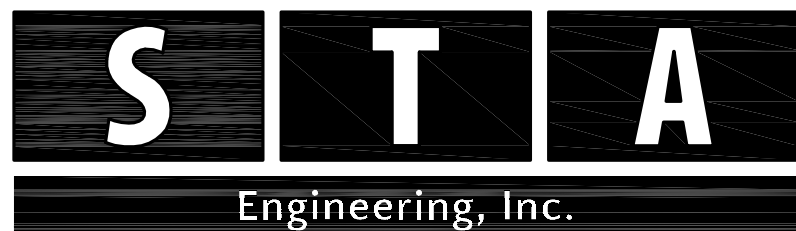
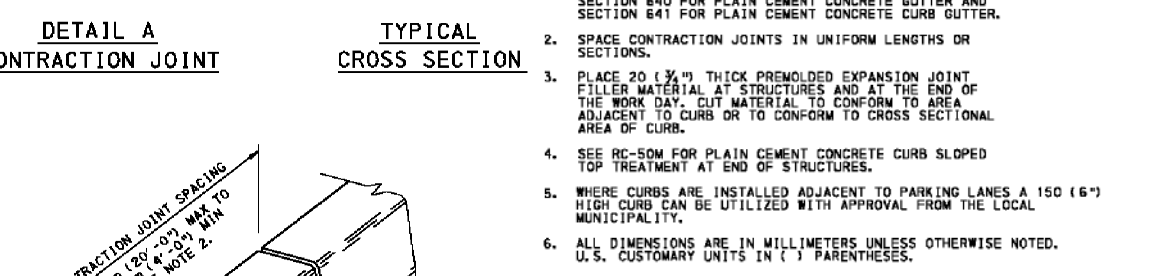
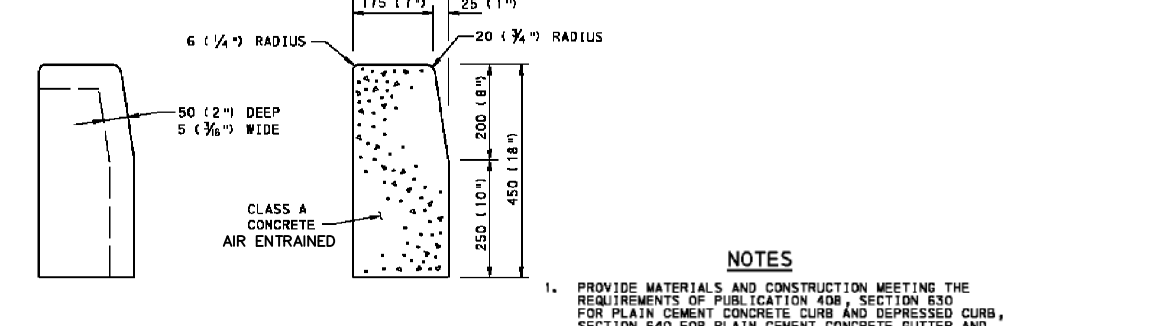
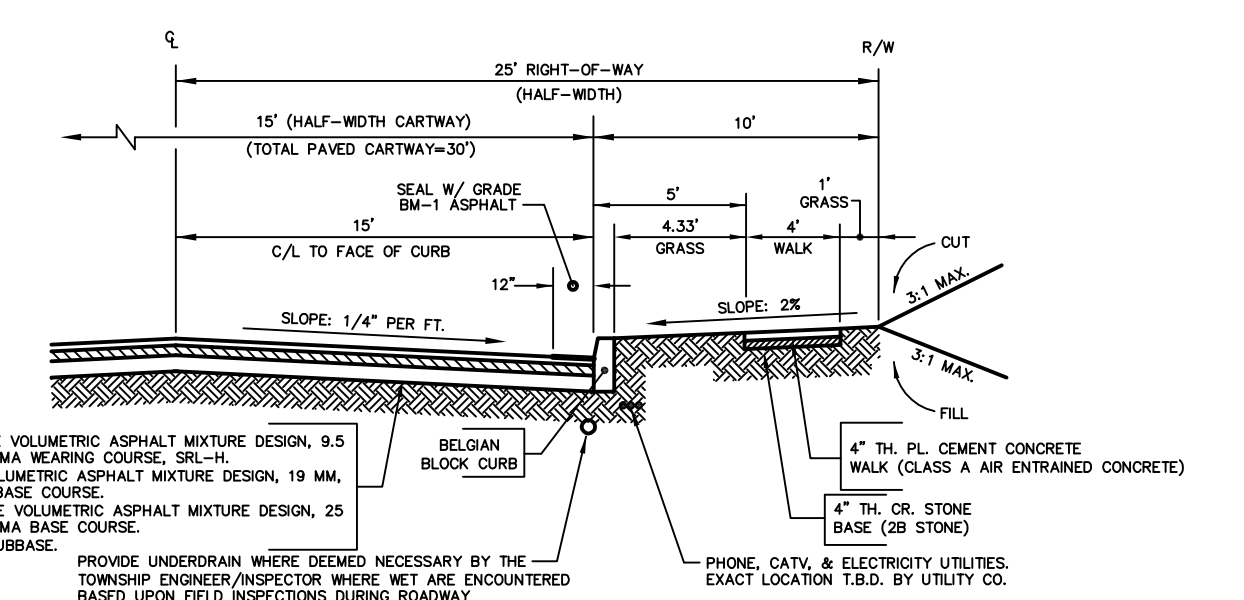
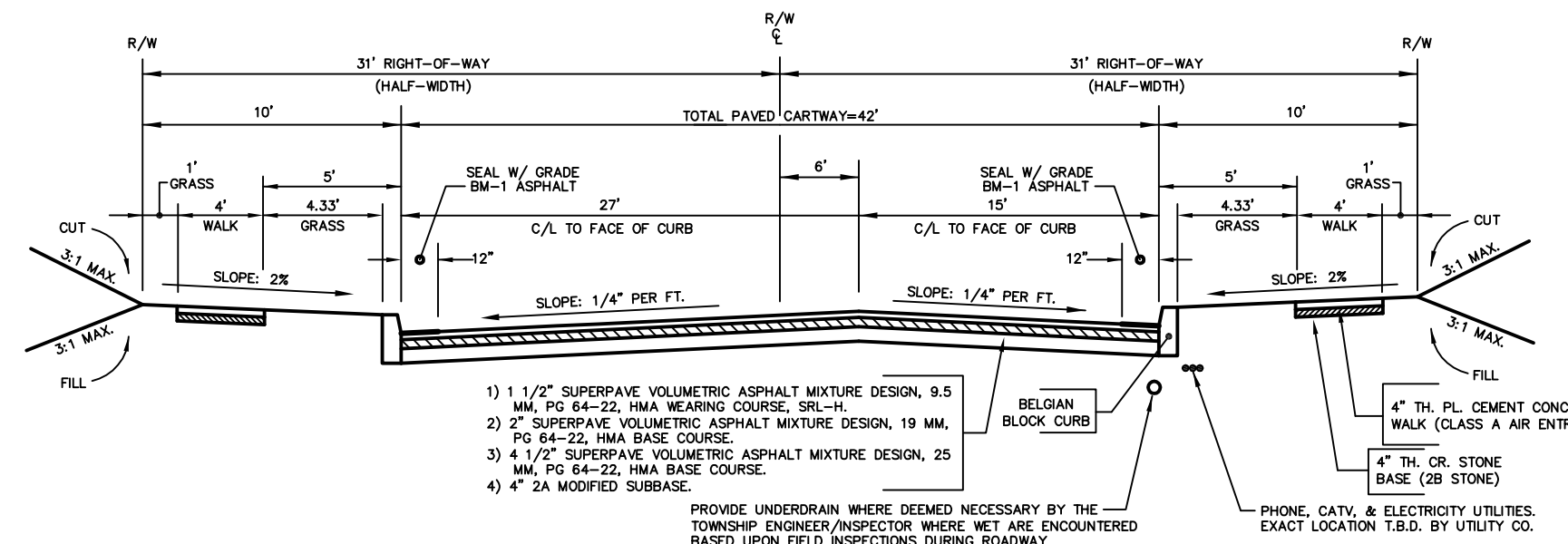
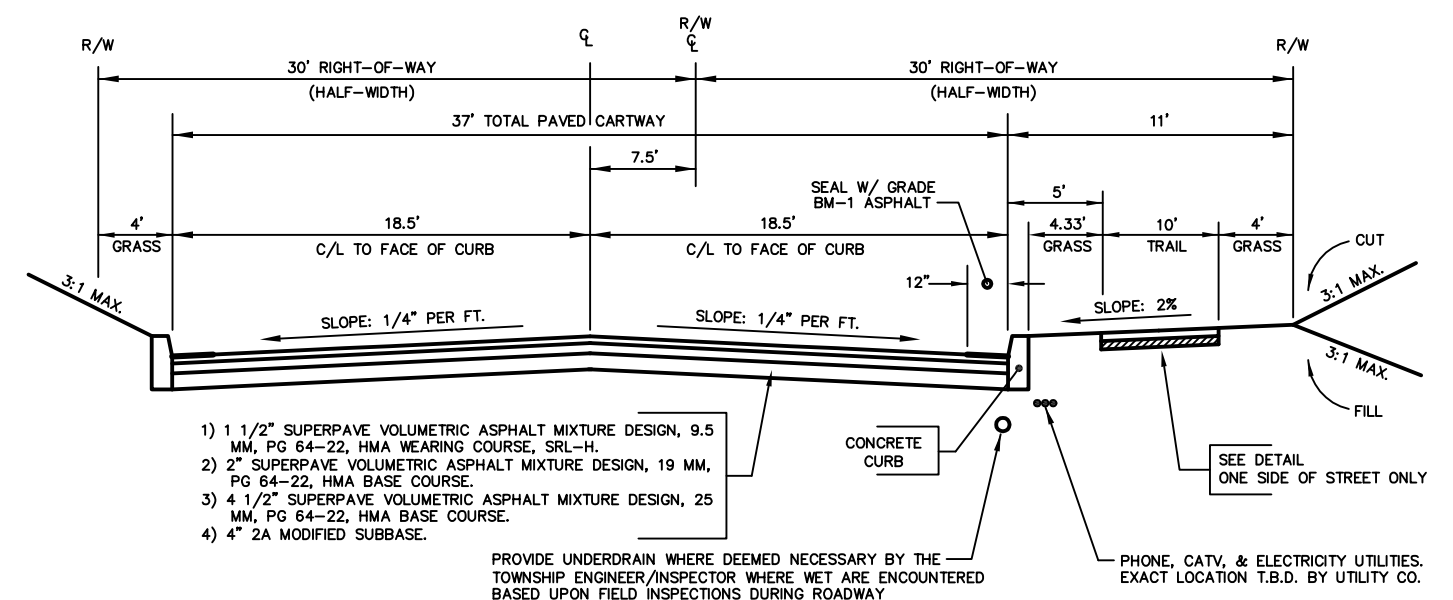
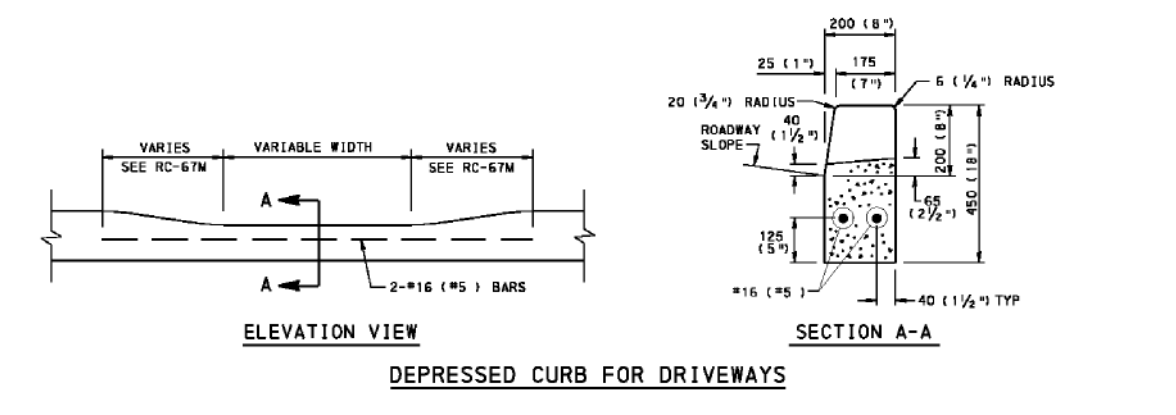


DETAILS TO BE PROVIDED ON PLAN ONCE
OBTAINED FROM SEWER AUTHORITY

No.	INT.	REVISIONS	DATE
			DEC. 17, 2018
CONSTRUCTION DETAIL SHEET—SANITARY SEWER			
AS PART OF THE			
GLASGOW TRACT			
PREPARED FOR			
GLASGOW, INC.			
SITE SITUATE IN			
UPPER MERION TOWNSHIP			
MONTGOMERY COUNTY, PENNSYLVANIA			
			
Civil Engineers • Land Surveyors 2499 KNIGHT ROAD, PENNSBURG, PA 18073 MAILING: P.O. BOX 87, RED HILL, PA 18076 PH: (215) 679-0200; www.stotac.com			
PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
HORIZONTAL:	A.C.H.	S.A.R.	
N.T.S.	PROJECT NUMBER	DRAWING FILE NUMBER	85 OF 90
	5674	5674DET	



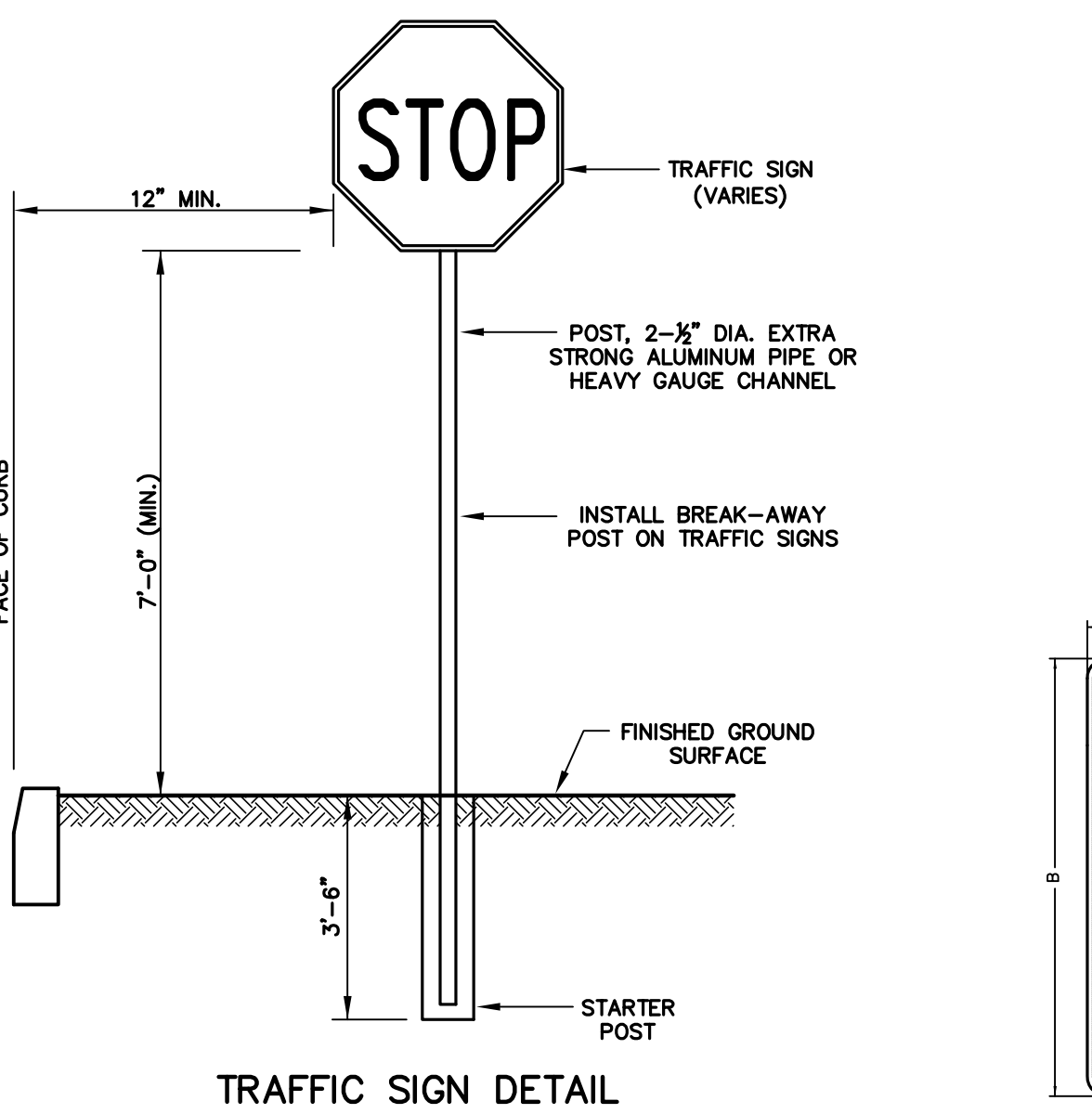
**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION**

CURBS AND GUTTERS

RECOMMENDED JOB 1, 2010
RECOMMENDED JOB 1, 2010
SHEET 1 OF 1

RC-64M

CONCRETE CURB
(FOR USE WITHIN THE BOULEVARD AND STATE ROAD RIGHTS-OF-WAY)



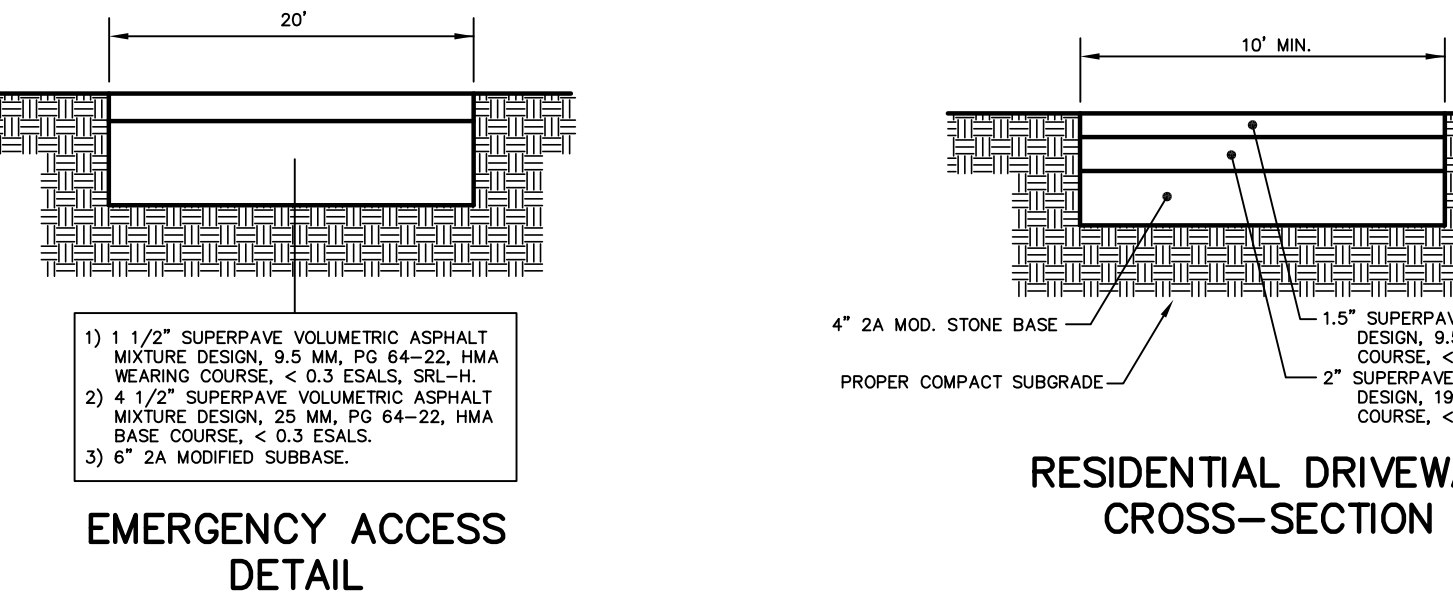
TRAFFIC SIGN DETAIL

NOTES:
1. ALL PROPOSED SIGNS SHALL BE MOUNTED ON BREAK-AWAY POSTS PER PennDOT SPECIFICATIONS.
2. INSTALLATION AND LOCATION SHALL BE SUBJECT TO THE APPROVAL AND INSPECTION OF THE TOWNSHIP ENGINEER.
3. STOP SIGNS TO HAVE REFLECTORIZED POST MARKERS.

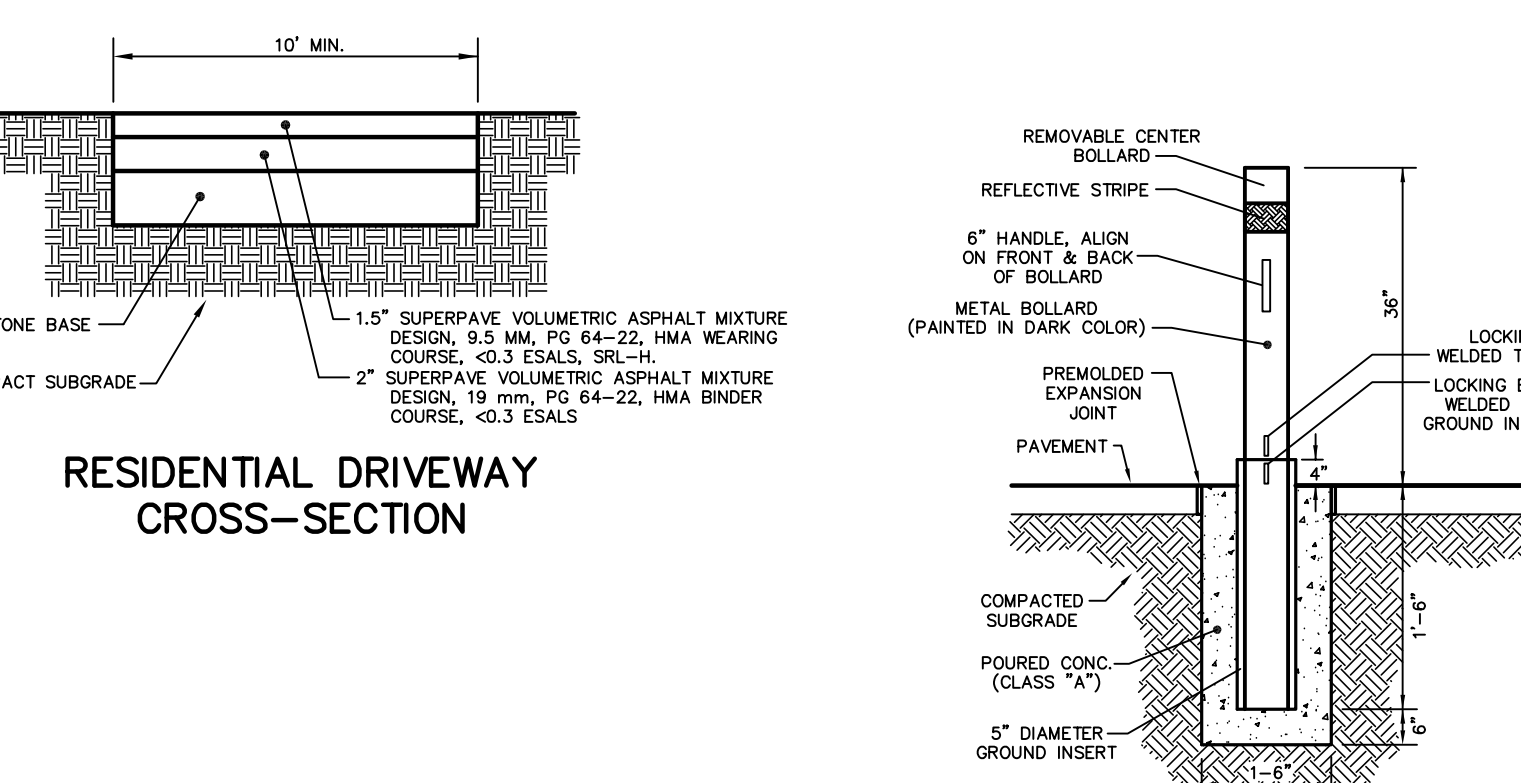
TYPICAL HALF-SECTION BOULEVARD
N.T.S.

TYPICAL HALF-SECTION ROAD "A"
(STA. 0+00-6+48.83)
N.T.S.

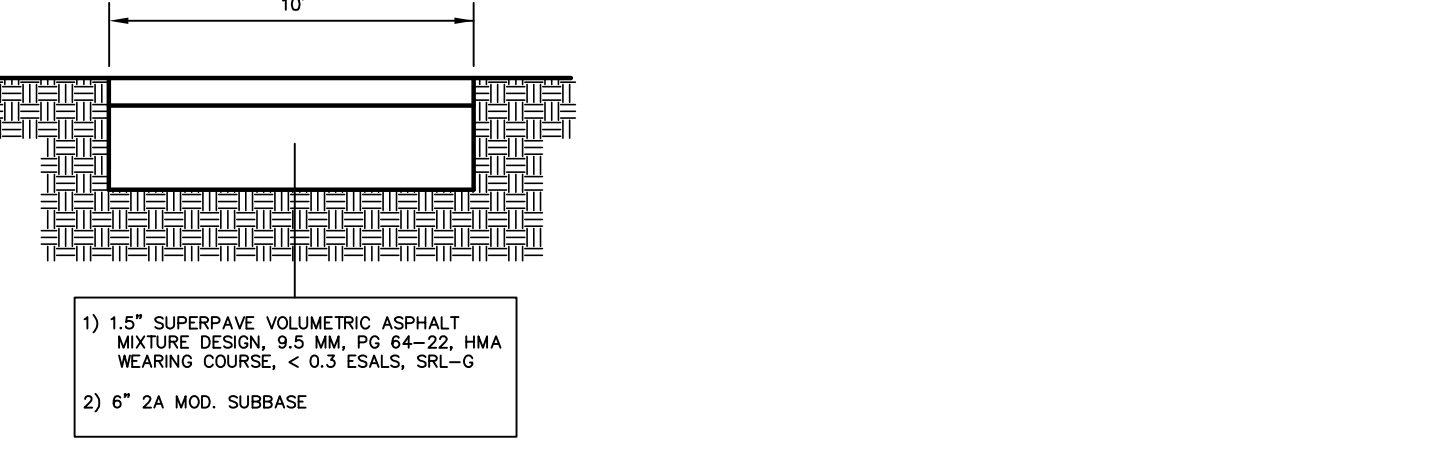
TYPICAL HALF-SECTION INTERNAL STREETS
(ROAD "A" STA. 6+48.83-13+30.17, ROADS "B", "D", "E", "F", "G", "H", "J" & "K")
N.T.S.



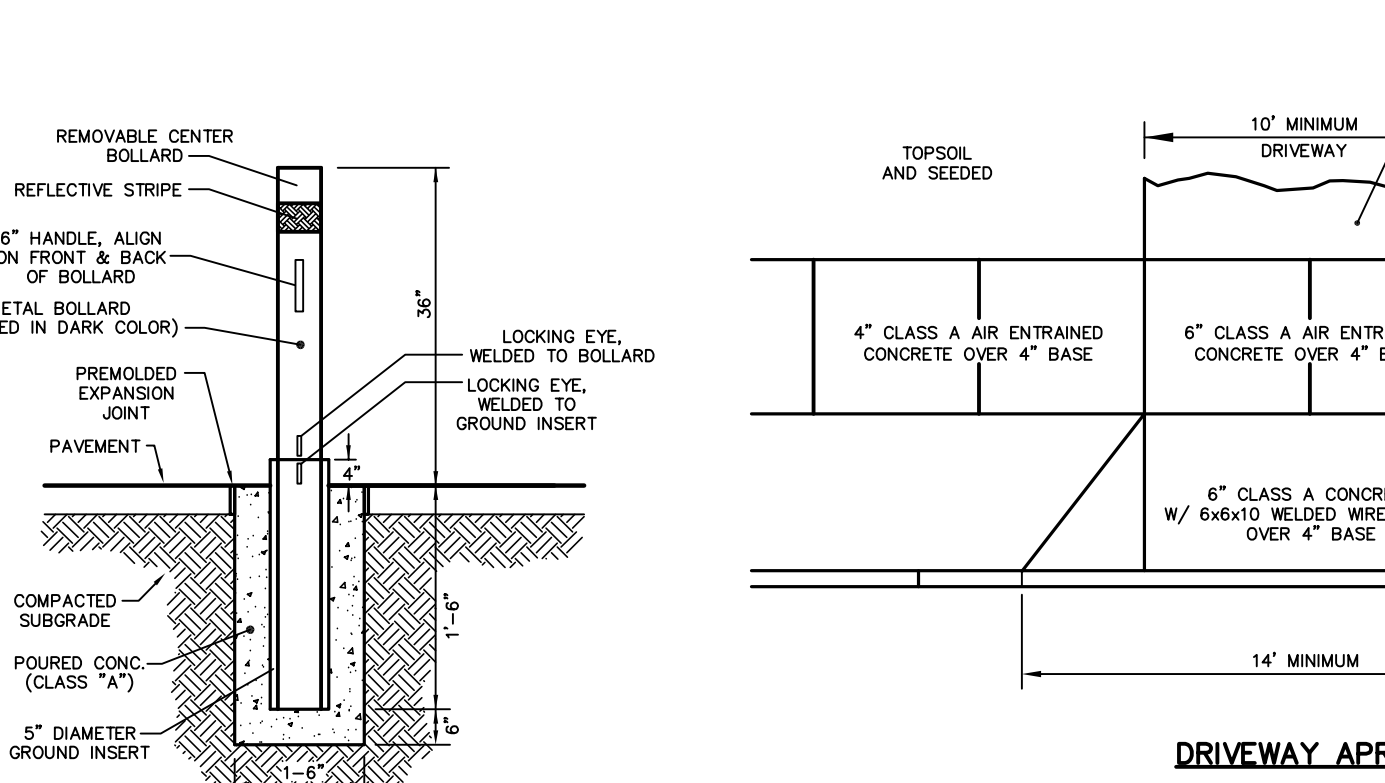
EMERGENCY ACCESS DETAIL



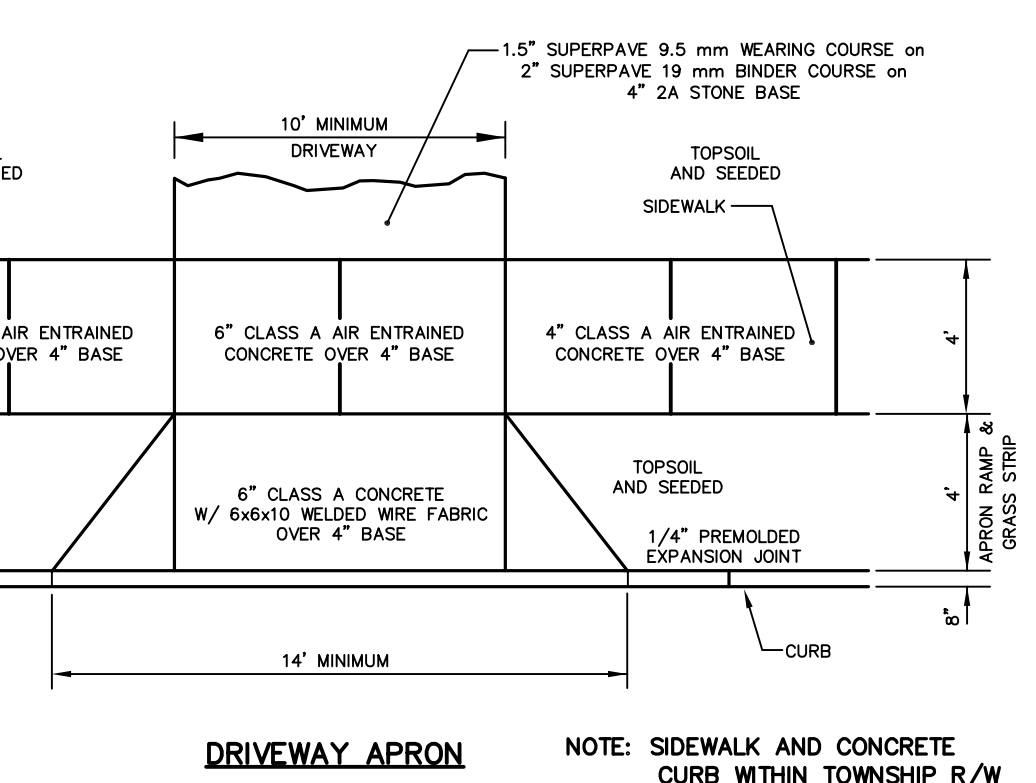
RESIDENTIAL DRIVEWAY CROSS-SECTION



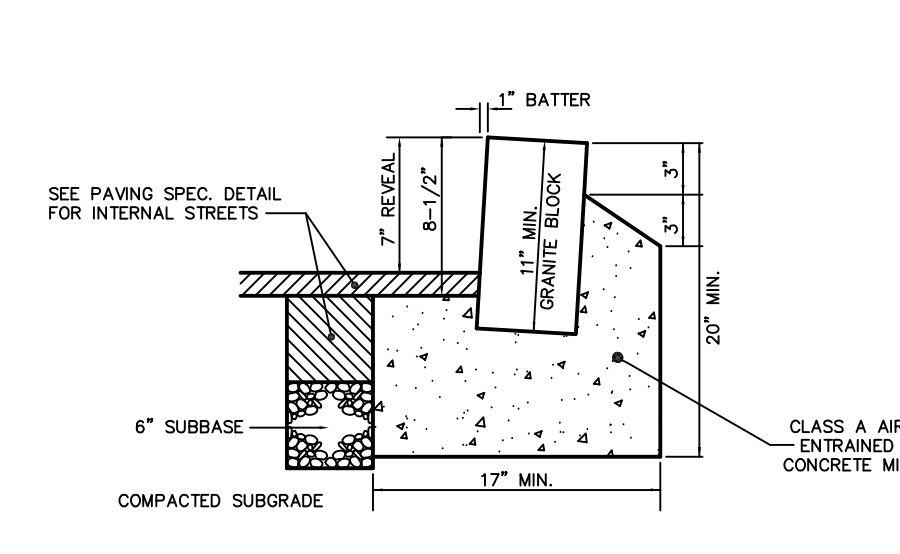
PAVED TRAIL CROSS-SECTION DETAIL (ALONG BOULEVARD)



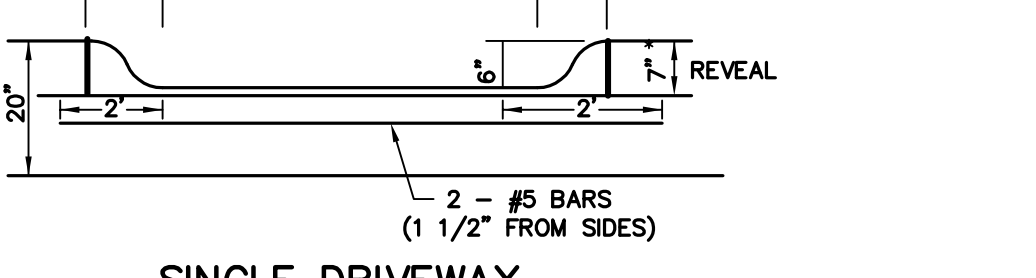
TYPICAL REMOVABLE BOLLARD DETAIL



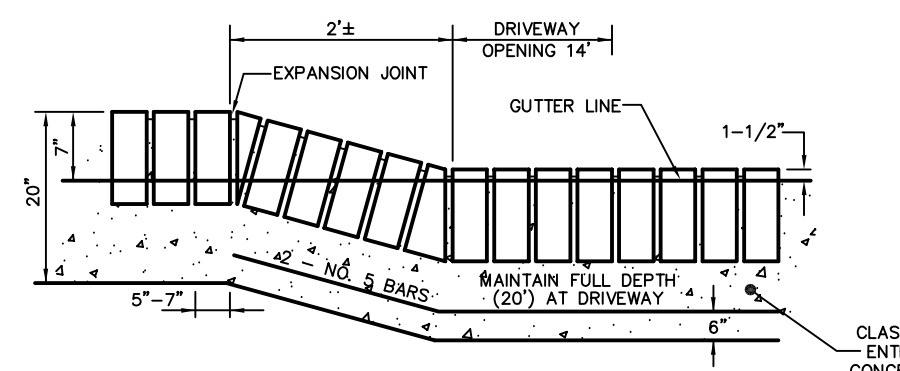
DRIVEWAY APRON



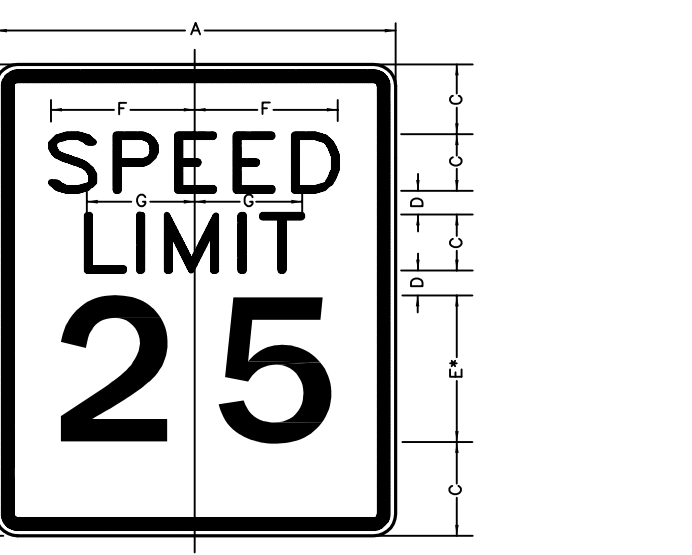
BELGIAN BLOCK CURB DETAIL
NOT TO BE USED WITHIN THE BOULEVARD OR HENDERSON ROAD RIGHT-OF-WAY



SINGLE DRIVEWAY CURB/DEPRESSION APRON

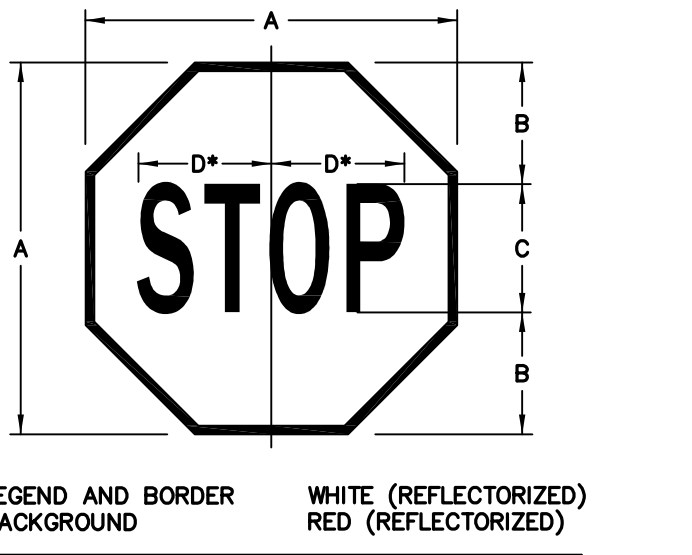


TYPICAL ELEVATION AT DRIVEWAY
TO BE USED ONLY WITHIN INTERNAL ROAD RIGHT-OF-WAYS



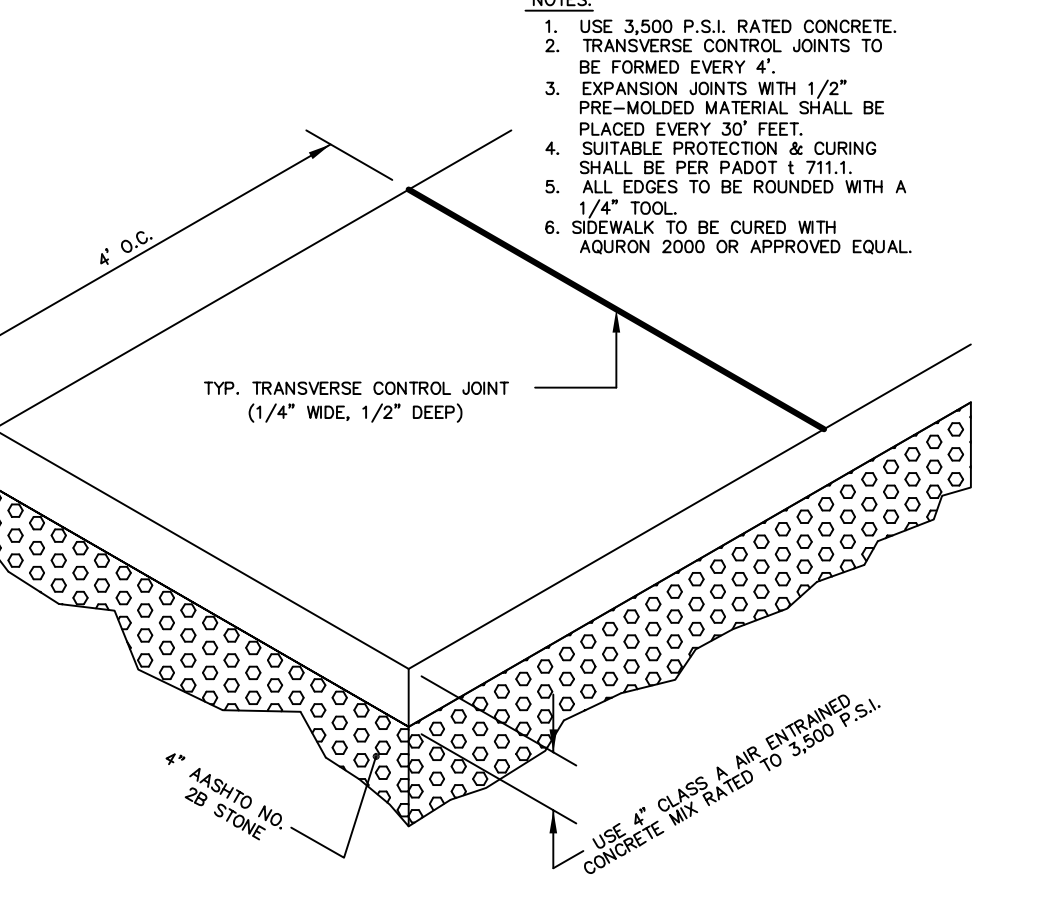
R2-1

SIGN SIZE A x B	DIMENSIONS - IN					
	A	B	C	D	E	F
24x30	24	30	4	2	10	9 9/16
30x36	30	36	5	2	12	12
36x48	36	48	6	3	14	14 3/8
48x60	48	60	8	4	16	16 1/2

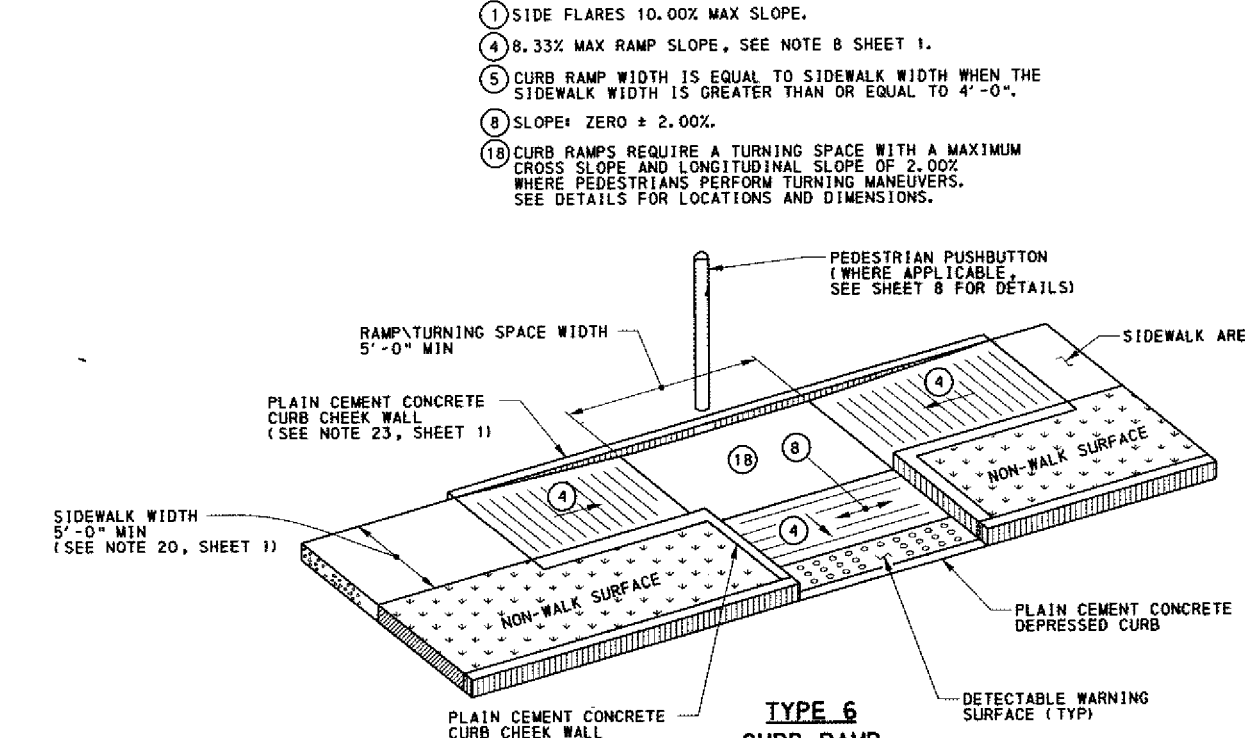


R1-1

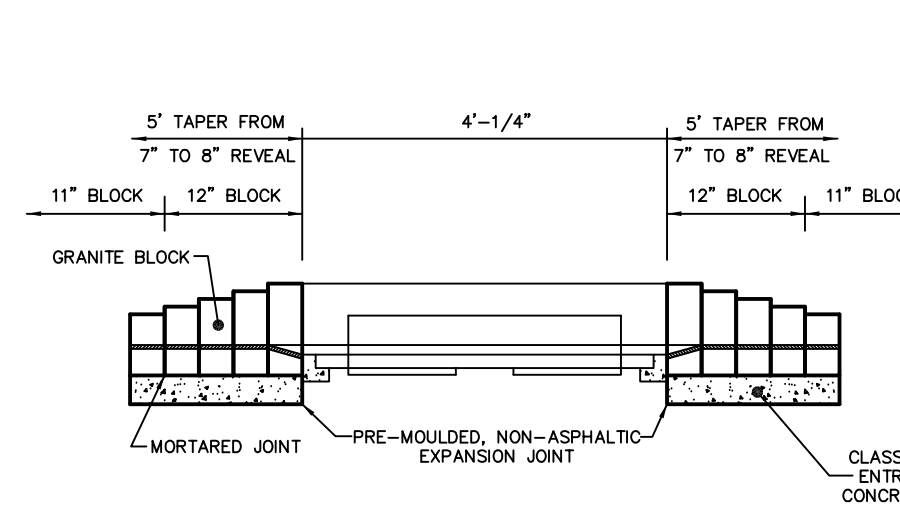
SIGN SIZE A x A	DIMENSIONS - IN					
	A	B	C	D	E	F
24" x 24"	24	24	0.6	0.6	8.1	8.1
30" x 30"	30	30	0.8	0.8	10.1	10.1
36" x 36"	36	36	1.0	1.0	12.1	12.1
48" x 48"	48	48	1.2	1.2	16.1	16.1



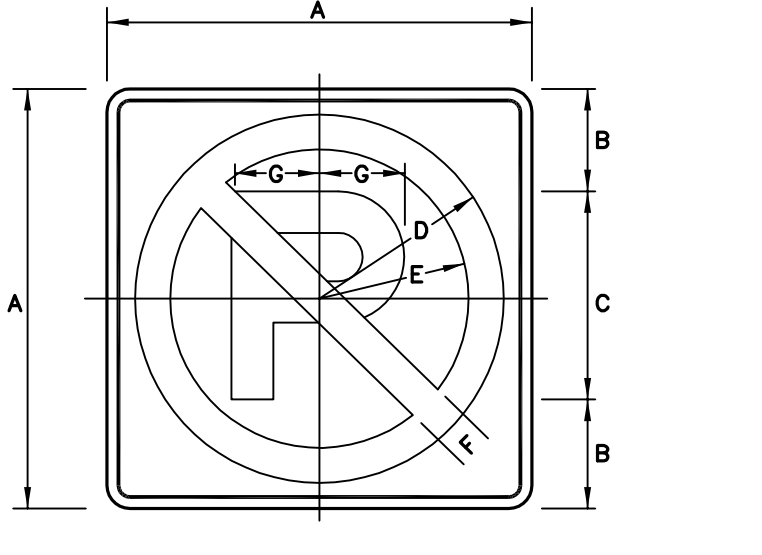
CONVENTIONAL SIDEWALK DETAIL



TYPE 6 CURB RAMP COMBINATION

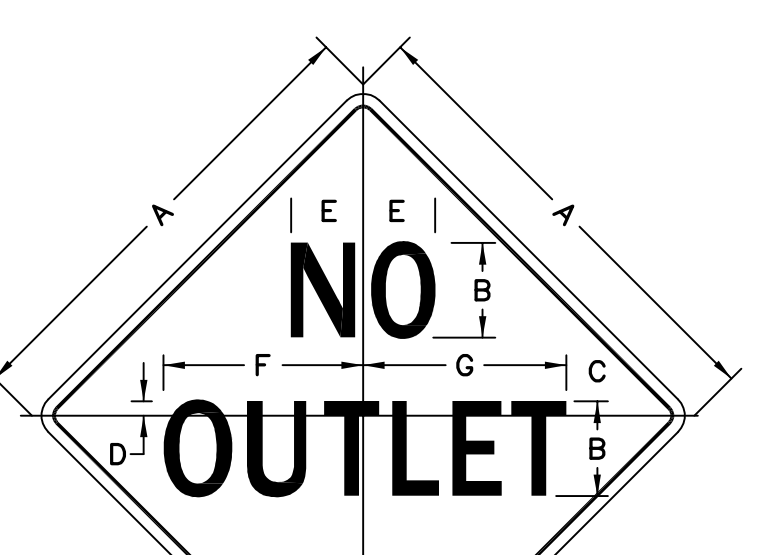


ELEVATION ADJACENT TO TYPE "C" INLET TOP FOR BELGIAN BLOCK CURB
ALTERNATE CURB DETAIL
NOT TO BE USED WITHIN BOULEVARD OR HENDERSON ROAD RIGHT-OF-WAY



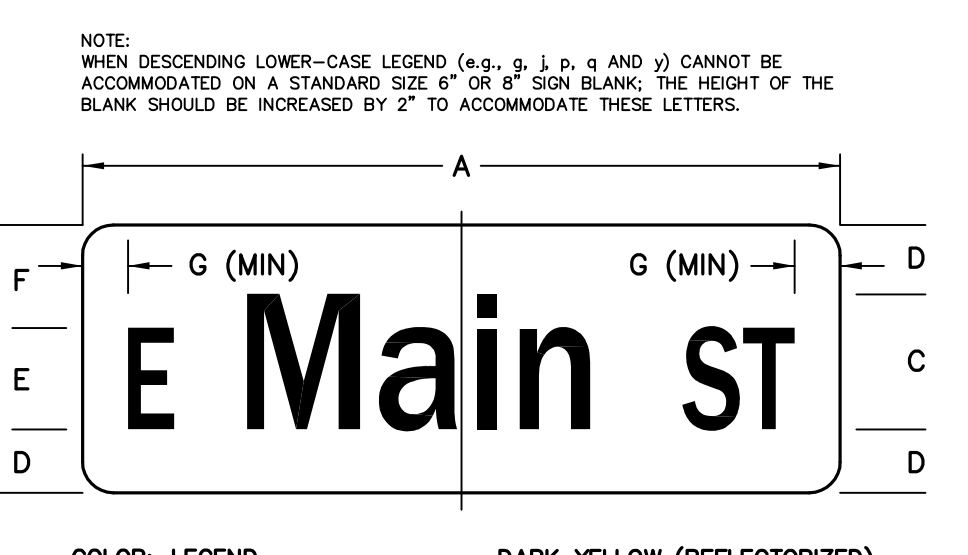
R8-3

SIGN SIZE A x A	DIMENSIONS - IN					
	A	B	C	D	E	F
12" x 12"	12	12	0.4	0.4	0.4	0.4
24" x 24"	24	24	0.6	0.6	0.6	0.6
36" x 36"	36	36	0.8	0.8	0.8	0.8
48" x 48"	48	48	1.0	1.0	1.0	1.0



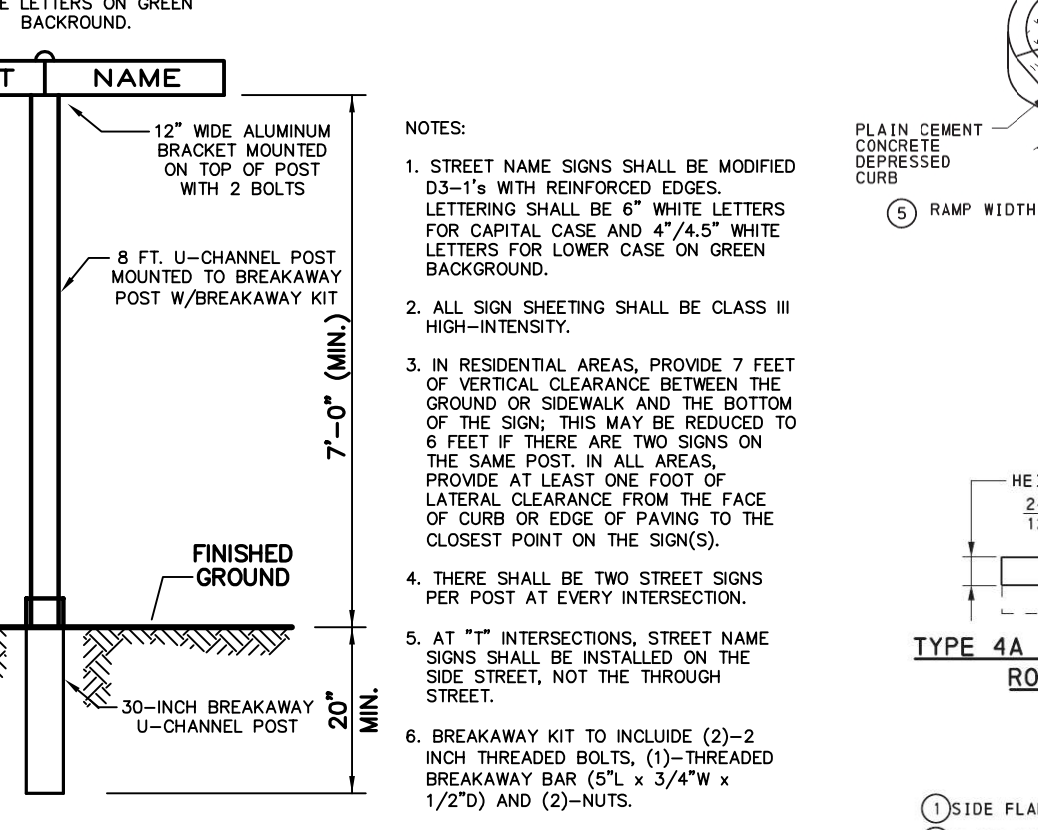
W14-2

SIGN SIZE A x A	DIMENSIONS - IN					
	A	B	C	D	E	F
30" x 30"	30	30	0.4	0.4	0.4	0.4
36" x 36"	36	36	0.5	0.5	0.5	0.5
42" x 42"	42	42	0.6	0.6	0.6	0.6
48" x 48"	48	48	0.8	0.8	0.8	0.8

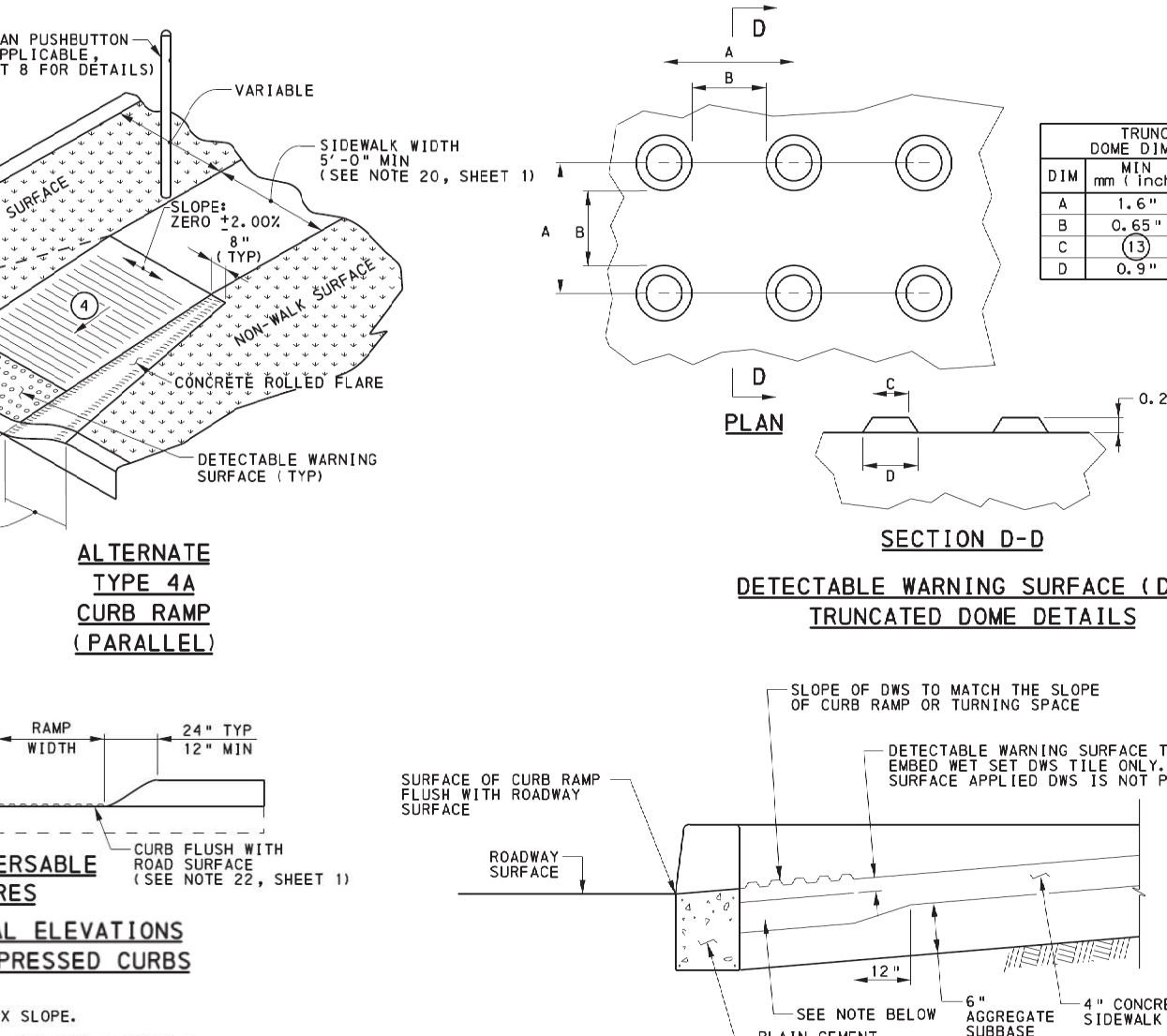


R1-1

SIGN SIZE A x B	DIMENSIONS - IN					
	A	B	C	D	E	F
VAR. x 6"	6	4	1	3	2	1
VAR. x 8"	8	4	1	4	3	1.4



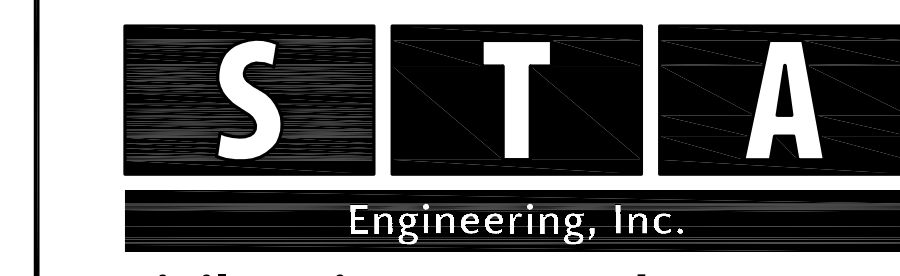
TYPICAL STREET SIGN DETAIL



TYPICAL ELEVATIONS FOR DEPRESSED CURBS

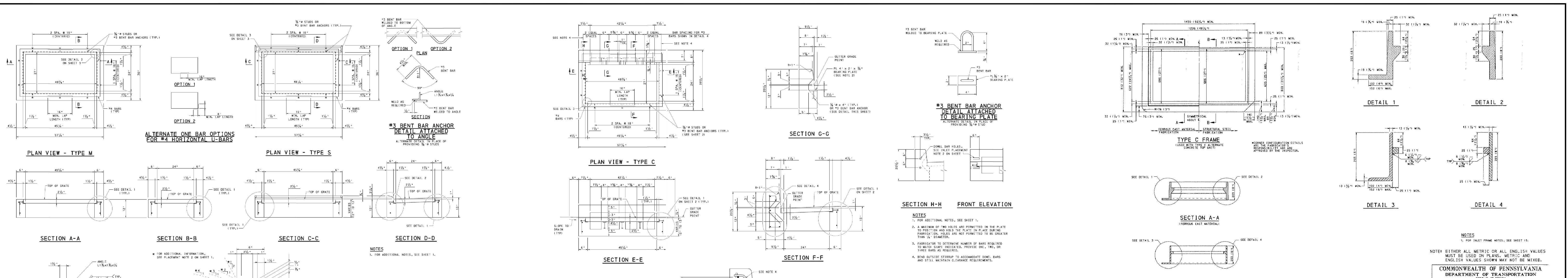
No. INT.	REVISIONS	DATE
	PLAN ORIGINATOR DATE	DEC. 17, 2018

CONSTRUCTION DETAIL SHEET
AS PART OF THE
GLASGOW TRACT
PREPARED FOR
GLASGOW, INC.
SITE SITUATE IN
UPPER MERION TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA



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2499 KNIGHT ROAD, PENNSBURG, PA 18073
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PLAN SCALE	DRAFTED BY	PROJECT MANAGER	PLAN SHEET NUMBER
HORIZONTAL:	A.C.H.	S.A.R.	
N.T.S.	PROJECT NUMBER	DRAWING FILE NUMBER	
	5674	5674DET	86 OF 90



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PRODUCT DESIGN

**INLET TOPS, GRATES, AND FRAMES
CONCRETE TOP UNITS
TYPE M AND TYPE S**

RECOMMENDED SEPT. 15, 2018 | RECOMMENDED SEPT. 15, 2018 | SHEET 2 OF 22
BY: [Signature] | CHECKED: [Signature] | RC-45M

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PRODUCT DESIGN

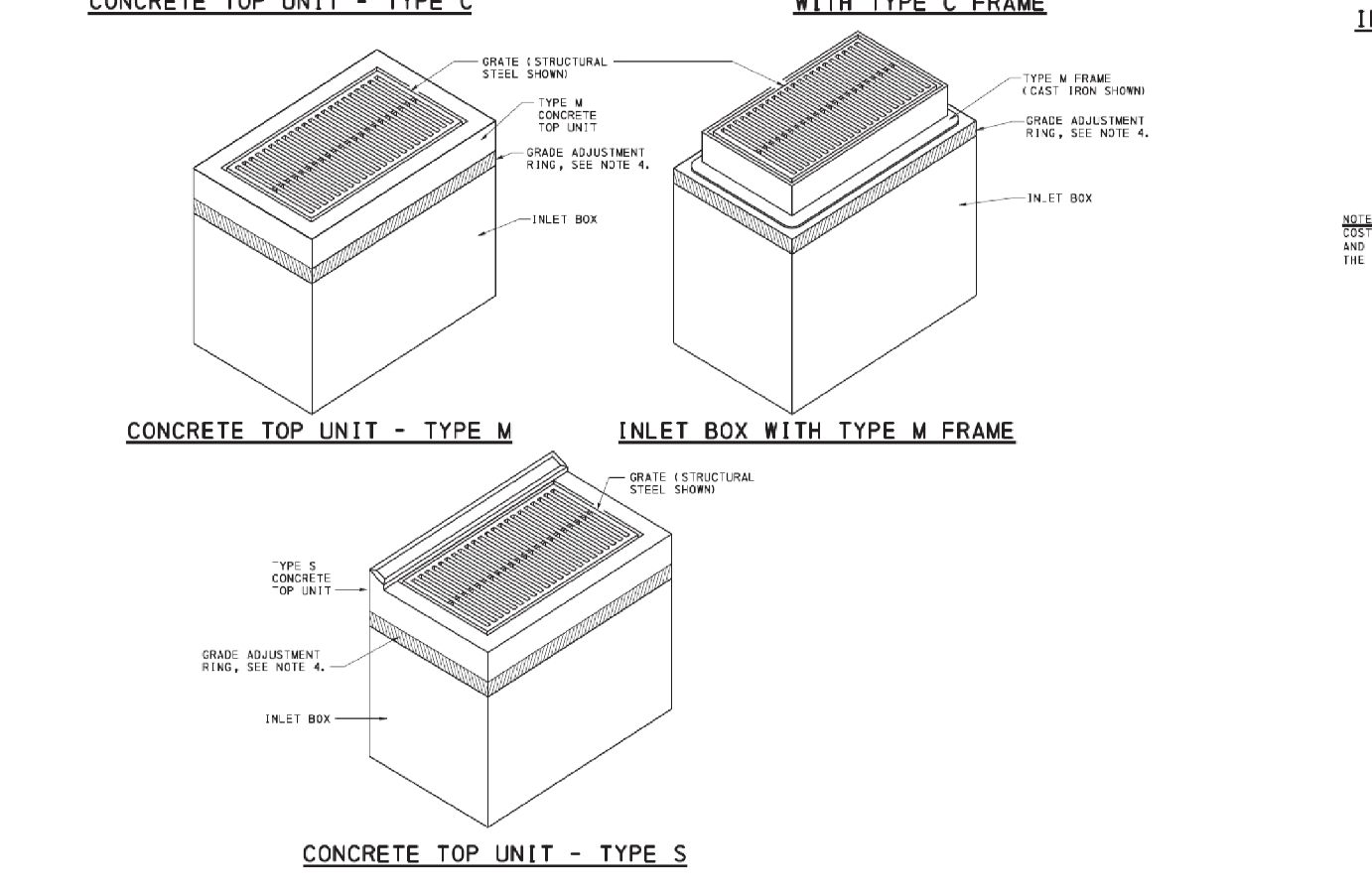
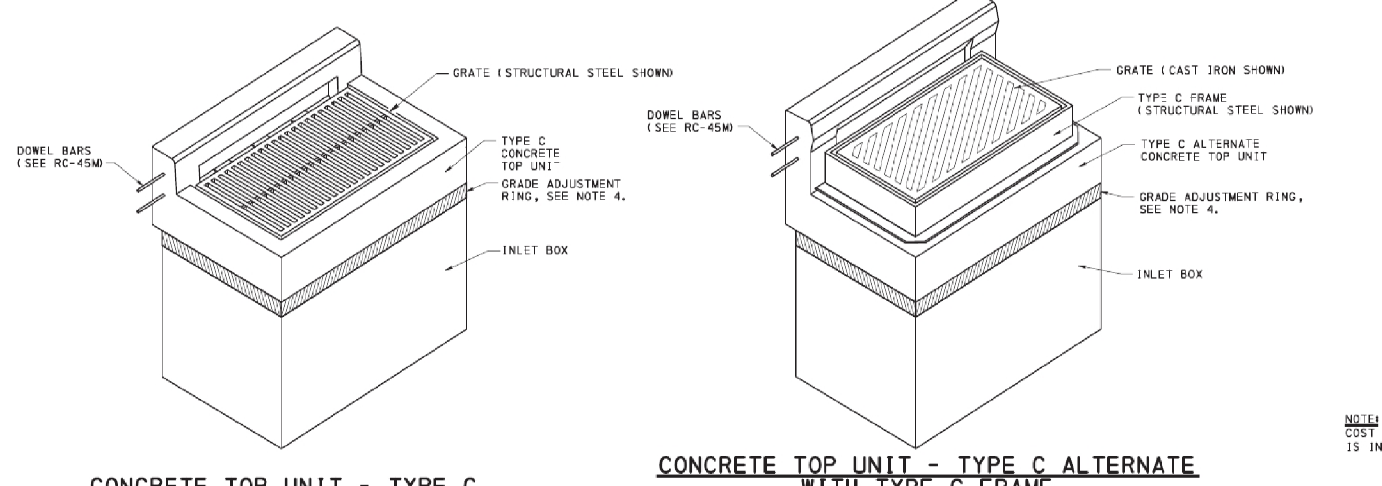
**INLET TOPS, GRATES, AND FRAMES
CONCRETE TOP UNITS
TYPE C**

RECOMMENDED SEPT. 15, 2018 | RECOMMENDED SEPT. 15, 2018 | SHEET 3 OF 22
BY: [Signature] | CHECKED: [Signature] | RC-45M

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PRODUCT DESIGN

**INLET TOPS, GRATES, AND FRAMES
TYPE C FRAME**

RECOMMENDED SEPT. 15, 2018 | RECOMMENDED SEPT. 15, 2018 | SHEET 16 OF 22
BY: [Signature] | CHECKED: [Signature] | RC-45M

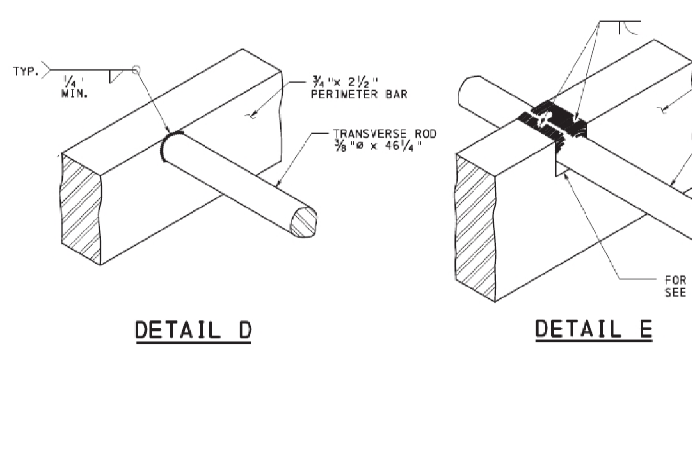
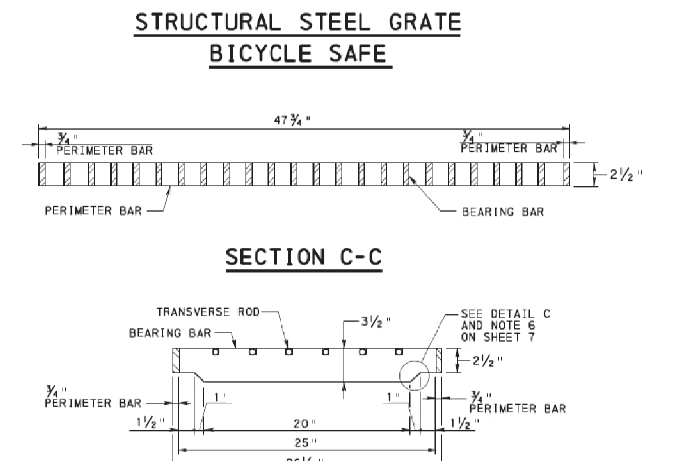
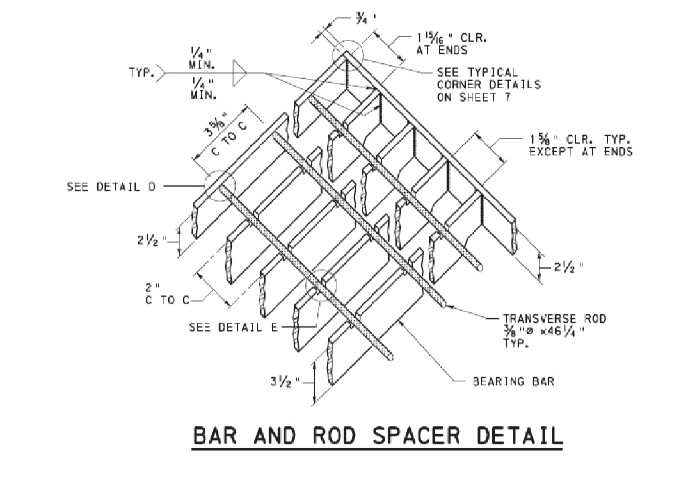
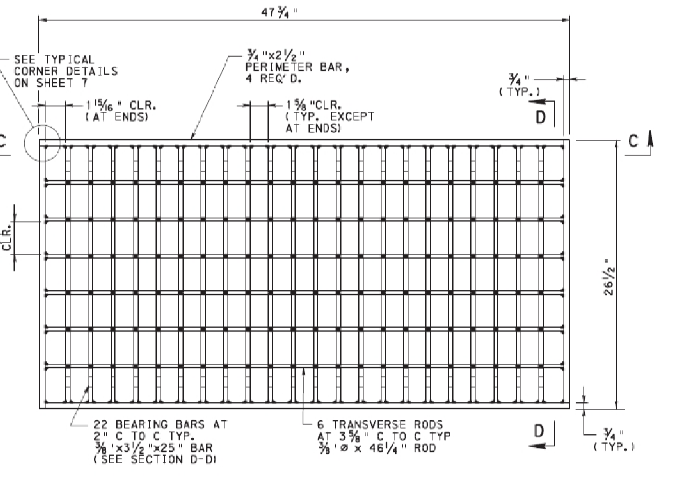


COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PRODUCT DESIGN

INLET BOX SUBBASE PREPARATION DETAIL

SEE TYPE C CONCRETE TOP UNIT ON SHEET 16

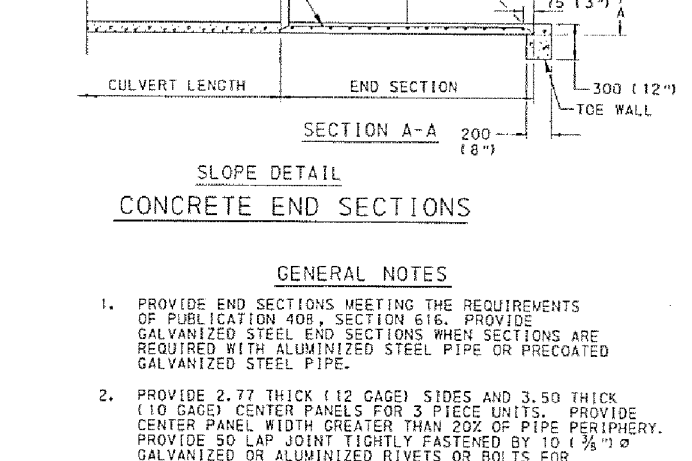
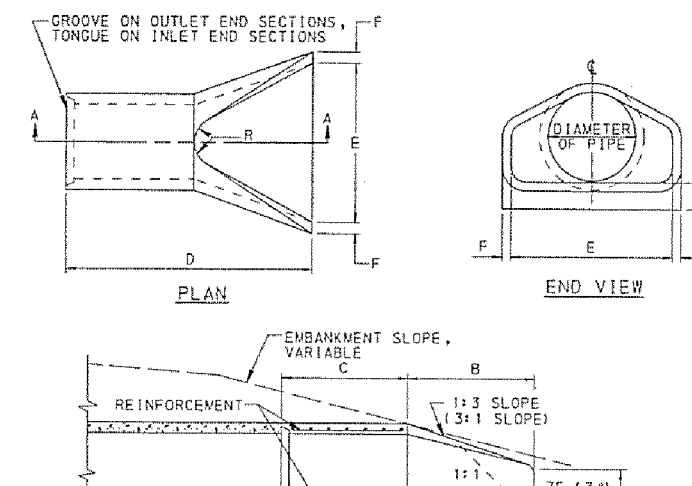
RECOMMENDED SEPT. 15, 2018 | RECOMMENDED SEPT. 15, 2018 | SHEET 17 OF 22
BY: [Signature] | CHECKED: [Signature] | RC-45M



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PRODUCT DESIGN

**INLET TOPS, GRATES, AND FRAMES
STRUCTURAL STEEL GRATE
BICYCLE SAFE**

RECOMMENDED SEPT. 15, 2018 | RECOMMENDED SEPT. 15, 2018 | SHEET 18 OF 22
BY: [Signature] | CHECKED: [Signature] | RC-45M



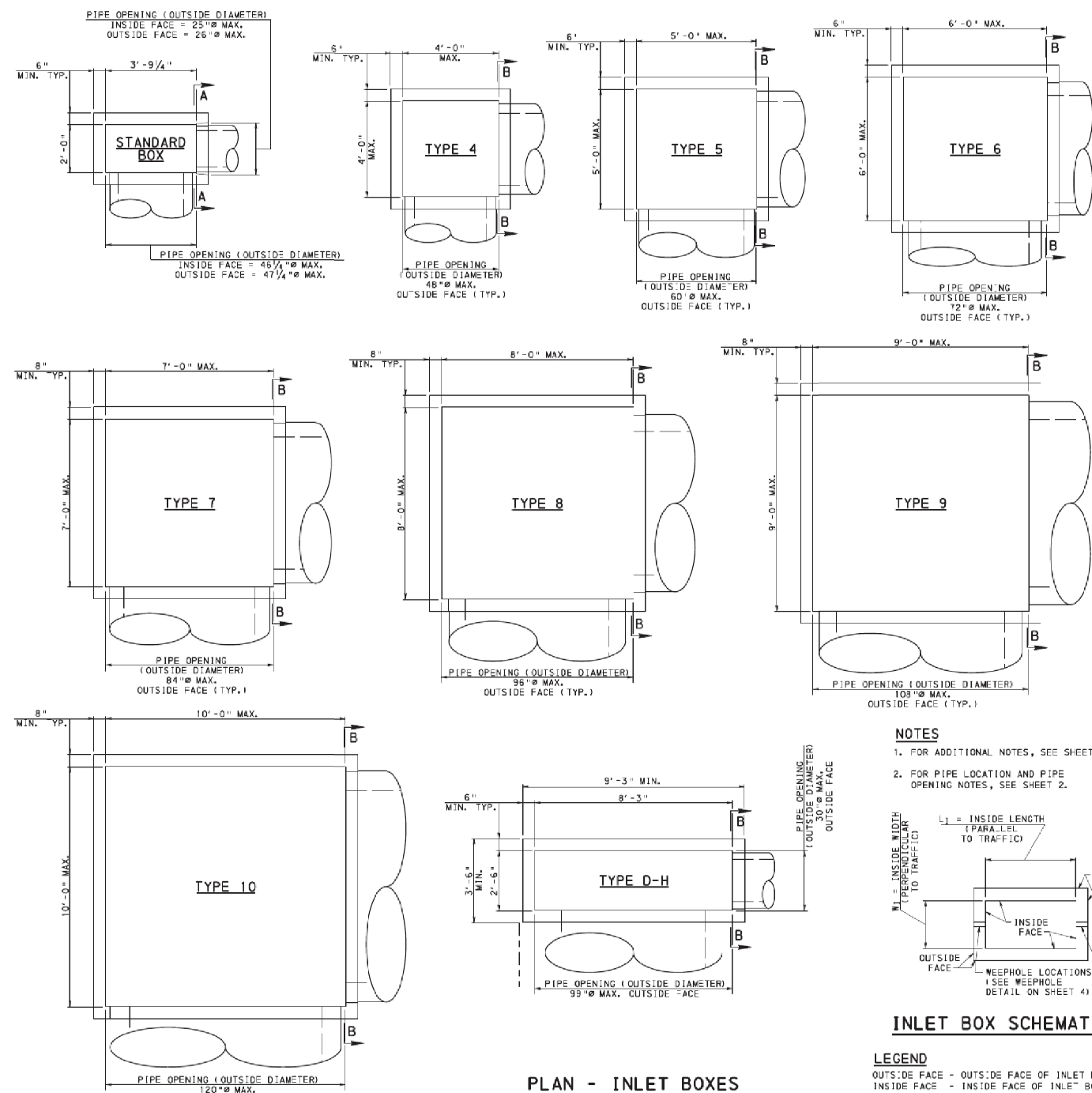
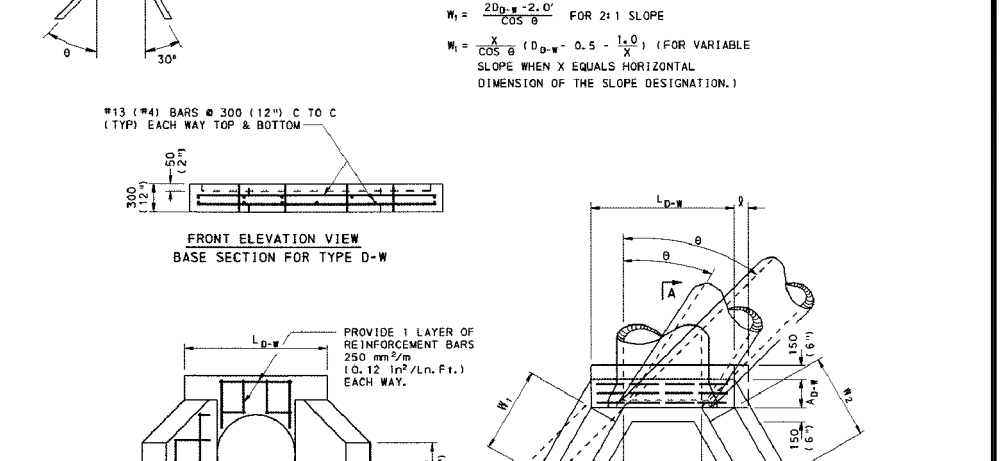
COMMONWEALTH OF PENNSYLVANIA
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BUREAU OF PRODUCT DESIGN

**INLET BOXES
INLET ASSEMBLIES - 1**

RECOMMENDED SEPT. 15, 2018 | RECOMMENDED SEPT. 15, 2018 | SHEET 19 OF 22
BY: [Signature] | CHECKED: [Signature] | RC-46M

TABLE A (ENGLISH)
2:1 ENHANCED SLOPES

FOR	1:1	2:1	3:1	4:1	5:1	6:1	7:1	8:1	9:1	10:1
MIN. HORIZONTAL DISTANCE	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
MIN. VERTICAL DISTANCE	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PRODUCT DESIGN

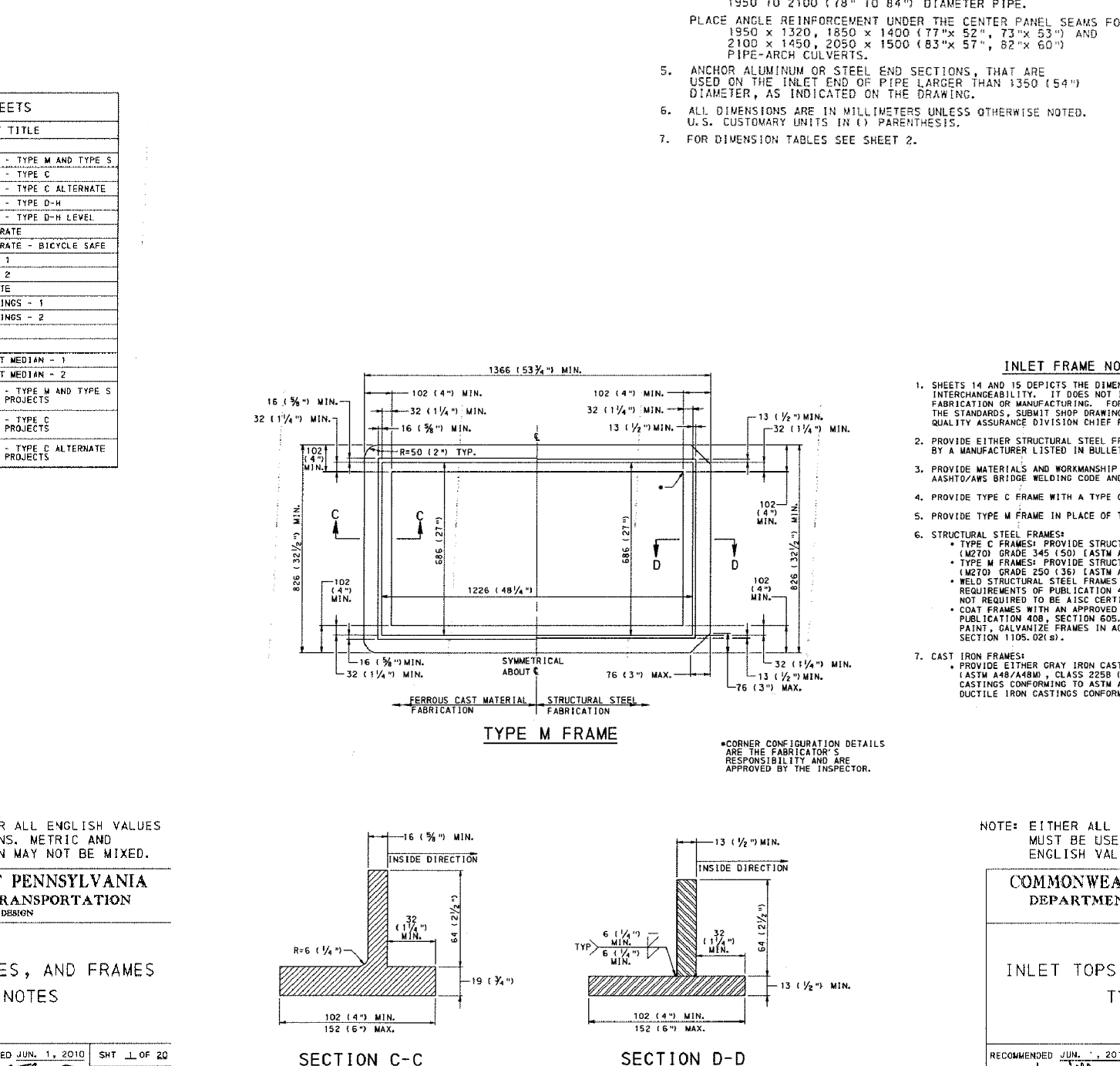
**INLET BOXES
INLET BOX TYPES**

RECOMMENDED SEPT. 15, 2018 | RECOMMENDED SEPT. 15, 2018 | SHEET 20 OF 22
BY: [Signature] | CHECKED: [Signature] | RC-46M

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PRODUCT DESIGN

INDEX OF SHEETS

SHEET NO.	SHEET TITLE
1	GENERAL NOTES
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3	CONCRETE TOP UNITS - TYPE C ALTERNATE
4	CONCRETE TOP UNITS - TYPE C
5	CONCRETE TOP UNITS - TYPE D-H
6	CONCRETE TOP UNITS - TYPE D-M
7	STRUCTURAL STEEL GRATE - BICYCLE SAFE
8	CONCRETE TOP UNITS - BICYCLE SAFE
9	CAST IRON GRATE - 1
10	CAST IRON GRATE - 2
11	CAST IRON GRATE - 3
12	CAST IRON GRATE - 4
13	CAST IRON GRATE - 5
14	CAST IRON GRATE - 6
15	TYPE M FRAME
16	TYPE S FRAME
17	TYPE C FRAME
18	TYPE D-H FRAME
19	TYPE D-M FRAME
20	CONCRETE TOP UNITS - ALTERNATE



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF PRODUCT DESIGN

**INLET TOPS, GRATES, AND FRAMES
GENERAL NOTES**

RECOMMENDED SEPT. 15, 2018 | RECOMMENDED SEPT. 15, 2018 | SHEET 21 OF 22
BY: [Signature] | CHECKED: [Signature] | RC-45M

CONSTRUCTION DETAIL SHEET
AS PART OF THE
GLASGOW TRACT
PREPARED FOR
GLASGOW, INC.
SITE SITUATE IN
UPPER MERION TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

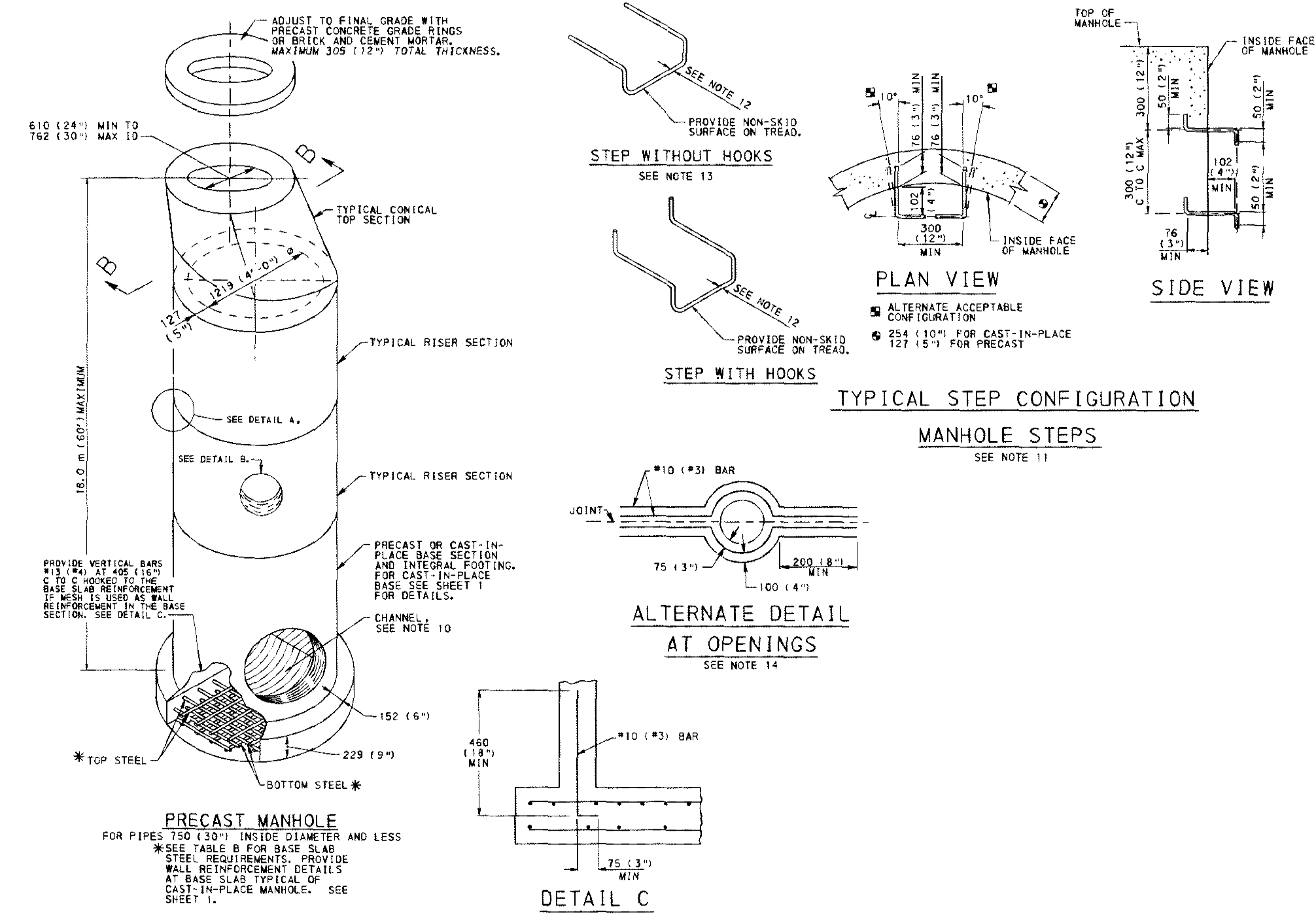
S T A
Engineering, Inc.

Civil Engineers • Land Surveyors
2499 KNIGHT ROAD, PENNSBURG, PA 18073
MAILING: P.O. BOX 87, RED HILL, PA 18076
PH: (215) 679-0200; www.stotac.com

PLAN SCALE: HORIZONTAL: N.T.S.
DRAWN BY: A.C.H.
PROJECT NUMBER: 5674

PROJECT MANAGER: S.A.R.
DRAWING FILE NUMBER: 5674DET
PLAN SHEET NUMBER: 87 OF 90

DATE: DEC. 17, 2018



- NOTES
1. PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 114, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE. FOR DETAIL OR MODIFICATION OF THE STANDARDS, SUBMIT SHOP DRAWINGS FOR APPROVAL.
 2. FOR CONSTRUCTION REQUIREMENTS SEE NOTE 1, SHEET 1.
 3. FOR DESIGN REQUIREMENTS SEE NOTE 1, SHEET 1.
 4. FOR PERMISSIBLE LOCATION OF PIPES SEE PLAN VIEW AND NOTE 3, SHEET 1.
 5. FOR PRECAST RISER OR BASE SECTIONS WITH OPENINGS PROVIDE A MINIMUM HEIGHT OF SECTION SO AS TO PROVIDE AN UNCLE WALL ABOVE. TO PROVIDE CIRCUMFERENTIAL REINFORCEMENT IN ACCORDANCE WITH SECTION B-6. FOR SECTIONS WITH TWO OR MORE OPENINGS LOCATED AT DEPTHS OF 3.0 m (10') AND LESS PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 3/4" (#4) VERTICAL SECTION. 1/4" IS (1/4) VERTICAL FT) FOR THE HEIGHT OF RISER OR BASE SECTION.
 6. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS LOCATED AT A DEPTH GREATER THAN 3.0 m (10') BUT LESS THAN OR EQUAL TO 6.0 m (20'), PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 1/2" (#3) VERTICAL SECTION. 1/4" IS (1/4) VERTICAL FT) FOR THE HEIGHT OF RISER OR BASE SECTION.
 7. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS LOCATED AT DEPTHS GREATER THAN 6.0 m (20') USE A 3/4" (#4) THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 4/0" (#4) VERTICAL SECTION. 1/4" IS (1/4) VERTICAL FT) FOR EACH FACE.
 8. MAKE WIERS OR BASE SECTIONS WITH HOLES CLEARLY WITH MAXIMUM ALLOWABLE GUT.
 9. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS SHEET 1.
 10. FOR CHANNEL DETAILS IN PRECAST MANHOLE SEE CAST-IN-PLACE MANHOLE SHEET 1.
 11. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 114, AS SHOWN. CONFIGURATION AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.
 12. PROVIDE MINIMUM 25 (1") SECTION DIMENSION FOR METAL STEPS. PROVIDE MINIMUM 15 (6") SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.
 13. MECHANICAL ANCHOR REQUIRED FOR INSTALLATION OF STEPS WITHOUT HOLES.
 14. THE ALTERNATE OPENING REINFORCEMENT DETAIL IS NOT DESIRABLE BY DESIGN. USE IT TO MEET EXISTING PIPE ELEVATIONS.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

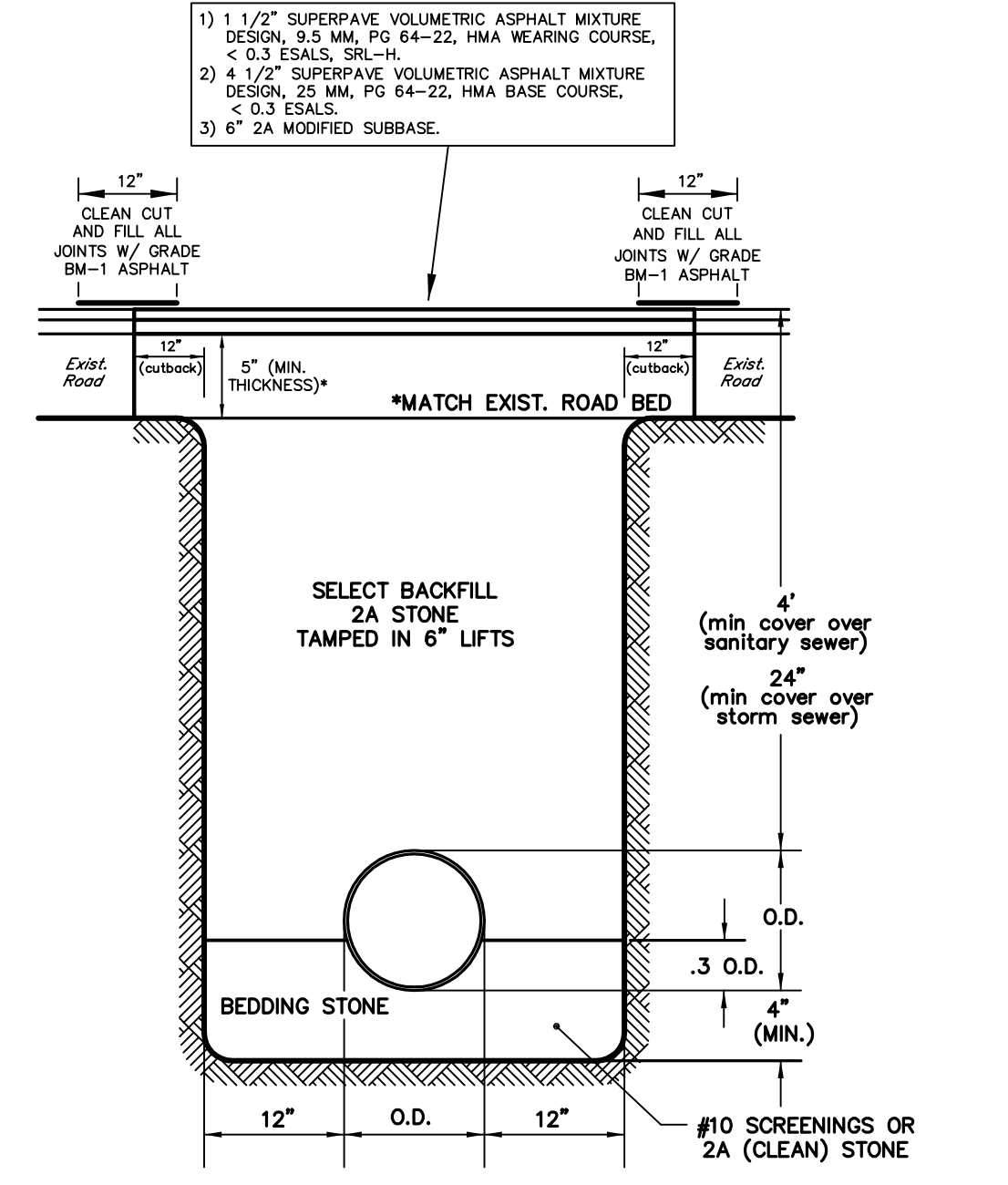
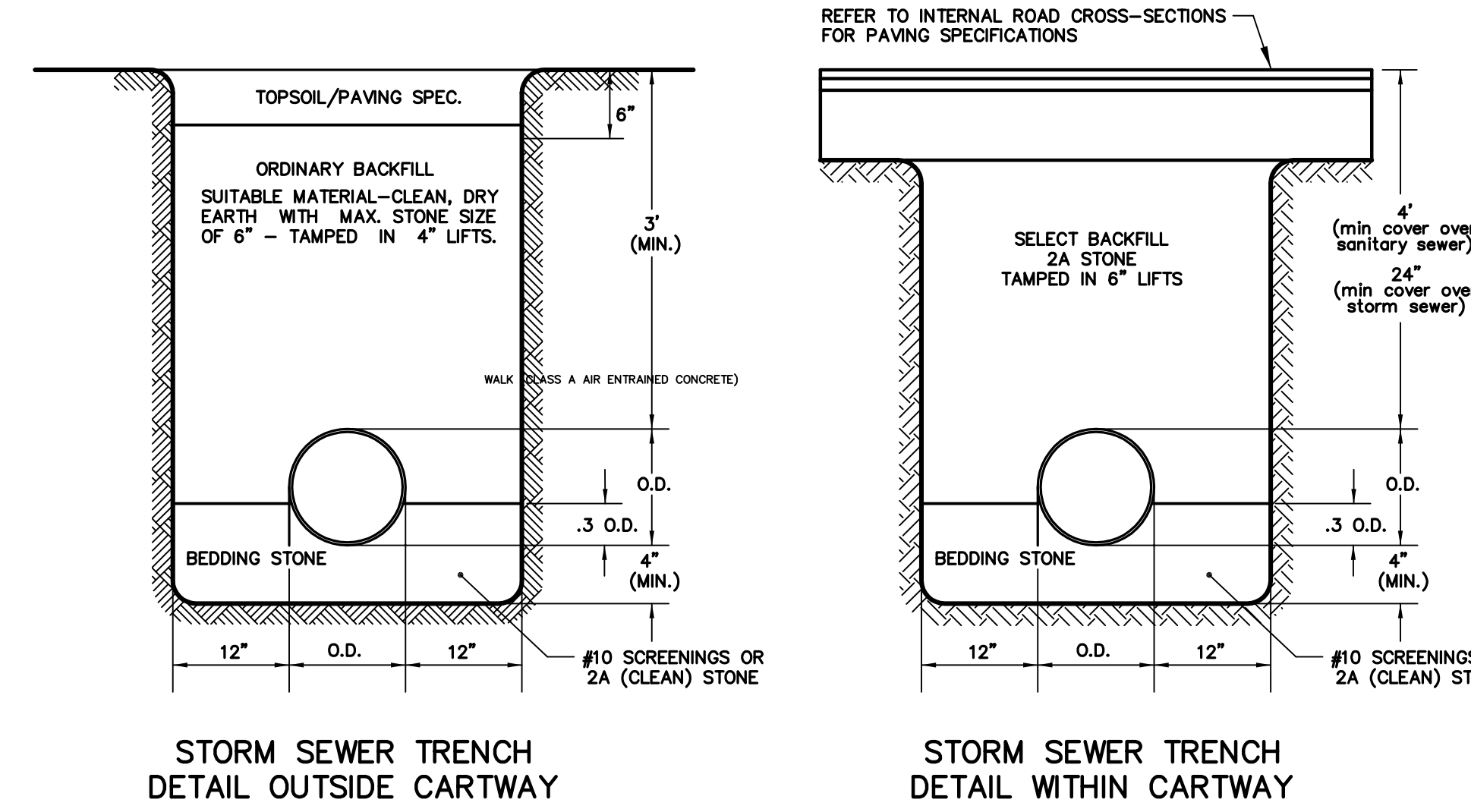
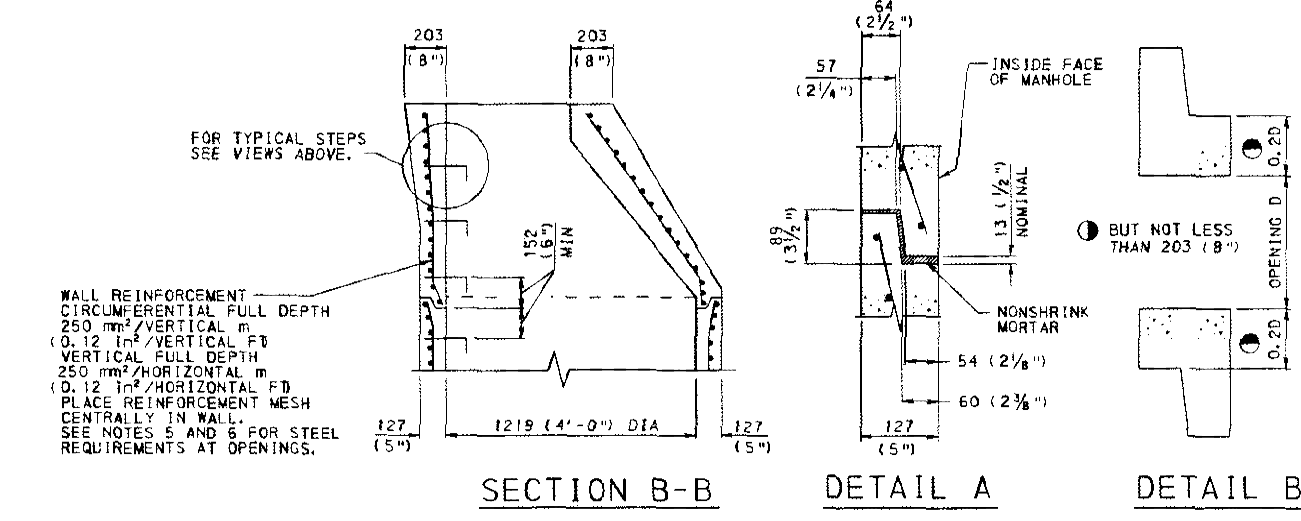
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

STANDARD MANHOLES
PRECAST MANHOLES &
MANHOLE STEPS

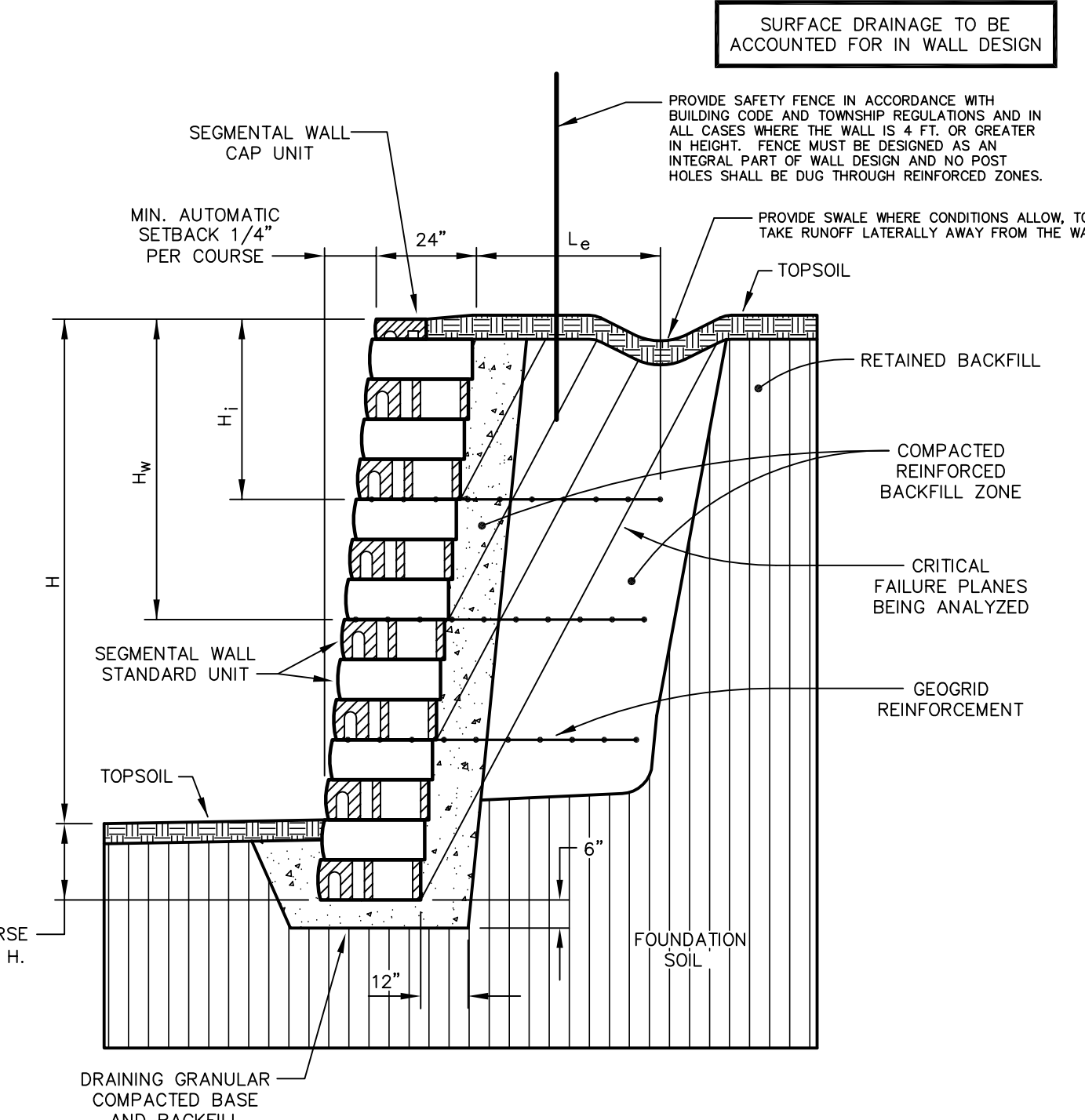
TABLE B

PRECAST MANHOLE HEIGHT	TOP STEEL REQUIREMENTS	BOTTOM STEEL REQUIREMENTS
0.0 m TO 2.0 m (0'-0" TO 6'-0")	#13 BARS AT 150 C TO C OR 150 (#4) WWF 152 MAXIMUM SPACING	#13 BARS AT 300 C TO C OR 150 (#4) WWF 152 MAXIMUM SPACING
2.0 m TO 3.0 m (6'-0" TO 9'-0")	#14 BARS AT 120 C TO C OR 150 (#4) WWF 152 MAXIMUM SPACING	#14 BARS AT 240 C TO C OR 120 (#4) WWF 152 MAXIMUM SPACING
3.0 m TO 6.0 m (9'-0" TO 18'-0")	#16 BARS AT 150 C TO C OR 150 (#4) WWF 152 MAXIMUM SPACING	#16 BARS AT 300 C TO C OR 150 (#4) WWF 152 MAXIMUM SPACING
6.0 m TO 15.0 m (18'-0" TO 45'-0")	#18 BARS AT 150 C TO C OR 150 (#4) WWF 152 MAXIMUM SPACING	#18 BARS AT 300 C TO C OR 150 (#4) WWF 152 MAXIMUM SPACING

SEE NOTE 7, SHEET 1



THE PAVEMENT RESTORATION WITHIN P.A.D.O.T. RIGHTS-OF-WAY MUST BE SUPERPAVE AND MUST BE EQUAL TO OR GREATER THAN THE EXISTING PAVEMENT SECTION.



- NOTES
1. DESIGN DRAWINGS AND CALCULATIONS NEED TO BE PREPARED BY AN EXPERIENCED LICENSED PROFESSIONAL ENGINEER, AND SUBMITTED TO THE TOWNSHIP FOR REVIEW PRIOR TO CONSTRUCTION.
 2. A PROFESSIONAL GEOTECHNICAL ENGINEER WILL OVERSEE CONSTRUCTION OF THE WALL AND PROVIDE CERTIFICATION THAT THE CONSTRUCTION MEETS OR EXCEEDS ALL OF THE DESIGN CRITERIA, INCLUDING ALL SOILS TESTING AND COMPACTION REQUIREMENTS.

No.	INT.	REVISIONS	DATE
		PLAN ORIGINATOR DATE	DEC. 17, 2018

CONSTRUCTION DETAIL SHEET

AS PART OF THE

GLASGOW TRACT

PREPARED FOR

GLASGOW, INC.

SITE SITUATE IN

UPPER MERION TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

S T A

Engineering, Inc.

Civil Engineers • Land Surveyors

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PLAN SCALE	PROJECT MANAGER	PROJECT MANAGER	PLAN SHEET NUMBER
HORIZONTAL:	A.C.H.	S.A.R.	
N.T.S.	PROJECT NUMBER 5674	DRAWING FILE NUMBER 5674DET	88 OF 90