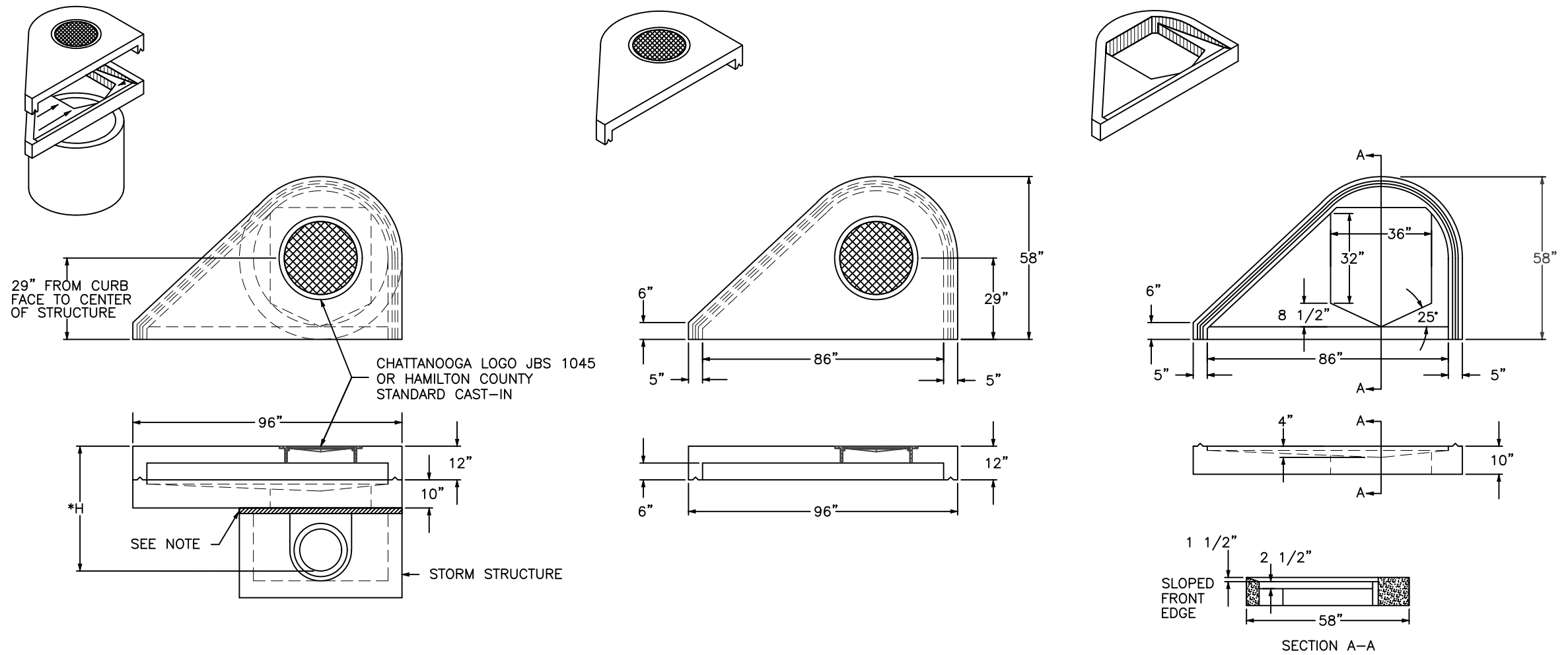
RIGHT HAND PLAN - BRICK CONSTRUCTION SHOWN, BUT CONCRETE MAY BE USED.

*** NOTE**

FOR BRICK CONSTRUCTION, JOINTS SHALL ALWAYS BE COMPLETELY FILLED WITH MORTAR. BRICKS SHALL BE LAID RADIALLY WITH VERTICAL MORTAR JOINTS NOT MORE THAN 3/8" THICK AND HORIZONTAL MORTAR JOINTS NOT LESS THAN 3/8" THICK AT THE INSIDE FACE. INSIDE JOINTS SHALL BE TROWEL STRUCK, FLUSH JOINTS TO PROVIDE A SMOOTH, CLEAN SURFACE, WHILE OUTSIDE WALLS SHALL BE ENTIRELY COVERED WITH MORTAR FOR A SMOOTH, CLEAN SURFACE.

PIPE SIZE	(D) INLET DIAMETER	(T) WALL THICKNESS		(H) MINIMUM DEPTH	
		CONC.	BRICK		
12"	4'	6"	8"	2.83'	
15"	4'	6"	8"	3.10'	
18"	4'	6"	8"	3.38'	
21"	4'	6"	8"	3.65'	
24"	4'	6"	8"	3.92'	
30"	4'	6"	8"	4.46'	
36"	5'	8"	12"	5.00'	
42"	5'	8"	12"	5.54'	
48"	6'	8"	12"	6.08'	
54"	7'	8"	12"	6.63'	
60"	8'	8"	12"	7.17'	
SPAN	RISE				
14"	9"	4'	6"	8"	2.42'
17"	13"	4'	6"	8"	2.75'
21"	15"	4'	6"	8"	2.92'
24"	18"	4'	6"	8"	3.21'
28"	20"	4'	6"	8"	3.38'
35"	24"	5'	8"	12"	3.71'
42"	29"	5'	8"	12"	4.17'
49"	33"	6'	8"	12"	4.50'
57"	38"	6'	8"	12"	4.92'
64"	43"	7'	8"	12"	5.33'

			HAMILTON COUNTY	
			CURB INLET (CONCRETE/BRICK)	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCS D-311.02
NO.	REVISION	DATE	JULY 18, 2022	



29" FROM CURB
FACE TO CENTER
OF STRUCTURE

CHATTANOOGA LOGO JBS 1045
OR HAMILTON COUNTY
STANDARD CAST-IN

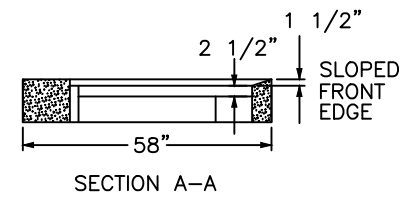
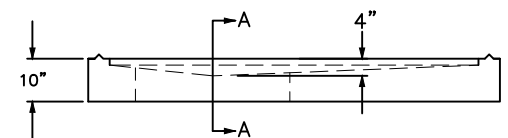
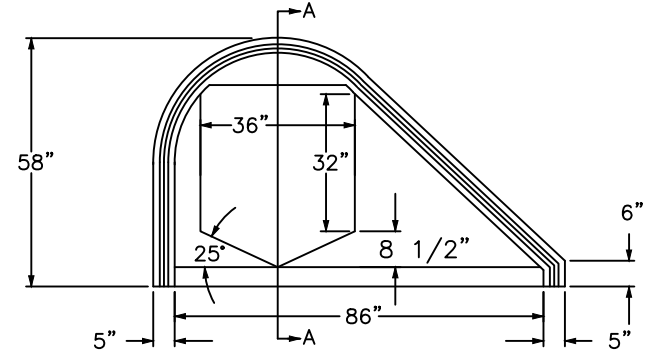
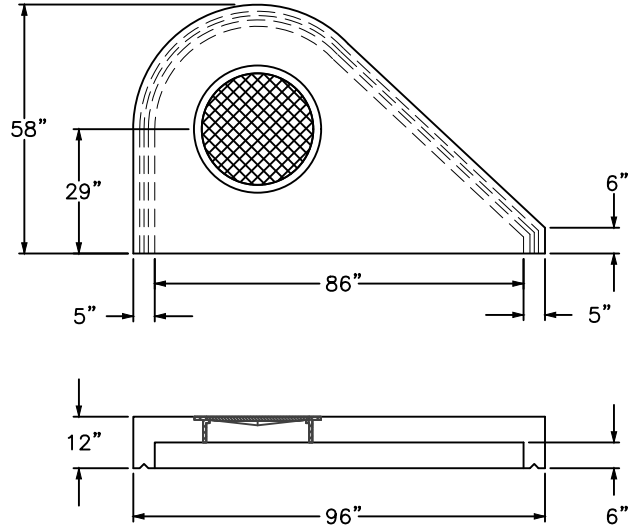
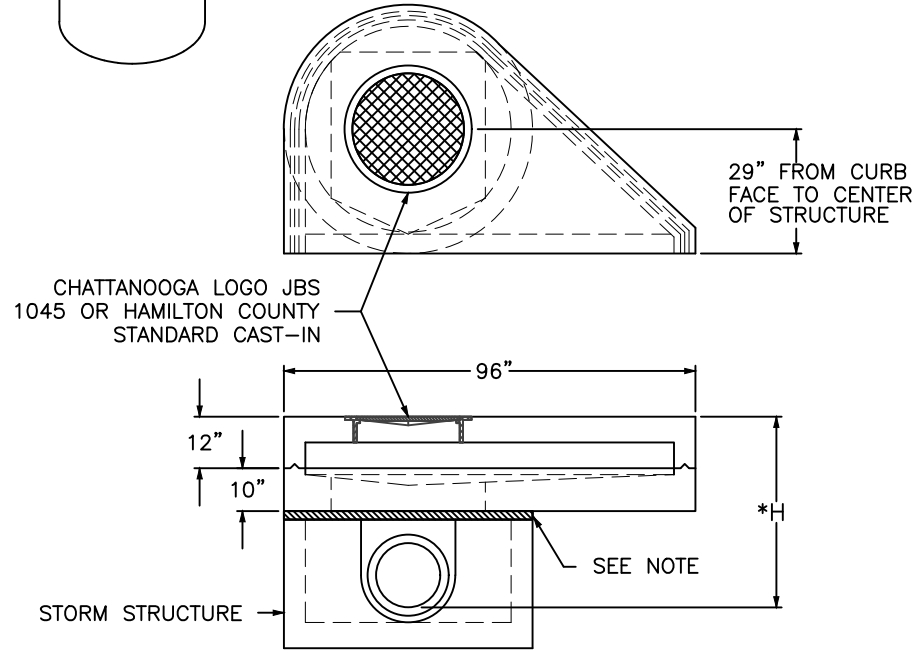
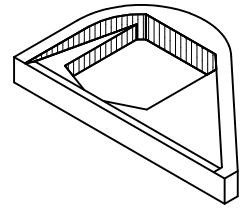
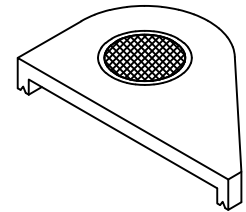
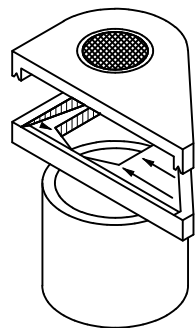
SEE NOTE

STORM STRUCTURE

NOTE
4" OF ADJUSTMENT IF ROADWAY SLOPE IS
EQUAL TO OR LESS THAN 5 PERCENT. IF
ROADWAY SLOPE EXCEEDS 5 PERCENT,
THEN ADDITIONAL ADJUSTMENT MUST BE
USED UP TO A MAXIMUM OF 8".

*H: SEE STANDARD
SD-313.01

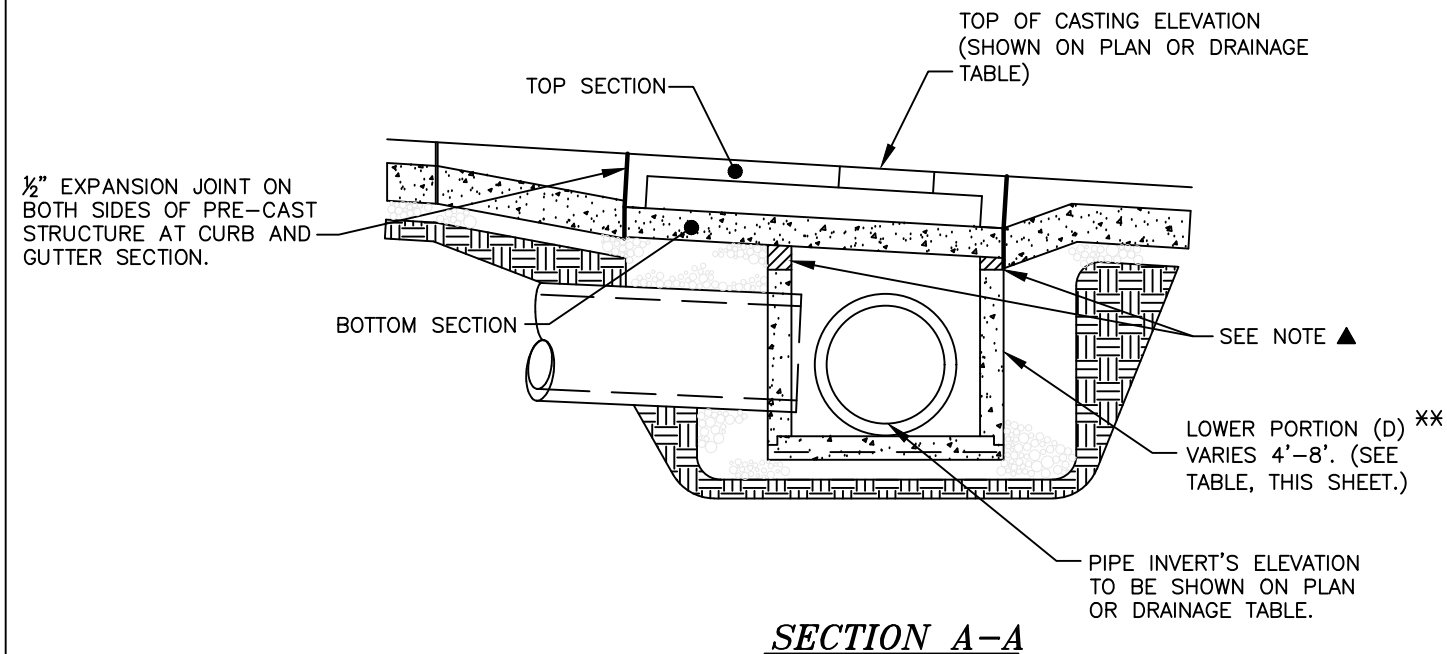
			HAMILTON COUNTY	
			<i>CURB INLET-LEFT (PRECAST CONCRETE)</i>	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : <i>HCSD-312.01</i>
NO.	REVISION	DATE	<i>JULY 18, 2022</i>	



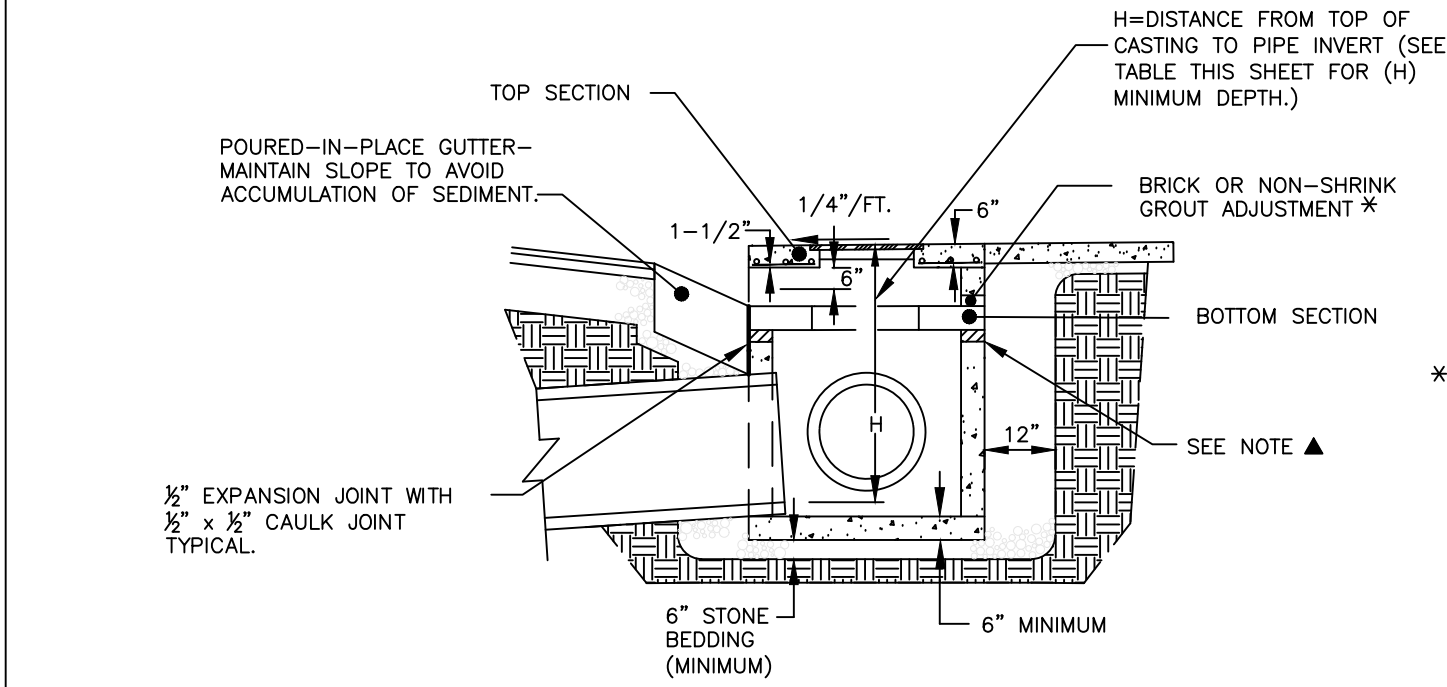
*H: SEE STANDARD
SD-313.01

NOTE
4" OF ADJUSTMENT IF ROADWAY SLOPE IS
EQUAL TO OR LESS THAN 5 PERCENT. IF
ROADWAY SLOPE EXCEEDS 5 PERCENT,
THEN ADDITIONAL ADJUSTMENT MUST BE
USED UP TO A MAXIMUM OF 8".

			HAMILTON COUNTY	
			<i>CURB INLET-RIGHT (PRECAST CONCRETE)</i>	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : <i>HCSD-312.02</i>
NO.	REVISION	DATE	<i>JULY 18, 2022</i>	



SECTION A-A



SECTION B-B

*** ADJUSTMENTS**

FOR BRICK ADJUSTMENT CONSTRUCTION, JOINTS SHALL ALWAYS BE COMPLETELY FILLED WITH MORTAR. VERTICAL MORTAR JOINTS SHALL NOT BE MORE THAN 3/8" THICK AND HORIZONTAL MORTAR JOINTS NOT LESS THAN 3/8" THICK AT THE INSIDE FACE. INSIDE JOINTS SHALL BE TROWEL STRUCK, FLUSH JOINTS TO PROVIDE A SMOOTH, CLEAN SURFACE, WHILE OUTSIDE WALLS SHALL BE ENTIRELY COVERED WITH MORTAR FOR A SMOOTH, CLEAN SURFACE. IF THE REQUIRED ADJUSTMENT IS LESS THAN 3", IT SHALL BE MADE BY PLACING NON-SHRINK GROUT TO OBTAIN THE PROPER ELEVATION AT THE TOP OF THE SLAB.

PIPE SIZE	(D) LOWER PORTION INLET DIAMETER**	(T) WALL THICKNESS CONCRETE	(H) MINIMUM DEPTH
12"	4'	5"	3.25'
15"	4'	5"	3.5'
18"	4'	5"	4.0'
21"	4'	5"	4.25'
24"	4'	5"	4.5'
30"	4'	5"	5.0'
36"	5'	6"	6.5'
42"	6'	7"	6.75'
48"	6'	7"	7.25'
54"	7'	8"	8.0'
60"	8'	9"	8.5'

SPAN	RISE	(D)	(T)	(H)
23"x14"	4'	4'	5"	3.75'
30"x19"	4'	4'	6"	4.0'
38"x24"	5'	5'	6"	5.25'
45"x29"	6'	6'	7"	5.75'
53"x34"	7'	7'	8"	6.25'
60"x38"	8'	8'	9"	7.25'

** DIAMETER OF LOWER PORTION SHALL MEET MINIMUM DIAMETER (D) AS LISTED ABOVE. DIAMETER IS BASED ON PROPOSED PIPE SIZE. A PRECAST TRANSITION SLAB WILL BE UTILIZED TO ACCOMMODATE THE USE OF THE TOP PORTION AS SHOWN AND DIMENSIONED ON THIS DETAIL.

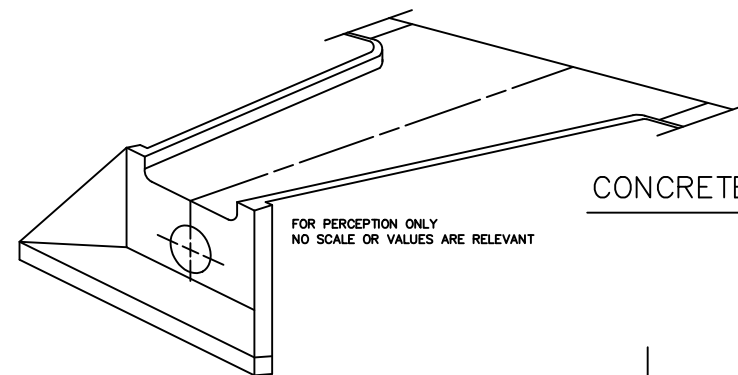
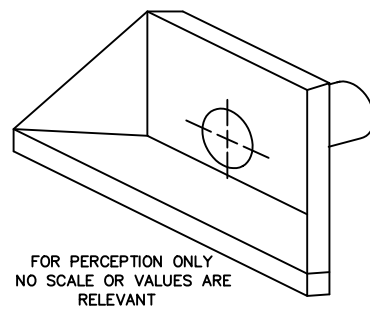
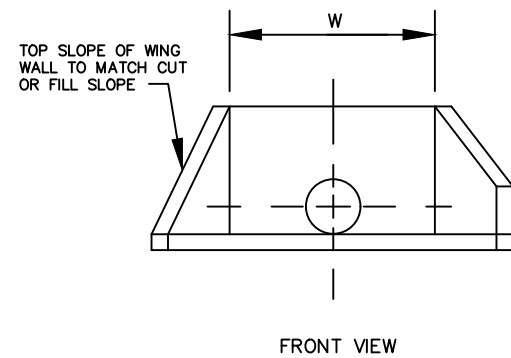
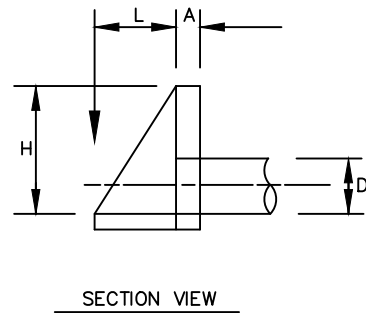
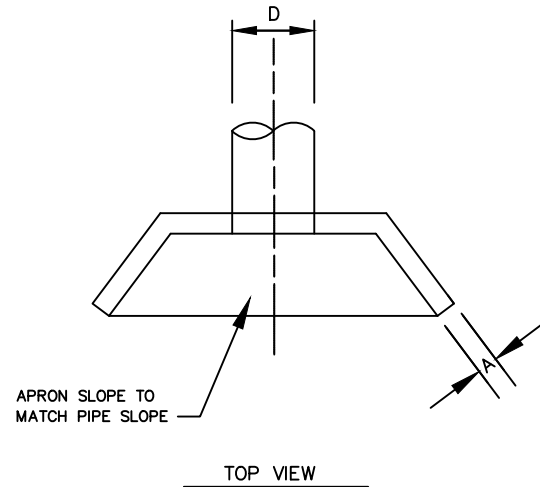
▲ 4" OF ADJUSTMENT IF ROADWAY SLOPE IS EQUAL TO OR LESS THAN 5 PERCENT. IF ROADWAY SLOPE EXCEEDS 5 PERCENT, THEN ADDITIONAL ADJUSTMENT MUST BE USED UP TO A MAXIMUM OF 8".

NOTES

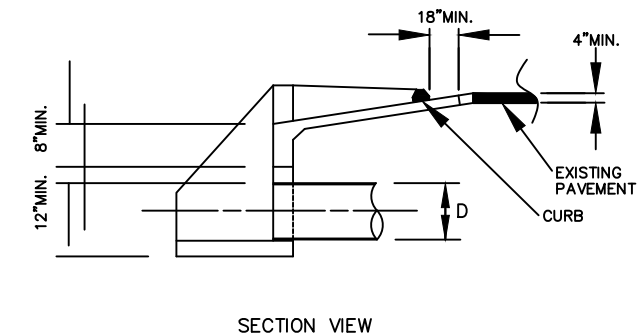
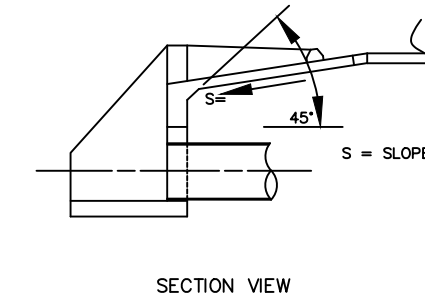
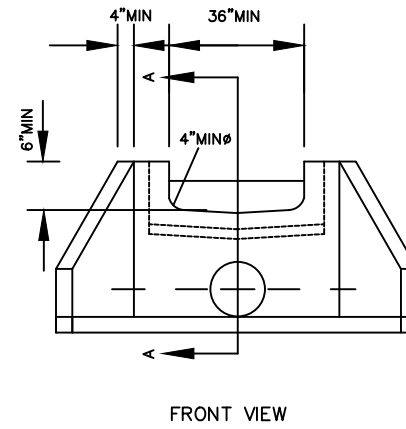
1. THE LOWER PORTION (ROUND, PRE-CAST MANHOLE) SHALL BE CONSTRUCTED TO MEET A.S.T.M. C-478.
2. MANHOLE STEPS ON 12" CENTERS SHALL BE PROVIDED WHEN THE CURB INLET DEPTH EXCEEDS FOUR (4) FEET.
3. THE MANHOLE FRAME AND COVER SHALL BE ACHESON FOUNDRY CASTING A-2522-41C OR EQUAL.
4. THE WORDS "NO DUMPING-DRAINS TO RIVER" ARE TO BE ON THE TOP SIDE OF EACH COVER. (SEE SD-301.03.)
5. CATCH BASIN FRAMES, BACKS, AND GRATES THAT ARE REMOVED BY THE CONTRACTOR SHALL REMAIN THE PROPERTY OF THE OWNER.
6. THE TOP SURFACE OF THE TOP SECTION SHALL HAVE A BROOM FINISH TO MATCH THE EXISTING OR PROPOSED SIDEWALK.
7. THE BOTTOM SECTION MAY BE RECTANGULAR.
8. H= DIMENSION FROM TOP OF CURB/CASTING TO PIPE INVERT
9. FORMULA FOR DETERMINING H = 22" FOR TOP UNIT + 4" ADJUSTMENT BETWEEN TOP AND PIPE CHAMBER + PIPE WALL THICKNESS + PIPE I.D. (22 + 4 + P + P)₁.
-EXAMPLE FOR 18" RCP - P₁ = 2.5 P₂ = 18
22 + 4 + 2.5 + 18 = 46.5"
46.5 / 12 = 3.87 (SAY 4.0)
*ROUNDED UP TO NEAREST 0.25" TO ALLOW FOR SOME FIELD ADJUSTMENT IF REQUIRED BY MINOR FIELD REVISIONS.
10. IN CRITICAL DEPTH SITUATIONS H MINIMUMS CAN BE REDUCED BY 0.25", BUT WOULD NOT SUGGEST TRYING TO DESIGN ENTIRE SYSTEM WITH CRITICAL DEPTH CUT HEIGHTS.
11. TO MEET THE MINIMUM H DIMENSION, PRECAST STRUCTURES MAY HAVE PIPE OPENINGS THAT DO NOT HAVE ANY CONCRETE ABOVE THE PIPE OPENING. PRECAST MANUFACTURER SHALL PROVIDE STAMPED STRUCTURE CALCULATIONS AND DESIGNS TO INDICATE THIS TYPE OF STRUCTURE WILL ACCOMODATE HS 20 LOADING WHEN USED IN CONJUNCTION WITH THE TOP PHASE UNITS.
12. 5' DIAMETER AND LARGER PIPE CHAMBERS REQUIRE 8" TRANSITION SLAB.
13. ADDITIONAL PIPES AND ANGLES MAY REQUIRE LARGER INLET DIAMETER. A MINIMUM OF 1'-0" IS REQUIRED FROM OUTSIDE OF CORE TO OUTSIDE OF CORE.

HAMILTON COUNTY		
CURB INLET (PRECAST CONCRETE)		
	DATE OF ORIGINAL ISSUE JULY 18, 2022	STANDARD NUMBER : HCS D-313.01
0 NO.	INITIAL ISSUE REVISION	07/18/22 DATE

D	15"	18"	24"	30"	36"	42"	48"	54"	60"
A	6"	6"	6"	6"	8"	8"	10"	10"	12"
H	2'-9"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	6'-0"	6'-6"	7'-0"
L	2'-0"	2'-0"	2'-0"	2'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"
W	4'-3"	4'-6"	5'-0"	5'-6"	7'-0"	8'-6"	9'-0"	9'-6"	10'-0"



CONCRETE SPILLWAY TYPE 1 WITH HEADWALL AND WINGWALL



If any conditions require any variation in the minimum size of any spillway, headwall, wingwall or other drainage structure it must first be approved by the County Engineer before construction is begun.

All Dimensions shown are minimum.

All structures to be sized to fit conditions.

Class "A" concrete to be used only.

Cross sectional area of all spillways to be determined by drainage area of contributory. Said area to be shown on plan.

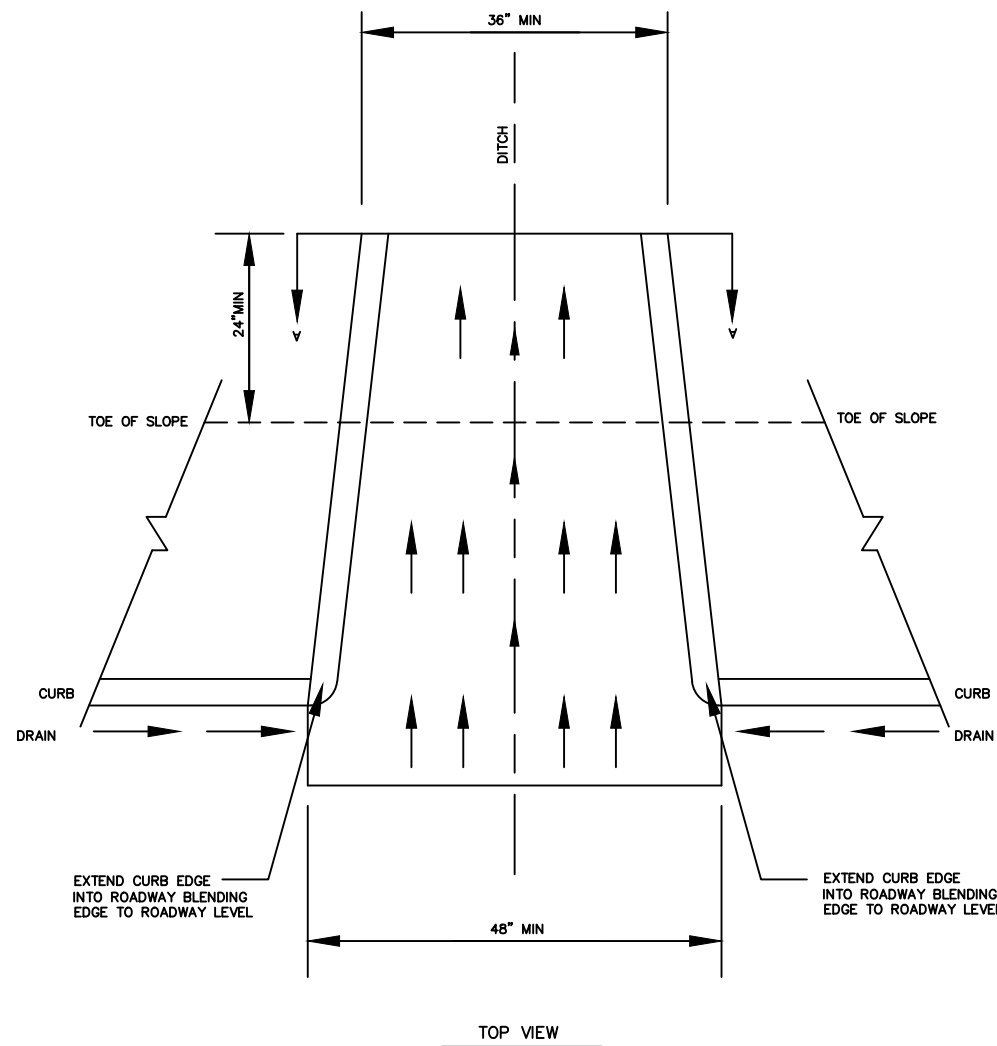
Elevation or top of headwall is to be 1-1/2" above the elevation of the top of the curb, unless conditions demand adjustments.

Concrete spillways are to be formed on all sides.

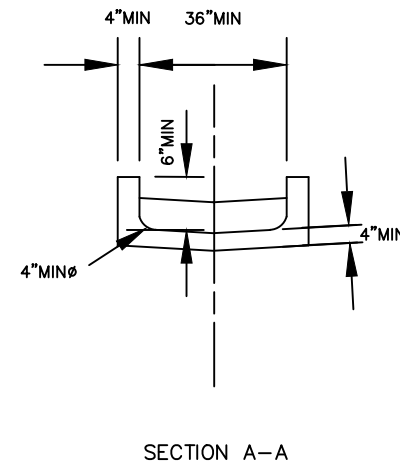
See "Headwall and Wingwall for Various Pipes" for dimensions and details.

HEADWALL & WINGWALL FOR VARIOUS PIPES

			HAMILTON COUNTY	
			CONCRETE FLUME/HEADWALL	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCS D-314.01
NO.	REVISION	DATE	JULY 18, 2022	



CONCRETE SPILLWAY TYPE 1



SECTION A-A

If any conditions require any variation in the minimum size of any spillway, headwall, wingwall or other drainage structure it must first be approved by the County Engineer before construction is begun.

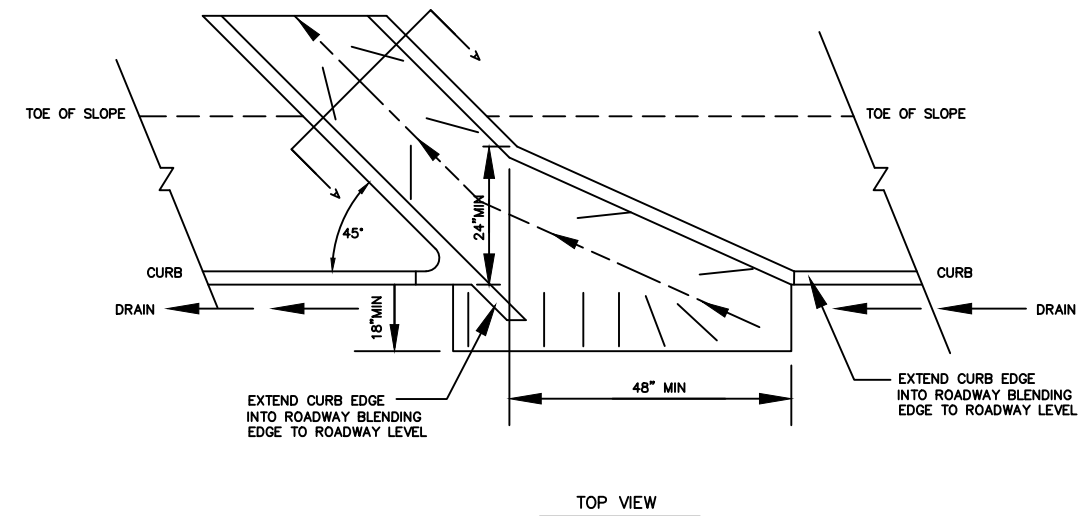
All Dimensions shown are minimum.

All structures to be sized to fit conditions.

Class "A" concrete to be used only.

Cross sectional area of all spillways to be determined by drainage area of contributory. Said area to be shown on plan.

Concrete spillways are to be formed on all sides.

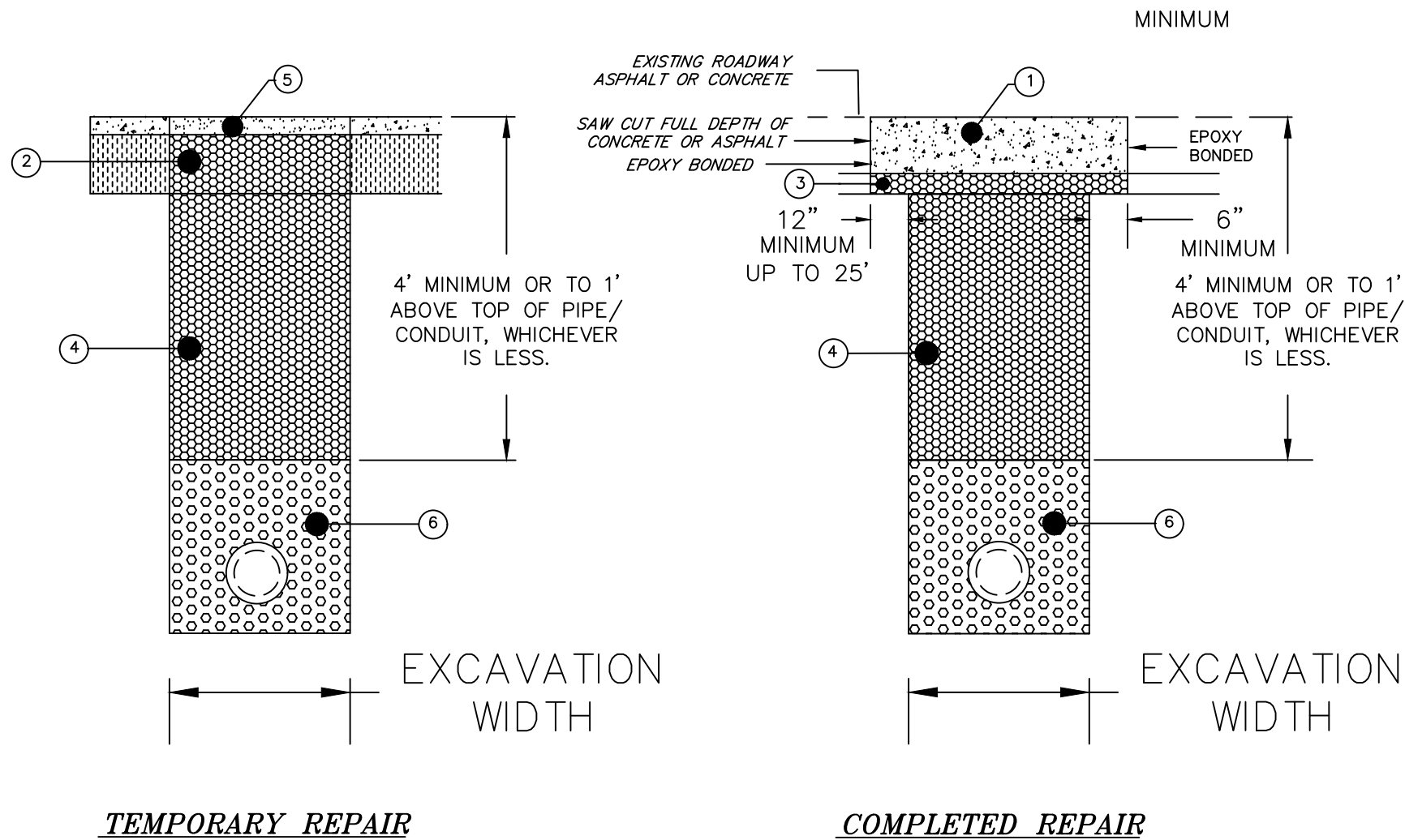


CONCRETE SPILLWAY TYPE 2

0	INITIAL ISSUE	07/18/22
NO.	REVISION	DATE

HAMILTON COUNTY	
CONCRETE FLUME/HEADWALL	
DATE OF ORIGINAL ISSUE JULY 18, 2022	STANDARD NUMBER : HCSD-314.02

REPAIRS



DRAWING NOTES

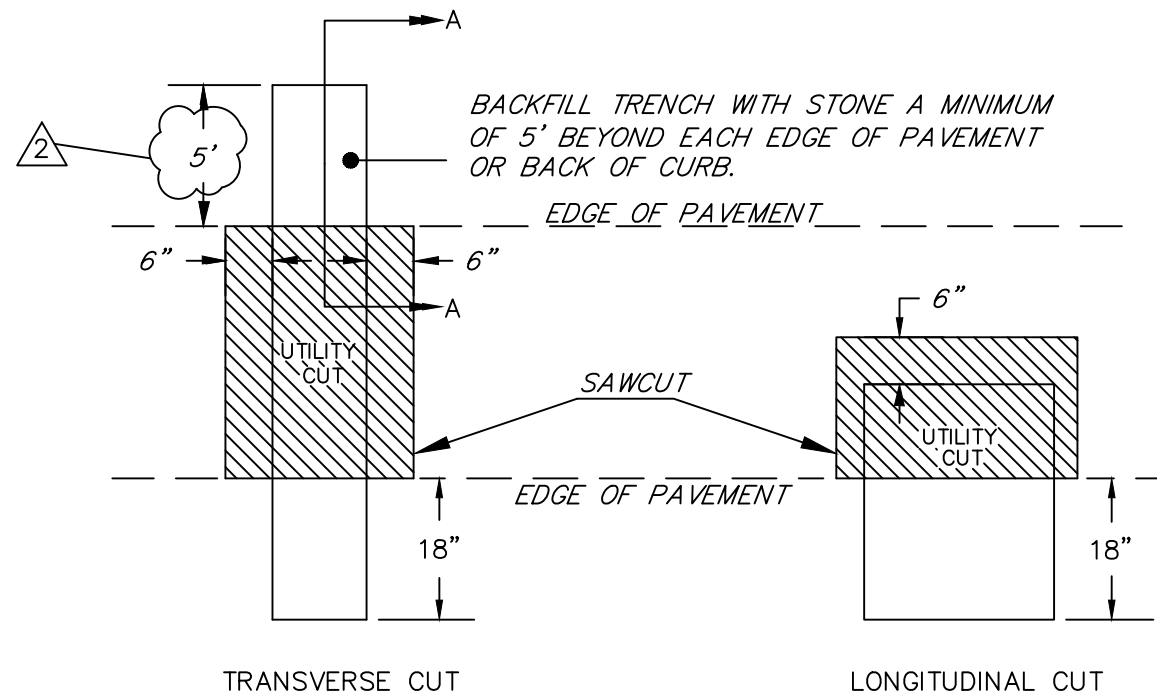
- ① CLASS "A" CONCRETE PAVEMENT (4,000 P.S.I. MINIMUM), 8" MINIMUM THICKNESS, COARSE BROOM FINISH – THE CONCRETE SHALL BE COLORED AND STAMPED TO MATCH THE ADJACENT CONCRETE AS REQUIRED.
- ② MINERAL AGGREGATE BASE, TYPE A, GRADING D (33-P*) – COMPACTED TO A DENSITY OF 95% STANDARD PROCTOR. THE THICKNESS SHALL BE THE GREATER OF EIGHT INCHES (8") OR THE EXISTING DEPTH OF BASE MATERIAL.
- ③ MINERAL AGGREGATE BASE, TYPE A, GRADING D (33-P*) – COMPACTED TO A DENSITY OF 95% STANDARD PROCTOR. THE THICKNESS SHALL BE THE GREATER OF FOUR INCHES (4") OR THE EXISTING DEPTH OF BASE MATERIAL.
- ④ TRENCH BACKFILL SHALL BE FLOWABLE FILL AND MEET THE SPECIFICATIONS LAID OUT MUNICIPAL GOVERNMENT PAVEMENT ENGINEERS COUNCIL (MGPEC) ITEM 19 OF THE PAVEMENT DESIGN STANDARDS AND CONSTRUCTION SPECIFICATION MANUAL
- ⑤ COLD MIX ASPHALT – WHEN A TEMPORARY ASPHALT PATCH IS USED, IT SHALL BE PLACED IMMEDIATELY AFTER THE CRUSHED STONE BACKFILL IS PLACED.
- ⑥ BEDDING MATERIAL – SEE SD-307.01.

GENERAL REQUIREMENTS

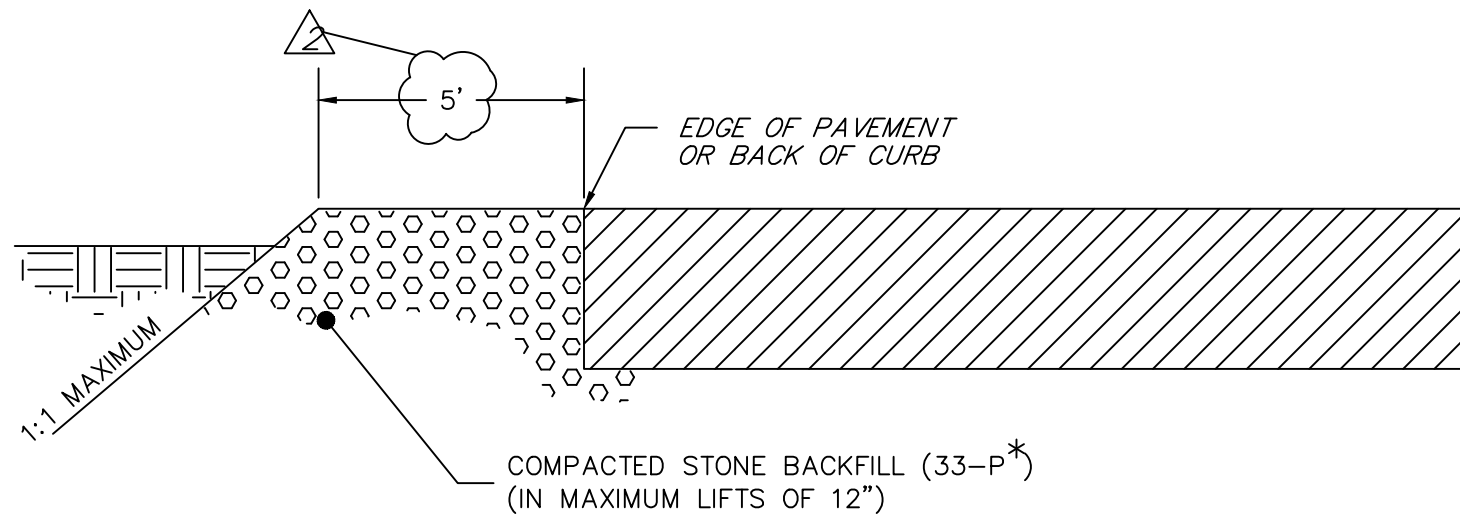
- 1. ALL STREET CUTS MUST BE REPAIRED IMMEDIATELY AFTER BACK-FILLING AND ACCORDING TO THIS STANDARD.
- 2. A RIGHT-OF-WAY PERMIT AND AN APPROVED TRAFFIC CONTROL PLAN ARE REQUIRED FOR ALL CUTS IN CITY STREETS.
- 3. WHERE LONGITUDINAL CUTS ARE MADE, THE OWNER RESERVES THE RIGHT TO REQUIRE ADDITIONAL RESURFACING BEYOND THE LIMITS OF THE REPAIR TO ENSURE THE PROPER RIDING CHARACTERISTICS AND THE STABILITY OF THE PAVEMENT.
- 4. ALL REFERENCES TO MATERIALS ARE DESCRIBED IN DETAIL IN THE CITY OF CHATTANOOGA'S STANDARD SPECIFICATIONS. THESE SPECIFICATIONS MUST BE USED AS A REFERENCE WHEN ORDERING MATERIALS.
- 5. EXISTING CONCRETE STREETS THAT HAVE BEEN OVERLAID WITH ASPHALT SHALL BE REPAIRED WITH CONCRETE HAVING A DEPTH EQUAL TO THE EXISTING CONCRETE PLUS THE ADJACENT EXISTING ASPHALT OVERLAY.
- 6. WHERE EXISTING CONSTRUCTION AND EXPANSION JOINTS ARE ENCOUNTERED IN CONCRETE PAVEMENT CUTS, THE ENGINEER SHALL DESIGNATE LOCATION, SIZE, AND MATERIALS TO CONSTRUCT JOINTS IN THE NEW CONCRETE SURFACE.
- 7. ALL STREETCUTS SHALL BE SAWCUT FULL DEPTH OF ASPHALT OR CONCRETE PRIOR TO ANY OTHER DEMOLITION METHOD BEING USED.

* "33-P (PUG)" – 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS

			HAMILTON COUNTY	
			REPAIR DETAILS (ROADWAY)	
			DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCSD-500.01
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NO.	REVISION	DATE		



PLAN



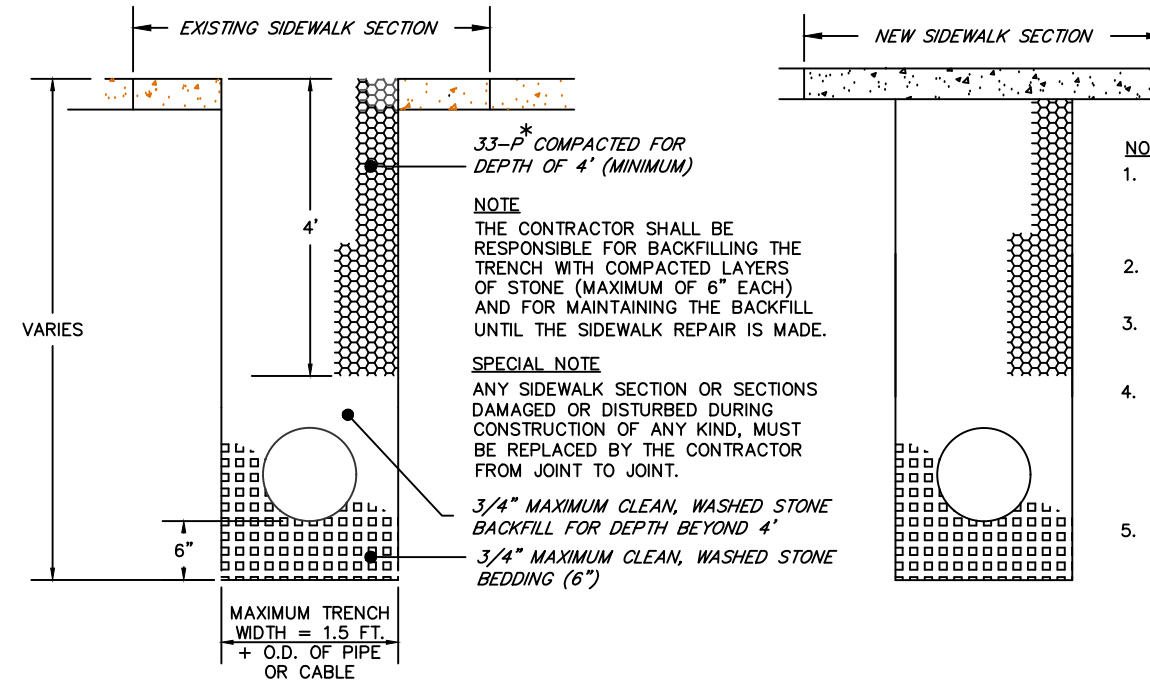
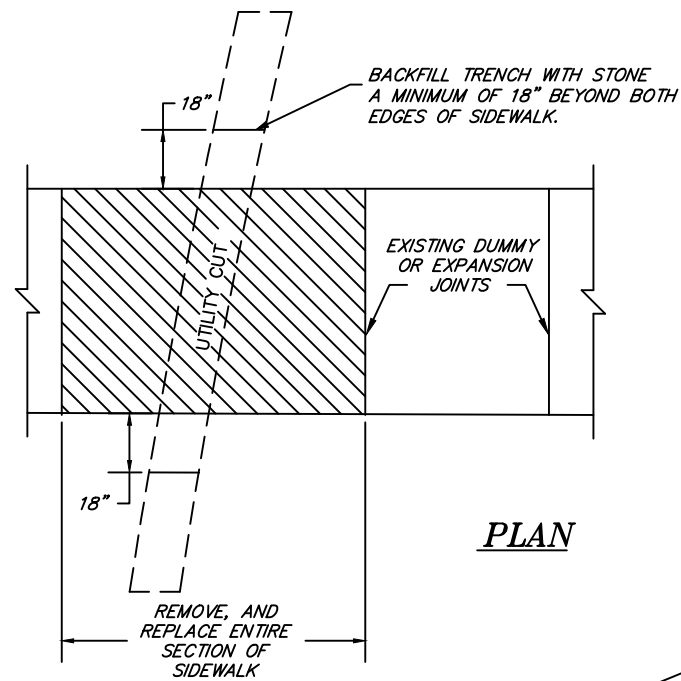
SECTION A-A

* "33-P (PUG)" - 303-01, TYPE A, GRADING D ("33-P"), TENNESSEE D.O.T. SPECIFICATIONS.

NOTES

1. WHERE PRACTICAL, TRANSVERSE CUTS SHALL BE PERPENDICULAR TO THE PAVEMENT CENTERLINE, AND LONGITUDINAL CUTS SHALL BE PARALLEL TO IT.
2. ALL EXCAVATED, GRASS-COVERED SHOULDERS MUST BE LEVELED, AND THEN HAVE TOP SOIL AND SEED ADDED. ALL AREAS ON SHOULDERS USED FOR PARKING MUST BE BACKFILLED TO THE TOP WITH CRUSHED* STONE (33-P).
3. ALL EXCAVATION THAT IS 5' OUTSIDE OF ROADWAY, BUT IS STILL WITHIN RIGHT-OF-WAY, CAN BE BACKFILLED WITH EXISTING MATERIAL SO LONG AS IT MEETS 95% COMPACTION.
4. A MINIMUM MILL OF 2-5' AROUND EACH PATCH. THIS MILL COULD BE UP TO 10-20' DEPENDING ON WORK.

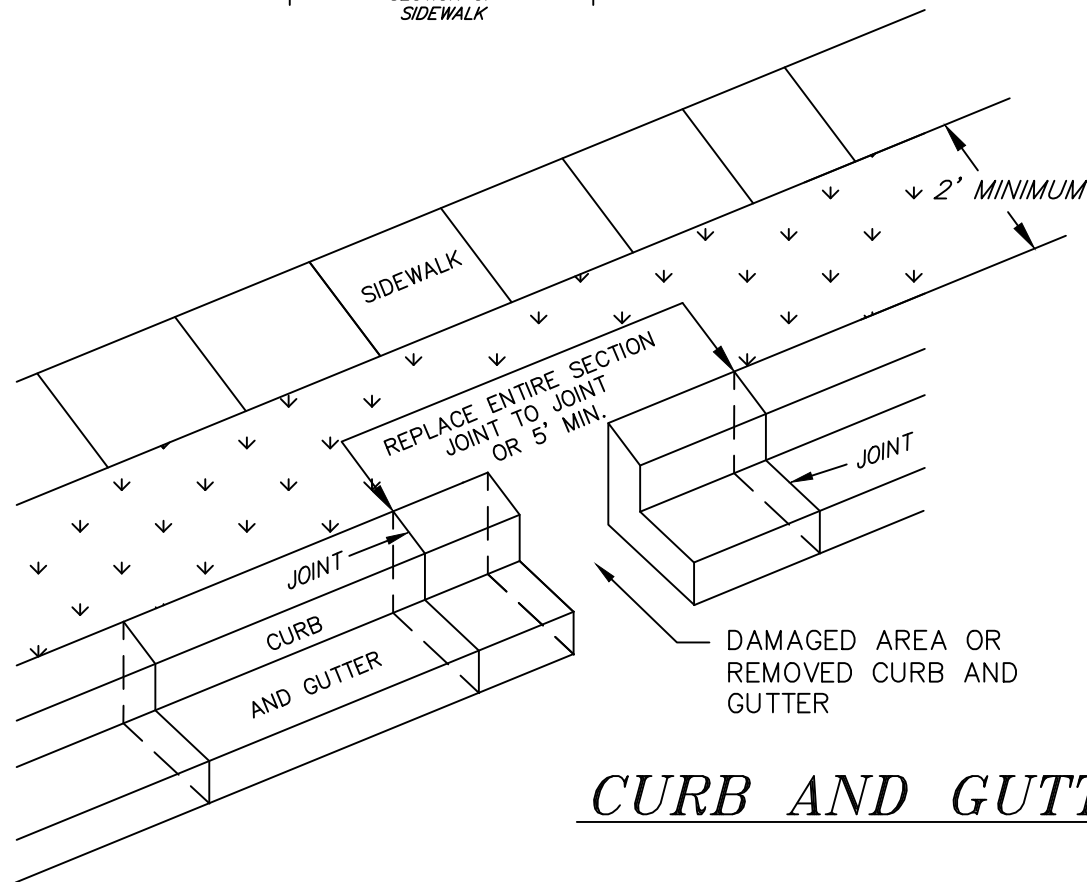
			HAMILTON COUNTY	
			REPAIR DETAILS (ROADWAY)	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCSD-500.02
NO.	REVISION	DATE	JULY 18, 2022	



BACKFILL DETAIL

REPAIR DETAIL

SIDEWALK



CURB AND GUTTER

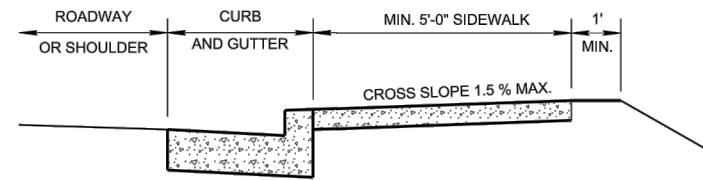
* "33-P (PUG)" - 303-01,
TYPE A, GRADING D
("33-P"), TENNESSEE D.O.T.
SPECIFICATIONS.

NOTES

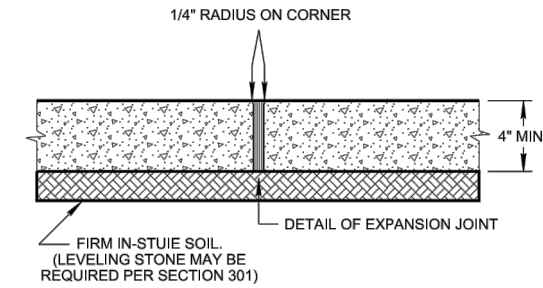
1. ANY CURB AND GUTTER SECTION THAT IS CUT, DAMAGED, OR DISTURBED DURING CONSTRUCTION OF ANY KIND, MUST BE REPLACED BY THE CONTRACTOR FROM JOINT TO JOINT USING PROPER FORMS AND CONCRETE.
2. ANY EXCAVATED OR DISTURBED GRASS AREA MUST BE LEVELED, AND THEN HAVE TOPSOIL AND SEED ADDED.

			HAMILTON COUNTY	
			REPAIR DETAILS (CURB AND GUTTER/SIDEWALK)	
0	INITIAL ISSUE	07/18/22	DATE OF ORIGINAL ISSUE	STANDARD NUMBER : HCS D-500.03
NO.	REVISION	DATE	JULY 18, 2022	

ADOPTED TDOT
SPECIFICATIONS



TYPICAL SIDEWALK CROSS SECTION WITHOUT GRASS STRIP



EXPANSION JOINT DETAIL

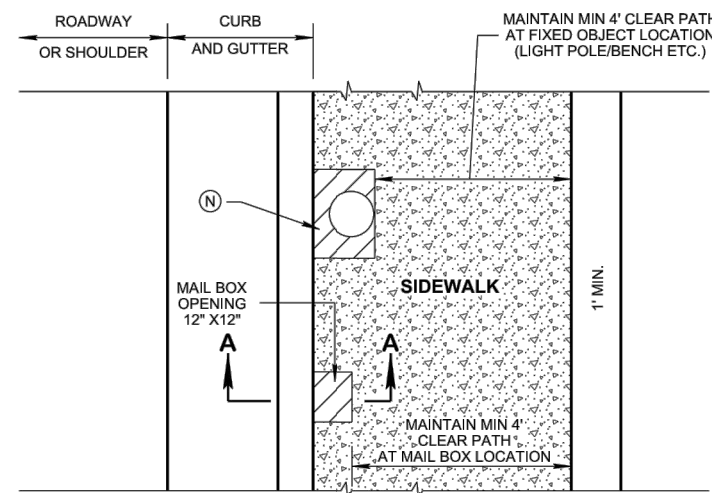
Hamilton County adopted TDOT Specifications for sidewalks.

However not all TDOT specs are allowed such as but not limited to:

- 1 Sidewalks must be to back of curb
- 2 Only perpendicular curb ramps **NO MONO-DIRECTIONAL RAMPS ALLOWED**

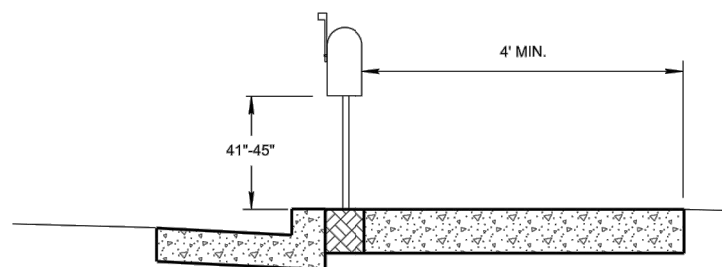
Please if you have questions and/or concerns please call the Highway Department

423-855-6100



NOTE: SOME LOCATIONS WHEN THE PLACEMENT OF SERVICE APPURTENANCES OUTSIDE THE PEDESTRIAN FACILITY DUE TO EXTREME SITE CONDITIONS PLACEMENT SHALL PROVE UNINTERRUPTED 4' CLEAR PATH.

SIDEWALK CONSTRUCTION DETAILS WITHOUT GRASS STRIP PLAN VIEW



SECTION A-A MAIL BOX DETAIL

NOTE: LEAVE 12"x12" OPENING IN SIDEWALK FOR MAIL BOX POST. ORIENT BOXES TO FACE THE DIRECTION OF ONCOMING TRAFFIC. EDGE OF MAIL BOX SHALL NOT OVERHANG BEYOND THE FACE OF THE CURB. NOR SHALL THE MAIL BOX OVERHANG THE SIDEWALK SUCH THAT THE USABLE WIDTH IS LESS THAN 4 FEET.

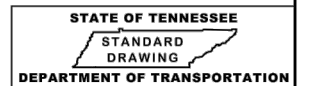
REFERENCED STANDARD DRAWINGS

- SEE T-M-4, FOR CROSS WALK MARKING
- SEE MM-CR SERIES FOR CURB RAMP DETAILS
- SEE MM-BPR-1, FOR PEDESTRIAN RAIL REQUIREMENTS
- SEE MM-SW-2, FOR ALTERNATE DETAILS FOR CONCRETE SIDEWALK (REHABILITATION)
- SEE RP-SC-1, FOR 6" SLOPING CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS
- SEE RP-VC-10 OR 11, FOR VERTICAL CONCRETE CURB AND CONCRETE CURBS AND GUTTER DETAILS
- SEE MM-PM-1 THRU MM-PM-5, FOR BIKE LANE/ROUTE PAVEMENT MARKINGS
- SEE S-PL-6, FOR GUARDRAIL PLACEMENT
- SEE RP-D-15 & 16 FOR CONCRETE DRIVEWAYS
- SEE MM-TS-2 FOR PEDESTRIAN FACILITY LATERAL OFFSETS
- SEE MM-TS-3 FOR SHARED USE TYPICAL SECTIONS

GENERAL NOTES

- (A) ALWAYS PLACE SIDEWALK AS FAR AS AWAY FROM THE TRAVELLED WAY WHEN POSSIBLE FOR SPECIFICATIONS SEE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION.
- (B) WHERE IT BECOMES NECESSARY TO REMOVE PARTS OF EXISTING CONCRETE SIDEWALKS OR RAMPS, THE RESULTING EDGES SHALL BE CUT TO A NEAT LINE, AND ANY OFFSETS IN SUCH LINES SHALL BE MADE OFFSETS IN SUCH LINES SHALL BE MADE AT RIGHT ANGLES.
- (C) SIDEWALK WIDTHS DO NOT INCLUDE THE SIX INCH CURB WIDTH OF PROPOSED TOP OF CURB.
- (D) DESIRABLE SIDEWALK CROSS SLOPE IS 1.5 %, ABSOLUTE MAXIMUM IS 2.0 %. ALL SIDEWALKS SHALL HAVE A BROOM FINISH AND SHALL BE 4" THICK UNLESS THE PLANS CALL FOR 6" THICKNESS. THE CONCRETE SHALL BE CLASS "A" AT 3000 PSI. ALL COST TO BE INCLUDES IN ITEM NO. 701-01.01, CONCRETE SIDEWALK (4"), S.Y. OR 701-01.02, CONCRETE SIDEWALK (6"), S.Y.
- (E) SEE STD. DWG. MM-TS-2 FOR LATERAL OFFSET/ BUFFER GUIDANCE.
- (F) EXPANSION JOINTS ARE TO BE PLACED 25 TO 30 FEET APART DEPENDING ON TRANSVERSE JOINT MARKINGS AND NEED TO MATCH CURB EXPANSION JOINT WHERE SIDEWALK IS BUILT DIRECTLY AGAINST CURB, OR AS DIRECTED BY THE ENGINEER WHERE THE PROPOSED SIDEWALK IS IN CONTACT WITH THE STREET RETURNS, ON BUILDING LINES PRODUCED AT STREET INTERSECTIONS, WHERE WALKS LEAD TO HOUSE OR OTHER ENTRANCES AND ANY OTHER LOCATIONS WHERE STRESSES MAY DEVELOP. THE COST OF ALL EXPANSION JOINTS IS TO BE INCLUDED IN THE UNIT PRICE BID FOR THE PROPOSED SIDEWALK.
- (G) CONCRETE JOINT MATERIAL TO BE FLUSH WITH THE SIDEWALK SURFACE, HALF INCH AND/OR ONE INCH PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 OF THE STANDARD SPECIFICATIONS
- (H) ONE INCH EXPANSION JOINTS ARE TO BE PLACED WHERE THE PROPOSED SIDEWALK IN CONTACT WITH CIRCULAR CURBS, BUILDINGS AND/OR RETAINING WALLS.
- (I) HALF INCH EXPANSION JOINTS ARE TO BE USED AT ALL OTHER LOCATIONS
- (J) LONGITUDINAL JOINT MARKINGS WILL NOT BE REQUIRED ON SIDEWALKS 5 FEET LESS IN WIDTH.
- (K) ONE LONGITUDINAL JOINT MARKING WILL BE REQUIRED ON SIDEWALKS OVER 5 FEET BUT LESS THAN 9 FEET IN WIDTH.
- (L) TWO LONGITUDINAL JOINT MARKINGS WILL BE REQUIRED ON SIDEWALKS OVER 9 FEET BUT LESS THAN 12 FEET IN WIDTH.
- (M) TRANSVERSE JOINT MARKINGS ARE TO BE MADE TO FORM BLOCKS AS NEARLY TO SQUARE AS PRACTICAL.
- (N) LEAVE SQUARE OPENING IN SIDEWALK. THE LENGTH OF THE SIDE OF THE SQUARE OPENING SHOULD BE EQUAL TO THE DIAMETER OF THE FIXED OBJECT PLUS SIXTEEN INCHES, IT WILL BE BORDERED BY HALF INCH EXPANSION JOINT.
- (O) WHEN NEW SIDEWALK IS PLACED ADJACENT TO EXISTING SIDEWALK THE CONTRACTOR SHALL CORRECT ALL ABRUPT CHANGES AND SLOPES TO PROVIDE A SMOOTH TRANSITION FROM THE LIMIT OF CONSTRUCTION TO EXISTING PEDESTRIAN FACILITY.

(Replaced Std Dwg RP-S-7)



DETAILS FOR CONCRETE SIDEWALK

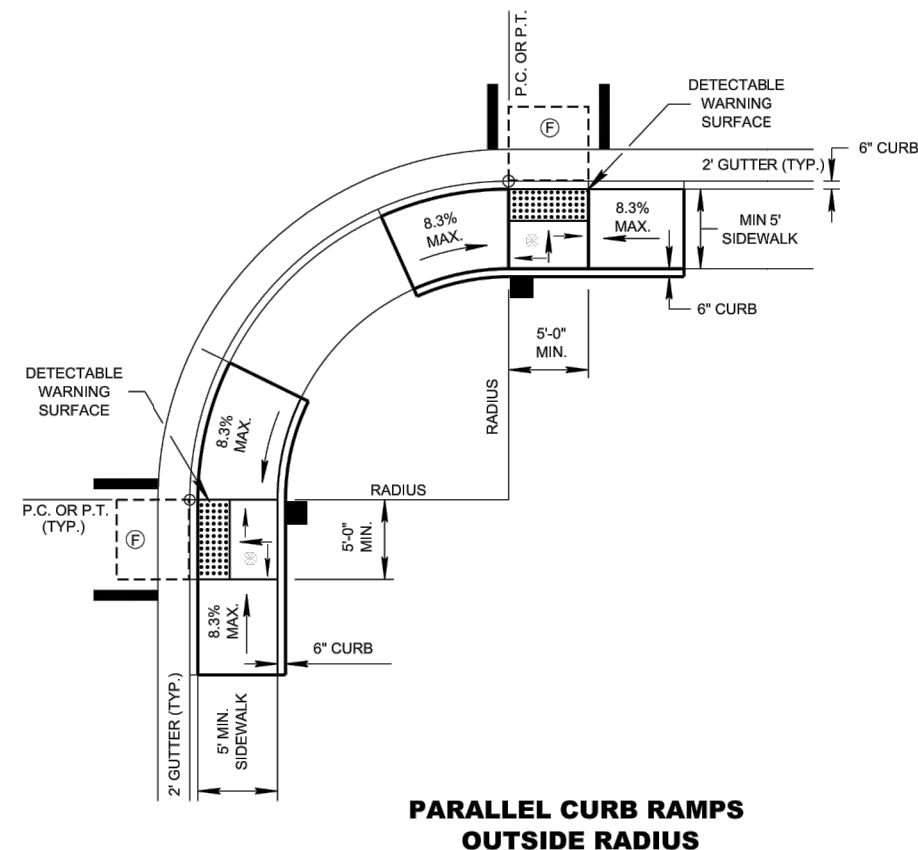


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423-855-6100



**PARALLEL CURB RAMPS
OUTSIDE RADIUS**

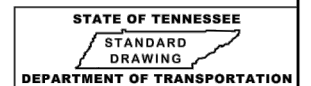
LEGEND	
	DIMENSION VARIES RELATIVE TO LONGITUDINAL ROADWAY GRADE, 8.3% DESIRABLE (10.0% MAX.)
	DENOTES: APPROXIMATE PEDESTRIAN POLE/PUSHBUTTON LOCATION FOR SIGNALIZED INTERSECTIONS
	1.5% (2.0% MAX.)

GENERAL NOTES	
(A)	FOR DETECTABLE WARNING SURFACE DETAILS SEE STD. DWG. MM-CR-1. FOR ADDITIONAL DETAILS AND OTHER INFORMATION FOR PERPENDICULAR CURB RAMPS NOT SHOWN ON THIS DRAWING SEE STD. DWG. MM-CR-2 AND FOR PARALLEL CURB RAMPS SEE STD. DWG. MM-CR-3. FOR CROSSWALK MARKING DETAILS SEE STD. DWG. T-M-4.
(B)	IF PERPENDICULAR CURB RAMPS AND TURNING SPACE CANNOT BE CONSTRUCTED DUE TO LIMITED RIGHT-OF-WAY, USE PARALLEL CURB RAMP INSTEAD.
(C)	CARE SHALL BE TAKEN ON ALL ROADWAY CURB RAMPS AT INTERSECTIONS WITH SIDEWALK AND CURB RAMPS TO ENSURE A UNIFORM GRADE AROUND THEM. THE ROADWAY CURB RAMP GRADE SHALL BE FREE OF SAGS AND SHORT GRADE CHANGES.
(D)	SIDEWALK WIDTH SHALL NOT INCLUDE 6" CONCRETE CURB. THE DESIRABLE SIDEWALK CROSS SLOPE IS 1.5%, ABSOLUTE MAXIMUM IS 2.0%.
(E)	DRAINAGE STRUCTURES SHALL NOT BE PLACED IN THE CROSSWALK OR IN FRONT OF THE CURB RAMP.
(F)	TURNING SPACE \ CLEAR SPACE: CLEAR SPACE BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE 4' (MIN.) BY 4' (MIN.) SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING AND WHOLLY OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. TURNING SPACE MUST BE PROVIDED AT THE TOP OF PERPENDICULAR CURB RAMPS. THE TURNING SPACE MUST BE 4' (MIN.) BY 4' (MIN.), AND IS PERMITTED TO OVERLAP OTHER TURNING SPACES AND CLEAR SPACES. WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF THE SIDEWALK, THE TURNING SPACE MUST BE 4' (MIN.) BY 5' (MIN.), WITH THE 5' DIMENSION PROVIDED IN THE DIRECTION OF THE RAMP RUN. FOR PARALLEL CURB RAMPS, A TURNING SPACE 4' (MIN.) BY 4' (MIN.) SHALL BE PROVIDED AT THE BOTTOM OF THE CURB RAMP AND SHALL BE PERMITTED TO OVERLAP OTHER TURNING SPACES AND CLEAR SPACES. IF THE TURNING SPACE IS CONSTRAINED ON 2 OR MORE SIDES, THE TURNING SPACE SHALL 4' (MIN.) BY 5' (MIN.). THE 5' DIMENSION SHALL BE PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.
(G)	GRADE BREAKS: GRADE BREAKS AT THE TOP AND BOTTOM OF CURB RAMP RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE CURB RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF CURB RAMP RUNS AND TURNING SPACES. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH. WHERE THE END OF BOTTOM GRADE BREAK ARE BEHIND THE BACK OF CURB AND THE DISTANCE FROM EITHER END OF THE BOTTOM GRADE BREAK TO THE BACK OF CURB IS 5' OR LESS, DETECTABLE WARNING SURFACES SHALL BE PLACED ON THE CURB RAMP RUN WITHIN ONE DOME SPACING OF THE BOTTOM GRADE BREAK.
(H)	PEDESTRIAN SIGNAL PUSHBUTTON: WHERE PEDESTRIAN SIGNALS ARE PROVIDED AT PEDESTRIAN STREET CROSSINGS, THEY SHALL INCLUDE ACCESSIBLE PEDESTRIAN SIGNALS AND POLE/PEDESTRIAN PUSHBUTTONS COMPLYING WITH SECTIONS 4E.08 THROUGH 4E.13 OF THE MUTCD. FOR DETAILS OF THE PLACING OF PEDESTRIAN SIGNAL PUSHBUTTONS SEE TDOT TRAFFIC DESIGN MANUAL. WHEN TWO PEDESTRIAN PUSHBUTTONS ARE ON ONE CORNER THEY WILL BE SEPARATED BY 10 FEET.
(I)	PAYMENT: COST OF CURB AND GUTTER TO BE INCLUDED IN THE PRICE OF ITEM NO. 702-01, CONCRETE CURB, PER C. Y. OR ITEM NO. 702-03, CONCRETE COMBINED CURB & GUTTER, PER C. Y. NEW CURB RAMPS: ALL COSTS OF INSTALLING CURB RAMP(S), INCLUDING DETECTABLE WARNING SURFACE(S) IN NEWLY CONSTRUCTED SIDEWALK AREAS, SHALL BE PAID BY ITEM NO. 701-02.03, CONCRETE CURB RAMP, PER SQUARE FOOT. PAYMENT SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY FOR CONSTRUCTION OF THE CURB RAMP(S), INCLUDING INSTALLATION OF DETECTABLE WARNING SURFACE(S). CURB RAMPS (RETROFIT): ALL COSTS OF INSTALLING CURB RAMP(S), INCLUDING DETECTABLE WARNING SURFACE(S) IN EXISTING SIDEWALK AREAS, REMOVAL OF THE EXISTING SIDEWALK, AND ADJUSTMENT OF GUTTER PAN SLOPE, SHALL BE PAID BY ITEM NO. 701-02.01, CONCRETE CURB RAMP (RETROFIT), PER SQUARE FOOT. PAYMENT SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR INSTALLATION OF CURB RAMP(S), INCLUDING INSTALLATION OF DETECTABLE WARNING SURFACE(S).

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NOT TO SCALE

(Replaced Std Dwg RP-H-8)



**DUAL CROSSING
CURB RAMP
PLACED
OUTSIDE CURVE**

01-07-2019 MM-CR-6