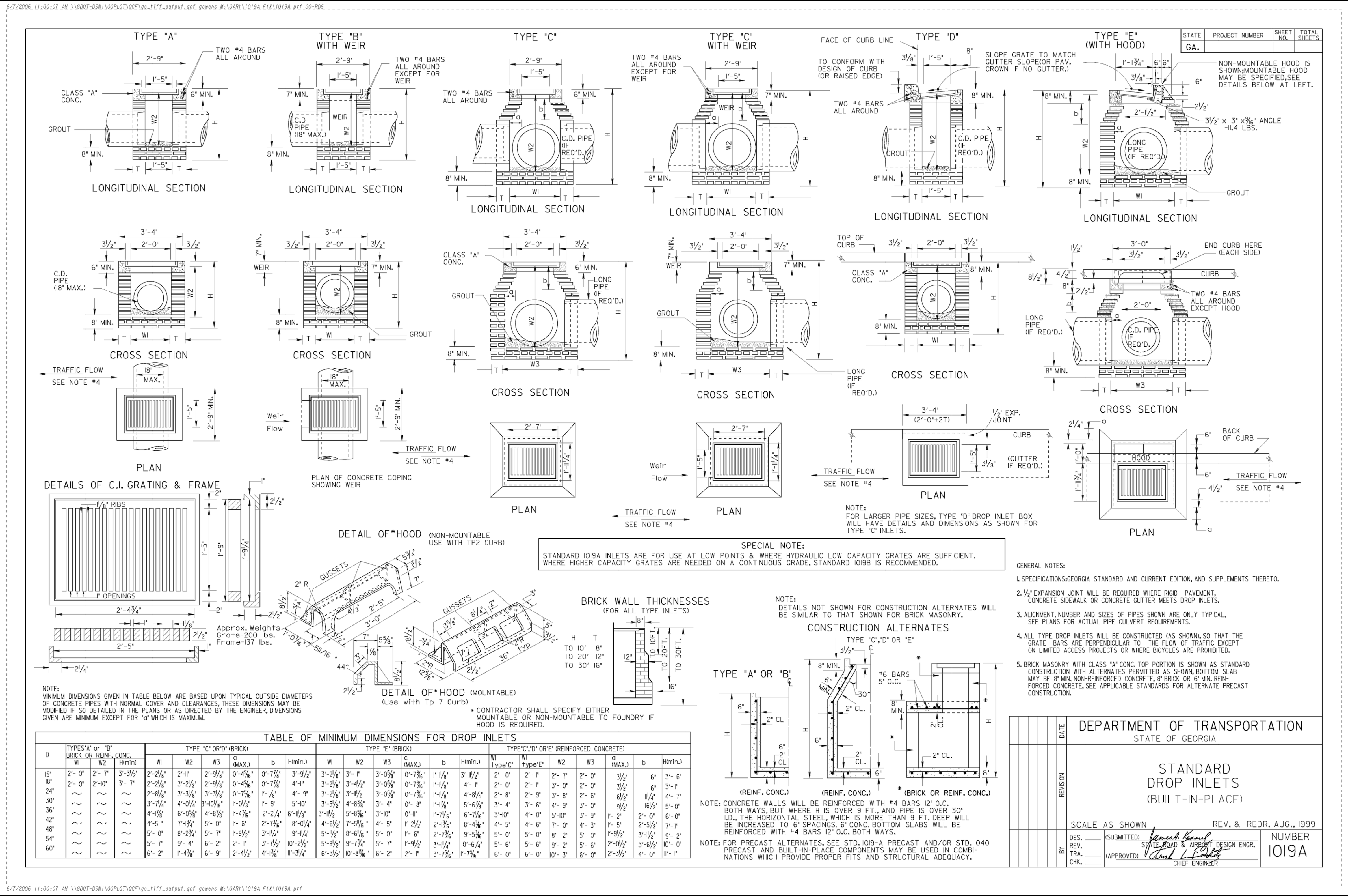
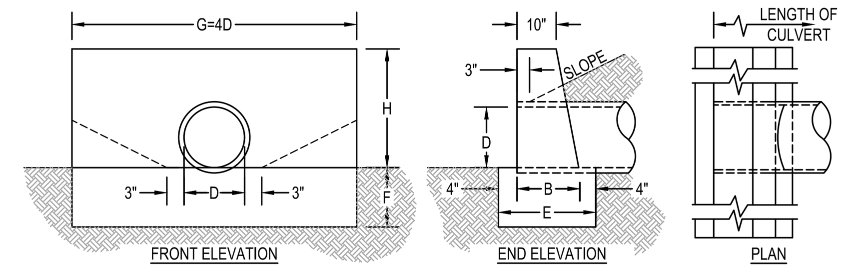


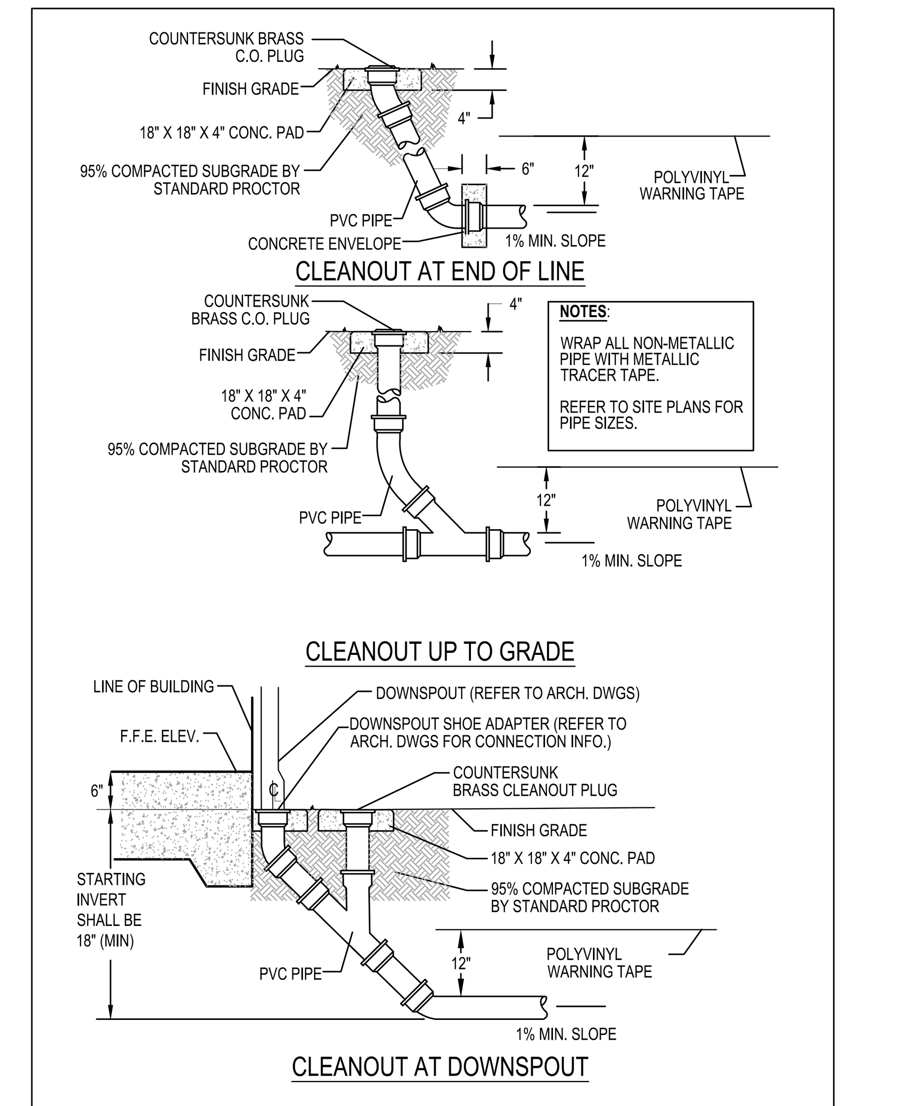


FOR EACH ADDITIONAL PIPE LINE, ADD TO G: OD + (ID OR 3 FEET, WHICHEVER IS SMALLER)

DIMENSIONS							QUANTITIES ONE STRAIGHT ENDWALL				CONC. IN WALL & FTG. FOR EACH ADDL. PIPE LINE
OPENING		WALL			FOOTING		CLASS "B" CONCRETE				
							CUBIC FEET		TOTAL		
D	AREA SQ. FT.	G	H	B	E	F	WALL	FOOT	CU. FT.	CU. YD.	CU. YD.
12"	0.8	4'-0"	2'-0"	1'-2"	1'-10"	1'-0"	7.2	7.3	14.5	0.54	0.25
15"	1.2	5'-0"	2'-3"	1'-2"	1'-10"	1'-2"	9.9	10.7	20.6	0.76	0.36
18"	1.8	6'-0"	2'-6"	1'-3"	1'-11"	1'-3"	13.6	14.4	28.0	1.04	0.48
24"	3.1	8'-0"	3'-0"	1'-4"	2'-0"	1'-4"	22.3	21.3	43.6	1.62	0.74
30"	4.9	10'-0"	3'-6"	1'-6"	2'-2"	1'-6"	34.7	32.5	67.2	2.49	1.13
36"	7.1	12'-0"	4'-0"	1'-8"	2'-4"	1'-8"	50.5	46.7	97.2	3.60	1.62
42"	9.6	14'-0"	4'-6"	1'-10"	2'-6"	2'-0"	70.3	70.0	140.3	5.20	2.13
48"	12.6	16'-0"	5'-0"	2'-1"	2'-9"	2'-0"	96.9	88.0	184.9	6.85	2.58
54"	16.0	18'-0"	5'-6"	2'-4"	3'-0"	2'-0"	129.4	108.0	237.4	8.79	3.07
60"	19.6	20'-0"	6'-0"	2'-6"	3'-2"	2'-0"	164.6	126.7	291.3	10.79	3.53

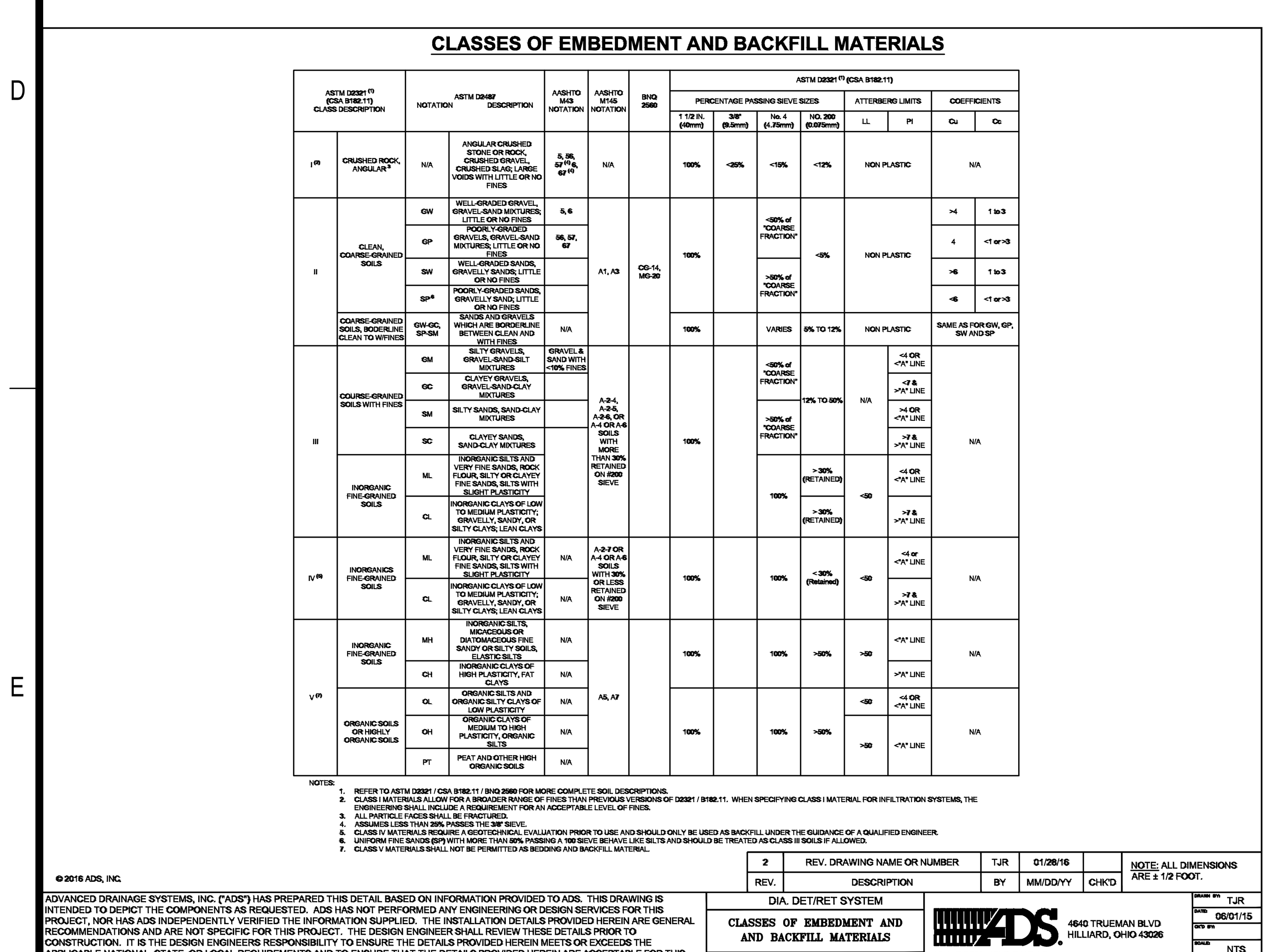
STRAIGHT HEADWALL DETAIL

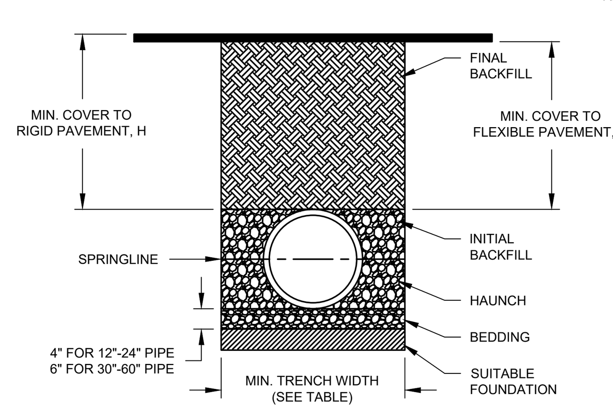
N.T.S.



DOWNSPOUT/RAINLEADER CLEANOUT

N.T.S.





RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4" (100mm)	21" (533mm)
6" (150mm)	23" (584mm)
8" (200mm)	26" (660mm)
10" (250mm)	28" (711mm)
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
60" (1500mm)	96" (2438mm)

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS**

PIPE DIAM.	SURFACE LIVE LOADING CONDITION: H-25	SURFACE LIVE LOADING CONDITION: HEAVY CONSTRUCTION (75T AXLE LAOD) *
12" - 48" (300mm - 1200mm)	12" (305mm)	48" (1219mm)
60" (1500mm)	24" (610mm)	60" (1524mm)

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER
**SEE BACKFILL REQUIREMENTS IN NOTE 6.

MAXIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

PIPE DIAM.	CLASS I		CLASS II		CLASS III
	COMPACTED	DUMPED	95%	90%	95%
4" (100mm)	37 (11.3m)	18 (5.5m)	25 (7.6m)	18 (5.5m)	18 (5.5m)
6" (150mm)	44 (13.4m)	20 (6.1m)	29 (8.8m)	20 (6.1m)	21 (6.4m)
8" (200mm)	32 (9.8m)	15 (4.6m)	22 (6.7m)	15 (4.6m)	16 (4.9m)
10" (250mm)	38 (11.6m)	18 (5.5m)	26 (7.9m)	18 (5.5m)	18 (5.5m)
12" (300mm)	35 (10.7m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	17 (5.2m)
15" (375mm)	38 (11.6m)	17 (5.2m)	25 (7.6m)	17 (5.2m)	18 (5.5m)
18" (450mm)	36 (11.0m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	17 (5.2m)
24" (600mm)	28 (8.5m)	13 (4.0m)	20 (6.1m)	13 (4.0m)	14 (4.3m)
30" (750mm)	28 (8.5m)	13 (4.0m)	20 (6.1m)	13 (4.0m)	14 (4.3m)
36" (900mm)	26 (7.9m)	12 (3.7m)	18 (5.5m)	13 (4.0m)	13 (4.0m)
42" (1050mm)	23 (7.0m)	11 (3.4m)	16 (4.9m)	11 (3.4m)	11 (3.4m)
48" (1200mm)	25 (7.6m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)
60" (1500mm)	25 (7.6m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE,
UNIT WEIGHT OF SOIL (Ys) = 120 PCF

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING TO THE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. FOR TRAFFIC APPLICATIONS WITH LESS THAN FOUR FEET OF COVER, EMBEDMENT OF THE PIPE SHALL BE USING ONLY A CLASS I OR CLASS II BACKFILL.

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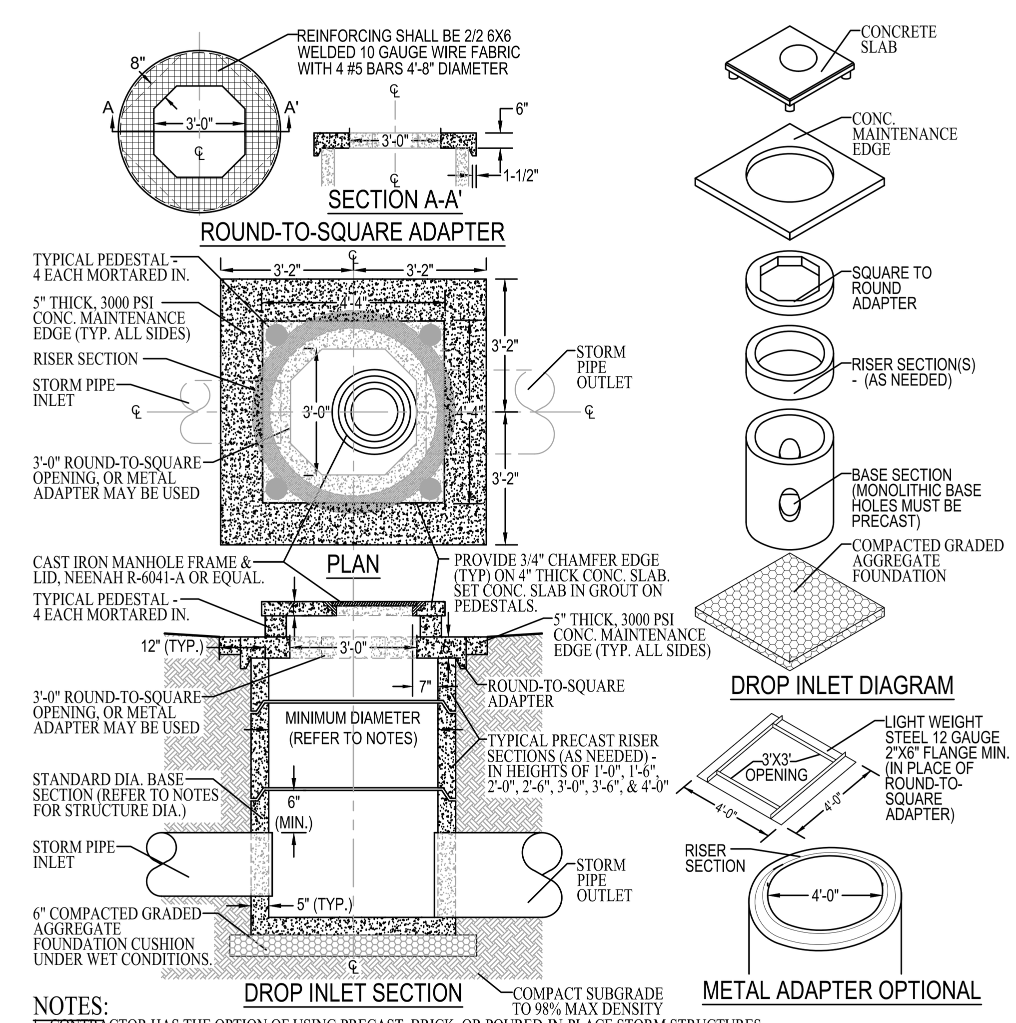
ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
6	INITIAL BACKFILL	JAB	04/02/20	

NOTE: ALL DIMENSIONS ARE ± 1/2 FOOT.

DIA. DET/RET SYSTEM
TRENCH INSTALLATION DETAIL (N-12 PER AASHTO)
DRAWING NUMBER: STD-101
ADVANCED DRAINAGE SYSTEMS, INC. 4640 TRUEMAN BLVD HILLIARD, OHIO 43026
DRAWN BY: TJR DATE: 12/29/16 SCALE: NTS SHEET 1 OF 1



NOTES:
1. CONTRACTOR HAS THE OPTION OF USING PRECAST, BRICK, OR POURED-IN-PLACE STORM STRUCTURES.
2. ALL PRECAST CONCRETE SHALL BE 4000 PSI.
3. SUBGRADE SHALL BE COMPACTED TO 98% MAX. DRY DENSITY PER STANDARD PROCTOR.
4. REINFORCEMENT STEEL SHALL BE PLACED TO ALLOW A MIN. OF 1 1/2" COVER, EXCEPT WHERE NOTED.
5. REINFORCEMENT STEEL SHALL BE OF INTERMEDIATE GRADE & SHALL CONSIST OF NO. 4 @ 6" O.C. E.W.
6. WHEN 60" & 72" BASE SECTIONS ARE REQUIRED, AN ADAPTER SECTION SHALL BE USED IN CONJUNCTION WITH THE STANDARD CONE.
7. ALL JOINTS BETWEEN PRECAST BASE, RISERS, AND ROUND-TO-SQUARE ADAPTERS SHALL BE KEYED. ALL JOINTS SHALL BE GROUTED INSIDE AND OUTSIDE.
8. STORM MANHOLE STRUCTURES THAT JOIN REINFORCED CONCRETE PIPE SHALL HAVE A BRICK OR CONCRETE COLLAR WALL.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE DIAMETER OF THE STRUCTURES WITH THE SIZE AND/OR NUMBER OF PIPE PENETRATIONS IN THE STRUCTURE. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR STRUCTURES LOCATED ON PIPE LARGER THAN 72" IN DIAMETER.
10. CONTRACTOR SHALL PROVIDE DRAINAGE STRUCTURE STEPS (CAST IRON) ON STRUCTURES DEEPER THAN 4'-0".
11. CAST IRON DRAINAGE STRUCTURE STEPS SHALL BE NEENAH R-1980-J 0R EQUAL.
12. STEPS TO BE PLACED ON VACANT WALL WHEN POSSIBLE.
13. MANHOLE RING SHALL BE OFFSET TOWARD WALL WITH STEPS AND CENTERED ON CENTERLINE OF STEPS
14. STAGGER STEPS 2" EACH WAY FROM CENTERLINE OF MANHOLE RING.
15. TOP STEP SHALL BE 24" BELOW TOP OF 4" CONCRETE SLAB .
16. STEP SPACING SHALL BE 16", BOTTOM STEP SHALL BE NO HIGHER THAN 16" FROM INVERT.

PRECAST DROP INLET (D.I.) - PEDESTAL TOP

N.T.S.

OWNER

COMPANY: CITY OF MADISON
ADDRESS: PO BOX 32
MADISON, GA 30650
PHONE: TBD
CONTACT: TBD
EMAIL: TBD

CONTRACTOR

COMPANY: TBD
ADDRESS: TBD
TBD
CONTACT: TBD
PHONE: TBD
EMAIL: TBD

SURVEYOR

COMPANY: GEORGIA CIVIL, INC.
SURVEYOR: BRIAN SLATE
ADDRESS: P.O. BOX 896
MADISON, GA 30650
PHONE: 706.342.1104

SITE DESIGNER

COMPANY: GEORGIA CIVIL, INC.
ADDRESS: P.O. BOX 896
MADISON, GA 30650
PHONE: 706.342.1104

JASON P. BROWN
LEVEL II CERTIFIED DESIGN PROFESSIONAL
#53274 - EXP. 05.01.2029

24-HOUR CONTACT
JASON BROWN
(770) 717-9972

GEORGIA 811 www.Georgia811.com
Contact 811 before you dig

Utilities/Services shown are for Contractors' convenience. Items are shown schematically and neither the site design professional nor the owner assumes any responsibility for variances in their actual location. This plan may not show and/or may incorrectly show utilities located on site. Contractor shall be responsible to secure and use the services of a private utility locator firm during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any disturbance (including field verifying location and depth of utilities that are to be saved and protected). Contractor shall notify the site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

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Professional Seal

GEORGIA REGISTERED PROFESSIONAL ENGINEER JASON P. BROWN — PRELIMINARY

Project Information
RFP 2027-3500-01

CITY OF MADISON FIRE STATION

1100 MARY MAGNAN BLVD
MADISON, GA 30650
ZONING: I1 - LIGHT INDUSTRIAL / LIMITED MANUFACTURING

DRAWING DATE:	7.1.26
DRAWN BY:	DBB
CHECKED BY:	JPB

REVISIONS

DATE:	DESCRIPTION:

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Sheet Title

STORMWATER MANAGEMENT DETAILS

Sheet Number

C-4.2